

GREENHILL PARK RESIDENTIAL SUBDIVISION

STAGE 9 Area M, Greenhill Park

HAMILTON

REPORT ON SUBDIVISION EARTHWORKS AND RECOMMENDATIONS FOR BUILDING DEVELOPMENT

Our Ref: DB 171738.08 Prepared for: Chedworth Properties Limited Date: May 2019

Contents

1.1	Subdivision Development Earthworks			
1.2	Intro	oduction	1	
1.3	Eart	hworks in the Subdivision	1	
1.4	Eart	hworks Standards	3	
1.5	Fille	d Ground	3	
1.6	Area	as of Cut	4	
1.7	Test	Results In Filling Placed	4	
1.8	Test	Results In Areas of Cut and Natural Ground	4	
1	.8.1	Land Stability	5	
1	.8.2	Flooding	5	
1	.7.3	Liquefaction	5	
2.0	Dispos	al of Stormwater	6	
3.0	Retain	ing Walls	6	
4.0	D Professional Opinion			
5.0	Applic	ability	7	
Refere	nces		8	

Appendices

Appendix I	<u>Reference Drawings</u> Cut/Fill Plan 21879-S9-CF1
Appendix II	<u>Geotechnical Completion Forms</u> Checklist 2.2 - Statement of Professional Opinion Summary of Geotechnical Data for Individual Lots
Appendix III	<u>Pre-Construction Assessment (exerts)</u> BECA Area M Liquefaction Assessment Summary Plan
Appendix IV	<u>Post-Construction Test Results</u> Tests by DCBE Ltd
Appendix V	<u>Stormwater Management</u> On-lot Water Efficiency Measures Lot Levels (Minimum Lot Levels)

1.0 Subdivision Development Earthworks

1.1 Introduction

In accordance with Hamilton City Council's (HCC) Subdivision Resource Consent "011.2018.00006632.001", covering Stage 9 and Stage 10 of the Greenhill Park Development. Bulk earthworks have been completed to re- contour the previously agricultural landscape for Stage 9 of the Greenhill Park Residential Subdivision in Hamilton. Prior to commencement of earthworks, geotechnical investigations were carried out by Beca Ltd (Beca) in 2016 [1].

Stages 9 of Greenhill Park is currently accessed from Pardoa Boulevard. Stage 9 comprises 58 residential lots (numbered 185 to 242). The locations of these lots are shown on attached *Cut/Fill Plan*, drawing 21879-S9-CF1 included in Appendix I.

HCC's Infrastructure Technical Specifications (ITS) set out the minimum standards for design and construction of public infrastructure within Hamilton City. Section 2.1.5 of the *Earthworks and Geotechnical Requirements* of the ITS states that the developer shall appoint a geo-professional to carry out functions as described in NZS 4404[5] Section 2.2.4. ITS Section 2.3.3.1 states that a geotechnical completion report shall be submitted as per NZS 4404 Section 2.6 including a statement of professional opinion on the suitability of land for building construction [4]. The developer has appointed DB Consulting Engineers (DBCE) Ltd as the geoprofessional.

To satisfy the requirements of HCC's Resource Consent, the ITS and NZS 4404, this report summarises the observations and testing undertaken during the development of the stages, discusses the suitability of the ground for the support of the proposed residential buildings and contains recommendations for the disposal of stormwater runoff generated on individual sites.

Included in Appendix I of this report is the proposed subdivision plan comprising Lots 185-242,501,608 & 702 DP 534481 and the proposed new lots for Area M Stage 9. The included earthworks plan shows the cut/fill extent of the earthworks undertaken, test positions, and road and lot locations.

1.2 Earthworks in the Subdivision

The earthworks for Sstage 9 of the subdivision development were undertaken between January 2018 and January 2019.

These earthworks comprised

- The stripping of surface topsoil to expose underlying natural soils
- The placement of filling within all lots, with the exclusion of lots 203 to 205

- Undertaking areas of cut of up to 1.5 m deep to reduce original ground levels within lots 193 to 207, 210 to 211, 223 to 225 and 228 to 231
- Backfilling and raising the ground level with new fill to create uniform fill platforms
- The cleaning out and infilling of old farm drains
- The reinstatement of the surface topsoil cover and subsequent grassing

The soils encountered during the formation of the site and road subgrades were a mixture of silts, sands and pumiceous gravels, typical of Hinuera formation deposits/soils in this area of Hamilton. These soils were those that had been identified in pre-construction site investigations by the Beca Report.

The filling work was undertaken using these site soils gained from areas of cut on other stages from within the larger Greenhill Subdivision. Filling was undertaken during summer 2018 when drying back of the soils was possible to close to optimum moisture contents to achieve near maximum compaction densities.

In the deep fills within the old drain, initial filling was with compacted undifferentiated brown rock over a geofabric underlay. The stabilised filling was placed over the brown rock.

Upon completion of the earthworks, approximately 200 to 300 mm of topsoil was placed across the sites and the finished surfaces were grassed in accordance with Condition 20 of the Resource Consent. Areas where an initial grass strike did not take place were re-grassed. While the target topsoil depths after the earthworks were to be around 300 mm, no guarantee is implied or given that the topsoil on any part of any lot is actually 300 mm or less and it is recommended that future owners or designers or builders check topsoil depths when preparing site development plans and cost schedules.

1.3 Earthworks Standards

The earthworks in filling were undertaken using insitu silts and sands and silty sand mixtures gained from areas of cut across the larger subdivision and already used for the earlier stages of the development. The standards for the placement of filling, as stated in the earthworks contract documents, were to comply with NZS 4431:1989 "Code of Practice for Earthfill for Residential Development" and the Council ITS. Filling placed to these standards may be considered as good ground in terms of NZS 3604:2011 "Timber Framed Structures."

The compaction of the filling placed was monitored and tested for compaction density by the use of a Scala penetrometer in sand based soils and a hand held shear vane in finer grained silts and clayey silts. Adequate strengths would be achieved when blow counts recorded with a Scala penetrometer were to be 5 or more per 100 mm of penetration in the sand based filling or when an undrained shear strength of 100 kPa or more had been developed in silts and clays.

Materials used where the same basic strata as being used for the previous 8 Stages of works, which a high level of consistency based on previous test results.

1.4 Filled Ground

During the placement of filling on the road subgrades and on areas intended for residential development, the contractor, OLC, stripped and removed all topsoil and other surface organic soils. Post construction testing was carried out to confirm the interface between the cut and fill. Filling was placed in discrete layers with compaction applied through sheepsfoot drum rollers and smooth drum rollers.

As most of the filling placed comprised the silty sands identified in the pre-subdivision boreholes. Testing of the compaction achieved was mostly undertaken with a Scala penetrometer.

OLC undertook their own Scala penetrometer testing throughout the contract works to verify that the filling had been placed with adequate compactive effort. DBCE then carried out additional completion testing following the completion of earthworks. The results indicate that the construction filling standards have been met. Foundations may therefore be detailed to NZS 3604:2011 where a timber framed subfloor containing shallow piles, bearers and joists is contemplated. Concrete floors designed to NZS3604 can be used on most lots where they are not immediately adjacent to a stormwater swale.

Notwithstanding the comments above, restriction from ground hazards (refer section 1.8.3) still apply to some lots.

1.5 Areas of Cut

Areas developed in cut are shown on 21879-S9-CF1 (Appendix I). In these areas, the ground at formation levels was observed to comprise the same silts and sands that had been used for filling elsewhere and as identified by pre subdivision tests. Only limited areas within the roadway comprise areas of cut.

1.6 Test Results In Filling Placed

A summary of the tests undertaken by DBCE is present in Appendix IV. The test positions are shown on 21879-S9-CF1 (Appendix I) and the test results are in Appendix IV.

The Scala test results show that acceptable soil strengths had been developed in all fill areas tested.

1.7 Test Results In Areas of Cut and Natural Ground

The natural ground at the finished ground surface or under the filling comprised silty sands and sands as had been identified in the pre-subdivision investigation boreholes.

The results of the tests undertaken indicate that "good ground" as defined in NZS3604:2011 is

present. No areas that were tested will require any future ground improvement work for buildings supported.

1.8 Land Hazards

1.8.1 Land Stability

There are no landform stability issues within Stage 9 of the Greenhill Park Subdivision. The specification from the developer for the site earthworks was that the lots were to be graded as flat as possible with a desirable gradient of 0.5%. Swale 4 at the northern end of Stage 4 was assessed in the Beca report and is discussed further in 1.8.3 below.

1.8.2 Flooding

The final lot levels have been set based on infrastructure requirements and freeboard from flood levels developed as part of the stormwater design for the larger subdivision. The means of disposal of stormwater runoff from lots in this stage of the subdivision are described in the catchment and overland flow assessments by Beca. In the report for area I, a 1% AEP flood event is identified for each swale system. The two relevant swales for Stage 9 are Swale 3 (R.L. 35.94 1% Flood level) and Swale 1 (37.24 flood level). A flood level of 36.10 R.L. has been used in assessing the flood risk in stage 9. This equates to minimum lot levels of 36.380m to 37.941m R.L. across the stage (with low being the north end and high being the south end). A list of Lot Levels for Stage 9 is included in Appendix V.

Site grading during house construction must not lower finished levels below the minimum finished ground levels identified by Beca without further review of the impacts on flooding. Earthworks must not direct stormwater runoff to adjacent properties, or towards buildings, or create areas of localised ponding. All overland flow is to be towards the road frontage on each section, where falls will direct surface flow towards the north and Swale 3.

It is the responsibility of the building design professional to ensure that the requirements for mitigation for the hazard of flooding are met by the design prior to submitting to Council for consent. Confirmation of the swale construction and flood levels are excluded from the scope of this report and are to be covered separately with sign off of infrastructure works.

1.8.3 Liquefaction

The potential for the hazard of liquefaction for Area M of the Greenhill Park Subdivision is discussed in "Greenhill Park Geotechnical Interpretation and Design -Area M" by Beca and dated 13 July 2018. Foundations within 5m of the top of the swales are classed as TC2 like foundations. Lots affected include Lots 198-205. The liquefaction summary plan is appended to this Completion report. Specifically, the requirements are:

- $\circ~$ 0m 1.5m no habitable dwellings to be built within 1.5 m of the swale crest.
- $\circ~$ 1.5 5m ~ adopt an enhanced TC2 _like foundation
- Beyond 5m of swale crest no specific requirements to mitigate liquefaction effects.

The Beca report refers to zones adjacent to the swales being in a TC2 type area as is defined in guidelines published by the Ministry of Business, Innovation and Employment (MBIE). MBIE recommends that TC2 type foundations should typically include 'an enhanced foundation slab' as is currently being installed for new houses in Christchurch. Alternatively, MBIE advises that houses may be supported on timber piles and a timber framed subfloor as detailed in NZS 3604 to meet a Type A construction as described in their guidelines.

2.0 Disposal of Stormwater

Greenhill Park has been designed with a swale network to limit peak flows from the subdivision to 80 % of the 1 % AEP pre-development rate, and 90 % of the 10 % and 50 % AEP pre-development rates (Beca Ltd. [2016] *Greenhill Park - Stormwater Design*, for Chedworth Properties Ltd, 29 June 2016). Area M has been designed to include roadside swales flowing in an approximately east to west direction. Stage 9 includes part of swale 4A (Lot 501) – located adjacent to Pardoa Boulevard and behind lots 198 to 205 – that will collect runoff from roads within stage 9. The depth of the swales has been designed to accommodate the fall and cover depth required of the piped drainage system. The piped drainage network has been designed to convey the 50 % AEP flows from roads and lots to the swale network, with each lot to be provided with a piped service connection. The stormwater plan is presented in the S&L Drawing 'Stormwater As Built DWGs 21879 – AB4, AB5, AB6', Rev 0, June 2019.

All lots will require on-site stormwater efficiency measures as per the District Plan requirements (Rule 25.13.4.5 Water Efficiency Measures). These include:

- 1. Detention of stormwater to 80% of pre-development runoff by an appropriate means. This has largely been achieved by the swale network for events greater than the 50 % AEP storm. For the 50 % AEP and smaller events, the stormwater efficiency measures are expected to provide sufficient additional mitigation to achieve this requirement.
- 2. Permeable surfaces protected to achieve at least 20% above the minimum standard

of the zone (i.e. 40 % site permeability).

- a. Sites within the Ruakura Medium Density Residential Zone require a minimum permeability of 20 % (Rule 4.6.5) and are limited to 50 % site coverage (Rule 4.6.6).
- 3. Rainwater tank for non-potable reuse system
- 4. Other equivalent feature

Stormwater management must ensure that the rate of stormwater discharge offsite is at or below pre-development rates. Stormwater management measures shall be implemented, as appropriate, in accordance with the following drainage hierarchy:

- 1. Retention for reuse
- 2. Soakage techniques
- 3. Detention and gradual release to a watercourse
- 4. Detention and gradual release to stormwater reticulation.

Section 42 of the Subdivision Resource Consent (SRC) relating to Stages 9-15 state that "Each residential lot shall be provided with a means for disposal of stormwater, with no private stormwater pipes or soakage systems crossing from one lot to another except where covered by an easement"

Section 43 of the SRC states that water efficiency measures for the individual residential lots are to be detailed for each subdivision stage. "Where retention for reuse tanks is proposed they shall be a minimum of 5,000L to ensure they are effective or where the lot is less than $300m^2$ should be appropriately designed considering the specific site constraints. The required stormwater efficiency measure is to be implemented at the building consent stage and maintained on an on-going basis at the owners' expense".

Section 44 of the SRC requires a consent notice on each title advising of the required water efficiency measures to be implemented and maintained on an ongoing basis.

Section 55 of the SRC states the requirement for lot development to be undertaken in general accordance with the recommendations in the report: *Greenhill Park Geotechnical Interpretation and Design – Area M*, prepared by Beca Ltd., 13 July 2018.

In the Stage 9 development area, each site is to be tested for soakage capability by the property owners. For those sites that have a sufficient soakage capability, disposal of stormwater is to be undertaken onsite using soakage and/or bioretention systems with overflow to the lot stormwater service connection. Those sites that are not soakage viable are to retain stormwater for reuse by way of a Slimline Rain Tank or other similar type water tank. The size of the tank is to be 5000 litres and the tank is to be plumbed into the house for use as a non-potable water supply including for garden irrigation and in general accordance with the

HCC guidelines for the Implementation of Water Efficiency Measures. The Slimline rain tank system is described in Appendix V. This requirement will be advised to purchasers and will be implemented through the building consent process by HCC. A consent notice is to be registered on the certificates of titles for each lot which describes these investigation and design requirements.



Details of the required stormwater measures are included in Appendix V, sourced from the *Greenhill Park Design Guidelines.*

3.0 Retaining Walls

There are no retaining walls that were constructed by the developer within stage 9.

4.0 Professional Opinion

It has been demonstrated in this Geotechnical Completion Report, that earthworks have been completed and building platforms have been constructed to comply with Council's ITS specifications and the New Zealand Building Code. Recommendations have been provided within the report for the disposal of stormwater from individual lots, for the ongoing development of the lots and for the mitigation of liquefaction risk where applicable.

In accordance with ITS Section 2.3.3.1, a statement of professional opinion is enclosed in Appendix II of this document. This statement is presented in the form of Checklist 2.2 of Council's Development Manual, Volume 4: Quality Systems for Land Development, and is accompanied by a *Summary of Geotechnical Data for Individual Lots* which summarizes the information and recommendations contained in this report.

Specifically for Stage 9, Lot 195 and Lot 205 will require further site specific assessment. The remainder of the lots do not require any additional testing subject to an onsite inspection of the subgrade/foundations soils during construction.

5.0 Applicability

Recommendations contained in this document are based on data from observations of site earthworks, boreholes and test results. Inferences about the nature and continuity of subsoils away from these locations are made but cannot be guaranteed.

In all circumstances, if variations in the subsoils occur which differ from those described or are assumed to exist, the site should be inspected by an engineer suitably qualified to make an informed judgement and provide advice on appropriate improvement measures.

This report has been prepared specifically for Area M Stage 9 as shown on DP 534481 within the Greenhill Park Residential Subdivision and no responsibility is accepted by DB Consulting Engineers Ltd for the use of any part of this report for other development sites without their written approval.

DB Consulting Engineers Ltd

Report prepared by Michael Richardson CPEng 1005467 Geotechnical Engineer

May 2019

<u>Appendices</u>	
Appendix I	<u>Reference Drawings</u> Cut/ Fill Plan 21879-S9-CF1 Title Plan - LT 534481
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Appendix IV	<u>Post-Construction Test Results</u> Tests by DCBE Ltd
Appendix V	<u>Stormwater Management</u> Slimline Rain Tank Installation Detail Lot Levels (Minimum Lot Levels)

Appendix I <u>Reference Drawings</u> Cut/Fill Plan 21879-S9-CF1







Title Plan - LT 534481

Survey Number	LT 534481
Surveyor Reference	21879 - Stage 9
Surveyor	Scott Rodney Carley
Survey Firm	S & L Consultants Ltd
Surveyor Declaration	

Survey Details

Dataset DescriptionLots 185 - 242, 501, 608 & 702 Being a Subdivision of Lot 700 S 27229StatusInitiatedLand DistrictSouth AucklandSubmitted DateSurvey ClassClass A

Deposit Date

Territorial Authorities

Hamilton City

Comprised In

RT 849212

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 185 Deposited Plan 534481	Fee Simple Title	0.0349 Ha	881079
Lot 186 Deposited Plan 534481	Fee Simple Title	0.0313 Ha	881080
Lot 187 Deposited Plan 534481	Fee Simple Title	0.0368 Ha	881081
Lot 188 Deposited Plan 534481	Fee Simple Title	0.0230 Ha	881082
Lot 189 Deposited Plan 534481	Fee Simple Title	0.0210 Ha	881083
Lot 190 Deposited Plan 534481	Fee Simple Title	0.0210 Ha	881084
Lot 191 Deposited Plan 534481	Fee Simple Title	0.0210 Ha	881085
Lot 192 Deposited Plan 534481	Fee Simple Title	0.0230 Ha	881086
Lot 193 Deposited Plan 534481	Fee Simple Title	0.0349 Ha	881087
Lot 194 Deposited Plan 534481	Fee Simple Title	0.0381 Ha	881088
Lot 195 Deposited Plan 534481	Fee Simple Title	0.0335 Ha	881089
Lot 196 Deposited Plan 534481	Fee Simple Title	0.0418 Ha	881090
Lot 197 Deposited Plan 534481	Fee Simple Title	0.0243 Ha	881091
Lot 198 Deposited Plan 534481	Fee Simple Title	0.0384 Ha	881092
Lot 199 Deposited Plan 534481	Fee Simple Title	0.0312 Ha	881093
Lot 200 Deposited Plan 534481	Fee Simple Title	0.0364 Ha	881094
Lot 201 Deposited Plan 534481	Fee Simple Title	0.0312 Ha	881095
Lot 202 Deposited Plan 534481	Fee Simple Title	0.0312 Ha	881096
Lot 203 Deposited Plan 534481	Fee Simple Title	0.0348 Ha	881097
Lot 204 Deposited Plan 534481	Fee Simple Title	0.0313 Ha	881098
Lot 205 Deposited Plan 534481	Fee Simple Title	0.0313 Ha	881099
Lot 206 Deposited Plan 534481	Fee Simple Title	0.0450 Ha	881100
Lot 207 Deposited Plan 534481	Fee Simple Title	0.0300 Ha	881101
Lot 208 Deposited Plan 534481	Fee Simple Title	0.0349 Ha	881102





Title Plan - LT 534481

Created Parcels

Parcels

Lot 209 Deposited Plan 534481 Lot 210 Deposited Plan 534481 Lot 211 Deposited Plan 534481 Lot 212 Deposited Plan 534481 Lot 213 Deposited Plan 534481 Lot 214 Deposited Plan 534481 Lot 215 Deposited Plan 534481 Lot 216 Deposited Plan 534481 Lot 217 Deposited Plan 534481 Lot 218 Deposited Plan 534481 Lot 219 Deposited Plan 534481 Lot 220 Deposited Plan 534481 Lot 221 Deposited Plan 534481 Lot 222 Deposited Plan 534481 Lot 223 Deposited Plan 534481 Lot 224 Deposited Plan 534481 Lot 225 Deposited Plan 534481 Lot 226 Deposited Plan 534481 Lot 227 Deposited Plan 534481 Lot 228 Deposited Plan 534481 Lot 229 Deposited Plan 534481 Lot 230 Deposited Plan 534481 Lot 231 Deposited Plan 534481 Lot 232 Deposited Plan 534481 Lot 233 Deposited Plan 534481 Lot 234 Deposited Plan 534481 Lot 235 Deposited Plan 534481 Lot 236 Deposited Plan 534481 Lot 237 Deposited Plan 534481 Lot 238 Deposited Plan 534481 Lot 239 Deposited Plan 534481 Lot 240 Deposited Plan 534481 Lot 241 Deposited Plan 534481 Lot 242 Deposited Plan 534481 Lot 501 Deposited Plan 534481 Lot 608 Deposited Plan 534481

Lot 702 Deposited Plan 534481 Area F Deposited Plan 534481 Area G Deposited Plan 534481

Total Area

Parcel Intent	Area	RT Reference
Fee Simple Title	0.0349 Ha	881103
Fee Simple Title	0.0349 Ha	881104
Fee Simple Title	0.0349 Ha	881105
Fee Simple Title	0.0349 Ha	881106
Fee Simple Title	0.0349 Ha	881107
Fee Simple Title	0.0300 Ha	881108
Fee Simple Title	0.0300 Ha	881109
Fee Simple Title	0.0348 Ha	881110
Fee Simple Title	0.0450 Ha	881111
Fee Simple Title	0.0450 Ha	881112
Fee Simple Title	0.0349 Ha	881113
Fee Simple Title	0.0300 Ha	881114
Fee Simple Title	0.0300 Ha	881115
Fee Simple Title	0.0335 Ha	881116
Fee Simple Title	0.0349 Ha	881117
Fee Simple Title	0.0349 Ha	881118
Fee Simple Title	0.0349 Ha	881119
Fee Simple Title	0.0349 Ha	881120
Fee Simple Title	0.0349 Ha	881121
Fee Simple Title	0.0300 Ha	881122
Fee Simple Title	0.0462 Ha	881123
Fee Simple Title	0.0460 Ha	881124
Fee Simple Title	0.0300 Ha	881125
Fee Simple Title	0.0349 Ha	881126
Fee Simple Title	0.0349 Ha	881127
Fee Simple Title	0.0349 Ha	881128
Fee Simple Title	0.0349 Ha	881129
Fee Simple Title	0.0349 Ha	881130
Fee Simple Title	0.0335 Ha	881131
Fee Simple Title	0.0300 Ha	881132
Fee Simple Title	0.0300 Ha	881133
Fee Simple Title	0.0349 Ha	881134
Fee Simple Title	0.0450 Ha	881135
Fee Simple Title	0.0349 Ha	881136
Vesting on Deposit for	0.6390 Ha	881137
Local Purpose Reserve		
Vesting on Deposit for	0.8876 Ha	
Road		0.044.05
Fee Simple Title	12.8600 Ha	881138
Easement		

16.3441 Ha

Easement

Schedule / Memorandum

Land Registration District South Auckland		Surv	vey Number 534481		
Territorial Authority (the Council Hamilton City)				
Schedule of Existing Easements in Gross Last Edited: 02 May 2019 10:55:51					
Purpose	Shown	Servient Tenement (Burdened Land)	Creating Document Reference		
Right to convey electricity, telecommunications	F	Lot 702	EI 10700635.2		
	G	Lot 702	EI 10700635.1		









Appendix II <u>Geotechnical Completion Forms</u> Checklist 2.2 - Statement of Professional Opinion Summary of Geotechnical Data for Individual Lots

NZS 4404: 2010 SCHEDULE2A (Checklist 2.2)

STATEMENT OF PROFESSIONAL OPINION AS TO SUITABILITY OF LAND FOR BUILDING CONSTRUCTION

Development: Greenhill Park Stage 9 **Developer:** Chedworth Properties Limited

At Pardoa Boulevard, Chartwell, Hamilton

I, Michael Richardson of DB Consulting Engineers, PO Box 1123, Taupo

Hereby confirm that:

- **1.0** I am a geo-professional as defined in clause **1.2.2** of NZS 4404:2010 and was retained by the developer as the geo- professional on the above development.
- 2.0 The extent of my inspections during construction, and the results of all tests carried out are described in my geotechnical completion report dated May 2019 (reference 171738.08).
- 3.0 In my professional opinion, not to be construed as a guarantee, I consider that:
 - a. The completed works give due regard to land slope and foundation stability considerations.
 - b. The site ground affected by engineered certified filling is suitable for the erection thereon of buildings designed according to the report recommendations provided that:
 - i. Lots 195 and 205 are subject to site specific investigations based on NZS3604 requirements.
 - ii. Lots 185-194, 196-204, 206-242 are subject to an engineering inspection during foundation excavations in lieu of further soils testing
 - iii. Construction supervision from an engineer be carried out to confirm the ground conditions are in accordance with this report and suitable for NZS3604 foundations.
- 4.0 This professional opinion is furnished to Hamilton City Council and the developer for their purposes alone on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection of any dwelling.
- 5.0 This certificate shall be read in conjunction with my geotechnical completion report referred to in clause 2 above and shall not be copied or reproduced except in conjunction with the full geotechnical completion report.

Cianad	
Signea	

Date: 28 May 2019

Michael Richardson Chartered Professional Engineer (Geotechnical) CPEng 1005467

Appendix III	Pre-Construction Assessment (exerts)
	BECA Area M Liquefaction Assessment Summary Plan



Appendix IV

<u>Post-Construction Test Results</u> Tests by DCBE Ltd





			Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		Job ref 171738.08		
			Drawing ref	calculations by	revision	sheet no	
				Get Geotech		1	
	0800 23 22	66	Element			Date	
,	www.dbcon.co	o.nz		Lot 185		Feb-19	
Depth	Scala (blows/100mm)	Shear Vane	Soil Descr	iption	Percol	ation Test	
100	2	(KI d)					
200	4						
300	4						
400	4						
400 500	10	(ongin	oor controlled) Ell L. conde. ci	ilt como fino gravolo			
400		engin	minor topooil mixed brou	un moist			
000	∠0+		minor topsoli, mixea brov	wii, 111015t			
/00							
800							
900	<i></i>						
1000	16						
1100	12						
1200	10						
1300	7						
1400	10	Inter	Interbedded silty fine SANDS and fiine sandy SILTS,				
1500	12						
1600	6						
1700	17						
1800	18						
1900	20						
2000							
2100			EOB @ 2.0m				
2200			Target Depth				
2300							
2400							
2500			UTP Unable To Pene	etrate			
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							
	Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019						

			Proiect			lob ref	
	DB CONSULTING 0800 23 22 66		Subdiv. Completion T	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			
			Drawing ref	calculations by	revision	sheet no	
				Get Geotech		2	
			Flement			Date	
	0000 25 22		Lientent				
	www.dbcon.co	o.nz		Lot 186		Feb-19	
Depth	Scala Shear Vane ^(blows/100mm) (kPa)		Soil Des	cription	Percol	ation Test	
100	5						
200	6						
300	12						
400	20	(er	ngineer controlled) FILL, sands,	silt, some fine gravels			
500	20+		minor topsoil, mixed bro	own, moist			
600	—						
700							
800							
900							
1000	20+						
1100							
1200					-		
1300							
1400							
1500		Ir	nterbedded silty fine SANDS and	d fiine sandy SILTS,			
1600			liaht arev-brown. I	noist			
1700							
1800							
1900							
2000							
2100			EOB @ 2.0m		-		
2100			Target Depth				
2200			Taiget Depth				
2300							
2400			LITD Unable To De	natrata			
2500			UTP UTAble TO Per	leiraie			
2000							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							
	Notes:						
	1 Weather was fine and warm						
	2 No Ground water was detected						
	3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)						
	4 Snear Vane records include Re-moulded values where possible						
	5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019						

		Project			Job ref		
			Subdiv. Completion T	171720.00			
	DDCON	SUITING	Park			1/1/38.08	
	KENC	INIEEDC	Drawing ref	calculations by	revision	sheet no	
				Get Geotech		3	
						5	
	0800 23 22	66	Element			Date	
	www.dbcon.c	o.nz		Lot 187		Feb-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	Soil Description		ation Test	
100	5						
200	6						
300	15						
400	20+						
500		(engir	neer controlled) FILL, sands,	silt, some fine gravels			
600			minor topsoil, mixed bro	wn, moist			
700							
800							
900							
1000	4						
1100	4	<u> </u>					
1200	7		FOB @ 1100m	m	•		
1200	7		LOD @ HOOM				
1400	7		Relusal - Glave	15			
1400	8						
1500							
1600	9						
1700	8						
1800	8						
1900	8						
2000							
2100							
2200							
2300							
2400							
2500			UTP Unable To Per	netrate			
2600	_						
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							
						-	
	Notos						
	1 Weather was fit	-					
	2 No Ground was in	I weather was tine and warm					
	2 No Ground Wate	er was uelected	I roodingo oo nar aalibeatiar	Cortificato (Maluca are	drained about strength		
	3 Shear Vane rea	iumys are converted	u readings, as per calibration	centinicate. (Values are ur	iuraineu snear strengtn)		
	4 Shear vane records include Re-moulded values where possible						
1	3 Stiedi Valie Shivu, 2000, Cett. 190. / 12209, Calibiation Gale 04/02/2019						

			Proiect				lob ref	
		Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			171738.08			
		Drawing re	ef	calculations by	revision	sheet no		
					Get Geotech		4	
	0800 23 22	66	Element				Date	
w	/ww.dbcon.co	o.nz		Lot 188			Feb-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	Percolation Test		
100	3							
200	6							
300	15							
400	20+		Machine Auge	ered to 900mm I	BGL FILL?			
500								
600								
700								
800								
900								
1000	4							
1100	8							
1200	6							
1300	5							
1400	5							
1500	8							
1600	6							
1700	12							
1800	17							
1900	20+							
2000								
2100				EOB @ 2.0m				
2200				Target Depth				
2300								
2400								
2500			UTP	Unable To Pen	etrate			
2600								
2700								
2800								
2900								
3000								
3100								
3200								
3300								
3400								
3500	_							
	Notes:	_						
	1 Weather was fine and warm							
	2 No Ground water was detected							
	3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)							
	4 Shear Vane records include Re-moulded values where possible							
	o Shear vane S/N	IU. 2000, CER. NO.	1 12209, Calidia	auon date 04/02	2/2019			

Pojet Job eff 2080 23 22 66 ark www.dbcon.co.nz Date Depth South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill Sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill Sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill Sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenill Sheet no 0 South Completion Test Reporting, Area M Stage 9 Greenillo Sheet Network Method 9 Greenillo 1000 South Completion Test Reporting, model South Completion Test Reporting, model 1000 South Completion Test Reporting, area multing the distribution and the dist and and	1								
Subdiv. Completion Test Reporting, Arka M Stage 9 Greenhill 171788.08 Desc Park revision sheet no 0800 23 22 66 Ement Date Www.dbcon.co.nz Depth Solar Some Yane Section Soi Description Percolation Test 100 5 Soi Description Percolation Test 100 5				Project	Job ref				
Non- Non- Set no			Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			171738.08			
Get Beatch 5 0800 23 22 66 Element Date www.dbcon.co.nz Ital 189 Perchain Feb-19 Depth Scala Statu Varia Scala Description Perchain 200 7			SULTING	Drawing ref	calculations by	revision	sheet no		
O800 23 22 66 Element Date Depth Social Bunchina Sheaf Varie (UR) Solid Description Perclaion Test 100 5					Get Geotech		5		
Lot 189 Let 189 Feb-19 Depth Scala beentities Shear Varie (Pro) Soil Description Percolation Test 100 5		0800 23 22	66	Flement			Date		
WWW.0bcon.co.nz Solid Description Percolation Test 100 5					Lot 189				
Depth Solid value Sail Description Percelation Test 100 5 (Po) Sail Description Percelation Test 200 7	v	www.dbcon.co	O.NZ						
100 5 200 7 300 16 400 15 500 16 400 15 500 16 400 15 500 16 700 9 800 8 700 5 1000 5 1100 6 120 5 1100 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 6 1900 7 2000 - 2100 EOR @ 2.0m 2200 - 2200 - 2200 - 2300 - 2300 - 2300 - 2300 - 3300 - 300 -	Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description Perco			ation Test		
200 7 300 16 400 15 500 16 600 8 700 9 800 12 501 5 1000 6 1000 6 1100 6 1100 6 1100 6 1100 6 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1800 5 1800 5 1800 7 2000 Target Depth 2300	100	5							
100 10 400 15	200	7							
400 15	300	16							
000 16 000 8 000 9 800 8 900 12 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1700 6 1800 5 1800 5 1800 5 1800 5 1800 5 1800 7 2000 EOB @ 2.0m 1900 7 2000 Target Depth 2000 UTP 2500 UTP 2600 1 2700 1 2800 1 3000 1 3000 1 3000 1 3000 1 3000 1 3000 1 3000 1 3000	400	15		_ Machine Augered to 900mm	BGLFILL?				
600 8 700 9 800 8 900 12 1000 5 1000 5 1100 6 1100 6 1100 6 1100 6 1100 6 1100 6 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 5 1100 7 1100 7 1100 7 1100 7 1100 7 1100 7 1100 7 1100 7 1100 7 1100 7 <tr< td=""><td>500</td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>	500								
00 9 800 12 1000 5 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 7 2000 EOB @ 2.0m 2000 Target Depth 2000 UTP 2100 EOB @ 2.0m 2200 UTP 2300 UTP 2400 UTP 2300 UTP 2400 UTP 2500 UTP 1000 UTP 2800 UTP 2800 UTP 2800 UTP 2801 UTP 2802 UTP 2803 UTP 2804 UTP 2805 UTP	600	8							
B00 12 900 12 1000 5 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 5 1800 7 2000 7 2000 Target Depth 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 3000 100 3000 100 3000 100 3000 100 3000 <t< td=""><td>700</td><td>9</td><td></td><td></td><td></td><td></td><td></td></t<>	700	9							
900 12 SLL I, creamy light brown, trace orange motiling, moist 1000 5 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 2000 EOB @ 2.0m 2000 Target Depth 2300 UTP 2400 UTP 2500 UTP 2700 UTP 2800 UTP 2801 UTP 2802 UTP 3803 UTP 3804 UTP 3805 UTP 3806 UTP 3807 UTP 3808 UTP <	800	8							
100 5 1100 6 1200 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 1800 5 2000 7 2000 2000 2100 EOB @ 2.0m 2200 Target Depth 2300 2500 2500 UTP 2600 2500 2700 2000 2800 2500 2900 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100	900	12	SIL	, creamy light brown, trace or	ange mottling, moist				
1000 6 1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 1800 5 2000 2000 2000 Target Depth 2000 2000 2000 UTP 2000 UTP 2000 1 3000 1 3000 1 3000 1 <td>1000</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td>	1000	5							
1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 2000 EOB @ 2.0m 2000 Target Depth 2000 UTP 2000 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP	1100	6							
1300 9 1400 8 1500 4 1600 5 1700 5 1800 5 1800 5 1800 5 1800 7 2000 EOB @ 2.0m 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2800 UTP 2800 UTP 3000 UTP 3000 UTP 3000 UTP 3000 UTP 3000 UTP 3000 UTP Unable To Penetrate Notes: UTP 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane readings are converted readings, as per calibration date 04/02/2019	1200	6							
1300 4 1500 4 1600 5 1700 5 1800 5 1800 5 1900 7 2000 EOB @ 2.0m 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 0 2700 0 2800 0 2900 0 3000 0 3100 0 3200 0 3300 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000	1300	9							
1500 4 1600 5 1700 5 1800 5 1900 7 2000 100 2100 EOB @ 2.0m 2200 Target Depth 2300 2000 2400 UTP 2500 UTP 2600 100 2700 2800 2800 2900 3000 100 1 Weather was fine	1400	8							
1600 5 1700 5 1800 5 1800 5 1900 7 2000 EOB @ 2.0m 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2801 UTP 2802 UTP 2803 UTP 2804 UTP	1500	4							
1700 5 1800 5 1900 7 2000 100 2100 EOB @ 2.0m 2200 Target Depth 2300 2000 2400 UTP 2500 UTP 2600 200 2700 100 2800 100 2900 100 2900 100 2900 100 2900 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100	1600	5							
1800 5 SANDS, sitt, light grey-brown, minor orange motting, moist 1900 7 2000 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3100 UTP 3200 UTP 3300 UTP 3400 Stear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane readings are converted readings, as per calibration	1700	5	0.0110	o					
1900 / 2000 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP	1800	5	SAND	S, silt, light grey-brown, minor	orange mottling, moist				
2000 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP 3100 UTP 3200 UTP 3300 UTP 3300 UTP 3300 UTP 3300 UTP 3300 UTP 3300 UTP 3400 UTP 3500 UTP Valater was fine and warm UTP 2 No Ground water was detected Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 Uter the structure of the structure o	1900	1							
2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP 3100 UTP 3200 UTP 3300 UTP 3400 UTP 3500 UTP Victoria UTP Uter	2000								
2200 Iarget Depth 2300 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP 3100 UTP 3200 UTP 3300 UTP 3400 UTP 3500 UTP Veather was fine and warm 1 Notes: 1 Veather was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2100			EOB @ 2.0m					
2300 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2800 UTP Unable To Penetrate 2800 UTP Unable To Penetrate 2800 UTP Unable To Penetrate 3000 Utepenetrate Unable To Pene	2200			Target Depth					
2400 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2800 UTP Unable To Penetrate 3000 UTP Unable To Penetrate 3100 UTP Unable To Penetrate 3100 UTP Unable To Penetrate 3200 Unable To Penetrate Unable To Penetrate 3100 Unable To Penetrate Unable To Penetrate 3200 Unable To Penetrate Unable To Penetate 3000	2300								
2500 01P Unable to Penetrate 2600 2700 2800 2900 3000 3000 3100 3200 3200 3300 3400 3500 5500 1 Notes: 1 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2400				a drata				
2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 I Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2500			UIP Unable to Per	letrate				
2/00 2800 2900 3000 3100 3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2600								
2000 2900 3000 3100 3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2700								
3000 3100 3100 3200 3300 3300 3400 3500 Notes: 1 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2000								
3100 3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2900								
3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2100		<u> </u>						
3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3100								
3400 3500 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3200								
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3300								
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3500								
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	5500	_					-		
 Weather was fine and warm No Ground water was detected Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) Shear Vane records include Re-moulded values where possible Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		Notes					1		
 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		1 Weather was fin	e and warm						
 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		Weather was fine and warm No Ground water was detected							
 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		2 No Ground Water was detected 3 Shear Vane readings are converted readings, as nor calibration Cortificate. (Values are undrained chear strength)							
5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019		4 Shear Vane records include Re-moulded values where possible							
		5 Shear Vane S/No. 2086. Cert. No. 712289. Calibration date 04/02/2019							

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v	/ww.dbcon.co	o.nz		Lot 190		
Depth	Scala Shear Vane (blows/100mm) (kPa)		S	Soil Description		
100	4					
200	20+					
300						
400			Machine Augered to	900mm BGL FILL ?		
500			- 5			
600						
700		(on	naineer controlled) FILL	Sands silt minor gravels		
200		(ci	miyod bro	we moist		
000			IIIXed bit	Jwii, moist		
900	0					
1100	<u> </u>					
100	6	minc	or topsoil at 1100mm			
1200	6					
1300	6					
1400	5					
1500			SILT, grey-			
1600	4					
1000	4					
1800	4					
1900	4					
2000						
2100	0					
2200	2		SANDS, MINOF SIL	, grey-brown, moist		
2300	1					
2400	1					
2500						
2600	2			Kalat again la sum an 1.1		
2700	2		SILT, MINOR TINE SANDS	, lignit grey-brown, moist		
2800	2	becomin	g wet			
2900	3					
3000	_					
3100			EOB	2 3.0m		
3200			Targe	t Depth		
3300						
3400						
3500						-
						•
	Notes:	-				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converte	d readings, as per calil	pration Certificate. (Values are un	ndrained shear strength)	

4 Shear Vane records include Re-moulded values where possible

5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019

			Project			loh ref		
			Subdiv. Completion Te	Je~ . e.				
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				Bei Beolech		/		
	0800 23 22 66		Element			Date		
				L at 191		Feb-19		
	www.dbcon.co	o.nz	201 191			160-19		
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description Sample /		Temperature			
100	3							
200	8							
300	20+							
400			_ Machine Augered to 900mm	BGL FILL?				
500								
600								
700								
800								
900								
1000	9		SILT, minor fine sands, creat	my light-brown				
1100	7		trace orange mottling					
1200	7							
1300	8							
1400	7							
1500	6							
1600	6							
1700	7							
1800	9		SANDS, silt, creamy light-l	prown, moist				
1900	8							
2000								
2100			EOB @ 2.0m					
2200			Target Depth					
2300								
2400								
2500			UTP Unable To Per	petrate				
2600								
2700								
2800								
2900								
3000								
3100								
3200								
3300								
3400								
3500						-		
						•		
	Notes:	-						
	1 Weather was fin	e and warm						
	2 No Ground wate	er was detected						
	3 Shear Vane read	dings are converte	ed readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)			
	4 Shear Vane records include Re-moulded values where possible							
	5 Shear Vane S/N	o. 2086, Cert. No	. 712289, Calibration date 04/0	2/2019		l		

		Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			Job ref 171738.08			
			Drawing ref	calculations by	revision	sheet no		
				Get Geotech		8		
	0800 23 22	66	Element			Date		
,	www.dbcon.co	o.nz		Lot 192				
Depth	Scala (blows/100mm)	Shear Vane	Soil Desci	ription	Percol	ation Test		
100	6							
200	6							
300	6							
400	20+							
500	207		Machine Augered to 000mm	RGI FILI 2				
		<u> </u>	Machine Augereu (0 30011111					
700								
/00								
000			CANDS all array line	arou moist				
900	0		SAINDS, SIIt, creamy light-	grey, moist				
1000								
1100	8							
1200	4	— —						
1300	10							
1400	8		SILT, minor sands, gre	y, moist				
1500	8							
1600	9							
1700	7							
1800	6		SANDS, minor silt, grey-b	prown, wet				
1900	9							
2000								
2100			EOB @ 2.0m					
2200			Target Depth					
2300								
2400								
2500			UTP Unable To Pen	etrate				
2600								
2700								
2800								
2900								
3000								
3100	_							
3200								
3300								
3400								
3500								
	Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019							

			Project			Job ref		
		Subdiv. Completion Te	171730.00					
	DB CONSULTING ENGINEERS			1/1/38.08				
			Drawing ref	calculations by	revision	sheet no		
				Get Geotech		9		
	0800 23 22 66		Flement			Date		
	0000 25 22	00	Liement			Date		
	www.dbcon.co	o.nz		Lot 193		Feb-19		
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percolation Test			
100	3							
200	4							
300	6							
400	20+		Machine Augered to 900mm E	BGL FILL?				
500								
600								
700								
800								
900								
1000	6		SILT, minor fine sands, crean	ny light brown				
1100	9		trace orange mottling, moist					
1200	7		,					
1300	6							
1400	7				•			
1500	7		SANDS silt creamy light b	rown moist				
1600		heco	ming trace orange mottling					
1700	7	beco	SANDS silt creamy light h					
1700	10		SANDS, Sill, creatily light b	iowii, moist				
1000	10							
2000	15							
2000								
2100			EUD @ 2.011					
2200			Target Depth					
2300								
2400			LITD Unable To Den	trata				
2300			UTP Unable to Pene	ellale				
2600								
2700								
2000								
2900								
3000								
3100								
3200								
3300								
3400								
3500								
	Notes:	•						
	1 Weather was fin	e and warm						
	2 No Ground water was detected							
	3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)							
	4 Shear Vane records include Re-moulded values where possible							
	5 Shear Vane S/N	o. 2086, Cert. No.	712289, Calibration date 04/02	2/2019				

			Project			Job ref	
			Subdiv. Completion	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill			
				1/1/38.08			
			Drawing ref	calculations by	revision	sheet no	
	ENG	INLERJ		Get Geotech		10	
	0800 23 22	00	Element			Date	
	www.dbcon.c	o.nz		Lot 194		Feb-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description Perco			ation Test	
100	4						
200	5						
300	20+						
400							
500			_ Machine Augered to 900m	Im BGL FILL?			
600							
700							
800							
900			SANDS, some silt,	light brown			
1000	7		trace orange stain	ing, moist			
1100	6						
1200	5						
1300	4						
1400	3						
1500	4						
1600	5						
1700	3						
1800	2						
1900	3		Silty SANDS, gre	ey, moist			
2000							
2100			EOB @ 2.0	m			
2200			Target Dep	oth			
2300							
2400							
2500			UTP Unable To F	Penetrate			
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500						-	
	Notes:	- .					
	1 Weather was fi	ne and warm					
	2 No Ground wat	er was detected	, <u>,</u>				
	3 Shear Vane rea	adings are converte	ed readings, as per calibration	on Certificate. (Values are un	drained shear strength)		
	4 Shear Vane rec	cords include Re-m	nouided values where possib	Ne 1/02/2010			
	5 Shear Vane S/	vo. 2086, Cert. No	. / 12289, Calibration date 0	4/02/2019			
			Project			Job ref	
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_			Subdiv. Completion Te	est Reporting, Area	M Stage 9 Greenhill	171738.08	
	D CON	SULTING	Drawing rof		rovision	shoot no	
		INEERS	Drawing rei		Tevision	11	
2				Get Geotech		11	
	0800 23 22	66	Element			Date	
W	www.dbcon.co.nz			Lot 195		Feb-19	
Depth	Depth Scala Shear Vane		Soil Description		Percol	Percolation Test	
100	2						
200	4						
300	2		FILL, sands, silt, minor gravel	ls, brown, moist			
400	2						
500	1						
600	3						
700	3						
800	3						
900	4						
1000	_		SANDS, silt, grey-brov	vn, moist			
1100							
1200							
1300							
1400							
1500							
1600							
1700			nterbedded fine sandy SILT and silty SANDS light grey-brown, moist				
1800							
1900							
2000					-		
2100			EOB @ 2.0m				
2200			Larget Depth				
2300							
2400			LITD Unable To Der	- duala			
2000			UTP Unable To Per	letrate			
2000							
2700							
2000							
3000							
3100	-						
3200							
3300							
3400							
3500							
					I		
	Notes:						
	1 Weather was fin	e and warm					
	2 No Ground wate	er was detected					
	3 Shear Vane read	dings are converte	d readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)		
	4 Shear Vane reco	ords include Re-m	oulded values where possible				
	5 Shear Vane S/N	o. 2086, Cert. No.	712289, Calibration date 04/0	2/2019			

			Project			Job ref
			Subdiv. Completion 7	Test Reporting, Area Park	M Stage 9 Greenhill	171738.08
	DBENG	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		12
	0800 23 22	66	Flement			Date
			Liement			
	www.dbcon.co.nz			Lot 196		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil De:	scription	Percol	ation Test
100	4					
200	5					
300	11		FILL, sands, silt, minor grav	els, brown, moist		
400	20+					
500						
600					.	
700						
800						
900						
1100			SANDS, SIIt, grey-dro	own, moist		
1100						
1200						
1300						
1400					-	
1600						
1700			Interhedded fine sandy SILT	and silty SANDS		
1800			light grey-brown.	moist		
1900						
2000						
2100			EOB @ 2.0r	n	-	
2200			Target Dept	h		
2300						
2400						
2500			UTP Unable To Pe	enetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
						-
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are convert	ed readings, as per calibration	n Certificate. (Values are u	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-m	noulded values where possible	e	Linear earongary	
	5 Shear Vane S/N	lo. 2086, Cert. No	o. 712289, Calibration date 04	/02/2019		
1						

			Project			Job ref
			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stag		
	DD CON	SUITING		Park		1/1/38.08
	BENG	INIEEDC	Drawing ref	calculations by	revision	sheet no
	LING	INLLING				12
				Get Geotech		13
	0800 23 22 66		Flement			Date
	0000 25 22	00	Liement			Dute
Ň	www.dbcon.co	o.nz		Lot 197		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	ription	Percol	ation Test
100	7		Respread Topsoil, g	ravels		
200	7					
300	12					
400	20+					
500	_		SANDS, some silt, light bi	rown, moist		
600						
700					_	
800		187 / 28	SILT, light yellow-brow	n, moist		
900						
1000					•	
1100						
1200		Int	terbedded silty fine SANDS and	fine sandy SILTS		
1300			creamy light-brown,	moist		
1400			5 0 1			
1500						
1600						
1700						
1800						
1900						
2000			Coarse SANDS, minor silt, gre	ey-brown, moist	·	
2100			EOB @ 2.0m		·	
2200			Target Depth			
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
		•				-
	Notes:	_				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane read	dings are converte	ed readings, as per calibration (Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane reco	ords include Re-m	noulded values where possible			
	5 Shear Vane S/N	lo. 2086, Cert. No.	. 712289, Calibration date 04/0	2/2019		
						-

			Project			Job ref
			Subdiv. Completion T	est Reporting, Area	M Stage 9 Greenhill	-
			'	Park		171738.08
	D CON	SULTING	Drawing ref	calculations by	revision	sheet no
		NEERS	Drawing rei		Terision	
				Get Geotech		14
	0800 23 22	66	Flement			Date
	0000 25 22	00	Liement			Date
	www.dbcon.co.nz			Lot 198		Feb-19
Depth	Scala	Shear Vane	Soil Des	cription	Sample /	Temperature
100	(blows/100mm)	(kPa)	Desmand Tenesil	-		-
100	10		Respread Topsoll,	graveis		
200	8					
300	20					
400	15					
500	/		SANDS, minor silt, creamy li	ght brown, moist		
600	4					
700	5					
800	2					
900	1					
1000	4					
1100	3	Inter	rbedded silty fine SANDS an	d fine sandy SILTS,		
1200	2		creamy light yellow-br	own,moist		
1300	2					
1400	2					
1500	3	gradi	grading to light grey			
1600	4	becor	becoming wet			
1700	3					
1800	3					
1900	7	SANE	OS, some coarse pumiceous	materials, dark brown		
2000			(organic staining), gradin	g to grey, wet		
2100			EOB @ 2.0n	า		
2200			Target Dept	ı		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100					·	
3200						
3300						
3400						
3500						
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane read	dings are converted	d readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane reco	ords include Re-mc	oulded values where possible	2		

			Project			Job ref
			Subdiv. Completion Te	st Reporting, Area	M Stage 9 Greenhill	171730.00
	ND CON	SULTING		Park		1/1/38.08
		NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		15
	0800 23 22	66	Element			Date
				1 1 100		E 40
١	www.dbcon.co	o.nz		Lot 199		Feb-19
Depth	Scala	Shear Vane	Soil Desci	iption	Percol	ation Test
100	(blows/100mm)	(KPa)	Respread Topsoil, ar	avels		
200	13		ricoprodu ropoon, g.			
300	6	UTP	SILT, minor sands, creamy lig	nt-brown, moist		
400	8	-	, , , . , .	,		
500	9					
600	9	-	SANDS, minor silt, creamy ligh	nt-brown, moist		
700	3		, , , , , , , , , , , , , , , , , , , ,			
800	2		SILT, creamy light b	rown		
900	4	193 / 19	minor orange mottling	, moist		
1000						
1100						
1200						
1300						
1400		Int	erbedded silty fine SANDS and	d fine sandy SILT		
1500		creamy light-brown, minor orange mottling				
1600						
1700						
1800		mino	r organic staining 17001750mr	n (dark grey-brown)		
1900						
2000	3					
2100	5					
2200	4		SANDS, light grey-brow	n, moist		
2300	4					
2400	4	gradi	ng to grey			
2500	5	beco	ming minor pumiceous materia	lls		
2600	4					
2700	6					
2800	6	beco	ming wet			
2900	7					
3000	_	Watertable	F07			
3100			EOB @ 3.0m			
3200			Larget Depth			
3300						
3400 3500						
	_					
	Notos					
	1 Weather was fin	e and warm				
	2 3 0m Ground w	ater was detected				
	3 Shear Vane rea	dings are converter	treadings, as per calibration (Certificate. (Values are un	drained shear strength)	
	4 Shear Vane rec	ords include Re-mo	ulded values where possible		a anou shour strongth)	
	5 Shear Vane S/N	Io. 2086, Cert. No.	712289, Calibration date 04/02	2/2019		
	<u></u>					

			Project			lob ref
		<u> </u>	Subdiv. Completio	on Test Reporting, Area I	N Stage 9 Greenhill	171738.08
			G	Park		
		INEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		16
	0800 23 22	66	Element			Date
				Lot 200		Feb-19
	www.dbcon.co.nz					
Depth	(blows/100mm) (kPa)		Soil	Description	Percol	ation Test
100	4					
200	13		FILL, sands, silt, angular gra	avels, light-brown, moist		
300	14					
400	10					
500	4		Interbedded silty fine SANDS and fine sandy SILT			
600	6		creamy light-brown, moist			
700	5					
800	3					
900	3	79/16				
1000	4					
1100	4					
1200	2		SILT, minor fine sands, cre	eamy light-brown, moist		
1300	2					
1400	1		some interbedded silty fine Sa			
1500	3					
1600	2					
1700	2					
1800	3					
1900	8		SANDS silt organic stainin	na dark arev-brown wet		
2000	0		becoming minor silt brown	ig, dank grey brown, wet		
2100			FOR @	2 0m		
2200			Tarnet D)enth		
2200			Talger B	Jopan		
2400						
2500			LITD Linghla T	o Donotrato		
2300						
2000						
2700						
2800						
2900						
2100						
3100						
3200						
3300						
3400						
3500						
						1
	Notes:	-				
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detecte	d			
	3 Shear Vane rea	dings are con	verted readings, as per calibra	ation Certificate. (Values are un	drained shear strength)	
	4 Shear Vane rec	ords include F	e-moulded values where pos	sible		
	5 Shear Vane S/N	10. 2086, Cert	No. 712289, Calibration date	e 04/02/2019		

			Project			lob ref
			Subdiv. Complet	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill		
	ND CON	SULTIN	G	Park	· · ·	
		INEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		17
0800 23 22 66		Element			Date	
	www.dbcon.c	o.nz		Lot 201		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Si	Soil Description		lation Test
100	17					
200	20+		FILL, sands, silt, angular	gravels, light-brown, moist		
300						
400						
500			SANDS, silt, lig	jht brown, moist		
600						
700						
800			some interbedded SILTS a	nd fine sandy SILT		
900		139/19				
1000	4					
1100	3					
1200	6	130 / 19	SILT, minor fine sands, o	creamy light-brown, moist		
1300	7					
1400	4					
1500	2		becoming coarse Sands, m	inor silt		
1600	3		organic staining (dark grey-	brown) 1500-1600mm		
1700	7		grading to brown, becoming	g minor fine gravels		
1800	9					
1900	7		grading to light grey			
2000						
2100			EOB @	⊉ 2.0 m		
2200			Targe	t Depth		
2300						
2400						
2500			UTP Unable	To Penetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						-
	-					•
	Notes:					
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detecte	ed			
	3 Shear Vane rea	idings are con	verted readings, as per calil	bration Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include F	Re-moulded values where p	ossible		
1	5 Shear Vane S/N	No. 2086, Cert	. No. 712289, Calibration da	ate 04/02/2019		J

			Project			Job ref
			Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			171738.08
	DBCON	ISULTING	Drawing ref	calculations by	revision	sheet no
<u> </u>	Ento			Get Geotech		18
	0800 23 22	66	Element			Date
w	ww.dbcon.co	o.nz		Lot 202		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	ation Test
100	20+					
200			FILL, silt, sands, some an	ngular gravels		
300						
400						
500		In	erbedded silty fine SANDS a	ind fine sandy SILT		
600			creamy light-brown	n, moist		
700						
800						
900		155 / 9				
1000	3		SILT, minor fine sands,	light-brown		
1100	6		trace orange-mottlin	ıg, moist		
1200	7	95 / 12				
1300	5					
1400	4				•	
1500	3					
1600	3		SANDS, minor silt, cream	y light-brown,		
1700	4		trace orange mottlin	g, moist		
1800	6	beco	ming medium to coarse Sand	ds, mixed browns		
1900	6	grad	ng to light grey			
2000		beco	ming minor pumiceous mater	rials, wet		
2100			EOB @ 2.0m	n	•	
2200			Target Depth	า		
2300						
2400						
2500			UTP Unable To Pe	enetrate		
2600						
2700						
2800						
2900						
3000						
3100	_					
3200						
3300						
3400						
3500	_					
	Notes:	-				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converte	d readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-m	oulded values where possible	<u>)</u>		
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04/	02/2019		

			Project			Job ref
			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		
	DBENG	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		19
	0800 23 22	66	Flement			Date
		•••				5 1 10
,	www.dbcon.co	o.nz		LOT 203		Led-1a
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	ation Test
100	7		FUL all and a second			
200	11		FILL, SIIt, Sands, some and	jular gravels		
300	20+					
400						
500						
600				a support at start of the		
/00		Silty SAI	אטא, creamy light-brown, mind	or orange staining, moist		
800						
900	F					
1000	5					
1100	5	101/10				
1200	9	101 / 12	en fins en de linkt kommensie			
1300	8	SIL1, min	or fine sands, light brown, min	or orange mottling, moist		
1400	4					
1500		mino	r interbedded silty Sands			
1600	1					
1/00	6		hufing CANDC expensio stainin	a dark arou broug		
1800	8	SII	ty line SANDS, organic stainin	g dark grey-brown		
2000	9		SANDS minor cilt. gr	ev wet		
2000			SANDS, ITIITIOI SIII, YI	ey, wei		
2100			EUD @ 2.011			
2200			Taiget Deptit			
2300						
2500			LITP Linghia To Par	otrato		
2600			on onable for en	CII di C		
2000						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	-				I	-
	Notes:					
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converte	d readings, as per calibration (Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	oulded values where possible			
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04/0	2/2019		
1						-

			Project			Job ref
			Subdiv. Completion T	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		
	DR CON	ISULIING	Drawing ref	calculations by	revision	sheet no
	DENG	INEERS				
				Get Geotech		20
	0800 23 22	66	Element			Date
				L at 204		Feb-19
	www.dbcon.co	o.nz		201 201		100 19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Des	cription	Percol	ation Test
100	7					
200	12		FILL, silt, sands, some ar	ngular gravels		
300	8					
400	4				.	
500	10					
600	8		SILT, some fine sands, ligh	nt-brown, moist		
700	3					
800	3	som	ne interbedded silty Sands			
900	5	165 / 16				
1000	4					
1100	3					
1200	3	98 / 19				
1300	5					
1400	3					
1500	3					
1600	3					
1700	8		SANDS, some silt, light gre	ey-brown, moist		
1800	8	bec	oming minor silt			
1900	8	bec	oming mixed brown and orang	je-brown	-	
2000	3	Fin	e to medium SANDS, minor s	ilt, grey-brown, moist	-	
2100	4		EOB @ 2.0n	ו		
2200	4		Target Depth	ו		
2300	3					
2400	4					
2500	4					
2600	5					
2700	5					
2800	6					
2900	4					
3000						
3100						
3200						
3300						
3400						
3500						-
	N I - 4 -					1
	Notes:	-				
	1 weather was fin	ie and warm				
	2 No Ground wate	er was detected	ad socialização a servição de se	Carlificate (Mature -		
	3 Snear Vane real	ungs are converte	eu readings, as per calibration	Certificate. (Values are ul	iuraineu snear strength)	
	4 Shear Vane reco	UIUS IIICIUUE RE-M	712280 Calibration data 04/	; 02/2010		
	5 Shedi Valle S/N	IU. 2000, CEIL NO		UZIZU17		1

			Project			Job ref
			Subdiv. Completion	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill		171729.09
	BBCON			Park		1/1/38.08
		NEEDC	Drawing ref	calculations by	revision	sheet no
	D ENGI	INEERS		Get Geotech		21
	0800 23 22 66		Element			Date
				L ++ 20E		C-1 10
	www.dbcon.co.nz			Lot 205		Fed-19
Depth	Scala	Shear Vane	Soil [Soil Description		Temperature
100	(blows/100mm)	(kPa)				'
100	2		Respread Tops	oil, gravels		
200	11	_				
300	10					
400	2					
500						
600	1		Silty SANDS, light gr	ey-drown, moist		
/00	1					
800	1	be	coming minor interbedded s	andy Silts		
900	4					
1000						
1100	2					
1200	2	161 / 35				
1300	1	SI	LI, creamy light-brown, trac	ce orange mottling, moist		
1400	3					
1500						
1600	9					
1700	12		SANDS, minor silt, light	grey-brown, moist		
1800	13					
1900	9	Fi	ne to medium SANDS, mino	or silt, grey-brown, moist		
2000						
2100			EOB @ 2	2.0m		
2200			Target De	epth		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
						I
	Notes:	-				
	1 Weather was fin	ie and warm				
	2 No Ground wate	er was detected				
1	3 Shear Vane real	dings are conver	ted readings, as per calibrat	tion Certificate. (Values are ur	ndrained shear strength)	

4 Shear Vane records include Re-moulded values where possible

		Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			Job ref 171738.08	
		NEEKS	Drawing ref	calculations by	revision	sneet no
				Get Geotech		22
	0800 23 22	66	Element			Date
,	www.dbcon.co	o.nz		Lot 206		Feb-19
Depth	Depth Scala Shear Vane		Soil Descr	ription	Percol	ation Test
100	(blows/100mm) 4	(kPa)				
200	4		Respread TOPSOIL, minor	fine gravels		
300	4					
400	11					
500	18		FILL, silt, sands, some gravels	s, brown, moist		
600	14			• • • •		
700	14					
800	14	I —				
900	11		SANDS, silt, dark brow	n, moist		
1000	8			.,		
1100	2					
1200	5	218+/-	SILT, brown, moi	st		
1300	6					
1400	7					
1500	4		Silty fine SANDS, creamy b	prown, moist		
1600	4	beco	mina minor silt			
1700	4	beco	ming some orange staining			
1800	5	2000	ning como orango oraning			
1900	8					
2000	Ũ		SILT, minor fine sands, light ar	ev-brown, moist		
2100			EOB @ 2.0m			
2200			Target Depth			
2300			· 3			
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notos					I
	1 Weather was fin	e and warm				
	2 Ground water w	is and warm				
	2 Shear Vano roa	dings are converted	treadings as per calibration (Partificata Maluos are ur	ndrained shear strongth)	
	4 Shear Vane rec	ords include Re-mo	ulded values where nossible	יטי מוויטמנט. <i>(</i> שמועפט מופ עו	เลเลเกษน รกษณ รถษาษุแก)	
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04/02	2/2019		

			Project			Job ref
		SUITING	Subdiv. Completion T	est Reporting, Area Park	M Stage 9 Greenhill	171738.08
	DBENGI	INEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		23
	0800 23 22	66	Flement			Date
	0000 25 22		Lienient			Butt
	www.dbcon.co	o.nz		Lot 207		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Des	cription	Percol	ation Test
100	4					
200	8		Respread TOPSOIL, some	angular gravels		
300	7					
400	20+					
500			Machine Auger	?		
600			-			
700						
800						
900		152/9	SILT, minor fine sands, light o	rev-brown, moist		
1000	3					
1100						
1200	5					
1200	5	-			-	
1/00	5					
1400	5		Silty SANDS light grow h	nown moist		
1400	5		Siny SANDS, light grey-	nown, moist		
1700	5	h	occoming come interhedded fine	andy Silts		
1900	0	L.	econning some interbedded nine s	sanuy sins		
1000	7					
2000	5					
2000					-	
2100			EUB @ 2.011			
2200			rarget Depth	I		
2300						
2400						
2500			UTP Unable To Pe	netrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:	_				
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detected	1			
	3 Shear Vane rea	dings are conv	erted readings, as per calibration	Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include Re	e-moulded values where possible			
	5 Shear Vane S/N	lo. 2086, Cert.	No. 712289, Calibration date 04/0	02/2019		

			Project			lob ref
			Subdiv. Completio	on Test Reporting, Area N	A Stage 9 Greenhill	
	DD CON			Park		171738.08
			Drawing ref	calculations by	revision	sheet no
	ENG	INCER2	-	Get Gentech		24
				Der Debrech		64
	0800 23 22	66	Element			Date
	www.dbcon.c	o.nz		Lot 208		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil	Description	Percol	ation Test
100	2		Respread TOPSOI	L, some gravels		
200	6					
300	7					
400	13					
500	20+		Machine A	uger?		
600						
700						
800						
900			SANDS, silt, b	rown, moist		
1000	4					
1100	4					
1200	6	218+/-				
1300	2					
1400	2		SILT, light grey-	brown, moist		
1500	3					
1600	3					
1700	4					
1800	4		SANDS, silt, light gr	rey-brown, moist		
1900	9	b	ecoming minor silt			
2000		g	rading to light grey			
2100			EOB @ 2	2.0 m		
2200			Target D	Depth		
2300						
2400						
2500			UTP Unable T	o Penetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
						-
	Notes:					
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	idings are conve	erted readings, as per calibra	ation Certificate. (Values are und	rained shear strength)	
	4 Shear Vane rec	ords include Re	e-moulded values where pos	sible		
	5 Shear Vane S/N	No. 2086, Cert. I	No. 712289, Calibration date	e 04/02/2019		
						-

				Project					loh ref
				Subdiv. Completion	Te	est Reporting, Area	M St	age 9 Greenhill	500 . 0.
						Park		5	171738.08
	DR CON	ISULTIN	J G	Drawing ref		calculations by		revision	sheet no
	ENG	INEERS	5			Get Geotech			25
						Der Deuteen			25
	0800 23 22	66		Element		-			Date
						L at 200			Eab 10
w	ww.dbcon.co	o.nz		201 209				160-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Э	Soil D	esci	ription		Percol	ation Test
100	5				_				
200	8			Respread TOPSOIL, som	e a	ngular gravels			
300	3						_		
400	4								
500	13		_						
600	12		_	Machine Aug	er _	?			
700	9								
800	6								
900	5	104 / 13	S	SILT, trace fine sands, ligh	i gre	ey-brown, moist			
1000	4								
1100	7		-						
1200	4	218+/-							
1300	6								
1400	8								
1500	8						-		
1600	8		-	SANDS, silt, light g	rey	/-brown			
1700	7			trace orange mott	ling	, moist			
1800	8		becon	ming minor silt, grading to	darl	k brown			
1900	9		becon	ming wet					
2000	3			-					
2100	5		_ some	interbedded Silt, light grev	√-br	rown			
2200	5								
2300	5		becon	ming trace silt					
2400	5			Ū					
2500	4								
2600	4		-						
2700	3		becon	ming some silt, grading to	ight	t grey-brown			
2800	2				Ū	0.5			
2900	3								
3000			becon	ming saturated					
3100				EOB @ 3.)m		-		
3200				Target De	oth				
3300									
3400									
3500									
					_				•
	Notes:								
	1 Weather was fin	e and warm							
	2 No Ground wate	er was detecte	ted						
	3 Shear Vane rea	dings are con	nverted	l readings, as per calibration	on (Certificate. (Values are u	ndraine	ed shear strength)	
	4 Shear Vane rec	ords include F	Re-mou	ulded values where possib	ble			-	
	5 Shear Vane S/N	lo. 2086, Cert	rt. No. 7	712289, Calibration date 0	4/02	2/2019			
									•

			Project			Job ref
			Subdiv. Completion T	est Reporting, Area Park	M Stage 9 Greenhill	171738.08
	DBENG	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		26
	0800 23 22	66	Element			Date
				Lot 210		Feb-19
\\	www.dbcon.co	O.NZ				
Depth	Scala (blows/100mm)	(kPa)	Soil Des	cription	Percol	ation Test
100	5					
200	5		Respread TOPSOIL, some	angular gravels		
300	5				-	
400	13					
500	20+			<u> </u>		
600			Machine Auger	?		
700						
800		100/100				
900		108 / 13	SILT, minor sands, dark oran	ige-brown, moist		
1000	2					
1100	2	gra	ding to grey-brown			
1200	3	85 / 19				
1300	2					
1400	3	gra	ding to light grey-brown, trace	orange mottling		
1500	3					
1600	3					
1700	5				.	
1800	7	F	ine SANDS, silt, creamy light-l	prown, moist to wet		
1900	6	bec	coming fine to medium Sands,	light grey		
2000					.	
2100			EOB @ 2.0m	1		
2200			Target Depth	1		
2300						
2400						
2500			UTP Unable To Pe	netrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	-					
	Notes:	-				
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	idings are convert	ed readings, as per calibration	Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-r	noulded values where possible			
1	5 Shear Vane S/N	vo. 2086, Cert. No	b. / 12289, Calibration date 04/	J2/2019		
1						

			Project			Job ref
			Subdiv. Completion Te	st Reporting, Area	M Stage 9 Greenhill	171720.00
	BBCON			Park		1/1/38.08
	RCON		Drawing ref	calculations by	revision	sheet no
	ENG	INEERS	-			
				Get Geotech		27
	0800 23 22	66	Element			Date
١	www.dbcon.co	o.nz		Lot 211		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	ription	Percol	ation Test
100	6	(
200	7		Respread TOPSOIL, some a	ngular gravels		
300	10		,			
400	8				•	
500	5		Machine Auger	2		
600	4			·		
700	т Б					
200 200	Л					
000	4		SANDS trace silt dark orang	e-brown moist		
900 1000	5		SANDS, trace sitt, dark orang			
1100		aradi	ag to light grou brown			
1100	4	gradi	ng to light grey-brown			
1200	5					
1300	4					
1400	4					
1500	3					
1600	3	haaa	wing sills fine Condo, winey or			
1/00	4	Decor	ming slity fine Sands, minor or	ange mottling		
1800	2					
1900	4					
2000					-	
2100			EOB @ 2.0m			
2200			Target Depth			
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:	-				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane read	dings are converted	readings, as per calibration (Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane reco	ords include Re-mo	ulded values where possible			
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04/0	2/2019		

			Proiect			lob ref
			Subdiv. Completion T	est Reporting, Area	M Stage 9 Greenhill	
				Park	5	171738.08
	RCON	SULTING	Drawing ref	calculations by	revision	sheet no
	DENGI	NEERS	5	Get Geotech		29
				der Georech		20
	0800 23 22	66	Element			Date
	www.dbcon.co	o.nz		Lot 212		Feb-19
Donth	Scala	Shear Vane	Soil Dos	cription	Sample /	Temperature
Deptin	(blows/100mm)	(kPa)	5011 Des	ciption		remperature
100	5		Respread Topsoil,	gravels		
200	4				.	
300	4					
400	8					
500	7		Machine Auge	r?		
600	8					
700	5					
800	7					
900	10					
1000	5		SANDS, silt, light gro	ey, moist		
1100	7					
1200	5					
1300	4	SI	LT, minor fine sands, creamy	y light-brown, moist		
1400	4				-	
1500	4					
1600	4		Silty fine SANDS, creamy lig	ght brown, moist		
1700	4	becor	ecoming minor silt, some medium sands			
1800	3					
1900	4	some	interbedded Silt with trace of	brange mottling		
2000						
2100			EOB @ 2.0n	n	-	
2200			Target Dept	า		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
						-
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converted	d readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane reco	ords include Re-ma	ulded values where possible	<u>)</u>		

			Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			Job ref 171738.08
	D ENGI	INEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		29
	0800 23 22	66	Element			Date
	www.dbcon.co.nz			Lot 213		Feb-19
Denth	Scala Shear Vane		Soil Desc	intion	Dercol	ation Test
100	(blows/100mm)	(kPa)	3011 DE301	iption		
200	J 14		Deeproad TODSOIL minor	fino gravolo		
200	10		Respieau TOPSOIL, Minor	line graveis		
300	11					
400 500			Maaking Arro	2		
000			wachine Auger _	(
600	5					
700	8					
800	10					
900	5		SILT, minor fine sands, cramy	light grey, moist		
1000	5					
1100	8					
1200	6	139/9				
1300	4					
1400	4					
1500	4					
1600	6		SANDS, minor silt, light-g	rey, moist		
1700	6	some	e interbedded Silt, creamy light	-brown		
1800	7		, , ,			
1900	5					
2000			SILT, light-brown, n	noist	•	
2100			EOB @ 2.0m		•	
2200			Target Depth			
2300						
2400						
2500						
2600						
2000						
2700						
2000						
2900						
2100						
3100						
3200						
3300						
3400						
3000		L				
	Notes:					
	1 Weather was fin	ne and warm				
	2 Ground water w	as detected				
	3 Shear Vane rea	dings are converted	d readings, as per calibration (Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	oulded values where possible			
	5 Shear Vane S/N	10. 2086, Cert. No.	112289, Calibration date 04/02	2/2019		

			Project			Job ref
			Subdiv. Completion Te	st Reporting, Area	M Stage 9 Greenhill	171700.00
	DDCON	SUITING		Park	-	1/1/38.08
	DB ENGI	NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		30
		cc	F 1 .			
	0800 23 22	66	Element			Date
	www.dbcon.co	o.nz		Lot 214		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desci	ription	Percol	ation Test
100	4		Respread TOPSOIL, minor	fine gravels		
200	7					
300	5				-	
400	20+					
500						
600		(engineer controlled) FILL, sands.	silt, some gravels		
700		,	minor topsoil, mixed dark-t	prown, moist		
800						
000						
1000	6					
1100						
100	4	212/20				
1200	6	212728			-	
1300	4		SILI, trace fine sands, light	t grey, moist		
1400	7	_			-	
1500						
1600	7	S	SANDS, silt, light brown trace ora	nge mottling, moist		
1700	4	SO	me interbedded fine sandy Silt			
1800	7				_	
1900	8		SILT, minor sands, light gr	rey-brown,		
2000			trace orange mottling	, moist		
2100			EOB @ 2.0m			
2200			Target Depth			
2300						
2400						
2500			UTP Unable To Pen	etrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
3300						
	Notoci					
	1 Weather was fin	-				
	2 No Crowned water					
	2 IVO GIOUND Wate		tod roadings as as a libral	Portificato Alaberta	ndroinod observation with	
	3 Snear Vane rea	ungs are conve	neu readings, as per calibration (Jer micate. (Values are u	nuraineu snear strength)	
	4 Shear Vane rec	uras include Re-	moulded values where possible	2/2010		
	5 Shear Vane S/N	10. 2086, Cert. N	0. 712289, Calibration date 04/02	2/2019		

			Project			lob ref
			Subdiv. Completic	on Test Reporting, Area N	A Stage 9 Greenhill	
	BBCON			Park		171738.08
		INICEDC	Drawing ref	calculations by	revision	sheet no
	EING	INCERS	_	Get Geotech		31
	0800 23 22	66	Element			Date
	www.dbcon.c	o.nz		Lot 215		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil	Description	Perco	lation Test
100	2					
200	7		Respread TOPSOIL,	minor fine gravels		
300	20+	_				
400						
500						
600		(engineer controlled) FILL, s	sands, silt, some gravels		
700			minor topsoil, mixed	dark-brown, moist		
800						
900						
1000	8					
1100	8		EOB @ 10	000mm		
1200	5		Refusal - C	Gravels		
1300	3					
1400	4					
1500	5					
1600	5					
1700	5					
1800	5					
1900	6					
2000						
2100						
2200						
2300						
2400						
2500			UTP Unable To	o Penetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						-
						1
	Notes:	<u> </u>				
	Weather was fi	ne and warm				
	2 No Ground wat	er was detected	tod roadings, oo nat calling	ation Cortificate Making are	rained cheer strength	
	3 Shear Vane rea	auritys are conver	reu reauings, as per calibra	anon cennicate. (values are und sciblo	raineu snear strengtn)	
	5 Shear Vane 60		niouided values where pos			
	5 Shear Valle S/	NU. 2000, CEIL N	u. 712209, Calibration date	5 04/02/2019		J
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			Project			loh ref
			Subdiv Completion	Test Reporting Area	M Stage 9 Greenhill	505 101
			Cabary, completion	Park	M orage 5 or commi	171738.08
	DDCON	SUITING		Idik		
	DEFNG	INFERS	Drawing ref	calculations by	revision	sheet no
	LING			Get Geotech		32
		~~				_
	0800 23 22	66	Element			Date
w	www.dbcon.co.nz		Lot 216			Feb-19
Depth	Scala	Shear Vane	Soil De	scription	Percol	ation Test
100	(blows/100mm)	(kPa)				
100	5					
200	4					
300	11					
400	20+					
500						
600						
700		(engine	eer controlled) FILL, sands, s	ilt, minor angular gravels		
800			mixed brown, n	noist		
900		155 / 9				
1000	12					
1100	7					
1200	7	95 / 12 mino	or topsoil at 1200mm			
1300	5					
1/00	5		SANDS silt creamy	light-brown		
1400	5		minor orongo mottli			
1000			minor orange motiling, moist			
1600	4	Deco	becoming interbedded Silts			
1700	4	1500)-1600mm organic staining -	dark grey-brown		
1800	6					
1900	9					
2000	3		SILT, minor fine sands, light	grey-brown, moist		
2100	3					
2200	3					
2300	4					
2400	4		SANDS, some silt, ligh	t-grey, moist		
2500	4					
2600	5					
2700	6					
2800	3	beco	oming coarse Sands, some p	umiceous materials		
2900	1		5			
3000		becc	ming silty Sands			
3100	-		Jining only burned		•	
2200			Organia SILT. dark	arov, wat		
3200			Olyanic SILT, Uark	grey, wet		
3300					•	
3400		— —	Silty SANDS, dark	grey, wet		
3500			EOB @ 3400r	nm		
	-					
	Notes:	_				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converte	d readings, as per calibration	n Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-m	oulded values where possible	е		
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04	/02/2019		

Subdiv Completion Test Reporting, Area M Stage 9 Greenhill 171738.08 0800 23 22 66 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 0800 23 22 66 Get Getter 23 0800 23 22 66 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 0800 23 22 66 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 0800 23 22 66 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 000 3 20 4 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 000 7 Fill, sitl, sands, some angular gravels Percotation Test 000 5 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 000 7 Fill, sitl, sands, some angular gravels Fill, sitl, sands, some angular gravels 000 5 Image: Completion Test Reporting, Area M Stage 9 Greenhill Sheet no 000 6 Sheet no, moist Sheet no, moist 001 6 Sheet no Sheet no 0020 7 Image: Completion Test Reporting, Area M Stage 9 Greenhill Time 1 Fill Stage 9 Greenhill 0030 6 Image: Completion Test 7 Fill, sitl, sands, sitl trace line sands, light grey-trown, moist Time 1 Fill Stage 9 Greenhill <th></th> <th></th> <th></th> <th>Project</th> <th></th> <th></th> <th>Job ref</th>				Project			Job ref
DBEENGLIERS praving ref calculations by revision sheet no 0800 23 22 66 Image: Control of the stands Image: Contro of the stands <td></td> <td></td> <td></td> <td>Subdiv. Completion 7</td> <td>est Reporting, Area Park</td> <td>M Stage 9 Greenhill</td> <td>171738.08</td>				Subdiv. Completion 7	est Reporting, Area Park	M Stage 9 Greenhill	171738.08
Get Geortech 33 0800 23 22 66 Element Date www.dbcon.co.nz Soli Description Percelation Test 200 7 Stata Stata 300 7 FLL.stl, sands, some angular gravels Feb-19 200 8 FLL.stl, sands, some angular gravels Feb-19 200 7 (engineer controlled) FLL, sands, sit, trace topsoil Feb-19 200 5 - - - 200 5 - - - 1000 5 - - - - 1100 6 152/9 SLT. trace fine sands, light grey-krown, moist - 1200 5 SAMDS, same sit, creany light-krown, moist - - 1200 5 SUT. trace fine sands, light grey brown - <td></td> <td>DBCON</td> <td>SULTING</td> <td>Drawing ref</td> <td>calculations by</td> <td>revision</td> <td>sheet no</td>		DBCON	SULTING	Drawing ref	calculations by	revision	sheet no
0800 23 22 66 Element Date Lupph Scala meetinem (RFa) Start Vare (RFa) Soil Description Parabation Test 100 7 FLL. sit, sands, some angular gravels Parabation Test 300 5					Get Geotech		33
Lot 217 Feb-19 Depth Scale (heat) Sol Description Percention Test 100 7		0800 23 22	66	Flement			Date
uwww.dbcon.co.nz Lot 217 Peb-19 Depth Sciela Siter Vare (PPa) Sail Description Percention Test 100 7		0000 25 22	00	Liement			
Depth Scala Shet Yane Sol Description Percolation Test 100 7 (Pa) Sol Description Percolation Test 200 8 FILL, silt, sands, some angular gravels (Pa) 400 5 (Pa) (Pa) 600 16 (Pa) (Pa) 700 20+ (engineer controlled) FILL, sands, silt, trace topsoil mixed dark brown, moist (Pa) 800 5 (Pa) (Pa) (Pa) 900 5 (engineer controlled) FILL, sands, silt, trace topsoil mixed dark brown, moist (Pa) 1000 5 (Pa) SLT, trace fine sands, light grey-brown, moist (Pa) 1100 6 (Pa) SANDS, some silt, crearry light brown, moist (Pa) 1100 4 (Pa) SANDS, some silt, greary brown, moist (Pa) 1100 4 (Pa) (Pa) (Pa) (Pa) 1100 4 (Pa) (Pa) (Pa) (Pa) 1100 7 (SLT, trace fine sands, light grey brown, moist		www.dbcon.co	o.nz		Lot 21/		Feb-19
100 7 200 8 000 5 000 5 000 16 000 16 000 16 000 16 000 5 1000 5 1100 6 1200 5 1100 6 1200 5 1300 6 1400 4 1500 6 1400 4 1500 6 1400 4 1500 6 1400 4 1500 6 1400 4 1500 6 1400 4 1700 4 1800 6 1900 7 2000 SILT. trace fine sands, light grey-brown, moist 1800 6 1900 7 2000 UTP 1000 1 2000 1 2001	Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Des	scription	Percol	ation Test
200 8 FLL, sit, sands, some angular gravels 400 5 500 9 600 16 700 20+ 800 inked dark brown, moist 900 5 1100 6 1200 5 1100 6 1200 5 1100 6 1200 5 1100 6 1200 5 1200 5 1100 6 1200 5 1217 SktDS, some sill, creamy light brown, moist 1600 4 1700 4 1800 6 1900 7 2000 Target Depth 2000 UTP 2000 U	100	7					
300 5 500 9 600 16 700 20+ 800 initial dark brown, molst 900 5 1000 5 1000 5 1000 5 1000 5 1000 5 1000 6 1200 5 1300 6 1400 4 1500 6 1000 4 1500 6 1000 7 2000 5 1000 7 2000 5 1000 7 2000 151.7, trace fine sands, light grey-brown, moist 1000 7 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 2000 100 </td <td>200</td> <td>8</td> <td></td> <td>FILL, silt, sands, some a</td> <td>ngular gravels</td> <td></td> <td></td>	200	8		FILL, silt, sands, some a	ngular gravels		
400 5 500 9 600 16 700 20+ 800 mixed dark brown, moist 1000 5 1100 6 1200 5 1300 6 1400 4 1500 6 1600 4 1500 6 1600 4 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1900 7 2000 Target Depth 2000 UTP 2100 UTP 2100 UTP 2100 UTP 2100 UTP 2100 Sill To Penetrate 2100 Sill To Penetrate 2100 Sill To Penetrate	300	5				-	
300 9 600 16 700 20+ 800 mixed dark brown, moist 1000 5 1100 6 1200 5 1100 6 1200 5 1200 5 1200 5 1200 5 1200 6 1200 5 1200 6 1200 6 1200 6 1200 6 1200 6 1200 6 1200 6 1200 6 1200 6 1200 5 1200 5 1200 152.17, trace fine sands, light grey brown, moist 1200 1 2200 Target Depth 2300 1 2500 1 2600 1 2000 1 3000 1	400	5					
00 10 00 20+ 000 20+ 000 20+ 000 5 100 6 1200 5 1300 6 1400 4 1500 6 1600 4 1600 4 1600 4 1600 4 1700 4 1800 6 1900 7 2000 SLT, trace fine sands, light grey-brown, moist 1800 6 1900 7 2000 SUT, trace fine sands, light grey-brown, moist 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2500 UTP 2600 1 2700 1 2800 1 2900 1 3100 1 3100 1 3100 1	500	9					
700 201- (erigines controlled) Fill. Safets, sit, frace figsoil 800 mixed dark brown, moist 1100 6 1200 5 1300 6 1400 4 1500 6 1600 4 1700 4 1800 6 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1600 4 1700 4 1800 6 1900 7 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2800 UTP 2801 Safe radius and warm	600	16	,		-1		
000 5 1100 6 1200 5 1300 6 1400 4 1500 6 5 SANDS, some silt, creamy light-brown, moist 1600 4 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1800 6 1900 7 2000 Target Depth 2000 Target Depth 2000 UTP	/00	20+	((engineer controlled) FILL, san	us, siit, trace topsoll		
1000 5 1100 6 1200 5 152 / 9 1300 6 1400 4 1500 6 1600 4 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 2100 EOB @ 2.0m 2000 Target Depth 2000 UTP 2100 UTP 2500 UTP 2700 UTP 2700 UTP 2800 UTP 2800 UTP 2900 UTP 3000 UT	800			mixed dark brown	, moist		
100 5 1100 6 1200 5 1300 6 1400 4 1500 6 1600 4 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1800 6 1900 7 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 3300 UTP 1 We	900	F					
1100 0 1200 5 1300 6 1400 4 1500 6 1600 4 1600 4 1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1600 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 1000 6 1000 15.05 @ 2.0m 1000 100 2000 Target Depth 2300 UTP 2600 100 2600 100 2600 100 2700 100 2800 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 3000 100 100 1000	1100	 					
1300 6	1200	о Б	152/0	SILT trace fine sands light	arov brown moist	-	
1400 0 1500 6	1200	5	13279	SILT, trace line sanus, light (grey-brown, moist	-	
1500 6	1400	0					
1000 -	1400	4		SANDS some silt creamy li	abt brown moist		
1700 4 1800 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 2100 EOB @ 2.0m 2300 Target Depth 2300 UTP 2500 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP	1600			SANDS, Some sill, creating i	gnt-brown, moist		
1300 6 1900 7 2000 SILT, trace fine sands, light grey-brown, moist 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2800 UTP 2800 UTP 3000 UTP 3100 UTP 3200 UTP 3100 UTP <t< td=""><td>1700</td><td>4</td><td></td><td></td><td></td><td></td><td></td></t<>	1700	4					
1000 7 2000 1 2100 EOB @ 2.0m 2200 Target Depth 2300 0 2400 UTP 2400 UTP 2500 0 2500 0 2500 0 2500 0 2500 0 2500 0 2500 0 2500 0 2500 0 2600 0 2700 0 2800 0 2800 0 2800 0 2800 0 2900 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0 3000 0	1800	6					
2000 SILT, trace fine sands, light grey-brown, moist 2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP	1900	7					
2100 EOB @ 2.0m 2200 Target Depth 2300 UTP 2400 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2900 UTP 3000 UTP 3100 UTP 3200 UTP 3300 UTP 3500 UTP Notes: I 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2000			SILT, trace fine sands, light (arev-brown, moist	-	
2200 Target Depth 2300 UTP 2500 UTP 2600 UTP 2700 UTP 2800 UTP 2800 UTP 2900 UTP 3000 UTP UTP UTP </td <td>2100</td> <td></td> <td></td> <td>EOB @ 2.0r</td> <td>n</td> <td>-</td> <td></td>	2100			EOB @ 2.0r	n	-	
2300 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2600 2700 2800 2900 3000 100 3100 3200 100 3200 3300 100 3200 3300 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3200 100 100 3500 100 100 1 Weather was fine and warm 2 2 No Ground water was detected 3 3 Shear Vane reactings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values w	2200			Target Dept	h		
2400 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2800 UTP Uter Stressing 3000 UTP Unable To Penetrate 3000 Uterstressing Uterstressing 3000 Uterstressing Uterstressing 3000 Uterstressing Uterstressing 3000 Uterstressing Uterst	2300						
2500 UTP Unable To Penetrate 2600 UTP Unable To Penetrate 2700 UTP Unable To Penetrate 2800 Unable To Penetrate Unable To Penetrate 3000 Unable To Penetrate Unable To Penetrate 3000 Unable To Penetrate Unable To Penetrate 3100 Unable To Penetrate Unable To Penetrate 3000 Unable To Penetrate Unable To Penetrate 3000 Unable To Penetrate Unable To Penetrate 3000	2400						
2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 I Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2500			UTP Unable To Pe	enetrate		
2700 2800 2900 3000 3100 3200 3300 3300 3400 3500 I Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2600						
2800 2900 3000 3100 3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	2700						
2900	2800						
3000	2900						
3100 3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3000						
3200 3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3100						
3300 3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3200						
3400 3500 Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3300						
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3400						
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019	3500						
Notes: 1 Weather was fine and warm 2 No Ground water was detected 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 4 Shear Vane records include Re-moulded values where possible 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019							I
 Weather was tine and warm No Ground water was detected Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) Shear Vane records include Re-moulded values where possible Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		Notes:					
 No Ground water was detected Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) Shear Vane records include Re-moulded values where possible Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		1 Weather was fin	ne and warm				
 Shear Vane records include Re-moulded values where possible Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		2 No Ground wate	er was detected	od roadinge, oo not callbration	Cortificato (Values and	adrained cheer strength	
 5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019 		3 Shear Vane rea	unys are convert	eu reaulinys, as per calibration	i cennicate. (Values are ul	nuraineu snear strength)	
		5 Shear Vane S/N	lo 2086 Cort No	712289 Calibration date 04	- /02/2019		

			Project			Job ref
			Subdiv. Completion Te	est Reporting, Area	M Stage 9 Greenhill	171720.00
				Park		1/1/38.08
	KENC		Drawing ref	calculations by	revision	sheet no
	ENG	INEERS				
				Get Geotech		34
	0800 23 22	66	Flement			Date
				1		5 4 10
١	www.dbcon.co	o.nz		Lot 218		Fed-19
Depth	Scala	Shear Vane	Soil Desc	ription	Percol	ation Test
100	(blows/1001111)	(кра)				
200	5		FILL silt sands some and	ular gravels		
300	5		TILE, Sitt, Sands, Some any			
400	6					
400 500	14					
500	14					
500		1	electronic and a line dy EU Line and			
/00	8	(en	gineer controlled) FILL, sands	s, slit, trace topsoli		
800	8		mixed dark brown, r	moist		
900	11					
1000	9					
1100	11					
1200	10					
1300	6					
1400	5	SILT, min				
1500	5					
1600	6					
1700	6					
1800	6		SANDS, silt, light yellow-b	rown, moist		
1900	9					
2000	4					
2100	4	becor	ming some interbedded fine sa	andy Silts		
2200	10	crean	ny light-brown minor orange m	nottles		
2300	8					
2400	6					
2500	5					
2600	8	2600-	2700mm, some organic stain	ing - dark grey-brown		
2700	6					
2800	7					
2900	7		SILT, minor fine sands, ligh	it grey, moist		
3000			, i i i i i i i i i i i i i i i i i i i			
3100	_	2900-	3000mm, some interbedded	Sands,		
3200						
3300			EOB @ 3200mr	n		
3400						
3500						
					I	-
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane read	dings are converted	readings as per calibration (Certificate (Values are un	idrained shear strength)	
	4 Shear Vane red	angs are converted	ulded values where needblo	שט מושענט. <i>א</i> מועכט מוש עו	aramea shear sitenyin)	
	5 Shear Vane S/M	la 2086 Cert Na .	712289 Calibration data $0.4/0^{\circ}$	2/2019		

			Project			Job ref	
			Subdiv. Completion	Test Reporting, Area	M Stage 9 Greenhill		
	BBCON		·	Park	2	171738.08	
	RCON	SULIIING	Drawing ref	calculations by	revision	sheet no	
	DENGI	NEERS	5	Gat Gaotach		25	
				Der Deorech			
	0800 23 22	66	Element			Date	
				1 + 210		F. L. 10	
	www.dbcon.co	o.nz		Lot 219		Fed-19	
Depth	Scala	Shear Vane	Soil D	escription	Sample /	Temperature	
100	(blows/100mm)	(kPa)			'	·	
100	5		Respread Topsol	I, gravels			
200	5				-		
300	4						
400	20+						
500							
600							
700							
800		(engine	er controlled) FILL, sands,	silt, minor angular gravels			
900			mixed brown,	moist			
1000	8						
1100	12						
1200	5						
1300	5	some	e topsoil				
1400	4						
1500	4						
1600	4						
1700	4		SILT, grey-brow	n, moist			
1800	6	beco	ming minor fine sands, trac	e orange mottling			
1900	7						
2000							
2100			EOB @ 2.0)m	•		
2200			Target Dep	oth			
2300							
2400							
2500							
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							
		I					
	Notes:						
	1 Weather was fine and warm						
	2 No Ground water was detected						
	3 Shear Vane rea	dings are converted	d readings, as per calibratio	on Certificate. (Values are ur	ndrained shear strength)		
	4 Shear Vane reco	ords include Re-mo	oulded values where possib	ble			

		Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			Job ref 171738.08			
		NEERS	Drawing ref	calculations by	revision	sheet no		
				Get Geotech		36		
	0800 23 22	66	Element			Date		
	www.dbcon.co	o.nz		Lot 220		Feb-19		
Depth	Depth Scala Shear Vane		Soil Description Perco		Percol	ation Test		
100	4							
200	5		Respread TOPSOIL minor	fine gravels				
300	4			into gravois				
400	4							
500	0 10							
600	11	(ongineer con	rolled) Ell L cilt conde minor	tonsoil mixed brown m	oist			
700	14	(engineer con	noneu) FILL, SIII, Sănus, MINO	τομεσιί, πιχεά βιοψη, Μ	υιοι			
/00	12							
800	11							
900	12		Constant and the second s					
1100	10	minor	tine to medium graveis					
1100	9							
1200	15		SIL I, OARK DROWN, MOIST					
1300	8	gradir	ng to light brown					
1400	9							
1500	10							
1600	9		Silty fine SANDS, creamy light	ht-grey, moist				
1700	7							
1800	14	becor	ning some interbedded fine sa	andy Silt				
1900	15	becor	ning trace orange mottling					
2000								
2100			EOB @ 2.0m					
2200			Target Depth					
2300								
2400								
2500								
2600								
2700								
2800								
2900								
3000								
3100								
3200								
3300								
3400								
3500								
	Notes:1Weather was fin2Ground water w.3Shear Vane read4Shear Vane read5Shear Vane S/N	e and warm as detected dings are converted ords include Re-mo lo. 2086, Cert. No. 7	readings, as per calibration C ulded values where possible 12289, Calibration date 04/02	Certificate. (Values are un 2/2019	drained shear strength)			

			Project			Job ref	
			Subdiv. Completion Te	st Reporting, Area	M Stage 9 Greenhill	171739.09	
	DD CON	SUITING		Park		1/1/38.08	
	DBENGI	NEERS	Drawing ref	calculations by	revision	sheet no	
				Get Geotech		37	
	0000 22 22	66	<u>Flamant</u>			Data	
	0800 23 22	00	Element			Date	
	www.dbcon.co	o.nz		Lot 221		Feb-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Descr	iption	Percol	ation Test	
100	4		Respread TOPSOIL, minor	fine gravels			
200	5						
300	4				•		
400	10						
500	18						
400							
000	20+	(ongineer co-	atrollod) Ell L cilt condo minor	topcoil mixed brown	poist		
/00		(engineer cor	inoilea) FILL, SIII, Sanas, Minoi	topsoli, mixed brown, m	IUISL		
800							
900							
1000	5						
1100	6						
1200	4						
1300	7	burie	d wood fragments retrieved				
1400	6						
1500	5	SI	LT, light grey-brown trace oran	ge mottling, moist			
1600	5						
1700	5				•		
1800	7	SAND	S. silt. light grev-brown trace o	range mottling, moist			
1900	6	some	e interbeded fine sandy Silt	range metang, melet			
2000	Ū	30110					
2000			EOP @ 2.0m		-		
2100			LOB @ 2.011				
2200			rarget Depth				
2300							
2400							
2500			UTP Unable To Pene	etrate			
2600							
2700							
2800							
2900							
3000							
3100	—						
3200							
3300							
3400							
3500							
						-	
	Notes					1	
	1 Mosther was fin	-					
	vveauner was fin						
	2 No Ground water was detected						
	3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)						
1	4 Shear Vane reco	oras include Re-ma	builded values where possible	20040			
	5 Shear Vane S/N	10. 2086, Cert. No.	/ 12289, Calibration date 04/02	2/2019		l	

			Project			Job ref
			Subdiv. Completi	on Test Reporting, Area I	N Stage 9 Greenhill	171720.00
	DDCON	SUITING		Park		1/1/38.08
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				Get Geotech		38
	0800 23 22	66	Flomont			Data
	0800 23 22 00					
	www.dbcon.c	o.nz		Lot 222		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description Perce		Perco	lation Test
100	0					
200	5		Respread TOPSOIL,	, minor fine gravels		
300	4					
400	12					
500	14					
600	15	(engineer	controlled) FILL, silt, sands	s, minor topsoil, mixed brown, mo	pist	
700	8					
800	10					
900	10					
1000	3					
1100	2	UTP so	ome topsoil			
1200	3					
1300	4		SILT, trace fine sands, I	ight grey-brown, moist		
1400	3		,,	3 3 9 7 7 7 7		
1500	3	b	ecoming minor fine sands.	trace orange mottling		
1600	4		<u>j</u>			
1700	6					
1800	10	S	Ity fine SANDS. light grev-	brown trace mottling, moist		
1900	10		j	,		
2000			SILT, minor fine sands, ligh	t grey-brown, moist to wet		
2100			EOB @	2.0m		
2200			Target	Depth		
2300			, i i i i i i i i i i i i i i i i i i i			
2400						
2500			UTP Unable T	To Penetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
						-
	Notes:	_]
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	idings are conve	rted readings, as per calibr	ration Certificate. (Values are une	drained shear strength)	
	4 Shear Vane rec	ords include Re	moulded values where pos	ssible		
	5 Shear Vane S/N	lo. 2086, Cert. I	lo. 712289, Calibration dat	e 04/02/2019		
						-

			Project			Job ref
			Subdiv. Completion Test Reporting, Area M Stage 9 Greenhil Park			171738.08
	DRCON		Drawing ref	calculations by	revision	sheet no
	D ENG	INCERS		Get Geotech		39
	0800 23 22 66		Flomont			Data
			Liement			Date
Ŵ	www.dbcon.co.nz			Lot 223		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Des	cription	Percol	ation Test
100	8					
200	5					
300	7				-	
400	14					
500	20+					
600			Machine Auger	?		
700						
800						
900		218+/-	SILT, creamy light bro	wn, moist		
1000	5					
1100	3	beco	ming minor fine sands			
1200	4	149 / 13				
1300	3					
1400	4					
1500	4				_	
1600	3					
1700	4		Silty fine SANDS, creamy lig	ht-brown, moist		
1800	5					
1900	5	some	e interbedded fine sand Silt, b	ecoming trace orange mo	ottling	
2000	_					
2100			EOB @ 2.0m	I		
2200			Target Depth	I		
2300						
2400						
2500	_					
2600						
2700						
2800						
2900						
3000	_					
3100						
3200						
3300						
3400						
3500	_					-
						l
	Notes:	- .				
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detected		o 110 - 6		
	3 Shear Vane rea	dings are converte	d readings, as per calibration	Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	buided values where possible	2/2010		
	5 Snear Vane S/N	10. 2086, Cert. No.	112289, Calibration date 04/(12/2019		

			Project			Job ref
			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		
	DBCON	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		40
	0800 23 22 66		Flement			Date
				1 + 224		5 4 10
	www.dbcon.co.nz			LOT 224		Fed-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	ription	Percol	ation Test
100	4					
200	4		FILL, silt, sands, some ang	jular gravels		
300	5					
400	4					
500	6					
600	15		Machine Auger _	?		
700	10					
800	4					
900	5		Silty fine SANDS, creamy lig	ht grey, moist		
1000	6	104 / 19				
1100	6					
1200	4	133 / 16				
1300	5		SILT, minor fine sands, light gr	ey-brown, moist		
1400	4					
1500	4					
1600	3	bec	oming trace orange mottling			
1700	3					
1800	6					
1900	6					
2000			Silty fine SANDS, light grey-	brown, moist		
2100			EOB @ 2.0m			
2200			Target Depth			
2300						
2400						
2500			UTP Unable To Pen	etrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	N1 - 1					1
	Notes:	-				
	1 Weather was fin	ie and warm				
	2 No Ground wate	er was detected	ad so adiana a sa sa 19 - 19 - 19	Carlificate At-1		
	3 Snear Vane rea	ungs are converte	eu readings, as per calibration (Jennicate. (Values are ul	iuraineu snear strength)	
	4 Shear Vane fec	orus iriciuue Re-M	vulueu values where possible	2/2019		
	J JIEdi Valle S/IV	10. 2000, CEIL INO	יי יזבנטז, סמווטומנוטוד עמופ 14/0.	212017		

			Project			Job ref	
			Subdiv. Completion To	est Reporting, Area	M Stage 9 Greenhill	171700.00	
	BBCON			Park		1/1/38.08	
			Drawing ref	calculations by	revision	sheet no	
	ENG	INCERS					
				Get Geotech		41	
	0800 23 22 66		Flomont			Data	
	0000 25 22	00	Liement			Date	
,	www.dbcon.co.nz			Lot 225		Feb-19	
Depth	Scala	Shear Vane	Soil Description		Percol	ation Test	
100	(blows/100mm)	(kPa)		. I			
100	4		FUL altheory de comme com				
200	5		FILL, silt, sands, some an	gular gravels			
300	20+						
400							
000							
600			Mashina Arrest	2			
/00			Machine Auger	(
800							
900	10	SI	Ity fine SANDS, creamy light	grey-brown, moist			
1000	10						
1100	9						
1200	7						
1300	7						
1400	6	SANDS,	minor silt, some pumiceous m	naterials, light grey, moist			
1500	5						
1600	5	beco	ming trace silt				
1/00	3	baca	mina traca arango mottlina, tr	aco fino gravelo			
1000	4	beco	ming trace orange motting, tr	ace lille graveis			
2000	0						
2000			EOD @ 2.0m				
2100			EUD @ 2.011				
2200			Taiget Deptit				
2300							
2400							
2300							
2000							
2700							
2000							
3000							
3100							
3200							
3200							
3300							
3500							
						-	
	Notes:					1	
	1 Weather was fin	e and warm					
	2 No Ground water was detected						
	 Shear Vane readings are converted readings as per calibration Certificate (Values are undrained shear strength) 						
	4. Shear Vane records include Re-moulded values where possible						
	5 Shear Vane S/N	o. 2086, Cert. No.	712289, Calibration date 04/0	2/2019			
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			Proiect			lob ref
			Subdiv. Completion	n Test Reporting, Area	M Stage 9 Greenhill	
				Park		171738.08
	D CON	SULIING	Drawing ref	calculations by	revision	sheet no
		NEERS		Cat Castach		42
				Ger Georech		42
	0800 23 22	66	Element			Date
			1			5 1 10
	www.dbcon.co	o.nz		Lot 226		Fed-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Sample /	Temperature
100	2		Respread Topso	oil, gravels		
200	6					
300	5					
400	6					
500	20+		Machine Au	ger?		
600						
700						
800						
900						
1000	9		SILT, trace fine sands, light	nt arev-brown, moist		
1100	6			i gi oʻj zi oʻni, molot		
1200	2	187 / 28				
1200	2	107720				
1/00	2					
1400	4					
1/00	4	Cillerfin	CANDC light group brown	miner erenze mettling melet		
1600	6	Slity fine	e SAINDS, light grey-brown	minor orange mottling, moist		
1700	4	I —				
1800	15					
1900	13		SANDS, minor siit, light	grey-brown, moist		
2000		grad	ding to dark grey-brown (or	ganic staining)		
2100			EOB @ 2	.0m		
2200			Larget De	epth		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane roa	dinas are convorte	ad readings, as per calibrat	ion Cartificata Maluas aro un	idrained shear strength)	
	4 Shear Vane room	ords include Do m	noulded values where nose	ihlo	aranica siten sitenyin)	
	5 Shear Vane S/N	lo 2086 Cert No	712289 Calibration date	n//n2/2019		

		Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park			Job ref 171738.08	
	RECON			FULK		
	D ENGI	INEER2	Drawing ref	calculations by	revision	sheet no
				Get Geotech		43
	0800 23 22 66		Element			Date
				Lot 227		Feb-19
· · · · ·	Scala Shear Vane					
Depth	(blows/100mm)	(kPa)	Soil Desci	iption	Percol	ation Test
100	4					
200	5		Respread TOPSOIL, minor	fine gravels		
300	5					
400	11					
500	20+		Machine Auger _	?		
600						
700						
800						
900		95 / 13				
1000	3	SILT, trac	e fine sands, grey-brown, mine	or orange mottling, moist		
1100	2					
1200	2	82 / 16				
1300	2					
1400	3					
1500	3					
1600						
1700	5					
1800	0 7		SANDS minor silt arey br	own moist		
1000	, 0	beco	ming trace silt minor orange m	own, moist		
2000	7	beco	ming trace sitt, minor brange in	lottiing		
2000	_	beco				
2100			LOD @ 2.011			
2200			raiget Deptir			
2300						
2400						
2000						
2000						
2700						
2000						
2000 2400						
2100	_					
3100						
3200						
3300						
3400						
3000						
	Notes:1Weather was fin2Ground water w.3Shear Vane read4Shear Vane read5Shear Vane S/N	e and warm as detected dings are convertee ords include Re-mo lo. 2086, Cert. No.	d readings, as per calibration C oulded values where possible 712289, Calibration date 04/02	Certificate. (Values are un 2/2019	idrained shear strength)	

			Project			lob ref
			Subdiv. Completion Te	st Reporting, Area	M Stage 9 Greenhill	
	DD CON		, i	Park	5	171738.08
	DB ENGI	NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		44
	0000 22 22	<i>cc</i>	F I			Dete
	0800 23 22 66		Element			Date
	www.dbcon.co.nz			Lot 228		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Descr	iption	Percol	ation Test
100	4		Respread TOPSOIL, minor	fine gravels		
200	5					
300	4					
400	10					
500	8		Machine Auger _	?		
600	10		0 _			
700	9					
800	9					
000	, 1	SILT some	fine sands light grev-brown m	ninor orange mottling mo	ist	
1000	7	51E1, 3011C	, fine sands, light grey-brown, fr	intor orange mouning, me	150	
1100						
100	3	00.147				
1200	3	89/16				
1300	3					
1400	3					
1500	3					
1600	6					
1700	7					
1800	10		SANDS, some silt, light grey-	brown, moist		
1900	9	bece	oming trace silt			
2000		bec	oming minor fine gravels			
2100			EOB @ 2.0m			
2200			Target Depth			
2300			5 1			
2400						
2500			LITP Linable To Pen	etrate		
2600			on onable for en			
2000						
2700						
2000						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:	-				
	1 Weather was fin	e and warm				
	2 No Ground water was detected					
	3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)					
	4 Shear Vane reco	ords include Re-m	noulded values where possible			
	5 Shear Vane S/N	o. 2086, Cert. No	. 712289, Calibration date 04/02	2/2019		
						-

			Project			lob ref	
			Subdiv. Completion	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill			
	DD CON		C	Park		171738.08	
		INICEDC	Drawing ref	calculations by	revision	sheet no	
	ENG	INEEK2	-	Get Geotech		45	
				Der Deutech		-13	
0800 23 22 66		Element			Date		
	www.dbcon.co.nz			Lot 229		Feb-19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	lation Test	
100	7						
200	5		Respread TOPSOIL, r	minor fine gravels			
300	10						
400	10						
500	10						
600	7		Machine Au	uger?			
700	4						
800	3						
900	4						
1000	3		SILT, some sands, creamy light grey-brown minor orange mottling, moist				
1100	2						
1200	2		-	-			
1300	2						
1400	3						
1500	7	-					
1600	20+						
1700			SANDS, some silt, ar	ev-brown, moist			
1800			becomina minor silt	of brothing motor			
1900			becoming trace fine gravels ar	nd numiceous materials			
2000	9			la particolas materiais			
2100			aradina to arev				
2200	, 8		grading to grey				
2200	4						
2300	5						
2400	3						
2300							
2000	4		hacoming coarso Sanda com	e fine numicoous matorials			
2700	2		becoming coarse samus, some	e nne pumiceous materiais			
2000	О 7						
3000 7400	1						
2100			EUD @ 3	2 0m			
3100			EUD @ 3 Target D	onth			
3200 2200			raiget De	οματ			
3300							
3400							
3000						-	
	N					1	
	Notes:	- .					
	1 Weather was fir	ne and warm					
	2 No Ground water was detected						
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)							
	4 Shear Vane rec	cords include R	e-moulded values where poss				
	5 Shear Vane S/N	vo. 2086, Cert.	No. 712289, Calibration date	04/02/2019		J	

			Project			Job ref
			Subdiv. Completion	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhil		
				Park		1/1/38.08
	DBENG		Drawing ref	calculations by	revision	sheet no
	LING	INLENS		Get Geotech		46
	0800 23 22	66	Flement			Date
	0000 25 22	00	Liement			Date
v	www.dbcon.co.nz			Lot 230		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil De	escription	Percol	ation Test
100	5					
200	4		Respread Topsoil, so	ome gravels		
300	4					
400	6					
500	4					
600	3		Machine Aug	er?		
700	6					
800	7					
900	4	76 / 13	SILT, trace fine sands, I	ight grey-brown		
1000	2		minor orange mott	ling, moist		
1100	3					
1200	3	114 / 19				
1300	2					
1400	2					
1500	3					
1600	3					
1700	3	becc	oming minor fine Sands			
1800	5					
1900	5					
2000		SAN	DS, minor silt, dark grey-bro	wn, moist becoming wet		
2100			EOB @ 2.0	om		
2200			Target Dep	oth		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500	_					
						•
	Notes:					
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	idings are converte	d readings, as per calibration	on Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-m	oulded values where possib	le		
	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04	4/02/2019		
			Project			Job ref
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			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		
	DBENG	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		47
	0800 23 22	66	Element			Date
				L at 231		Eab 10
	www.dbcon.c	o.nz	L01 231			red-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	ription	Percol	ation Test
100	4					
200	4		FILL, SIII, Sands, some and	jular graveis		
300	9					
400 500	6					
600			Machina Augor	2		
700	4			!		
200 200	C A					
000	4		SILT organic staining mino	r fibrous roots		
900 1000	3		dark brown moi	et		
1100		gradi	ing to light grey brown, minor	orange mottling		
1200	2	yrau	ing to light grey-brown, minor t	orange mouning		
1200	2					
1400	3					
1400	4					
1600		hero	ming minor fine Sands			
1700	8	beco	ming minor fine Sands			
1700	11		SANDS minor silt dark grev	<i>i-brown</i> moist	-	
1900	11	heco	SANDS, minur sill, dark grey-brown, morst			
2000			ining trace into gravels, gradi	ig to light grog		
2100			FOB @ 2.0m		•	
2200			Target Depth			
2300			i digot b opili			
2400						
2500			UTP Unable To Per	petrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
		-			-	-
	Notes:	_				
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are converte	d readings, as per calibration	Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	oulded values where possible	0/0010		
	5 Shear Vane S/N	Io. 2086, Cert. No.	712289, Calibration date 04/0	2/2019		

			Project			Job ref
			Subdiv. Completion To	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhil		
	DD CON	SUITING		Park		1/1/30.00
	UK ENG	INFFRC	Drawing ref	calculations by	revision	sheet no
	LING			Get Geotoph		10
				Ger Georech		40
	0800 23 22 66		Element			Date
				Lot 232		Feb-19
<u> </u>		Shear Vane				
Depth	SCala (blows/100mm)	(kPa)	Soil Desc	cription	Percol	ation Test
100	2					
200	4		FILL, silt, sands, some an	gular gravels		
300	5					
400	5					
500	9					
600	10			_		
700	5		Machine Auger	?		
800	4					
900	3	117 / 19				
1000	4		SILT, grey-brown,	moist		
1100	3					
1200	3	104 / 6				
1300	3	beo	coming some fine sands			
1400	4					
1600						
1600	4					
1800	6		SANDS, silt, arev-brown, moi	st becoming wet		
1900	10	mir	nor orange mottling	at becoming that		
2000						
2100	—				•	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						-
	-					•
	Notes:	. .				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected	ан разла на се			
	3 Shear Vane read	dings are conver	ted readings, as per calibration	Certificate. (Values are un	ndrained shear strength)	
	4 Snear Vane reco	DIUS INCIUDE RE-I	Tiouided values where possible	12/2010		
	o Shear Vane S/N	iu. 2000, Ceit. Ni	ט. דוצצסא, כמווטומנוטח ממנפ 4/0	1212017		1

			Proiect			lob ref
			Subdiv. Completio	n Test Reporting, Area	M Stage 9 Greenhill	171738.08
	BBCON			Park		1/1/30.00
			Drawing ref	calculations by	revision	sheet no
	D ENGI	INEEK2		Get Geotech		49
	0800 23 22	66	Element			Date
	www.dbcon.co	0 107		Lot 233		Feb-19
	www.ubcon.co	Shoar Vano				
Depth	SCala (blows/100mm)	(kPa)	Soil	Description	Sample /	Temperature
100	8		Respread Tops	soil, gravels		
200	9					
300	6					
400	8					
500			Machine A	uger?		
600	12					
700	9					
800	9					
900	5	152/9	SILT, dark grey-l	brown, moist		
1000	5					
1100	3	gr	ading to light grey-brown tra	ace orange mottling		
1200	3	101/9		0 0		
1300	3	be	ecoming minor fine Sands			
1400	4		0			
1500	3					
1600	3					
1700	3					
1800	3					
1900	6	SAND	S. minor silt. light grev-brow	n minor orange mottling, moist		
2000	-		-,			
2100	— — ———		FOB @ 2	2 0m		
2200			Target D	enth		
2300			raigor b	op		
2400						
2500						
2600						
2000						
2,00						
2000						
3000						
3100						
3200						
3200						
3300						
3400						
						-
	Notoci					1
	Nuces:	o and warm				
	2 No Cround water					
	2 NU GIUUIIU Wale	dings are conve	rtad readings, as nor calibra	ation Cartificato. Maluos are un	drained shear strength)	
	A Shear Vane rec	ords include Re.	moulded values where nose	sible	aranica siten sitenyin)	

5 Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019

		Project Subdiv. Completion Te	Project Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill			
	DD CON	SULTING		Park		1/1/30.00
		NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		50
	0800 23 22 66		Element			Date
	unu dhaan a	0.07		Lot 234		Feb-19
	Scala Shear Vane					
Depth	(blows/100mm)	(kPa)	Soil Description Percol			ation Test
100	5					
200	4		Respread TOPSOIL, minor	fine gravels		
300	6					
400	20+					
500			Machine Auger	?		
600						
700						
800						
900		165 / 13	SILT, dark orange-brow	n, moist		
1000	3					
1100	2					
1200	2	123/6				
1300	3					
1400	4		Silty fine SANDS, light-br	own, moist		
1500	4					
1600	6					
1700	7					
1800	7		SANDS, trace silt, light grey	yellow, moist		
1900	7					
2000	3					
2100	3					
2200	0					
2300	1					
2400	0					
2500	2	_	SILT, minor sands, grey-brow	n, moist to wet		
2600	2	be	coming organic staining (dark gr	ey-brown)		
2700	2		- •			
2800	2	27	00-2800mm, organic Silt, dark br	rown		
2900	2	gr	ading to grey			
3000	_				.	
3100			EOB @ 3.0m			
3200			Target Depth			
3300						
3400						
3500						
	Notes: 1 Weather was fin 2 Ground water w 3 Shear Vane rea 4 Shear Vane rec 5 Shear Vane S/N	e and warm ras detected dings are conve ords include Re- lo. 2086, Cert. N	rted readings, as per calibration (moulded values where possible lo. 712289, Calibration date 04/0.	Certificate. (Values are ur 2/2019	ndrained shear strength)	

			Project			Job ref
		SUITIN	Subdiv. Completion	Test Reporting, Area Park	M Stage 9 Greenhill	171738.08
	DB ENGI	NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		51
	0800 23 22	66	Flement			Date
	0000 25 22	00	Liement			Date
	www.dbcon.co	o.nz		Lot 235		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil De	scription	Percol	ation Test
100	2		Respread TOPSOIL, mir	nor fine gravels		
200	3					
300	5					
400	9					
500	14					
600	13					
700	12		FILL, silt, sands, angular gravel	s, mixed brown, moist		
800	12					
900	8					
1000	6					
1100	6					
1200	7					
1200	8					
1400	20	-			•	
1400	20					
1600	20+		SANDS find to modium group	c mixed arous maist		
1000			SANDS, THE TO MEDIUM Graves	s, mixeu greys, moisi		
1/00						
1800		-	FOR @ 1000		.	
1900			EOB @ 1800			
2000			Relusal - Gra	veis		
2100						
2200						
2300						
2400						
2500			UTP Unable To P	enetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:	<u>-</u> .				
	1 Weather was fin	ie and warm				
	2 No Ground wate	er was detecte	d .			
	3 Shear Vane rea	dings are conv	verted readings, as per calibratio	n Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include R	e-moulded values where possibl			
	5 Shear Vane S/N	10. 2086, Cert.	. No. 712289, Calibration date 04	1/02/2019		

			Project			Job ref
			Subdiv. Completion	Test Reporting, Area	M Stage 9 Greenhill	171720.00
	DD CON	SUITIN	G	Park		1/1/38.08
	JB ENG	NEEDS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		52
	0800 23 22	66	Flement			Date
	0000 25 22	00	Liement	1 + 227		
	www.dbcon.co	o.nz		Lot 236		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil De	escription	Percol	lation Test
100	3					
200	5		Respread TOPSOIL, min	nor fine gravels		
300	5	_				
400	16					
500	11					
600	17		Machine Auge	er?		
700	13					
800	5					
900	4	174 / 13	SILT, grey-brown trace orar	nge mottling, moist		
1000	3					
1100	5					
1200	5	161/9	becoming minor fine sands			
1300	6					
1400	5					
1500	4		becoming trace orange mottling			
1600	4		- 0			
1700	4					
1800	6					
1900	6	-	Silty fine SANDS, light	t grey-brown		
2000			trace orange mottling, moi	ist becoming wet		
2100						
2200						
2300						
2400						
2500			UTP Unable To P	Penetrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
						-
	Notes:	_]
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detecte	d			
	3 Shear Vane rea	dings are conv	verted readings, as per calibratio	n Certificate. (Values are un	drained shear strength)	
	4 Shear Vane rec	ords include R	e-moulded values where possib	le		
	5 Shear Vane S/N	lo. 2086, Cert.	No. 712289, Calibration date 04	4/02/2019		
1						-

			Proiect			lob ref
			Subdiv. Completion T	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		
	DRENC	ISULTING	Drawing ref	calculations by	revision	sheet no
	LING			Get Geotech		53
	0800 23 22 66		Element			Date
W	www.dbcon.co.nz		Lot 237			Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Shear Vane (kPa) Soil Description		Percol	ation Test
100	9					
200	7		Respread TOPSOIL, mind	or fine gravels		
300	5					
400	12					
500	18					
600	13					
700	12					
800	11	(engine	(engineer controlled) FILL, silt, sands, some angular gravels mixed brown and orange-brown, moist			
900	9					
1000	12					
1100	14					
1200	12					
1300	12					
1400	8					
1500	5					
1600	4					
1700	4					
1800	10					
1900	11	SII	LT, minor fine sands, creamy	/ light-brown, moist		
2000	6					
2100	7	trace orange	mottling			
2200	6					
2300	8					
2400	11					
2500	10	Silty SA	NDS, light grey-brown, trace	e orange mottling, moist		
2600	3	gradir	ng to grey, becoming minor s	silt		
2700	2				.	
2800	2	-				
2900 3000	3	C	organic SIL1, dark brown, mo	bist becoming wet		
3100			Silty SANDS are	v. wet		
3200				,,		
3300			EOB @ 3200m	nm	·	
3400						
3500						
	Notes: 1 Weather was fin 2 No Ground wate 3 Shear Vane rea	e and warm er was detected dings are converted	f readings, as per calibration	Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	ulded values where possible			
	5 Shear Vane S/N	lo. 2086, Cert. No. 7	712289, Calibration date 04/	02/2019		

			Project			Job ref
			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhill Park		171738.08
	DBCON	SULTING	Drawing ref	calculations by	revision	sheet no
				Get Geotech		54
	0800 23 22	66	Flement			Date
	www.dbcon.co.nz			Lot 238		Fed-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	ation Test
100	3					
200	4		FILL, silt, sands, some ang	ular gravels		
300	6					
400	20+					
500						
600						
700		(enț	gineer controlled) FILL, silt, sand	ls, minor fine gravels		
800			mixed brown, mo	ist		
900						
1000	4					
1100	4					
1200	3	152 / 19				
1300	3					
1400	2					
1500	3					
1600	3		SILT, creamy grey-brow	/n, moist		
1700	4	bec	coming some fine Sands, trace o	range mottling		
1800	5					
1900	7					
2000						
2100			EOB @ 2.0m			
2200			Target Depth			
2300						
2400						
2500			UTP Unable To Pene	etrate		
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	-					
	Notes:	-				
	1 Weather was fir	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are convert	ed readings, as per calibration C	Certificate. (Values are un	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-n	noulded values where possible	2/2010		
	5 Shear Vane S/N	10. 2086, Cert. No	b. / 12289, Calibration date 04/02	2/2019		
1						

			Project			Job ref
			Subdiv. Completion Test Reporting, Area M Stage 9 Greenhil			171720.00
	DD CON			Park		1/1/38.08
	KENC		Drawing ref	calculations by	revision	sheet no
	ENG	IINEEK2				
				Get Geotech		55
	0800 23 22	66	Flomont			Data
	0000 25 22 00		Element			Date
١	www.dbcon.co.nz			Lot 239		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Description		Percol	ation Test
100	13					
200	8		FILL, silt, sands, some and	gular gravels		
300	5		·	, u		
400	16					
500	20+				•	
600						
700		(en	gineer controlled) FILL, sands	, silt, minor gravels		
800		(011	minor topsoil, mixed brown, moist			
900				,		
1000	4					
1100						
1200	4				-	
1200	9					
1400	0					
1400	5		SILT minor fine sands light gray brown maist			
1600	F	haca	sici i, minor nne sanas, light grey-brown, moist becoming minor orange mottling			
1000	5	beco	ming minor orange mouning ming some interbedded silty fi	no Sands		
1000	0	Deco	ming some interbedded sitty i			
1000	7					
2000	7					
2000			EOP @2.0m		-	
2100			LOD @2.011			
2200			raiget Deptir			
2300						
2400						
2300	_					
2000						
2700						
2000						
2900						
2100	_					
3100						
3200						
3300						
3400						
3500						
	NI - 1 -					
	Notes:	- 				
	1 Weather was fin	e and warm				
	2 No Ground wate	er was detected	.			
	3 Shear Vane rea	dings are converted	d readings, as per calibration	Certificate. (Values are u	ndrained shear strength)	
	4 Shear Vane rec	ords include Re-mo	builded values where possible	2/2010		
	5 Shear Vane S/N	10. 2086, Cert. No.	/ 12289, Calibration date 04/0	2/2019		

			Project			Job ref
			Subdiv. Completion	n Test Reporting, Area I	M Stage 9 Greenhill	171700.00
	BBCON			Park		1/1/38.08
			Drawing ref	calculations by	revision	sheet no
	D ENGI	INEEK2		Get Geotech		56
	0800 23 22 66		Element			Date
			L at 240			Feb-19
	www.dbcon.co	o.nz			100 19	
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil [Description	Sample /	Temperature
100	4		Respread Topso	bil, gravels		
200	3					
300	4					
400	8					
500	12					
600	11	(er	ngineer controlled) FILL, si	ilt, sands, minor topsoil		
700	10		mixed brown	n, moist		
800	9					
900	10					
1000	10					
1100	7					
1200	4	130 / 13	SILT, minor fine sands, lig	ht grey-brown, moist		
1300	3					
1400	4					
1500	4					
1600	4					
1700	5	SA	NDS, silt, grey-brown mino	r orange mottling, moist		
1800	7					
1900	7					
2000						
2100	_		EOB @ 2	.0m		
2200			Target De	epth		
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes:					
	1 Weather was fin	e and warm				
	2 No Ground wate	r was detected	dare dare a sub s		ductored alternation of the U.S.	
	3 Shear Vane rea	aings are converte	a readings, as per calibrat	ion Certificate. (Values are un	arained shear strength)	

Shear Vane records include Re-moulded values where possible
Shear Vane S/No. 2086, Cert. No. 712289, Calibration date 04/02/2019

			Project			Job ref
		SULTING	Subdiv. Completion Te	st Reporting, Area Park	M Stage 9 Greenhill	171738.08
		NEERS	Drawing ref	calculations by	revision	sheet no
			-	Get Geotech		57
	0800 23 22	66	Element			Date
	www.dbcon.co	o.nz		Lot 241		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Desc	Soil Description Perce		lation Test
100	8					
200	7		Respread TOPSOIL, minor	fine gravels		
300	8					
400	20				•	
500	20+		Machine Auger	?		
600		<u> </u>	0 =			
700						
800						
900						
1000	4					
1100	5					
1200	5					
1300	4					
1400	6					
1500	4					
1600	6					
1700	8					
1800	10					
1900	7					
2000						
2100			EOB @ 2.0m		•	
2200			Target Depth			
2300			· • •			
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						
	Notes: 1 Weather was fin 2 Ground water w	- ne and warm				
1	3 Shear Vane rea	idings are converter	d readings, as per calibration (Certificate. (Values are ur	ndrained shear strength)	
1	4 Shear Vane rec	ords include Re-mc	bulded values where possible			1
1	5 Shear Vane S/N	lo. 2086, Cert. No.	712289, Calibration date 04/0.	2/2019		1
					. <u></u> .	1

			Project			Job ref
			Subdiv. Completion Te	Subdiv. Completion Test Reporting, Area M Stage 9 Greenhil		
	DD CON	SULTING		Park		1/1/38.08
	DBENGI	NEERS	Drawing ref	calculations by	revision	sheet no
				Get Geotech		58
	0800 23 22	66	Element			Date
	0000 25 22	00	Element			Date
	www.dbcon.co	o.nz		Lot 242		Feb-19
Depth	Scala (blows/100mm)	Shear Vane (kPa)	Soil Descr	iption	Percol	ation Test
100	2		Respread TOPSOIL, minor	fine gravels		
200	5					
300	5	_				
400	6					
500	13					
600	15					
700	10	(ei	ngineer controlled) FILL, sands, si	lt, some fine gravels		
800	10	(0)	minor tonsoil mixed brow	vn. moist		
000 000	0		minor topson, mixed blov	,		
1000	7 10					
1100						
1200						
1200	7		radius to exempt brown			
1300	7	gi	aung to orange-brown			
1400	8	SC	ome coarse Sands, line to medium	i graveis		
1500	5					
1600	6	_				
1700	4		EOB @ 1600mn	1		
1800	6		Refusal - Gravel	S		
1900	9					
2000						
2100						
2200						
2300						
2400						
2500			UTP Unable To Pene	etrate		
2600						
2700						
2800						
2900						
3000						
3100	—					
3200						
3300						
3400						
3500						
	Notes:					
	1 Weather was fin	ne and warm				
	2 No Ground wate	er was detected				
	3 Shear Vane rea	dings are conve	erted readings, as per calibration C	Certificate. (Values are ur	ndrained shear strength)	
	4 Shear Vane rec	ords include Re	-moulded values where possible			
	5 Shear Vane S/N	Io. 2086, Cert. N	No. 712289, Calibration date 04/02	2/2019		

Appendix V	<u>Stormwater Management</u>			
	On-lot Water Efficiency Measures			
	Lot Levels (Minimum Lot Levels)			

ON-LOT WATER EFFICIENCY MEASURES

WATER SUPPLY AND WASTEWATER DISPOSAL

The efficiency of taps, showers and toilets contribute to how much water we use. A reduction in the use of potable water by each house directly relates to the amount of wastewater generated (i.e. reduced water use results in reduced wastewater generation). To reduce potable water demand and the amount of wastewater generated, as a minimum, each house is required to install low demand fittings for kitchen, bathroom and laundry facilities.

All household fittings are required to have a minimum 3 Star Rating.

STORMWATER DISPOSAL

Each lot is required to adopt an on-lot stormwater efficiency measure to ensure that surface water runoff is appropriately managed.

First, the suitability of the site for soakage needs to be assessed. Soakage is the process of helping stormwater soak into the ground using specially designed soakage devices. Soakage allows for the infiltration of stormwater into the soil which recharges the groundwater table below.

A site infiltration test is mandatory for all lots to confirm the in-situ soils are capable of achieving the minimum percolation rates. Refer to Hamilton City Council 'Three Waters Practice Note HCC 03: Soakage' for guidance on soil testing.



* Other alternative stormwater efficiency options will also be considered subject to approval by Greenhill Park and Hamilton City Council.

The selected option is to be designed by a suitably qualified Engineer and approved by the Hamilton City Council Building Control Unit. Refer to page 33 to 36 of these guidelines for further information of the design requirements for Options 1A, 1B & 2.

Hamilton City Council also encourages the installation of multiple stormwater efficiency options within a property, where practical.

Option 1A RAIN GARDEN - BIORETENTION

Design to provide minimum 'live storage' retention for runoff from a 10mm rainfall event for trafficked hardstand areas.

The following table outlines indicative storage volumes and estimated rain garden areas for a range of lot sizes.

Lot Area (m²)	Live Storage Volume (m³)	Rain Garden Area (m²)
300	0.8	4.1
350	0.9	4.7
400	1.1	5.4
450	1.2	6.1
500	1.4	6.8
550	1.5	7.4

Based on hardstand coverage equal to 30% of total lot area

KEY REQUIREMENTS

- Rain garden to be located to capture runoff from main hardstand areas within the lot (as much as practical).
- Maximum live storage depth to be 300mm (safety requirements to be considered when device is at maximum storage capacity).
- A channel and grate to be installed across vehicle entrance to capture hardstand run off and direct it to rain garden.

- \cdot Rain garden to be integrated with garden design (refer to page 34 for details).
- Overflow to be connected to stormwater connection provided.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note – HCC04 – Bio-retention (Rain Gardens)' for information on typical design requirements.



DIAGRAM - 7 Rain Garden - Bioretention

GREENHILL PARK RAIN GARDEN PLANT LIST

Native plants are encouraged, but other exotic plant species which complement your front yard planting design could be used. Deciduous plants should not be used as their leaf-fall can block the outflow.

Botanical Name

The plants selected need to -

- \cdot Be able to tolerate short periods of inundation and longer dry periods
- Be perennial rather than annual
- \cdot Have deep fibrous root systems and a spreading growth form
- Form a dense, weed-suppressing cover

Apodasmia similis	oioi
Blechnum penna-marina	alpine hard fern
Libertia ixioides	mikoikoi
Carex dipsacea	teasel sedge
Carex secta	purei
Carex virgata	pukio
Dianella nigra	turutu
Libertia grandiflora	mikoikoi
Lobelia angulata	panakenake
Pimelea prostrata	pinatoro

Common Name

All rain garden plants to be a minimum grade of Pb 8 at the time of planting. * Other plant species can be approved at the discretion of the Design Review Panel.





Option 1B SITE SOAKAGE DEVICE - RETENTION

Design to provide minimum 'live storage' retention for runoff from a 10mm rainfall event for roof and trafficked hardstand areas.

The following table outlines indicative storage volumes for a range of lot sizes.

Lot Area (m²)	Live Storage Volume (m³)
300	2.2
350	2.6
400	3.0
450	3.4
500	3.7
550	4.1

Based on 80% site coverage (roof and hardstand areas)

KEY REQUIREMENTS

- Soakage device(s) to be located to capture runoff from roof downpipes and hardstand areas (as much as practical).
- A channel and grate to be installed across vehicle entrance to capture hardstand run off and direct it to soakage device.
- Soakage device to be integrated with garden design.
- \cdot Overflow to be connected to stormwater connection provided.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note HCC 03: Soakage' for information on typical design requirements.



Site Soakage Device — Retention

Option 2 SLIMLINE RAIN TANK - RE-USE

The slimline rain tank is to be connected to a separate grey-water household re-use system with a minimum capacity of 5,000L.

KEY REQUIREMENTS

- Rain tank to be connected into a fully integrated grey-water re-use system within the main dwelling with connections to toilets, laundry and irrigation systems.
- All roof run-off is to be captured by rain tanks and available for re-use. Run-off from hardstand areas (driveways and paving) can be discharged directly into stormwater connection provided.
- A maximum of two (2) tanks may be used to achieve the required storage and align with downpipe locations.
- \cdot Overflow to be connected to stormwater connection provided.

LOCATION AND INSTALLATION

Slimline rain tanks should be placed in the rear or side yard of the lot as unobtrusively as possible. Care should be taken, where tanks are placed next to the house, to ensure they are placed adjacent to a blank wall and not infront of a window.

COLOUR

The colour of all rain tanks should match the colour of the homes exterior wall cladding adjacent to the tank.

 * Colours that do not match but are complementary to the design and materials of the house can be approved at the discretion of the Design Review Panel.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note – HCC02 – Rainwater Reuse Systems (Rain Tanks)' for information on design requirements.

APPROVED RAIN TANK PRODUCTS

Tanksalot® Slimline Tank www.tanksalot.co.nz

ThinTanks[™] NZ Slimline Rainwater Poly Tank www.thintanks.co.nz

* Other rain tank products will also be considered subject to approval by Greenhill Park.



 $D \mid A \subseteq R \land M - 10$ Slimline Rain Tank - Re-use

Lot Levels Area M

Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
185	9	37.700	36.10	Swale 4A	1.600
186	9	37.600	36.10	Swale 4A	1.500
187	9	37.474	36.10	Swale 4A	1.374
188	9	37.393	36.10	Swale 4A	1.293
189	9	37.320	36.10	Swale 4A	1.220
190	9	37.246	36.10	Swale 4A	1.146
191	9	37.172	36.10	Swale 4A	1.072
192	9	37.090	36.10	Swale 4A	0.990
193	9	37.000	36.10	Swale 4A	0.900
194	9	36.800	36.10	Swale 4A	0.700
195	9	36.610	36.10	Swale 4A	0.510
196	9	36.850	36.10	Swale 4A	0.750
197	9	36.790	36.10	Swale 4A	0.690
198	9	36.842	36.10	Swale 4A	0.742
199	9	36.380	36.10	Swale 4A	0.280
200	9	36.452	36.10	Swale 4A	0.352
201	9	36.538	36.10	Swale 4A	0.438
202	9	36.596	36.10	Swale 4A	0.496
203	9	36.598	36.10	Swale 4A	0.498
204	9	36.600	36.10	Swale 4A	0.500
205	9	36.605	36.10	Swale 4A	0.505
206	9	37.710	36.10	Swale 4A	1.610
207	9	37.077	36.10	Swale 4A	0.977
208	9	37.140	36.10	Swale 4A	1.040
209	9	37.215	36.10	Swale 4A	1.115
210	9	37.289	36.10	Swale 4A	1.189
211	9	37.363	36.10	Swale 4A	1.263
212	9	37.437	36.10	Swale 4A	1.337
213	9	37.512	36.10	Swale 4A	1.412
214	9	37.586	36.10	Swale 4A	1.486
215	9	37.649	36.10	Swale 4A	1.549
216	9	37.714	36.10	Swale 4A	1.614
217	9	37.787	36.40	Swale 3A	1.387
218	9	37.750	36.40	Swale 3A	1.350
219	9	37.653	36.10	Swale 4A	1.553
220	9	37.569	36.10	Swale 4A	1.469
221	9	37.485	36.10	Swale 4A	1.385
222	9	37.391	36.10	Swale 4A	1.291



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
223	9	37.294	36.10	Swale 4A	1.194
224	9	37.196	36.10	Swale 4A	1.096
225	9	37.100	36.10	Swale 4A	1.000
226	9	37.000	36.10	Swale 4A	0.900
227	9	36.900	36.10	Swale 4A	0.800
228	9	36.814	36.10	Swale 4A	0.714
229	9	36.710	36.10	Swale 4A	0.610
230	9	36.986	36.10	Swale 4A	0.886
231	9	37.133	36.10	Swale 4A	1.033
232	9	37.143	36.10	Swale 4A	1.043
233	9	37.218	36.10	Swale 4A	1.118
234	9	37.292	36.10	Swale 4A	1.192
235	9	37.366	36.10	Swale 4A	1.266
236	9	37.440	36.10	Swale 4A	1.340
237	9	37.514	36.10	Swale 4A	1.414
238	9	37.586	36.10	Swale 4A	1.486
239	9	37.650	36.10	Swale 4A	1.550
240	9	37.713	36.10	Swale 4A	1.613
241	9	37.788	36.40	Swale 3A	1.388
242	9	37.941	36.40	Swale 3A	1.541
243	10	37.713	36.46	Swale 3B	1.253
244	10	37.586	36.46	Swale 3B	1.126
245	10	37.531	36.10	Swale 4A	1.431
246	10	37.483	36.10	Swale 4A	1.383
247	10	37.435	36.10	Swale 4A	1.335
248	10	37.379	36.10	Swale 4A	1.279
249	10	37.323	36.10	Swale 4A	1.223
250	10	37.267	36.10	Swale 4A	1.167
251	10	37.211	36.10	Swale 4A	1.111
252	10	37.155	36.10	Swale 4A	1.055
253	10	37.100	36.10	Swale 4A	1.000
254	10	37.090	36.10	Swale 4A	0.990
255	10	37.155	36.10	Swale 4A	1.055
256	10	36.610	36.10	Swale 4A	0.510
257	10	36.617	36.10	Swale 4A	0.517
258	10	36.623	36.10	Swale 4A	0.523
259	10	36.629	36.10	Swale 4A	0.529
260	10	36.634	36.10	Swale 4A	0.534
261	10	36.640	36.10	Swale 4A	0.540
262	10	36.645	36.10	Swale 4A	0.545
263	10	36.650	36.10	Swale 4A	0.550



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
264	10	36.886	36.10	Swale 4A	0.786
265	10	37.109	36.10	Swale 4A	1.009
266	10	37.216	36.10	Swale 4A	1.116
267	10	37.322	36.10	Swale 4A	1.222
268	10	37.428	36.10	Swale 4A	1.328
269	10	37.535	36.10	Swale 4A	1.435
270	10	37.650	36.10	Swale 4A	1.550
271	10	37.587	36.10	Swale 4A	1.487
272	10	37.410	36.10	Swale 4A	1.310
273	10	37.347	36.10	Swale 4A	1.247
274	10	37.298	36.10	Swale 4A	1.198
275	10	37.251	36.10	Swale 4A	1.151
276	10	37.197	36.10	Swale 4A	1.097
277	10	37.034	36.10	Swale 4A	0.934
278	10	37.005	36.10	Swale 4A	0.905
279	10	37.660	36.10	Swale 4A	1.560
280	10	37.763	36.10	Swale 4A	1.663
281	10	37.576	36.10	Swale 4A	1.476
282	10	37.627	36.10	Swale 4A	1.527
283	10	37.683	36.10	Swale 4A	1.583
284	10	37.739	36.46	Swale 3B	1.279
285	10	37.777	36.46	Swale 3B	1.317
286	10	37.630	36.46	Swale 3B	1.170
287	11	38.161	36.46	Swale 3B	1.701
288	11	38.150	36.46	Swale 3B	1.690
289	11	38.218	36.40	Swale 3A	1.818
290	11	38.178	36.40	Swale 3A	1.778
291	11	38.139	36.40	Swale 3A	1.739
292	11	38.095	36.40	Swale 3A	1.695
293	11	38.054	36.40	Swale 3A	1.654
294	11	38.000	36.40	Swale 3A	1.600
295	11	38.456	36.40	Swale 3A	2.056
296	11	38.464	36.40	Swale 3A	2.064
297	11	38.168	36.40	Swale 3A	1.768
298	11	38.061	37.24	Swale 1	0.821
299	11	38.252	37.24	Swale 1	1.012
300	11	38.534	36.40	Swale 3A	2.134
301	11	38.826	36.40	Swale 3A	2.426
302	11	38.964	36.40	Swale 3A	2.564
303	11	39.081	36.40	Swale 3A	2.616
304	11	39.020	36.40	Swale 3A	2.669



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
305	11	38.948	36.40	Swale 3A	2.722
306	11	38.878	36.40	Swale 3A	2.774
307	11	38.806	36.40	Swale 3A	2.826
308	11	38.737	36.40	Swale 3A	2.770
309	11	38.678	36.40	Swale 3A	2.278
310	11	38.662	36.40	Swale 3A	2.262
311	11	38.365	36.40	Swale 3A	1.965
312	11	38.467	36.40	Swale 3A	2.067
313	11	38.557	36.40	Swale 3A	2.157
314	11	38.648	36.40	Swale 3A	2.248
315	11	38.744	36.40	Swale 3A	2.344
316	11	38.841	36.40	Swale 3A	2.441
317	11	38.936	36.40	Swale 3A	2.536
318	11	39.021	36.40	Swale 3A	2.621
319	11	39.042	36.40	Swale 3A	2.642
320	11	38.944	36.40	Swale 3A	2.544
321	11	38.845	36.40	Swale 3A	2.445
322	11	38.730	36.40	Swale 3A	2.330
323	11	38.645	36.40	Swale 3A	2.245
324	11	38.561	36.40	Swale 3A	2.161
325	11	38.463	36.40	Swale 3A	2.063
326	11	38.250	36.40	Swale 3A	1.850
327	12	38.169	36.46	Swale 3B	1.709
329	12	38.082	36.46	Swale 3B	1.622
330	12	38.191	36.46	Swale 3B	1.731
331	12	38.298	36.46	Swale 3B	1.838
332	12	38.406	36.46	Swale 3B	1.946
333	12	38.581	36.46	Swale 3B	2.121
334	12	38.712	36.46	Swale 3B	2.252
335	12	38.806	36.46	Swale 3B	2.346
336	12	39.003	36.46	Swale 3B	2.543
337	12	38.766	36.46	Swale 3B	2.306
338	12	38.814	36.46	Swale 3B	2.354
339	12	38.896	36.46	Swale 3B	2.436
340	12	38.977	36.46	Swale 3B	2.517
341	12	39.065	36.46	Swale 3B	2.605
342	12	38.987	36.46	Swale 3B	2.527
343	12	38.902	36.46	Swale 3B	2.442
344	12	38.835	36.46	Swale 3B	2.375
345	12	38.804	36.46	Swale 3B	2.344
346	12	38.803	36.46	Swale 3B	2.343



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
347	12	38.703	36.46	Swale 3B	2.243
348	12	38.700	36.46	Swale 3B	2.240
349	12	38.751	36.46	Swale 3B	2.291
350	12	39.039	36.46	Swale 3B	2.579
351	12	39.109	36.46	Swale 3B	2.649
352	12	39.179	36.46	Swale 3B	2.719
353	12	39.248	36.46	Swale 3B	2.788
354	12	39.317	36.46	Swale 3B	2.857
355	12	39.393	36.46	Swale 3B	2.933
356	12	39.486	36.46	Swale 3B	3.026
357	13	38.000	38.00	Swale 1D	0.000
358	13	38.100	38.00	Swale 1D	0.100
359	13	38.263	38.00	Swale 1D	0.263
360	13	38.444	38.00	Swale 1D	0.444
361	13	38.670	38.00	Swale 1D	0.670
362	13	38.696	38.00	Swale 1D	0.696
363	13	38.925	38.00	Swale 1D	0.925
364	13	38.802	38.00	Swale 1D	0.802
365	13	38.681	38.00	Swale 1D	0.681
366	13	38.610	38.00	Swale 1D	0.610
367	13	39.145	38.00	Swale 1D	1.145
368	13	39.300	38.00	Swale 1D	1.300
369	13	39.448	38.00	Swale 1D	1.448
370	13	39.571	38.00	Swale 1D	1.571
371	13	39.713	38.00	Swale 1D	1.713
372	13	39.845	38.00	Swale 1D	1.845
373	13	39.987	38.00	Swale 1D	1.987
374	13	40.120	36.46	Swale 3B	3.660
375	14	39.017	37.24	Swale 1	1.777
376	14	39.095	37.24	Swale 1	1.855
377	14	39.170	36.40	Swale 3A	2.770
378	14	39.226	36.40	Swale 3A	2.826
379	14	39.174	36.40	Swale 3A	2.774
380	14	39.122	36.40	Swale 3A	2.722
381	14	39.069	36.40	Swale 3A	2.669
382	14	39.016	36.40	Swale 3A	2.616
383	14	39.162	36.40	Swale 3A	2.762
384	14	39.223	36.40	Swale 3A	2.823
385	14	39.305	36.40	Swale 3A	2.905
386	14	39.366	36.40	Swale 3A	2.966
387	14	39.427	36.40	Swale 3A	3.027



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
388	14	39.428	38.00	Swale 1D	1.428
389	14	39.316	38.00	Swale 1D	1.316
390	14	39.191	38.00	Swale 1D	1.191
391	14	39.419	38.00	Swale 1D	1.419
392	14	39.409	38.00	Swale 1D	1.409
393	14	39.325	36.40	Swale 3A	2.925
394	14	39.214	36.40	Swale 3A	2.814
395	14	39.130	36.40	Swale 3A	2.730
396	15	39.127	36.40	Swale 3A	2.727
397	15	39.222	36.40	Swale 3A	2.822
398	15	39.318	36.40	Swale 3A	2.918
399	15	39.429	38.00	Swale 1D	1.429
400	15	39.414	38.00	Swale 1D	1.414
401	15	38.923	38.00	Swale 1D	0.923
402	15	39.946	38.00	Swale 1D	1.946
403	15	39.233	38.00	Swale 1D	1.233
404	15	39.309	38.00	Swale 1D	1.309
405	15	39.278	38.00	Swale 1D	1.278
406	15	38.925	38.00	Swale 1D	0.925
407	15	39.339	38.00	Swale 1D	1.339
408	15	39.607	38.00	Swale 1D	1.607
409	15	39.358	36.46	Swale 3B	2.898
410	15	39.288	36.46	Swale 3B	2.828
411	15	39.215	36.46	Swale 3B	2.755
412	15	39.138	36.46	Swale 3B	2.678
413	15	39.057	36.46	Swale 3B	2.597
414	15	39.151	36.46	Swale 3B	2.691
415	15	39.231	36.46	Swale 3B	2.771
416	15	39.311	36.46	Swale 3B	2.851
417	15	39.391	36.46	Swale 3B	2.931
418	15	39.471	36.46	Swale 3B	3.011
419	15	39.544	38.00	Swale 1D	1.544
420	15	39.811	38.00	Swale 1D	1.811
421	15	39.930	35.46	Swale 3B	4.470
422	15	39.825	36.46	Swale 3B	3.365
423	15	39.741	36.46	Swale 3B	3.281
424	15	39.657	37.46	Swale 3B	2.197
425	15	39.571	38.46	Swale 3B	1.111
426	15	40.020	38.00	Swale 1D	2.020
427	15	39.908	38.00	Swale 1D	1.908
428	15	39.748	38.00	Swale 1D	1.748



Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level)
429	15	39.696	38.00	Swale 1D	1.696
430	15	39.589	38.00	Swale 1D	1.589
431	15	39.472	38.00	Swale 1D	1.472
432	15	39.320	38.00	Swale 1D	1.320
433	15	39.144	38.00	Swale 1D	1.144

