



CLC
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Flood Risk Assessment

Prepared for Ngāti Whātua Ōrākei Whai Rawa Ltd and
Generus Living Group Ltd

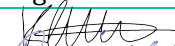
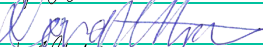
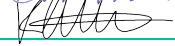
The Point, 217 Kupe Street,
Mission Bay

Job No. 22064
2nd April 2026

Issue Numbers and Revisions

Issue	Description	Author	Date
A	For Resource Consent	Kurt Atkins	12/11/2025
B	For Resource Consent	Kurt Atkins	17/11/2025
C	For Resource Consent	Kurt Atkins	02/04/2026

Document Acceptance

Action	Signed	Author	Date
Prepared By		Kurt Atkins	02/04/2026
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Approved by		Kurt Atkins	02/04/2026
On behalf of		CLC Consulting Group Ltd	

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This report has been prepared by CLC Consulting Group Limited on the specific instructions of our Client. We understand and agree that our Client will submit this report as part of an application for resource consent under the Fast-track Approvals Act 2024 and that an Expert Panel as the consenting authority will use this report for the purpose of assessing that application. Any use or reliance by any person contrary to the above, to which the Client has not given its prior written consent, is at that person's own risk.



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1. Introduction

1.1 Purpose of Report

CLC Consulting Group Limited (CLC) has been engaged by Generus Living Group to prepare a Flood Hazard Risk Assessment for the proposed retirement village development referred to as 'The Point Mission Bay' (TPMB).

This purpose of this report is to assess the proposed development against the 1% AEP stormwater flood event in support of a resource consent application sought under the Fast Track Consenting Act 2024.

The Authors of this report are qualified Civil Engineers with wide ranging experience in flood modelling and land development projects.

"We confirm that, in our capacity as authors of this report, we have read and abide by the Environment Court Practice Note 2023 (Code of Conduct for Expert Witnesses)".

2. Background

2.1 Site details

The site has an overall site area of approximately 2.43Ha.

The site is generally bounded by Kupe Street to the west, Takaparawhau / Michael Joseph Savage Memorial Park to the north and east, and residential properties to the south.

Access to the site is afforded from Kupe Street, Te Arawa Street, Rukutai Street and Aotea Street.

The western portion of the site is developed with an existing 2-3 storey aged care facility, which includes administration, reception areas, kitchen and dining facilities and other communal areas. The eastern portion of the site is developed with two existing multi-storey retirement living apartment complexes (to be demolished).

A site location plan is shown in **Figure 1** below, with further details provided in **Table 1**.



Figure 1: Site Location Plan (GeoMaps, October 2024)

Address	Legal Description	Title	Area (m2)
217 Kupe Street	SEC 3 SO 63269, Lot 1 DP 92924, Lot 2 DP 92924, Lot 3 DP 92925	NA99C/194, NA99C/193, NA99C/195, 557119	22,469
95 Aotea Street	Lot 366A DP 47488	NA43A/1137	660
106 Rukutai Street	Lot 264 DP 37687	NA22C/1052	913
Rukutai Street Recreation Reserve	Lot 6 DP 92924	1211845	120
Aotea Street Recreation Reserve	Lot 7 DP 92925	1212543	179
			Total: 24,341

Table 1: Site details

2.1 Site Survey

A topographical survey of the site was completed by Woods Surveyors in January 2020 and more recently portions of the site have been surveyed by Yeomans Survey Solutions Ltd in 2025. The topographical survey shows the existing buildings (at that time) and a moderate slope from the northwest falling towards the southeast.

A review of aerial images on Auckland Council’s Geographical Information System (GeoMaps) shows that demolition of buildings and earthworks have subsequently been carried out within the proposed development area.

An extract from the topographical survey shown in Figure 2 below, and a copy of the site topographical survey plans are enclosed in Appendix A of this report.

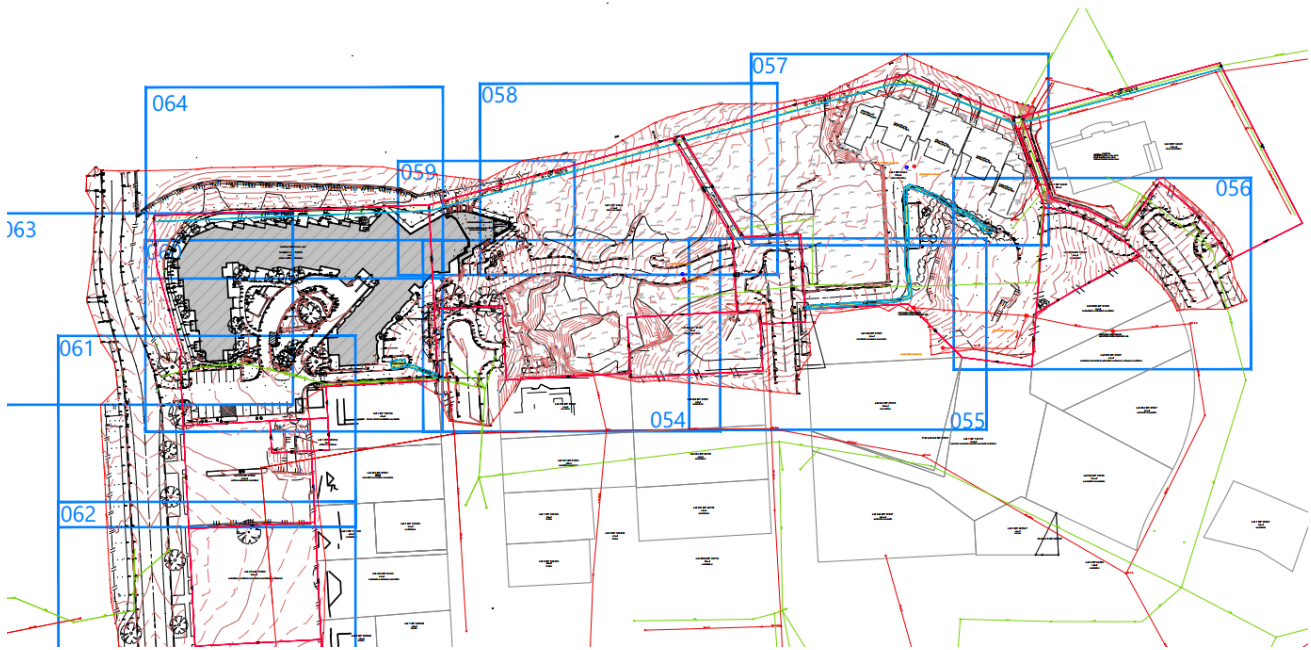


Figure 2: Extract of Topographical Survey (Woods Surveyors, 2020)

2.2 Proposed Development

The proposed development consists of circa 260 new retirement living units across five new apartment blocks (ranging 5-8 storeys high) with associated amenities

The development includes the formation of new internal accessways, carparks and footpaths to service the development. Overland flow is proposed to be diverted through the Site around the new buildings and / or conveyed along (and within) the new internal accessways through the Site.

An extract of the proposed site masterplan prepared by Warren & Mahoney Architects is shown in Figure 3 below and a copy of the Architectural Drawings is enclosed in Appendix B of this report.

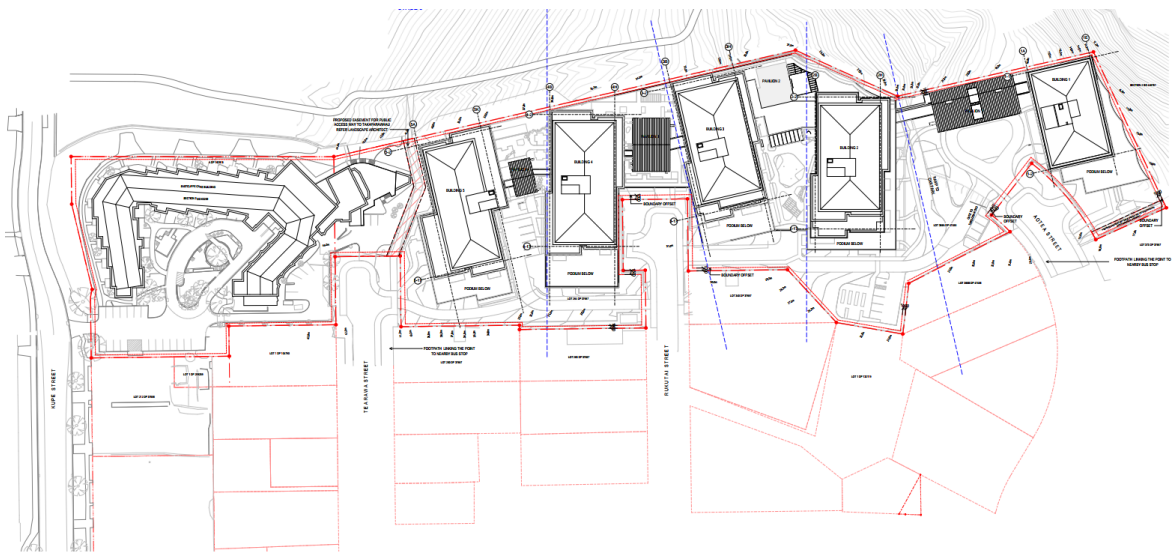


Figure 3: Extract of Podium Level General Arrangement Plan (Warren & Mahoney Architects, 2025)

3. Existing Flood Hazard Mapping

The Annual Exceedance Probability (AEP) is the probability of exceeding a given threshold within a period of one year. It can be applied to any type of risk. For example, in relation to flooding, a one per cent AEP flood plain is the area that would be inundated in a storm event of a scale that has a one per cent or greater probability of occurring in one year.

Auckland Councils Geographical Information System (GeoMaps) holds publicly available information showing the modelled overland flowpaths, flood plains and flood prone areas for the Auckland Region. These maps are indicative only, but in general, provide a suitable guideline in determining the types of flooding individual sites are subject to. An extract from Councils GIS for the site is shown below.



Figure 4: Extract of council GIS flooding information (GeoMaps)

As noted in the extract shown in **Figure 4**, the site is shown to be subject to several overland flowpaths – a low point in the terrain (excluding permanent streams) where surface water will flow during rainfall events. In general, overland flowpaths are not well defined and typically surface water runoff will be in the form of sheet flow – flows that are typically spread over a wide area and are shallow in nature.

4. Site Specific Flood Modelling

4.1 Pre-Development Flood Model

An assessment of the existing flood regime was undertaken through two-dimensional hydraulic modelling of the existing catchment. The hydraulic model was generated using a combination of HEC-HMS and hydraulic modelling software TuFlow, with the interface being 12D (a civil engineering 3d modelling package).

The HEC-HMS software package, developed by the US Army Corps of Engineers, is designed to simulate the hydrologic processes of watershed within specified catchments. TuFlow is an advanced numerical engine used for simulating free-surface water flow for urban waterways, rivers, flood plains, estuaries and coastlines.

The TuFlow package of 12D requires a three-dimensional surface to be used to create a grid, on which surface water will flow. Further inputs include providing manning's values for the various surface types i.e. grassed and paved areas, setting the cell size on which the model is to be run, indicating any gully or ridge lines that are to be included in the model, and setting the various boundary conditions specific to the model.

A three-dimensional surface of the existing catchment was generated using a combination of site topographical survey and LiDAR data that was obtained from Land Information New Zealand (LINZ) – which is generally the same information that is used for generating the surface contours within GeoMaps.

Further inputs for the model included:

Run Time	Cell Size	Manning's Values	Downstream Boundary Conditions
24 Hours	2 m grid	Paved = 0.013 Grassed = 0.03 Permeable Paving = 0.02	Slope = 0.02 m/m

Table 2: TuFlow Input Values

The HEC-HMS software package was used to model the catchments of each overland flowpath. Each catchment was modelled to determine the run-off characteristics for the 100 Year Rainfall Event. The 100 Year 24 hour rainfall depths were determined from Figure A.6 of Technical Publication 108 – Guidelines for Stormwater Run-off Modelling in the Auckland Region (TP108). In accordance with Table 4.1 of Auckland Councils Stormwater Code of Practice, an allowance for an increase in the 24 hour design rainfall depth has been allowed for in each modelled rainfall event to allow for future climate change. These allowances are shown in the Table below:

Rainfall Event	Current 24 Hour Rainfall Depth (mm)	Climate Change Increase (%)	Future 24 Hour Rainfall Depth (mm)
100 Year	190mm	32.7%	252.1mm

Table 3: Climate Change Allowances & Rainfall Depths

A catchment assessment was undertaken to confirm the contributing catchments for the four flowpaths located within the site and also the flowpath within Takaparawhau (Michael Joseph Savage Memorial Park) located to the north east of the site.

A map identifying the locations of these flow paths through the site and the flow paths outside the boundaries of the Site is shown in Figure 5 below.

Flowpath 4 was separated into two separate catchments, to accommodate the modelling of the flowpath through the site (upstream catchment) and then again downstream of Te Arawa Street (downstream catchment). A copy of the catchment plans are included in Appendix C of this report.

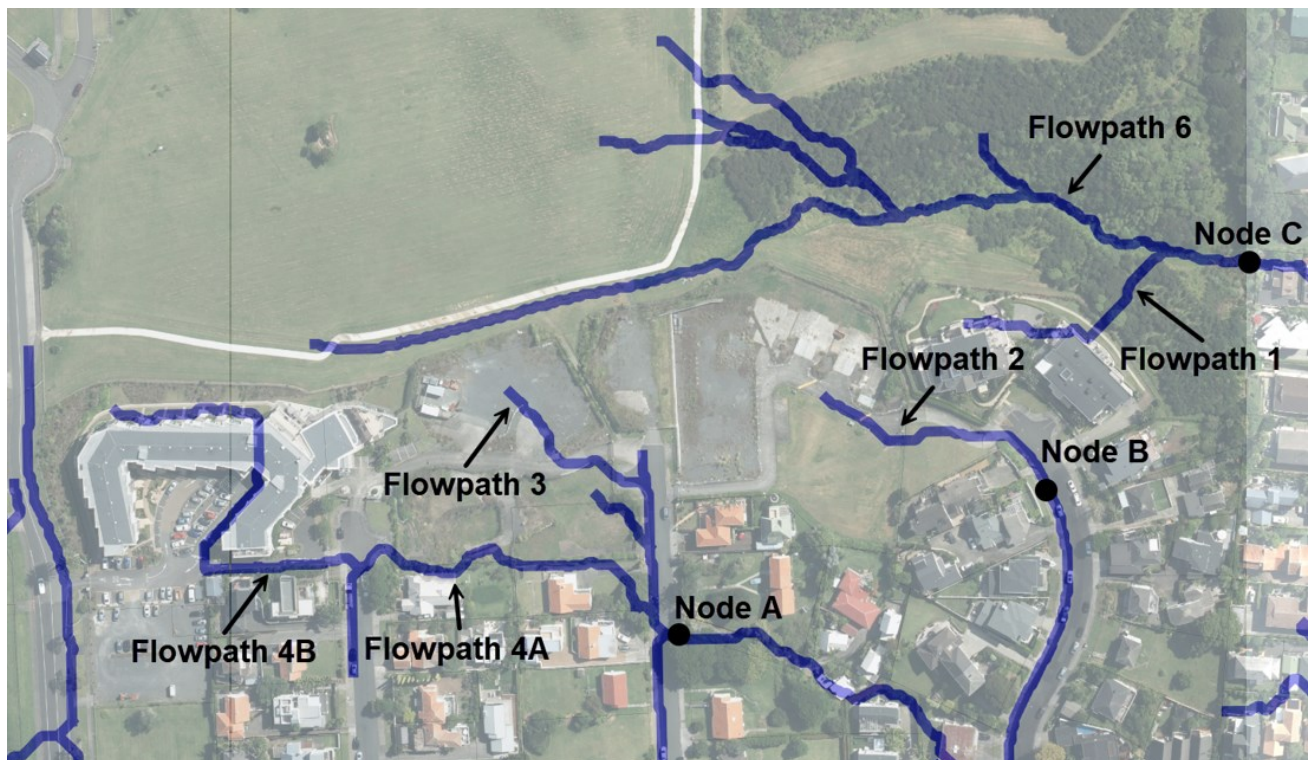


Figure 5: Flowpath Locations

The time of concentration for each contributing catchment was estimated in accordance with Technical Publication 108 – Guidelines for Stormwater Run-off Modelling in the Auckland Region (TP108).

The pre-development catchment was assumed to have a maximum probable development of 70% impermeable area and 30% permeable for areas identified as Terraced Housing and Apartment Buildings (THAB), and 100% permeable for areas identified as Open Space in accordance with the Unitary Plan Zoning Rules.

Details of the catchment for each flowpath are identified in the Table below.

Flowpath ID	Catchment Area (m ²)	Impermeable Lag Time (2/3 tc)	Permeable Lag Time (2/3 tc)	Peak Flow (m ³ /s)
SA01	3,550 m ²	6.7 mins	6.7 mins	0.158 m ³ /s
SA02	8,159 m ²	6.7 mins	6.7 mins	0.356 m ³ /s
SA03	8,717 m ²	6.7 mins	6.7 mins	0.373 m ³ /s
SA04a	8,349 m ²	6.7 mins	6.7 mins	0.374 m ³ /s
SA04b	4,616 m ²	6.7 mins	6.7 mins	0.210 m ³ /s
SA06	38,819 m ²	6.7 mins	6.7 mins	1.518 m ³ /s

Table 4: Pre-Development Catchments Characteristics

Graphical representation of the hydrographs for each overland catchment are shown in the Figures below.

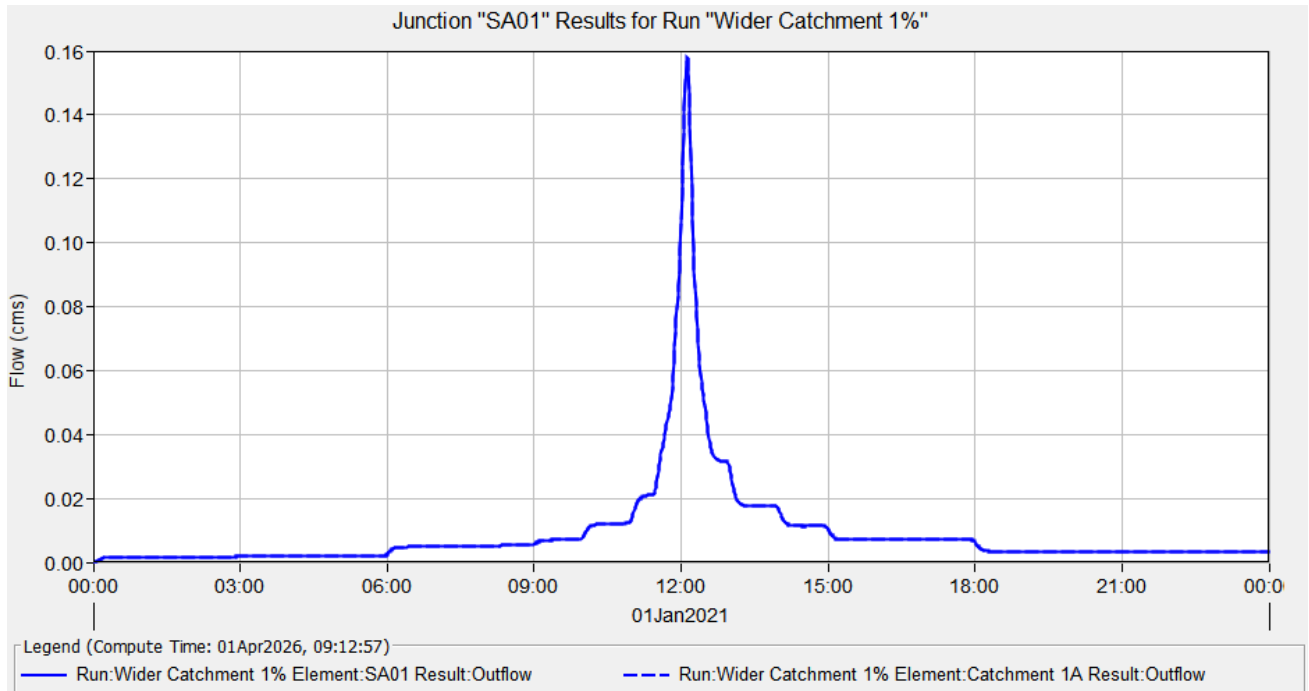


Figure 6: Flowpath SA01 – Pre-Development 100 Year Catchment Hydrograph

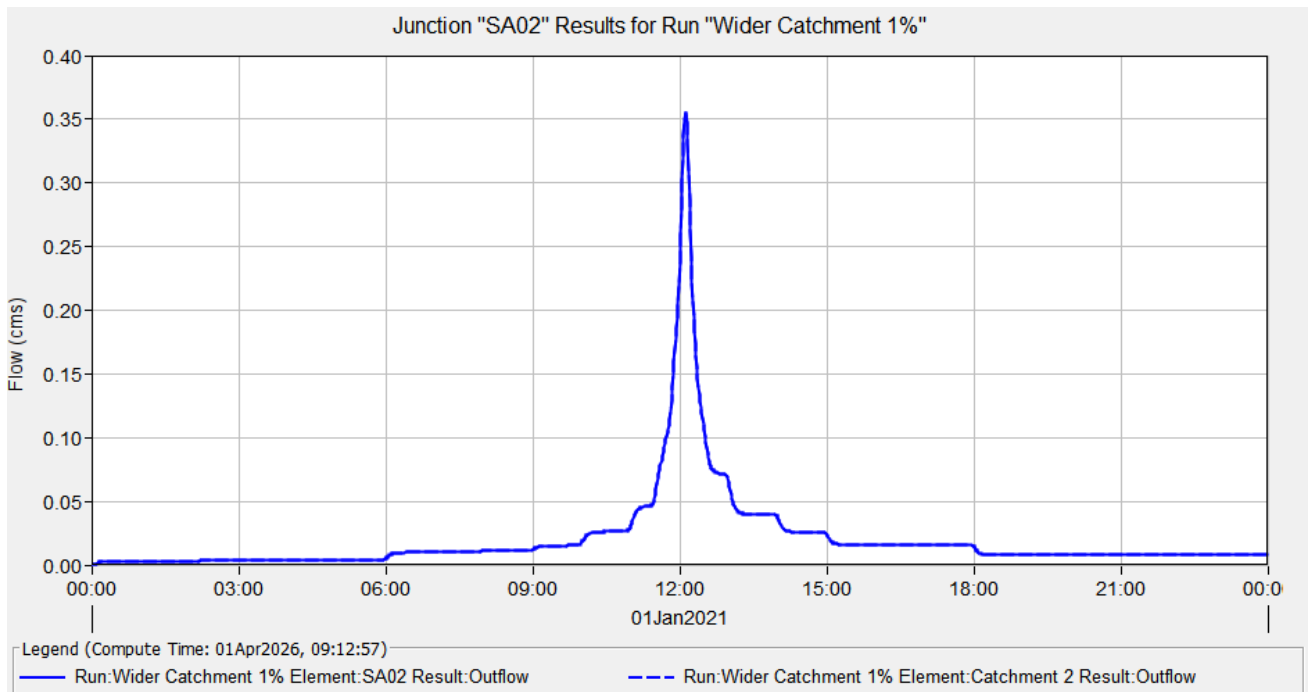


Figure 7: Flowpath SA02 - Pre-Development 100 Year Catchment Hydrograph

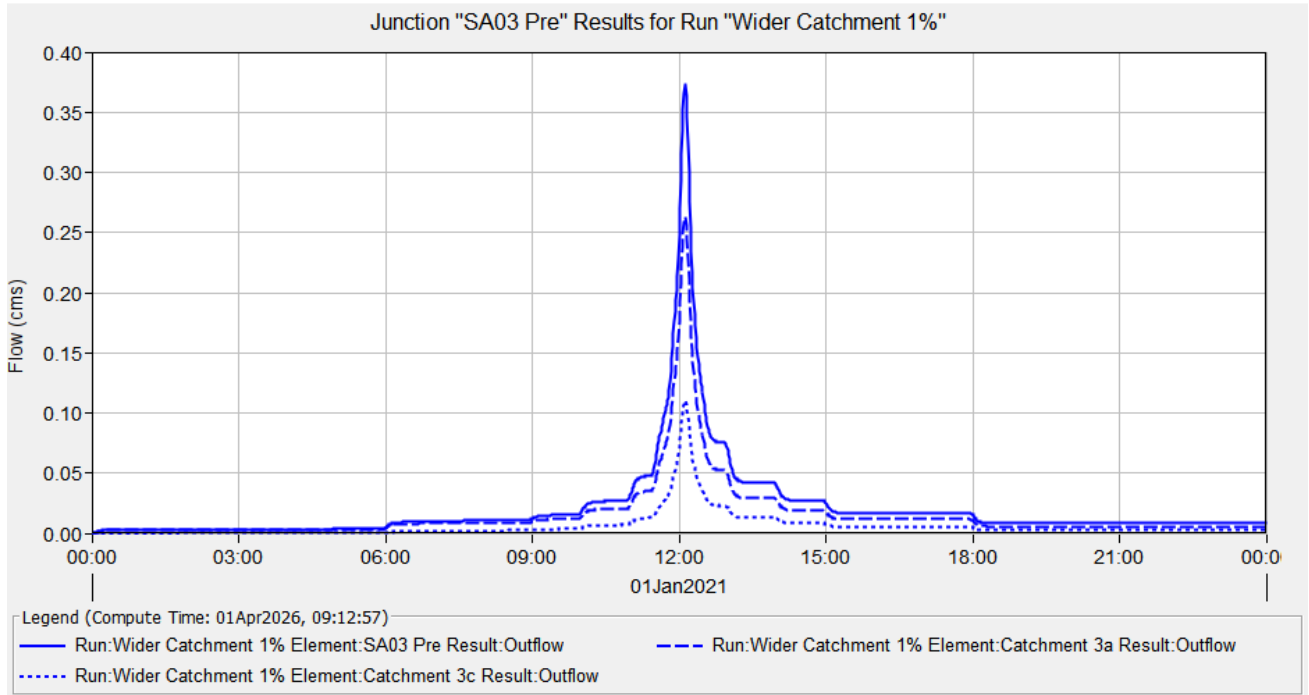


Figure 8: Flowpath SA03 - Pre-Development 100 Year Catchment Hydrograph

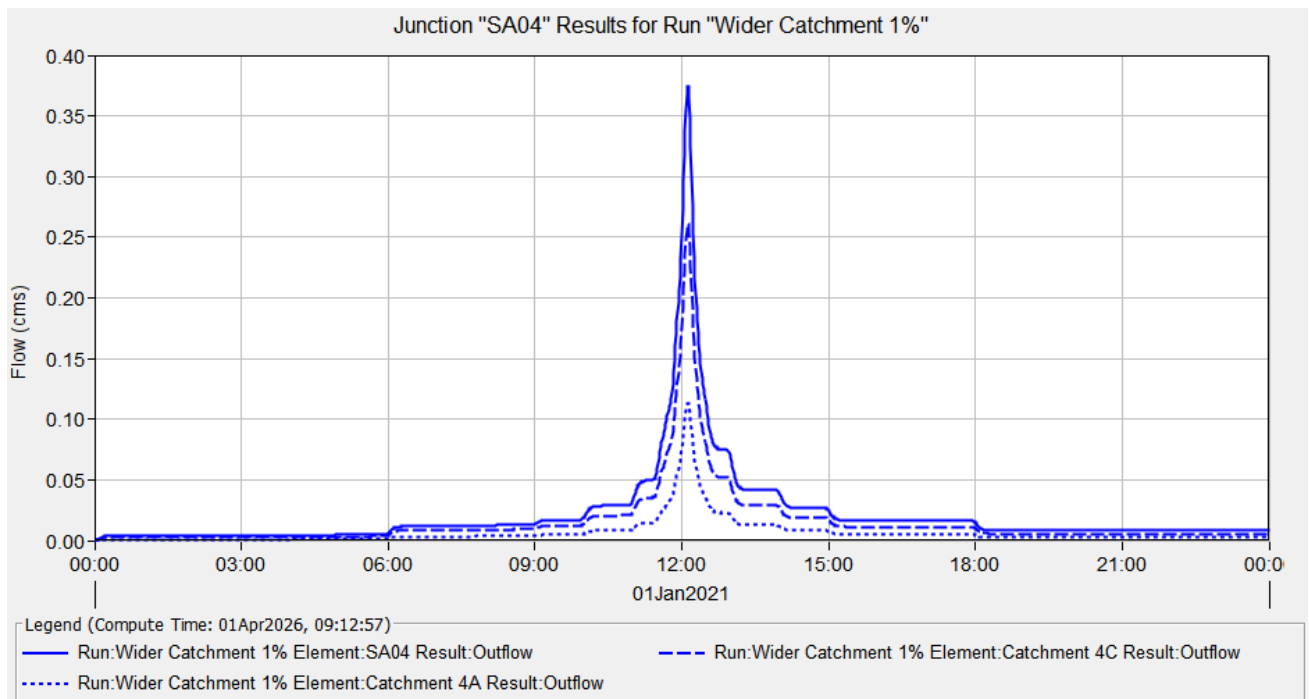


Figure 9: Flowpath SA04a - Pre-Development 100 Year Catchment Hydrograph

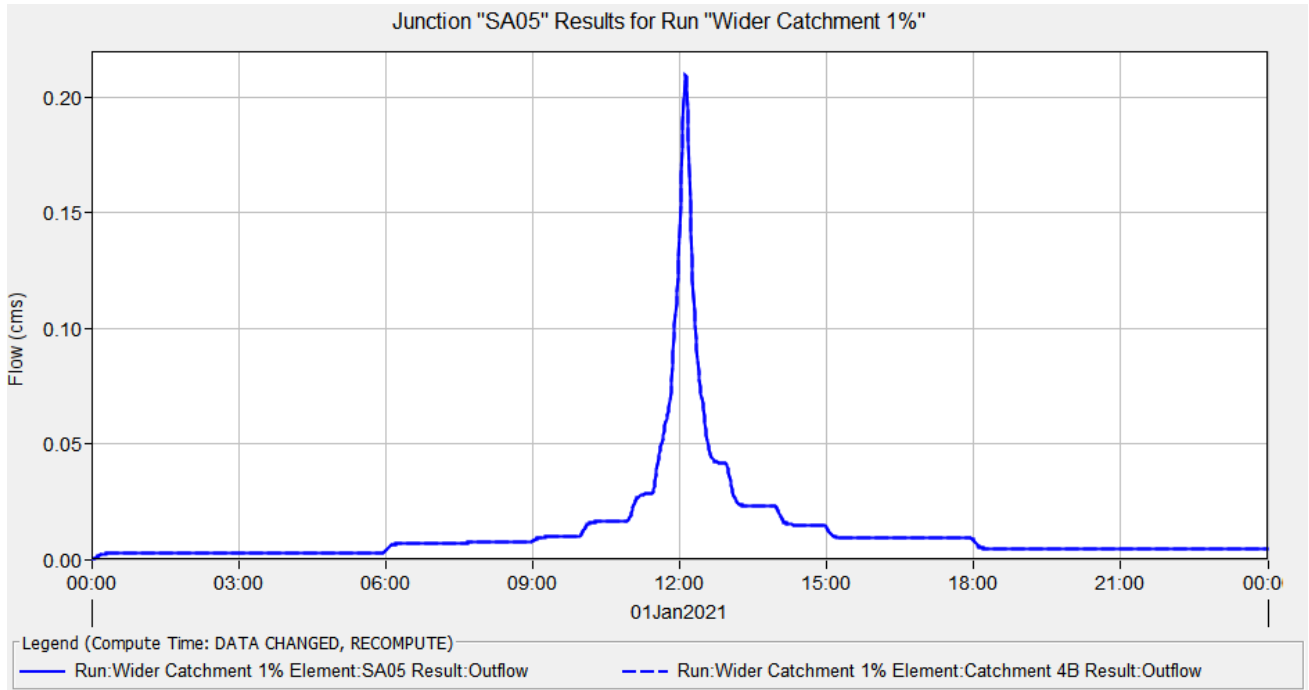


Figure 10: Flowpath SA04b - Pre-Development 100 Year Catchment Hydrograph

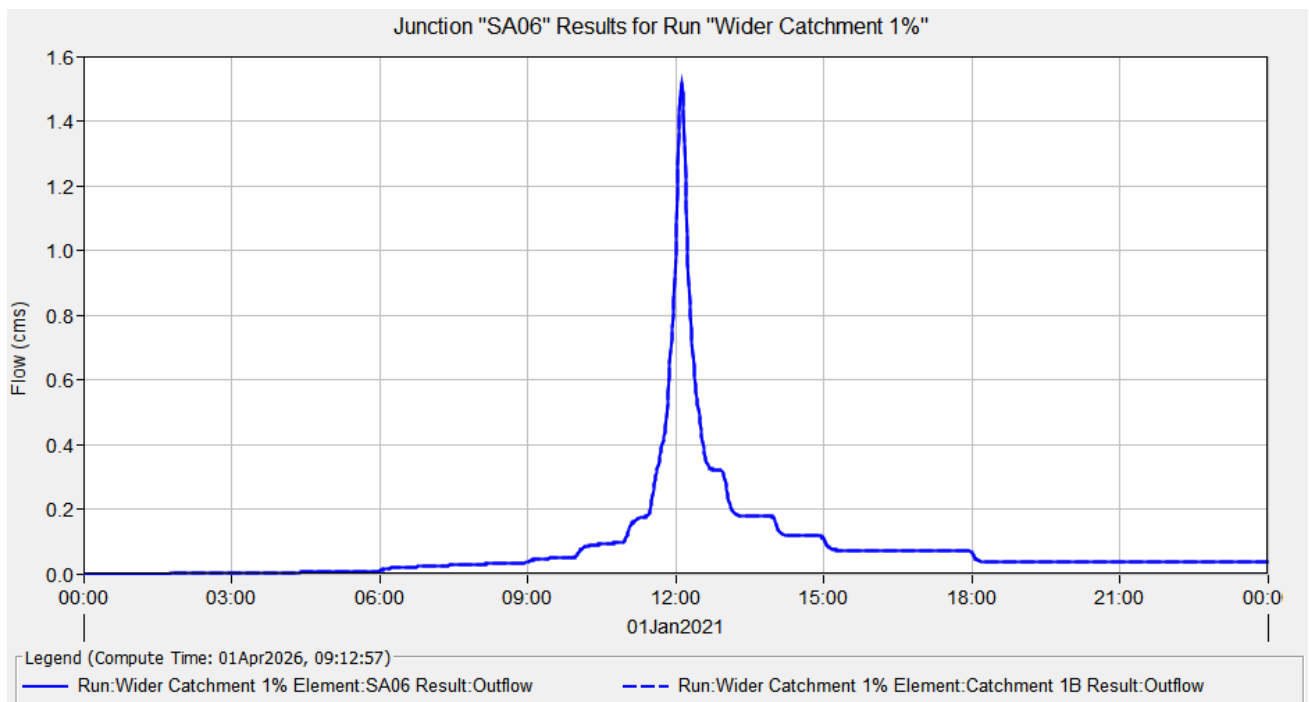


Figure 11: Flowpath SA06 - Pre-Development 100 Year Catchment Hydrograph

These hydrographs were then entered into the TuFlow model as Source Areas (SA) – digitised areas where flows enter the 2d domain (ground surface).

The model was run for a simulation time of 24.0 hours for the 1% AEP rainfall event, which is the time as specified in the unit hydrograph identified in TP108, and is more than sufficient to allow the storm hydrograph

to pass throughout the model. Various output points were put at critical locations within the model, with the output results indicating the maximum water levels, flood depths, velocities and flows at these points.

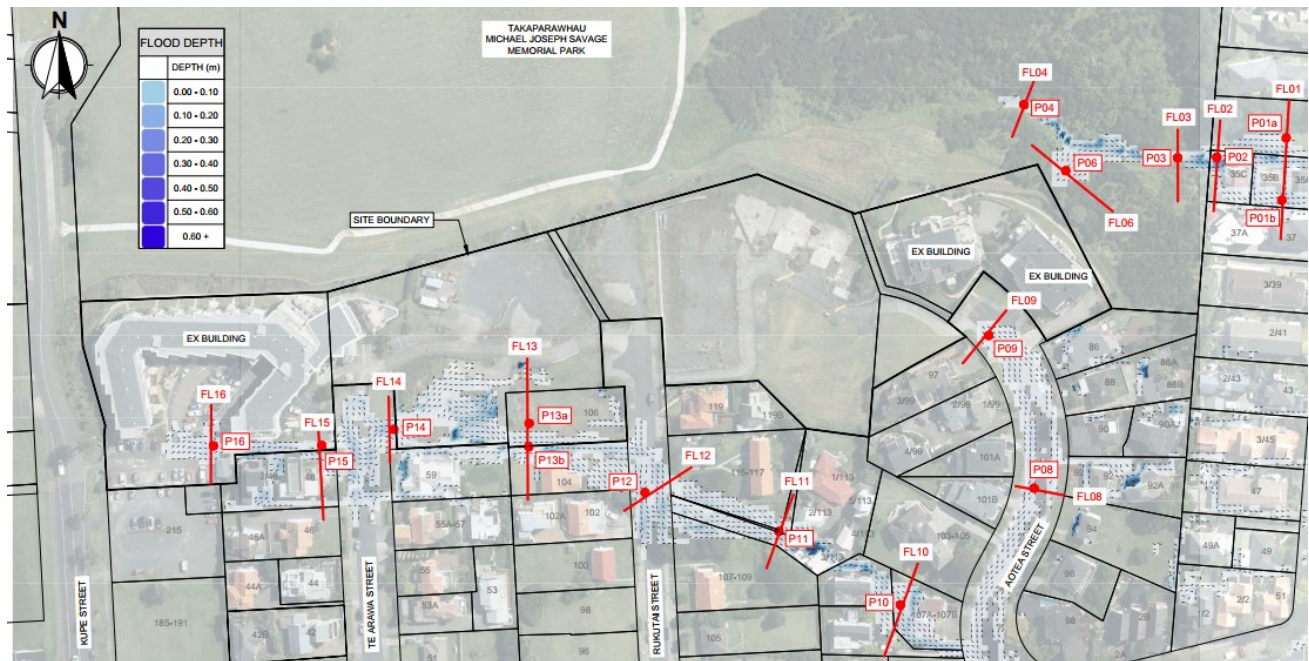


Figure 12: Pre-Development 1% AEP Flood Extents Plan

4.2 Post-Development Flood Model

As the site is located at the upper extent of the local catchment system, where several overland flow paths originate, given the scale and extent of the proposed development, the existing on-site catchments have been modified from their pre-development condition.

In addition to the catchment modifications described above, stormwater mitigation measures have been incorporated into the post-development model to address the increase in runoff associated with the proposed development, and to comply with the Network Discharge Consent requirements. While the development results in an overall increase in impervious area across the site, the adopted approach targets mitigation to the building roof areas only, with external areas allowed to drain freely during the 1% AEP event.

Accordingly, a series of detention tanks have been provided to collect runoff from the building roof areas, while surface water from external areas of the site are allowed to drain freely during the 1% AEP rainfall event.

Outflows from the proposed detention tanks are controlled via restricted outlets, with the discharge rate set to limit the peak discharge flow from the roof areas. The level of restriction has been selected such that, when combined with runoff from the external areas, the total discharge from the site is consistent with the pre-development scenario, in terms of discharge location and flow. While the system is designed to match peak flows, the full hydrograph response has also been considered and modelled in the assessment.

The detention tanks were explicitly modelled within the HEC-HMS analysis to generate attenuated hydrographs for each catchment. No allowance for losses within the detention systems were applied during the analysis, representing a conservative assessment of post-development runoff.

As a result, a post development catchment analysis was undertaken in HECHMS based on the modified catchment areas, attenuated roof runoff and permeable and impervious areas associated with the development, which has an impervious area of 70%. A comparison of each flowpath based on the pre development and post development catchments is shown in in Tables 5 and 6 below, with a copy of the catchment plans for the pre and post development scenarios included in Appendix C of this report.

Flowpath ID	Catchment Area (m ²)		Peak Flow (m ³ /s)	
	Pre-Development	Post- Development	Pre-Development	Post- Development
SA01	3,550 m ²	2,373 m ²	0.158 m ³ /s	0.098 m ³ /s
SA02	8,159 m ²	8,565 m ²	0.356 m ³ /s	0.356 m ³ /s
SA03	8,717 m ²	3,356 m ²	0.373 m ³ /s	0.148m ³ /s
SA04a	8,349 m ²	13,015 m ²	0.374 m ³ /s	0.570 m ³ /s
SA04b	4,616 m ²	4,616 m ²	0.210 m ³ /s	0.210 m ³ /s
SA06	38,819 m ²	40,285 m ²	1.518 m ³ /s	1.577 m ³ /s

Table 5: Comparison of Pre Development and Post Development Flowpath Catchments

Minor diversion of the catchments are required to accommodate the development. In particular, a large portion of catchment SA03 is now redirected to catchment SA04a. The associated flow path with these catchments will be contained within the subject site and is directed along the southern boundary and conveyed along the proposed access road with shallow flow depths of approximately (164 mm) and velocities of (1.15 m/s). This catchment/flowpath diversion has reduced the flows entering the adjacent properties at 59 Te Arawa Street and 104 Rukutai Street and has subsequently reduced the depth of expected flood depth in these properties by approximately 10mm, thus reducing the risk of flooding to both of these properties.

The remaining catchments generally remain similar in area; however, the increase in 1% AEP flows resulting from the development are mitigated through a series of detention tanks. The outflows from these tanks are restricted and directed to achieve a balanced discharge at key locations within the site.

The combination of the flow paths, where they converge downstream, are identified as Nodes A, B and C on the catchment plans. A summary of the changes at these nodes is provided below.

Node ID	Adjoining Flowpaths		Catchment Area (m ²)		Peak Flow (m ³ /s)	
	Pre-Development	Post-Development	Pre-Development	Post-Development	Pre-Development	Post-Development
Node A	SA04a, SA04b, SA03	SA04a, SA04b, SA03	21,682 m ²	20,987 m ²	0.957 m ³ /s	0.928 m ³ /s
Node B	SA02	SA02	8,159 m ²	8,565 m ²	0.356 m ³ /s	0.356 m ³ /s
Node C	SA01, SA06	SA01, SA06	42,369 m ²	42,658 m ²	1.676 m ³ /s	1.675 m ³ /s

Table 6: Comparison of Pre Development and Post Development Flowpath at the critical nodes with Mitigation.

As noted above, peak flows at all node locations are balanced, with post-development flows not exceeding pre-development flows for the 1% AEP rainfall event.

Hydrograph results of the HECHMS analysis for each of the modified catchments, including mitigation and discharge control are shown below, and were input into the post development model as Source Areas.

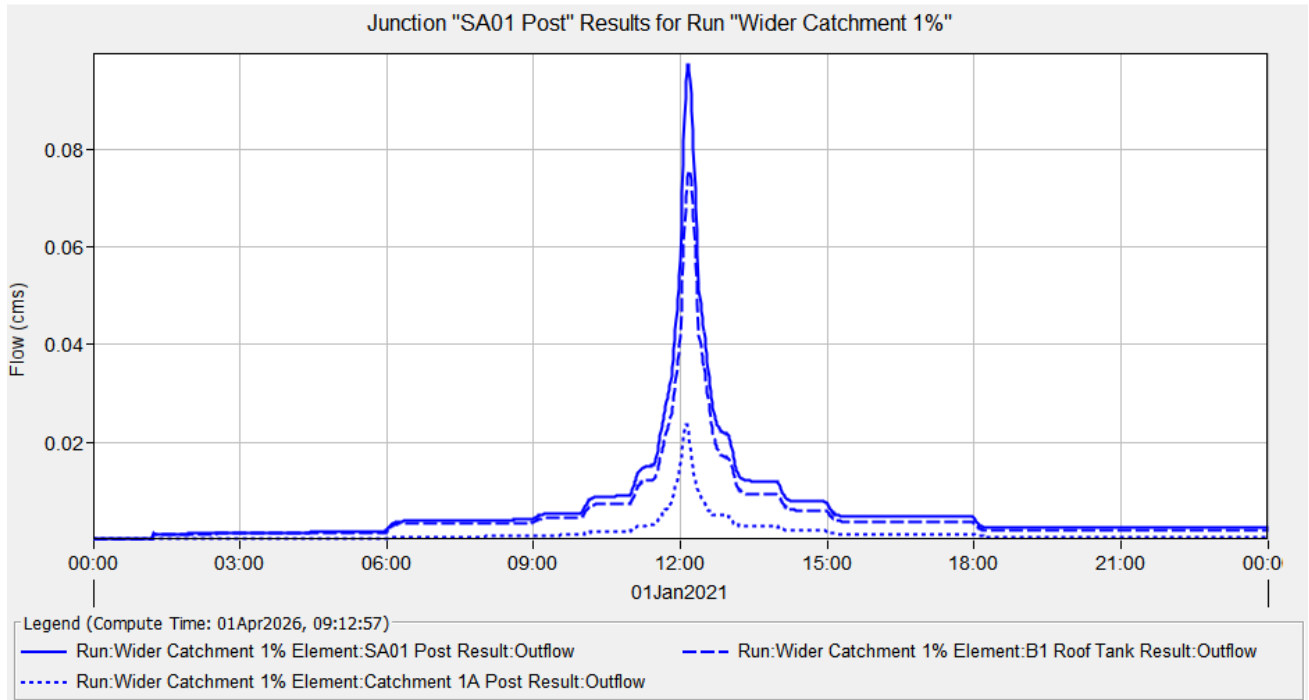


Figure 13: Flowpath SA01 - Post-Development 100 Year Catchment Hydrograph

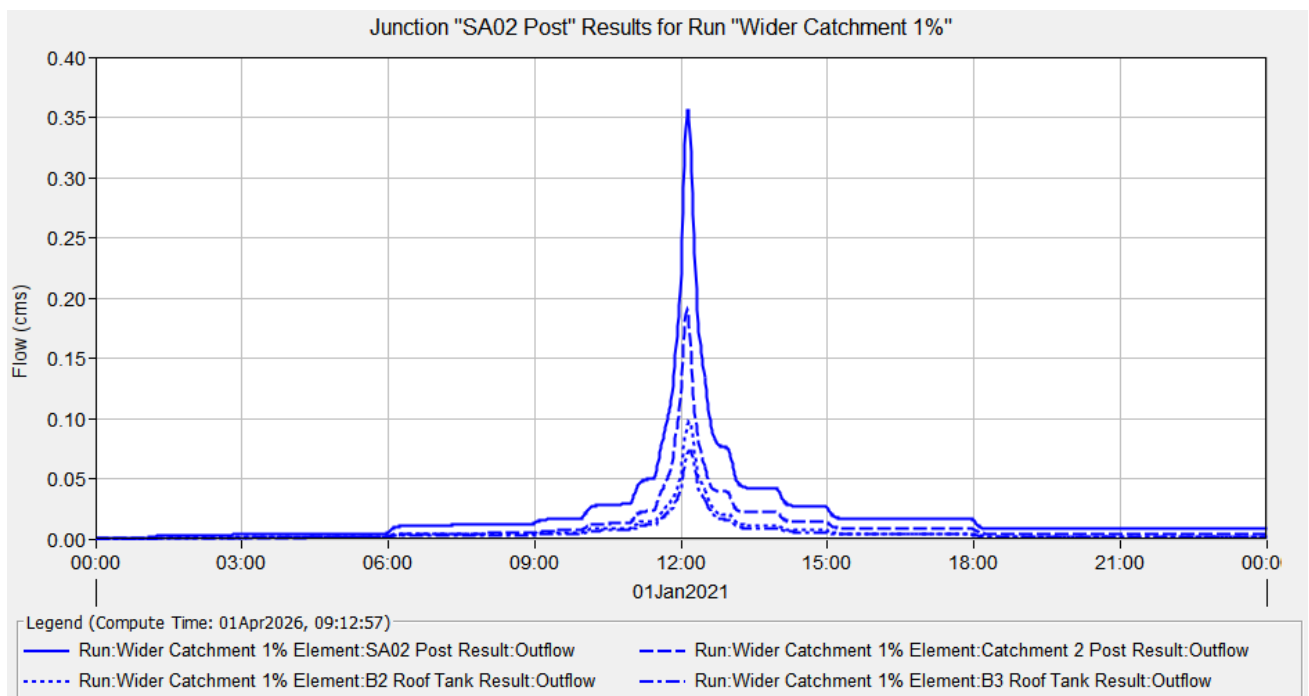


Figure 14: Flowpath SA02 - Post-Development 100 Year Catchment Hydrograph

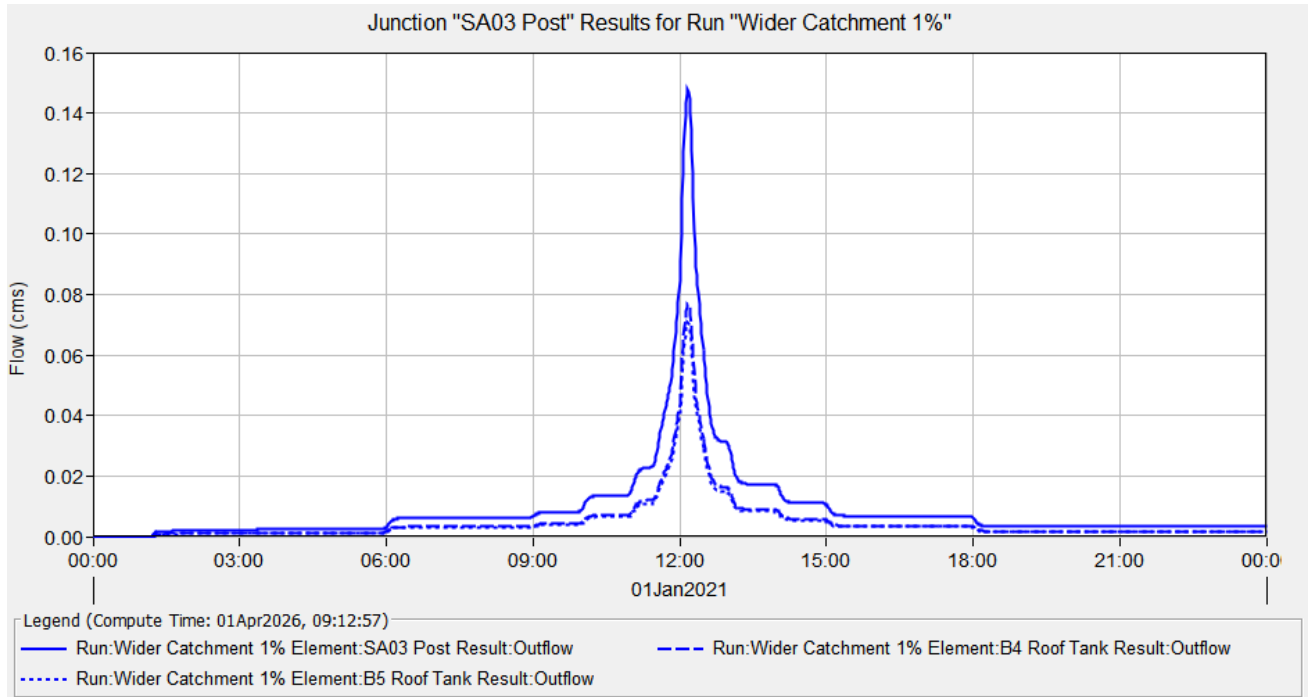


Figure 15: Flowpath SA03 - Post-Development 100 Year Catchment Hydrograph

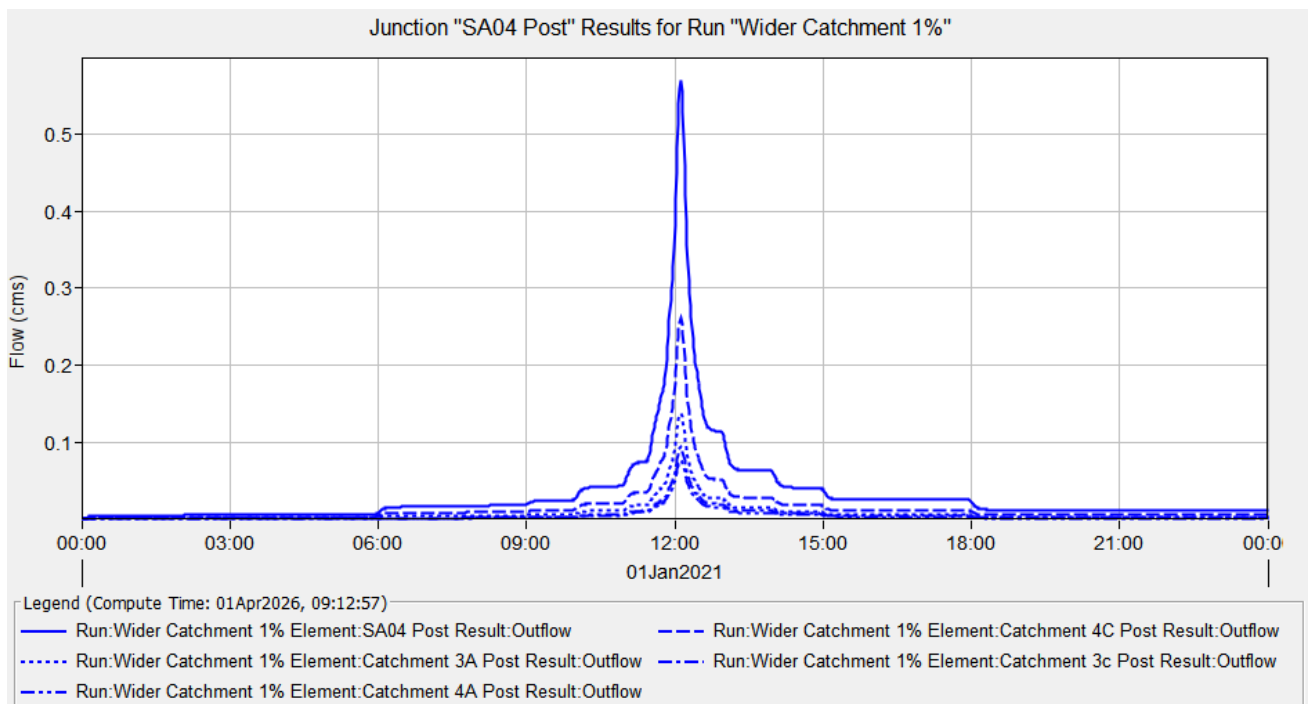


Figure 16: Flowpath SA04a - Post-Development 100 Year Catchment Hydrograph

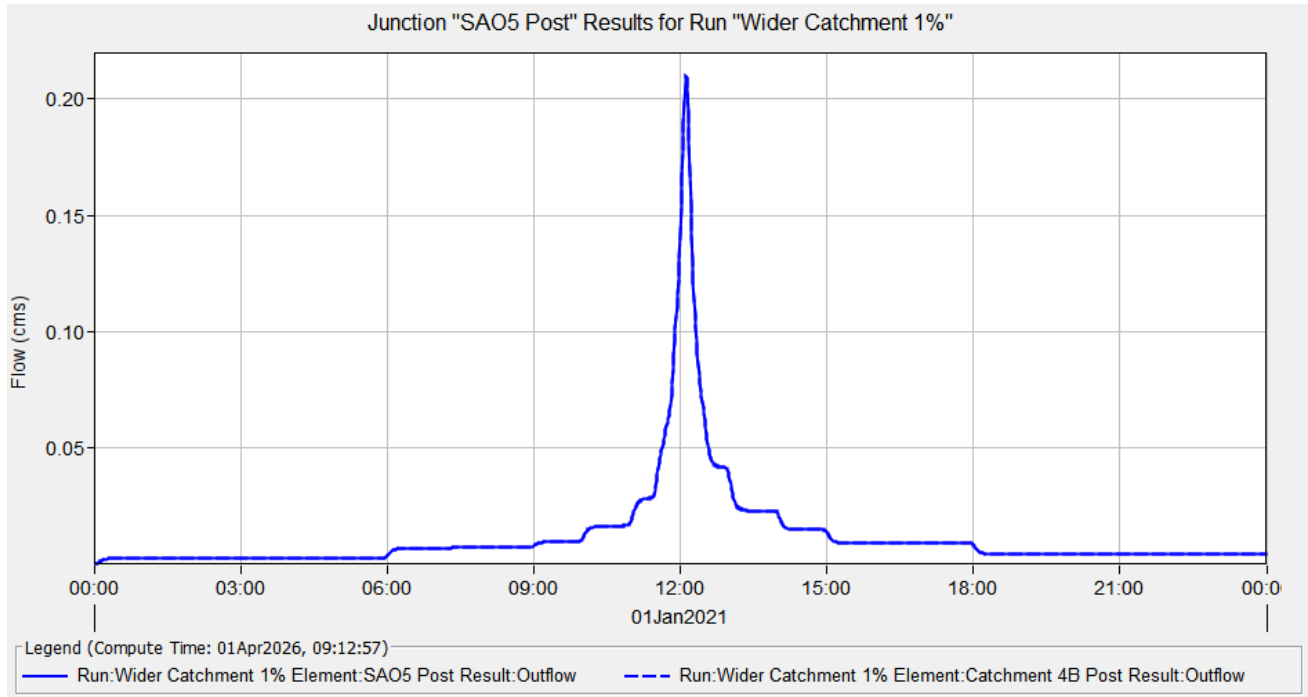


Figure 17: Flowpath SA04b - Post-Development 100 Year Catchment Hydrograph

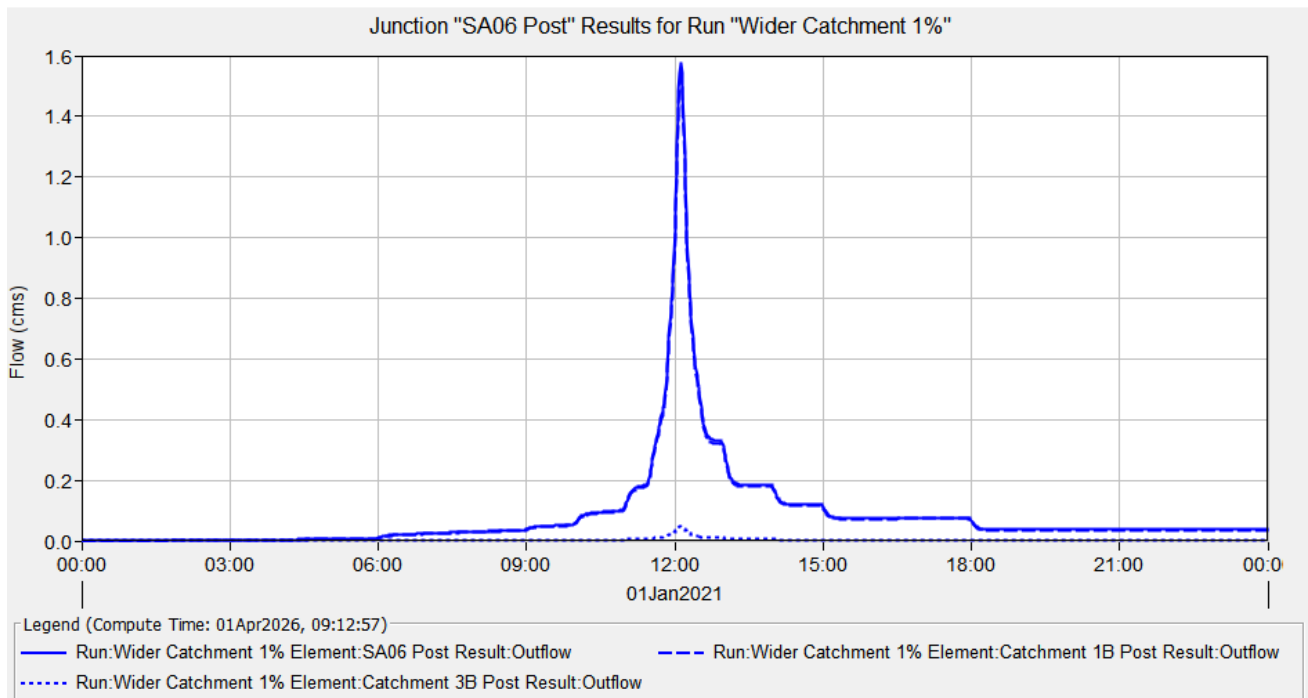


Figure 18: Flowpath SA06 - Post-Development 100 Year Catchment Hydrograph

The same modelling parameters, including boundary conditions, Manning’s roughness values, and cell size etc, were applied to the post-development flood model as those used in the pre-development model. The post-development terrain incorporated the proposed site works, and the origins of the overland flow paths were adjusted to reflect the redefined catchment boundaries and surface grading changes associated with the

development. The model was run for the same duration, and a summary of the results are indicated in 5.3 below.

A copy of the Post-Development 1% AEP Flood Extents Plan is enclosed in Appendix D, however an extract of this plan is shown in Figure 5 below.



Figure 19: Post-Development 1% AEP Flood Extents Plan

4.3 Summary of Results

Post-development flood modelling results were compared with pre-development conditions. As summarised in Table 7, the proposed development will have a negligible effect on downstream properties, provided the proposed stormwater mitigation measures are implemented.

It is noted that peak water levels and velocities at critical node locations A, B, and C (P09, P12, and P02, respectively) do not exceed pre-development conditions.

The minor fluctuations in flood depths are considered negligible as they are typically within 5mm and don't increase the flood risk category to any properties, as detailed in the following chapter of this report (5.4 Flood Risk Analysis).

Node ID	Peak Water Level (m)			Peak Depth (m)			Peak Velocity (m/s)			Depth x Velocity
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	
P01a	3.727	3.127	-0.010	0.037	0.027	-0.010	0.218	0.166	-0.052	0.004
P01b	3.130	3.128	-0.002	0.118	0.115	-0.002	0.530	0.526	-0.004	0.060
P02	4.452	4.450	-0.001	0.360	0.358	-0.001	1.264	1.243	-0.021	0.446
P03	5.629	5.624	-0.005	0.338	0.333	-0.005	0.275	0.146	-0.129	0.065
P04	10.952	10.952	-0.000	0.282	0.282	-0.000	3.883	3.883	-0.000	1.094
P05	-	-	-	-	-	-	-	-	-	-
P06	11.643	11.639	-0.004	0.012	0.008	-0.004	0.283	0.143	-0.140	0.001

P07	-	-	-	-	-	-	-	-	-	-
P08	15.319	15.320	+0.001	0.024	0.025	+0.001	1.280	1.305	+0.025	0.033
P09	20.088	20.089	+0.001	0.029	0.030	+0.001	2.158	2.201	+0.043	0.066
P10	13.310	13.314	+0.004	0.066	0.067	+0.004	1.461	1.512	+0.052	0.106
P11	19.326	19.330	+0.004	0.067	0.072	+0.004	1.977	2.049	+0.072	0.147
P12	26.532	26.538	+0.006	0.076	0.078	+0.006	1.551	1.782	+0.231	0.146
P13a	31.775	34.823	+3.049	0.00	0.164	+0.164	0.029	1.158	+1.129	0.189
P13b	31.341	31.335	-0.006	0.022	0.016	-0.006	0.626	0.372	-0.253	0.006
P14	41.786	41.329	-0.456	0.043	0.068	+0.025	1.221	3.020	+1.799	0.206
P15	42.689	42.690	0.000	0.024	0.024	0.000	1.770	1.779	+0.009	0.043
P16	43.782	43.783	+0.001	0.084	0.085	+0.001	0.495	0.510	+0.014	0.043

Table 7: Comparison of pre vs post development results

In accordance with Plan Change 120 definitions a Low Flood Hazard where surface water does not exceed 300mm in depth, and the maximum depth to velocity ratio is less than 0.24 m²/s. Given the results above, only modelled locations P02 and P04 exceed the Low Hazard threshold, however these are existing conditions located outside of the development site (adjacent reserve) and are not increased due to the development.

5. Flood Risk Analysis & Plan Change 120 Assessment

Auckland Council has introduced changes to the management of flood hazards across the region through Plan Change 120 (PC120), which amends the Natural Hazards and Flooding (Section E36) chapter of the Auckland Unitary Plan. The revised provisions took immediate legal effect upon notification and shift away from a purely “hazard presence” approach to a risk-based framework that recognises varying levels of exposure, vulnerability, and consequence.

Under Section E36 (PC120), flood risk is determined by considering both the characteristics of the hazard and the sensitivity of the activity.

Flood hazard areas include all floodplains, flood-prone areas, and overland flow paths. The provisions define four flood risk classifications: Very High, High, Medium, and Low. The methodology for determining these classifications is set out in Chapter J of the Auckland Unitary Plan. For floodplains and overland flow paths, the classifications are as follows:

Very High Flood Hazard

For floodplains and overland flow paths, where floodwaters have a depth equal or greater than 1200mm or depth x velocity product greater than or equal to $0.8\text{m}^2/\text{s}$ in a 1% AEP event.

High Flood Hazard

For floodplains and overland flow paths, where floodwaters have a depth between 500mm and 1200mm or depth x velocity product between $0.4\text{ m}^2/\text{s}$ and $0.8\text{ m}^2/\text{s}$ in a 1% AEP event.

Medium Flood Hazard

For floodplains and overland flow paths, where floodwaters have a depth between 500mm and 300mm or depth x velocity product between $0.4\text{ m}^2/\text{s}$ and $0.24\text{ m}^2/\text{s}$ in a 1% AEP event

Low Flood Hazard

For floodplains and overland flow paths, where floodwaters have depth equal to or less than 300mm or depth x velocity product less than or equal to $0.24\text{ m}^2/\text{s}$ in a 1% AEP event.

Proposed activities within flood hazards are grouped according to how sensitive they are to flooding;

- Activities sensitive to natural hazards (such as residential dwellings (including retirement villages), maraes, hospitals and care facilities),
- Activities potentially sensitive to natural hazards (for example retail, offices, schools and community facilities), and
- Activities less sensitive to natural hazards (such as open space, carparks, public amenities and most rural activities).

By cross-referencing activity sensitivity with the hazard classification, the proposed provisions identify three corresponding risk outcomes: significant, potentially tolerable, and acceptable. Development that presents significant risk is generally to be avoided, while activities that fall into the potentially tolerable range must demonstrate that risk can be reduced to or maintained, at an acceptable level through design and mitigation measures.

5.1 Hazard Assessment of the Proposed Development

In the context of the Auckland Unitary Plan (PC120), flood risk is defined by the interaction between the characteristics of the flood hazard and the sensitivity of the activity. The primary parameters influencing flood hazard is the relationship between flow depth and velocity.

As part of the two-dimensional (2D) hydraulic modelling, the 1% AEP rainfall event was simulated to classify flood hazards across the site in accordance with the Auckland Unitary Plan (PC120) and the flood hazard definitions outlined above. The modelling results were used to produce flood hazard maps, which illustrate the maximum flood hazard extent across the site during the 1% AEP event. These plans are included in Appendix D. Results of the Flood Hazard modelling indicate that the development is generally located in a Low flood Hazard.

In accordance with the Auckland Unitary Plan, under Plan Change 120, a retirement village is considered an activity that is sensitive to natural hazards. Based on the flood modelling completed for the development, the site is considered to be in a Low Flood Hazard where surface water (associated with overland flow) does not exceed 300mm in depth, and peak flows and velocities are below the thresholds identified in PC120. In existing urban areas, Table E36.3.1B.1 identifies the risk outcome for sensitive activities in a Low Flood Hazard area as a Potentially Tolerable Risk. A potentially tolerable risk is a level of risk that may be acceptable if it can be managed or mitigated so that the residual risk is tolerable.

In accordance with Table E36.4.1A of PC120, activities within Low Flood Hazard areas, where the natural hazard risk is classified as "Potentially Tolerable", are classified as Restricted Discretionary (A79).

Further assessment of the development in a low flood hazard area under activity table E36.4.1A is shown in Table 8 below.

Activity	Description	Activity Status
A79	Activities where natural hazard risk is potentially tolerable in accordance with Table E36.3.1B.1 in flood hazard areas	Restricted Discretionary
A81	Surface parking and above ground parking areas (including vehicle entry and exit points) in flood hazard areas	Permitted
A102	Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path	Restricted Discretionary

Table 8: PC120 E36.4.1A Assessment Summary

5.2 Overland Flowpath Assessment

The proposed works involve the rationalisation of the existing overland flow path within the subject site and therefore fall within the scope of Rule A102 of Table E36.4.1A (PC120) as identified above.

The effects of the proposed flowpath rationalisation works have been assessed through hydraulic modelling of the 1% AEP rainfall event. The modelling demonstrates that the reconfiguration of the flow path, including the conveyance of the post-development flows within the site, does not result in an increase in flood effects on

surrounding properties. In particular, at the downstream control point (Node A), peak water levels, flow velocities, and associated flood hazard remain consistent with the pre-development conditions.

Overall, the rationalisation results in a more defined flow path within the subject site while maintaining existing downstream flow characteristics. On this basis, the proposal is considered to be consistent with the intent of A102 of Table E36.4.1A in Chapter E36 (PC120).

6. Conclusions and Recommendations

Site-specific hydrologic and hydraulic modelling has been undertaken to assess the flood behaviour associated with the proposed development for the 1% AEP rainfall event. The modelling incorporates both pre-development and post-development scenarios, including the effects of revised catchment configurations, overland flow path rationalisation, and proposed stormwater mitigation measures.

The results of the modelling indicate that post-development peak flows at key downstream control points (Nodes A, B and C) are maintained at levels comparable to, or lower than, pre-development conditions. Correspondingly, peak water levels, flow depths, velocities, and associated flood hazard classifications at these locations are not increased as a result of the development.

Localised variations in flood depth and velocity across the modelled domain are minor and are generally within $\pm 5\text{mm}$. These changes are considered negligible and do not result in any change to flood hazard classification or an increase in flood risk to adjacent properties.

In accordance with the Auckland Unitary Plan (PC120), the site is identified as being subject to Low Flood Hazard, with flood depths generally less than 300mm and depth-velocity relationships below the $0.24\text{m}^2/\text{s}$ threshold. The proposed retirement village is classified as an activity sensitive to natural hazards and is therefore considered to have a potentially tolerable risk outcome within a Low Flood Hazard area.

The rationalisation of the existing overland flow path through the site has been assessed in accordance with Rule A102 of Table E36.4.1A (PC120). The modelling demonstrates that the reconfiguration of the flow path does not result in an increase in flood effects beyond the site, and that downstream flow characteristics are maintained.

On this basis, the proposed development is appropriately classified as a Restricted Discretionary Activity under Rule A79 of Table E36.4.1A. The assessment demonstrates that flood risk can be appropriately managed through site design and mitigation measures, and that the residual risk remains tolerable.

Overall, the proposed development is considered to be hydraulically appropriate and will not increase flood risk on-site or to surrounding properties. The development is therefore considered suitable from a flood hazard and overland flow perspective, subject to the implementation of the proposed stormwater mitigation measures.

7. Limitations

This assessment has been prepared for our clients Ngāti Whātua Ōrākei Whai Rawa Ltd and Generus Living Group Ltd in relation to the proposed development at The Point, 217 Kupe Street, Mission Bay and specifically to support a fast-track resource consent application under the Fast-track Approvals Act 2024.

Appendix A – Topographical Survey Plan

- NOTES**
- THE SURVEY IS IN TERMS OF GEODETIC DATUM 2000, MT EDEN CIRCUIT. THE ORIGIN OF COORDINATES IS "SM 4415 SO 53199" (GD CODE CBG6), SOURCED FROM LINZ DATABASE. ~ 802876.480mN 405586.952mE
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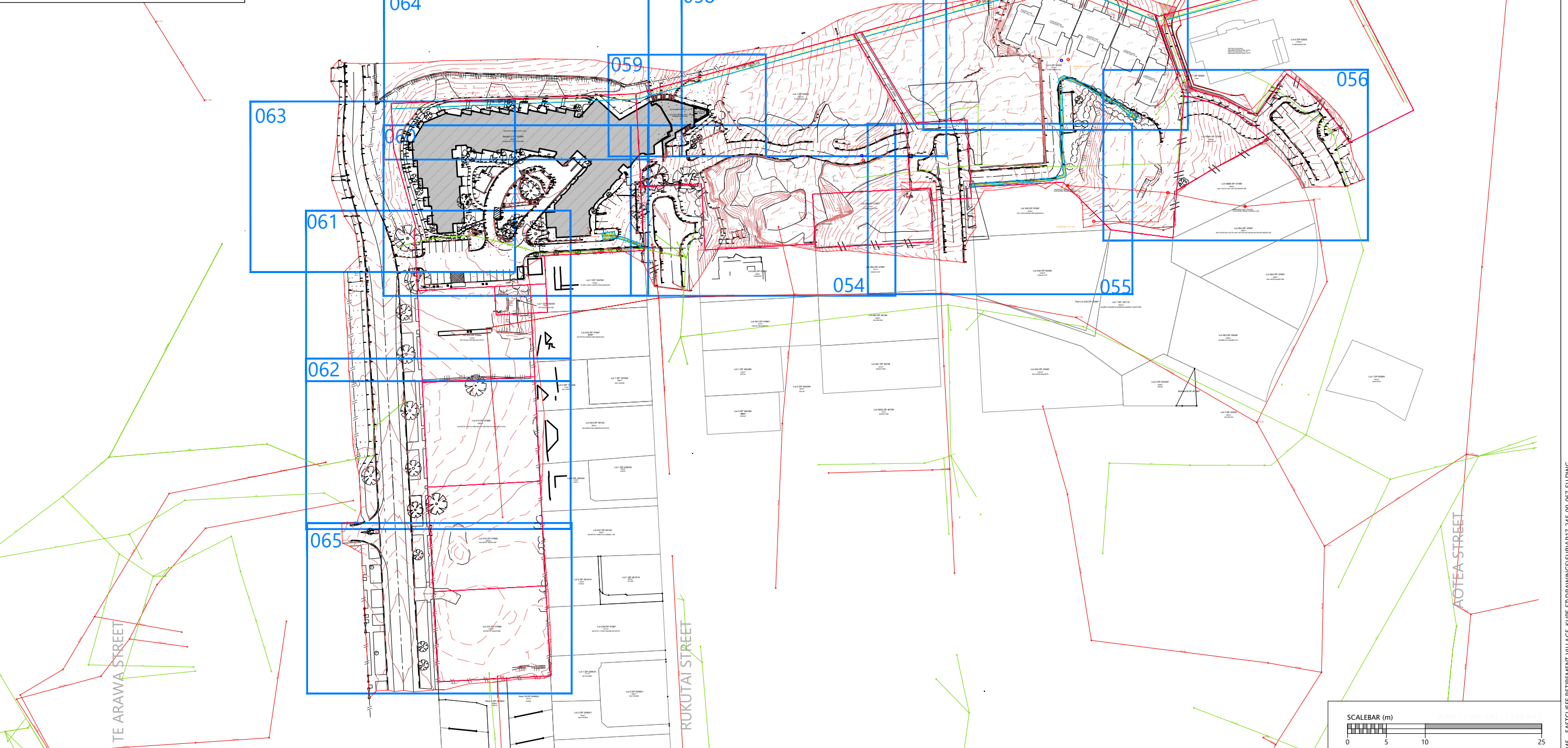
LEGEND

	SPOT HEIGHT		DECK
	MAJOR CONTOURS		XML BOUNDARY
	MINOR CONTOURS		POWER BOX
	UNKNOWN MANHOLE		BALCONY
	LIGHT POST		GATE
	CESSPIT		FENCE
	EDGE OF CONCRETE		TOP OF BANK
	BOTTOM OF BANK		TOP OF WALL
	EDGE OF BUSH		KERB/CHANNEL
	BOLLARD		SIGN
	WASTEWATER MH		FIRE HYDRANT
	STORMWATER MH		

SCHEDULE OF EXISTING EASEMENTS (IN GROSS)

PURPOSE	SHOWN AS	SERVIENT TENEMENT	GRANTEE	CREATED BY	AFFECTED TITLE
GAS RIGHT	A DP 162515	SEC 3 SO 63269	UNITED NETWORKS LIMITED	D320989.1	557119
RIGHT TO TRANSMIT AN ELECTRIC CURRENT	A & B DP 206587	SEC 3 DO 63269	VECTOR LIMITED	D597272.1	557119
GAS RIGHT	B DP 162515	LOT 1 DP 92924	UNITED NETWORKS LIMITED	D320989.1	NA99C/193
ELECTRICITY SUPPLY	A DP 344206	LOT 2 DP 92924	VECTOR LIMITED	T7170273.1	51399
CABLE ACCESS	B DP 344206	LOT 2 DP 92924	VECTOR LIMITED	T7170273.1	51399
GAS RIGHT	D DP 162515	LOT 2 DP 92924	UNITED NETWORKS LIMITED	D320989.1	NA99C/194
GAS RIGHT	F DP 162515	LOT 3 DP 92925	UNITED NETWORKS LIMITED	D320989.1	NA99C/195

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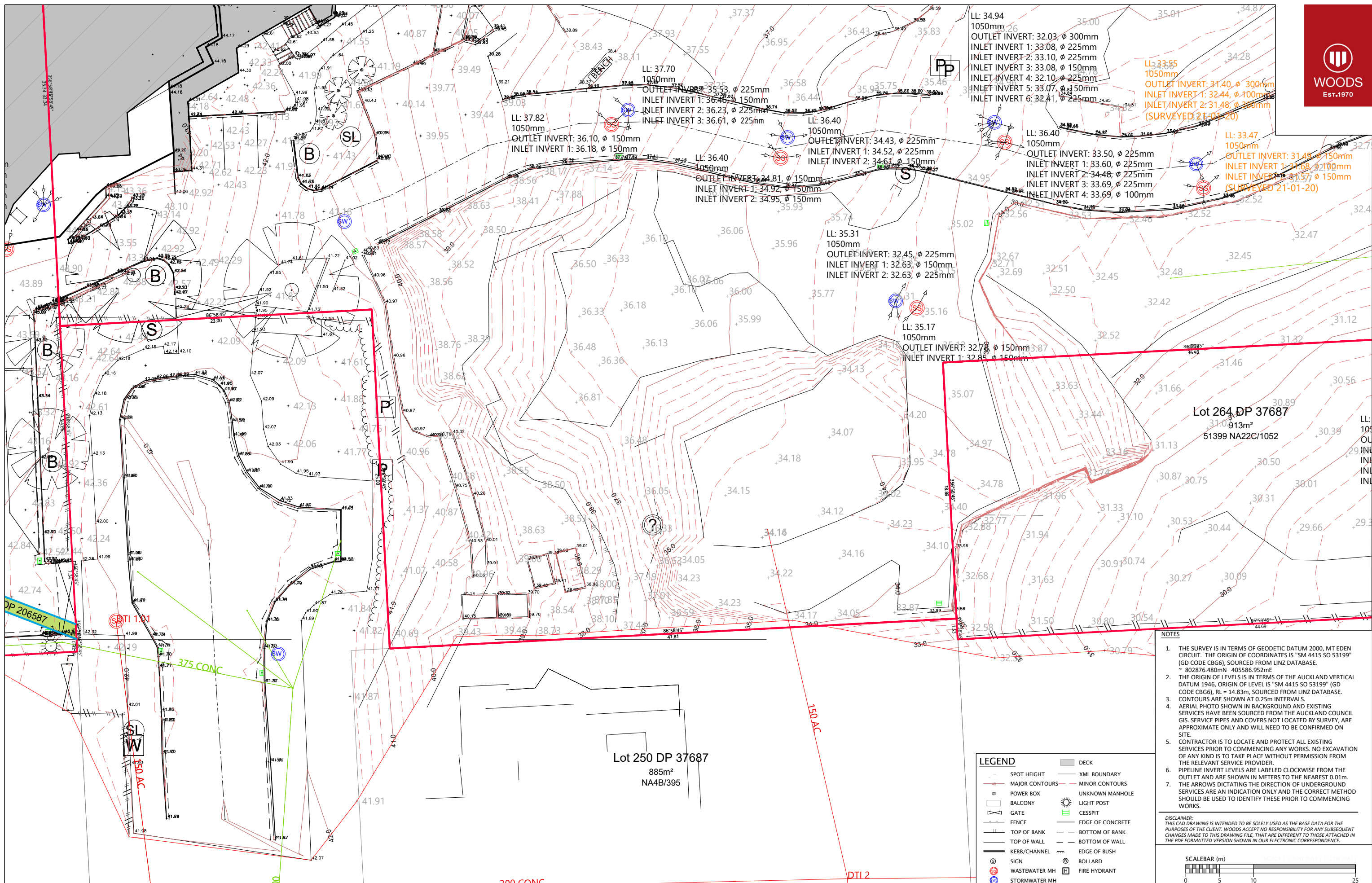


EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



SCALEBAR (m)		
0	5	10
15	20	25

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COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-053-SU	



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1050mm
OUTLET INVERT: 31.40, ϕ 300mm
INLET INVERT 1: 32.44, ϕ 100mm
INLET INVERT 2: 31.48, ϕ 225mm
(SURVEYED 21-01-20)

LL: 33.47
1050mm
OUTLET INVERT: 31.45, ϕ 150mm
INLET INVERT 1: 31.68, ϕ 100mm
INLET INVERT 2: 31.57, ϕ 150mm
(SURVEYED 21-01-20)

LL: 34.94
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OUTLET INVERT: 32.03, ϕ 300mm
INLET INVERT 1: 33.08, ϕ 225mm
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INLET INVERT 5: 33.07, ϕ 150mm
INLET INVERT 6: 32.41, ϕ 225mm

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INLET INVERT 1: 36.18, ϕ 150mm

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INLET INVERT 2: 34.61, ϕ 150mm

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INLET INVERT 3: 33.69, ϕ 225mm
INLET INVERT 4: 33.69, ϕ 100mm

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INLET INVERT 2: 32.63, ϕ 225mm

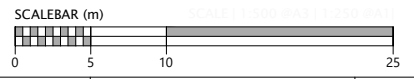
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913m²
51399 NA22C/1052

Lot 250 DP 37687
885m²
NA4B/395

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LEGEND

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POWER BOX	LIGHT POST
BALCONY	CESSPIT
GATE	EDGE OF CONCRETE
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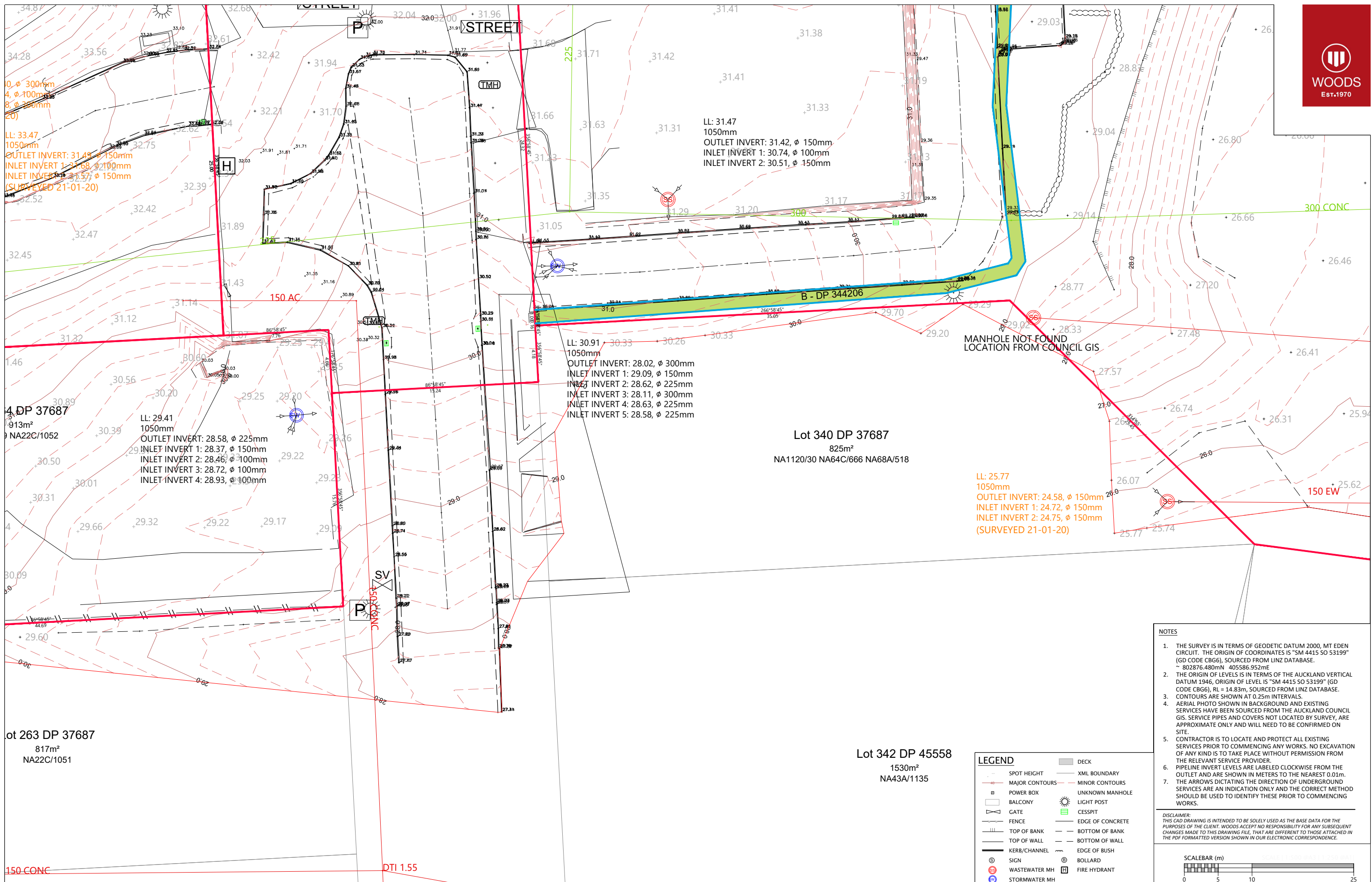
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EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN

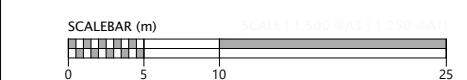


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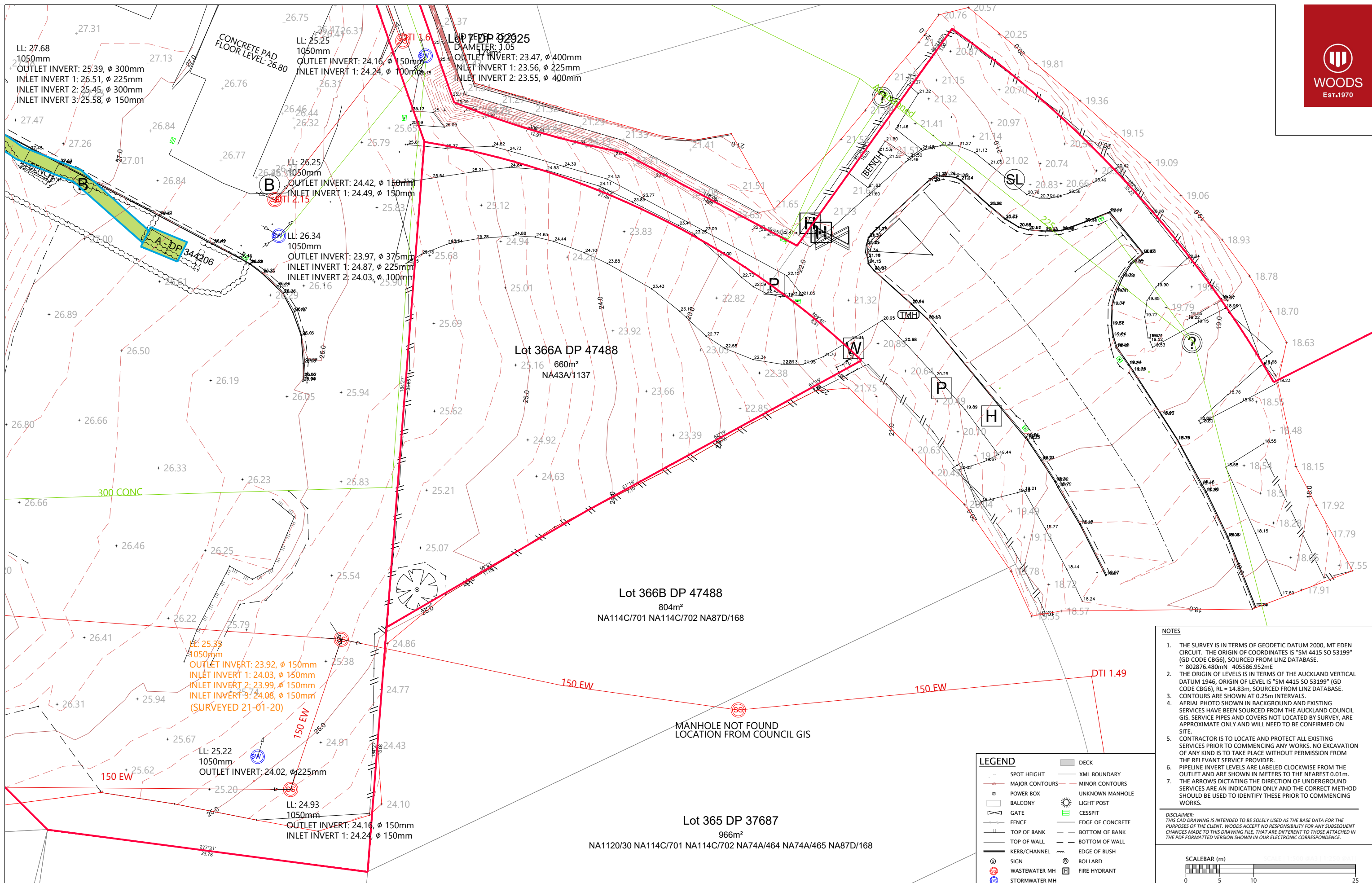
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LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN

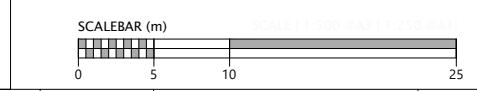


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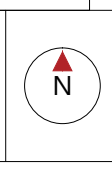
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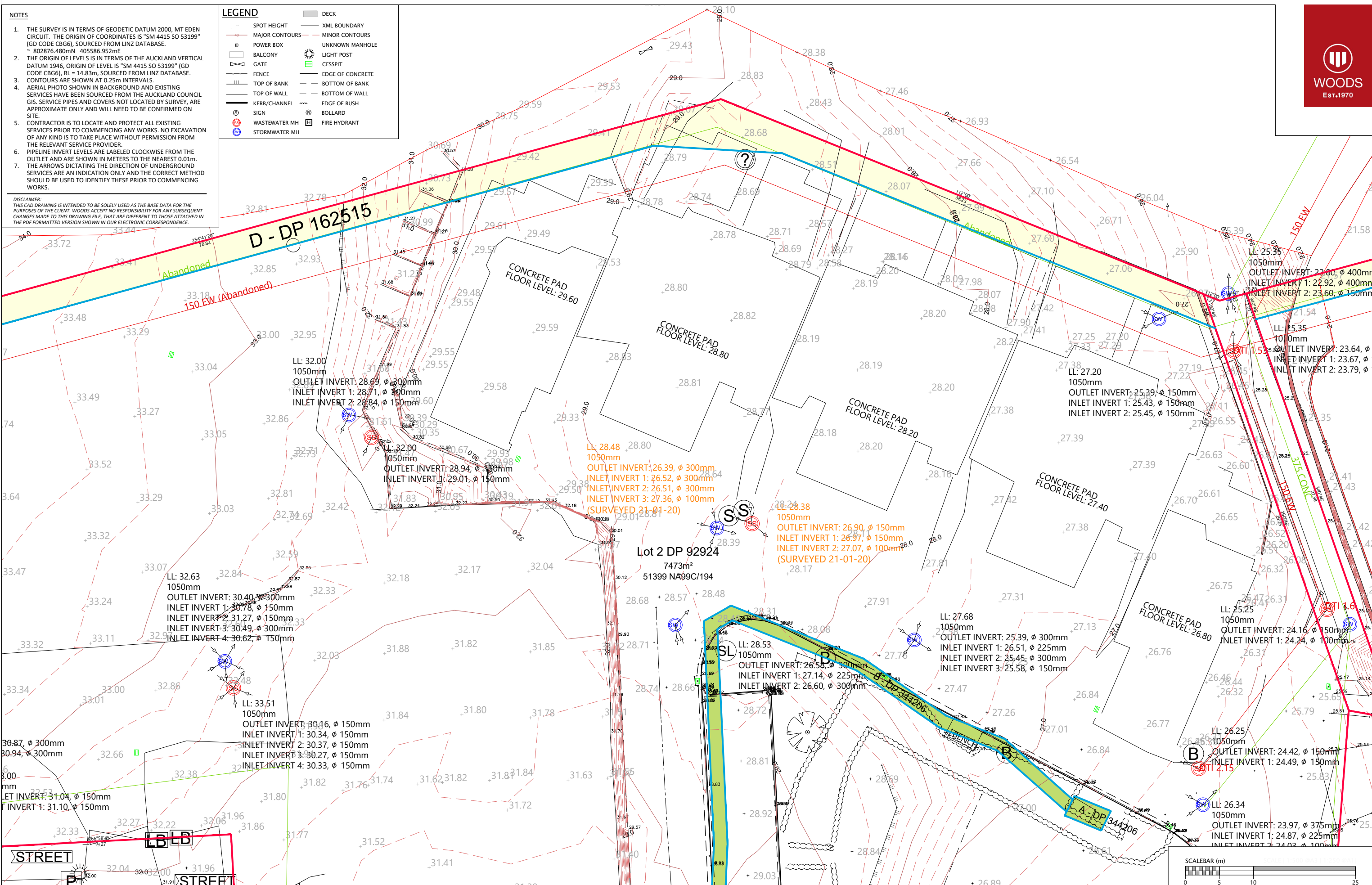
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LEGEND

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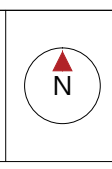


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EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
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TOPOGRAPHICAL SURVEY PLAN



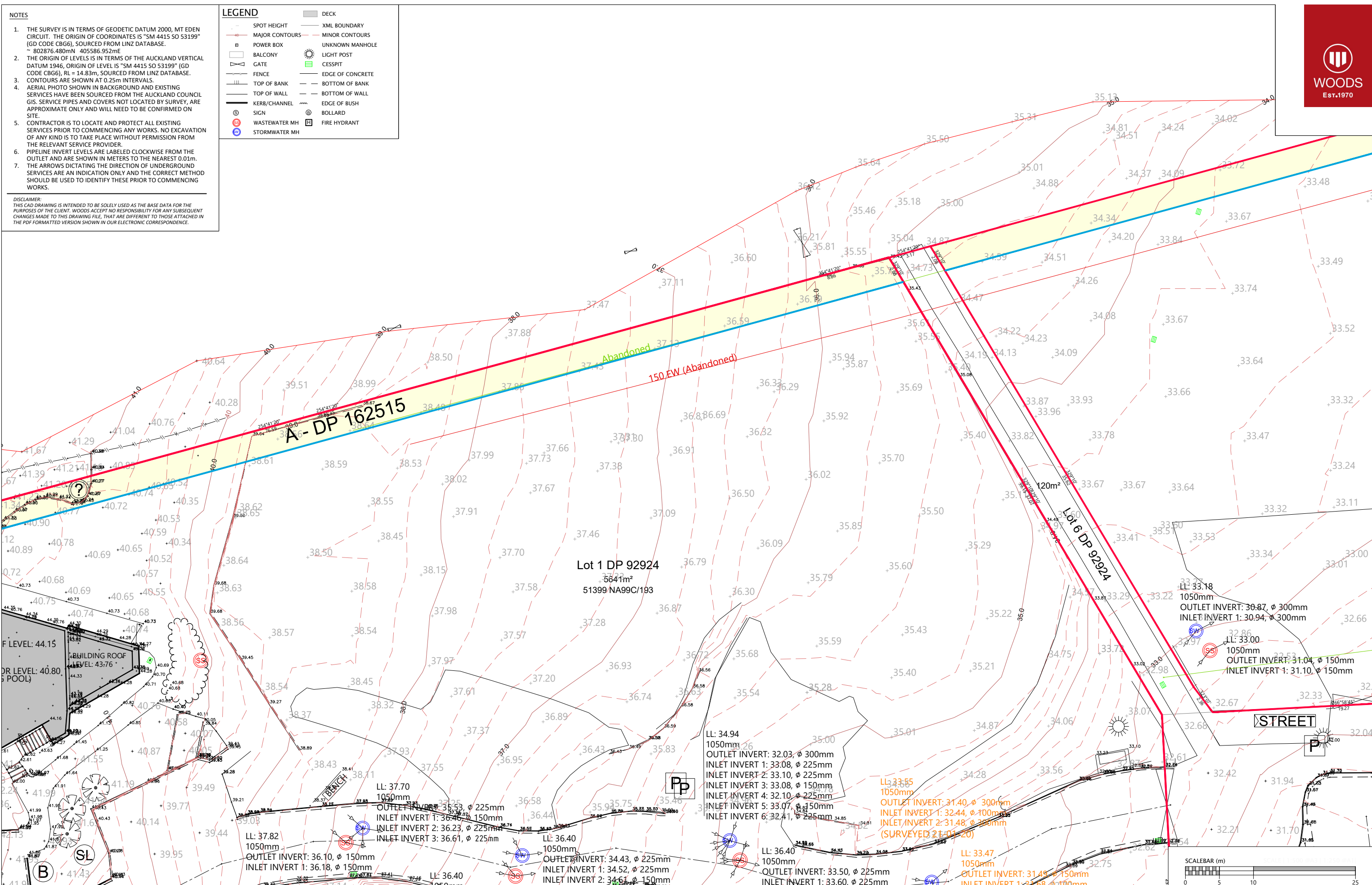
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- LEGEND**
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 - MAJOR CONTOURS
 - MINOR CONTOURS
 - POWER BOX
 - BALCONY
 - GATE
 - FENCE
 - TOP OF BANK
 - TOP OF WALL
 - KERB/CHANNEL
 - SIGN
 - WASTEWATER MH
 - STORMWATER MH
 - DECK
 - XML BOUNDARY
 - UNKNOWN MANHOLE
 - LIGHT POST
 - CESSPIT
 - EDGE OF CONCRETE
 - BOTTOM OF BANK
 - BOTTOM OF WALL
 - EDGE OF BUSH
 - BOLLARD
 - FIRE HYDRANT

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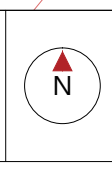


REVISION DETAILS	INT	DATE	SURVEYED	CJ
1 ISSUED FOR INFORMATION	CJ	22/02/2018	DESIGNED	N/A
2 ADDITIONAL TOPO INFORMATION ADDED	CJ	09/08/2018	DRAWN	CJ
6 ADDITIONAL TOPO INFORMATION ADDED	CJ	15/03/2019	CHECKED	WC
7 ADDITIONAL TOPO INFORMATION ADDED	SK	22/01/2020	APPROVED	WC

217 KUPE STREET
ORAKEI
AUCKLAND, 1071



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-058-SU	

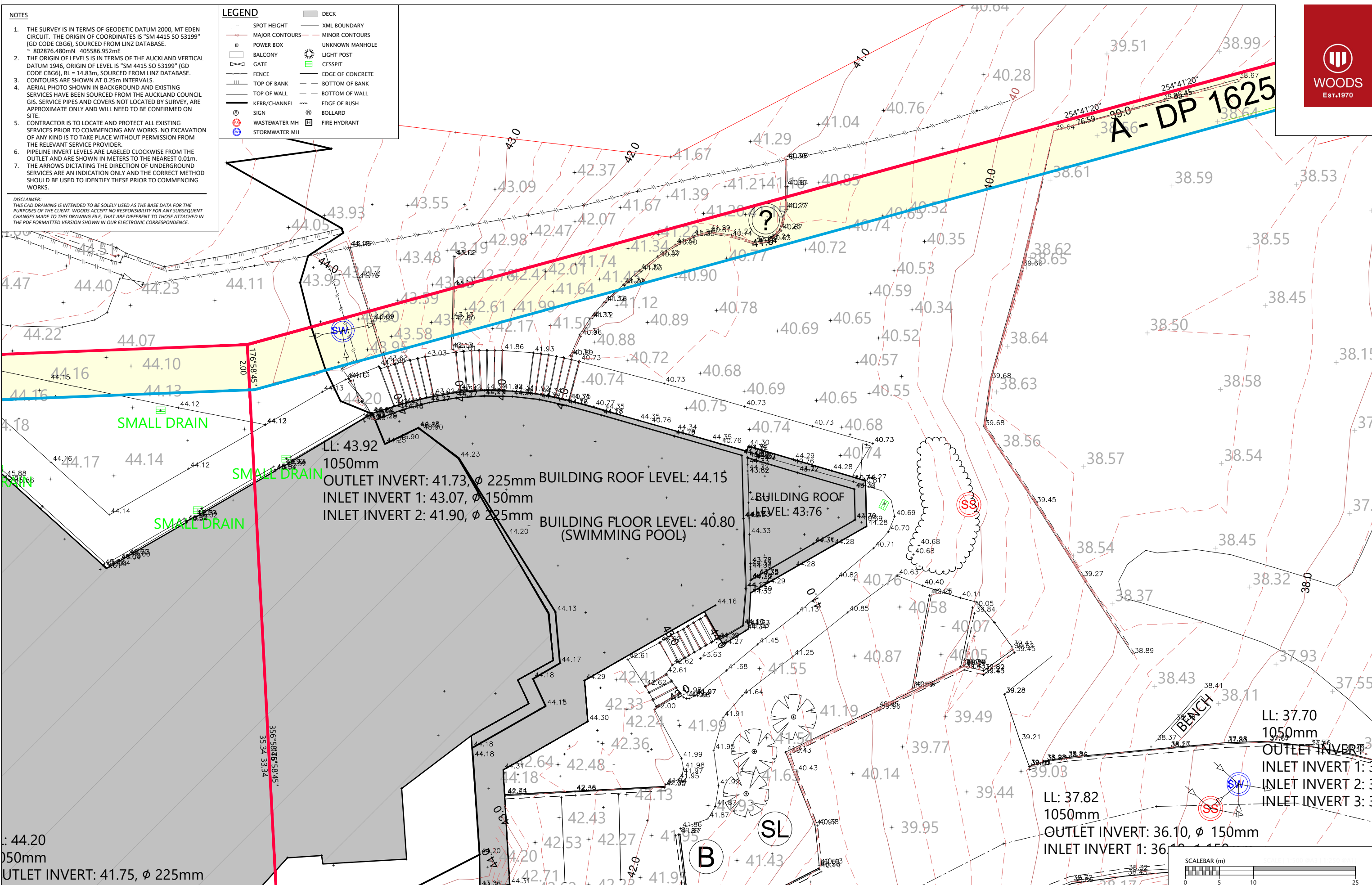
NOTES

1. THE SURVEY IS IN TERMS OF GEODETIC DATUM 2000, MT EDEN CIRCUIT. THE ORIGIN OF COORDINATES IS "SM 4415 SO 53199" (GD CODE CBG6), SOURCED FROM LINZ DATABASE. ~ 802876.480mN 405586.952mE
2. THE ORIGIN OF LEVELS IS IN TERMS OF THE AUCKLAND VERTICAL DATUM 1946, ORIGIN OF LEVEL IS "SM 4415 SO 53199" (GD CODE CBG6), RL = 14.83m, SOURCED FROM LINZ DATABASE.
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LEGEND

- SPOT HEIGHT
- MAJOR CONTOURS
- POWER BOX
- BALCONY
- GATE
- FENCE
- TOP OF BANK
- TOP OF WALL
- KERR/CHANNEL
- SIGN
- WASTEWATER MH
- STORMWATER MH
- DECK
- XML BOUNDARY
- MINOR CONTOURS
- UNKNOWN MANHOLE
- LIGHT POST
- CESSPIT
- EDGE OF CONCRETE
- BOTTOM OF BANK
- BOTTOM OF WALL
- EDGE OF BUSH
- BOLLARD
- FIRE HYDRANT



LL: 44.20
1050mm
OUTLET INVERT: 41.75, ϕ 225mm
INLET INVERT 1: 43.07, ϕ 150mm
INLET INVERT 2: 41.90, ϕ 225mm

LL: 43.92
1050mm
OUTLET INVERT: 41.73, ϕ 225mm
INLET INVERT 1: 43.07, ϕ 150mm
INLET INVERT 2: 41.90, ϕ 225mm
BUILDING ROOF LEVEL: 44.15
BUILDING FLOOR LEVEL: 40.80 (SWIMMING POOL)

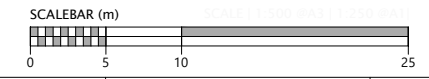
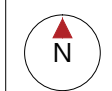
LL: 37.70
1050mm
OUTLET INVERT: 36.10, ϕ 150mm
INLET INVERT 1: 36.10, ϕ 150mm
INLET INVERT 2: 36.10, ϕ 150mm
INLET INVERT 3: 36.10, ϕ 150mm

REVISION DETAILS	INT	DATE	SURVEYED	CJ
1 ISSUED FOR INFORMATION	CJ	22/02/2018	DESIGNED	N/A
2 ADDITIONAL TOPO INFORMATION ADDED	CJ	09/03/2018	DRAWN	CJ
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7 ADDITIONAL TOPO INFORMATION ADDED	SK	22/01/2020	APPROVED	WC

217 KUPE STREET
ORAKEI
AUCKLAND, 1071



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



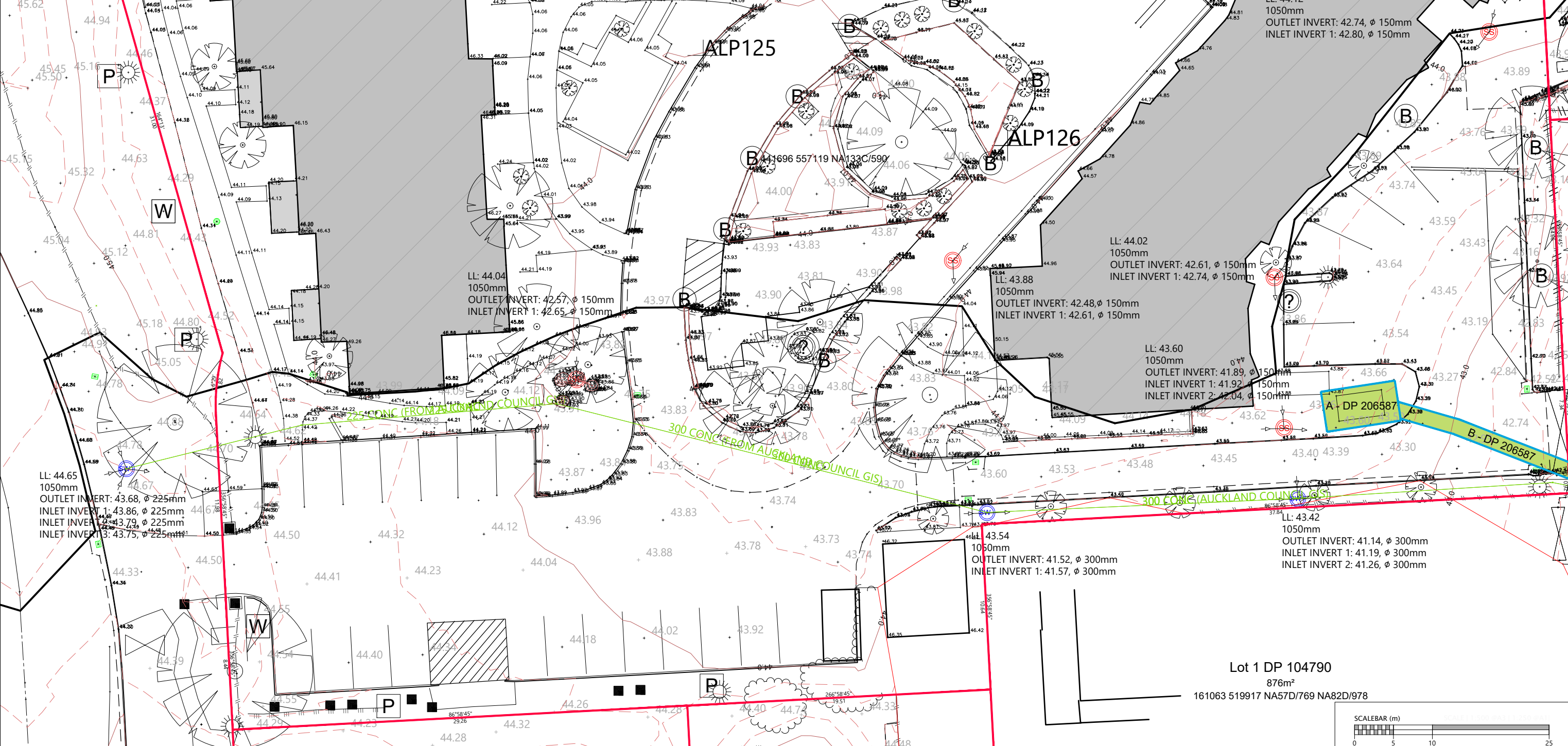
STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:150 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-059-SU	

- NOTES**
- THE SURVEY IS IN TERMS OF GEODETIC DATUM 2000, MT EDEN CIRCUIT. THE ORIGIN OF COORDINATES IS "SM 4415 SO 53199" (GD CODE CBGG), SOURCED FROM LINZ DATABASE. ~ 802876.480mN 405586.952mE
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- LEGEND**
- SPOT HEIGHT
 - MAJOR CONTOURS
 - MINOR CONTOURS
 - POWER BOX
 - BALCONY
 - GATE
 - FENCE
 - TOP OF BANK
 - TOP OF WALL
 - KERB/CHANNEL
 - SIGN
 - WASTEWATER MH
 - STORMWATER MH
 - DECK
 - XML BOUNDARY
 - UNKNOWN MANHOLE
 - LIGHT POST
 - CESSPIT
 - EDGE OF CONCRETE
 - BOTTOM OF BANK
 - BOTTOM OF WALL
 - EDGE OF BUSH
 - BOLLARD
 - FIRE HYDRANT

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INVERT: 43.01, ϕ 150mm
VERT 1: 43.38, ϕ 100mm
VERT 2: 43.30, ϕ 100mm
VERT 3: 43.29, ϕ 100mm



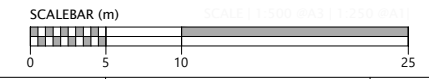
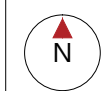
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217 KUPE STREET
ORAKEI
AUCKLAND, 1071



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN

Lot 1 DP 104790
876m²
161063 519917 NA57D/769 NA82D/978



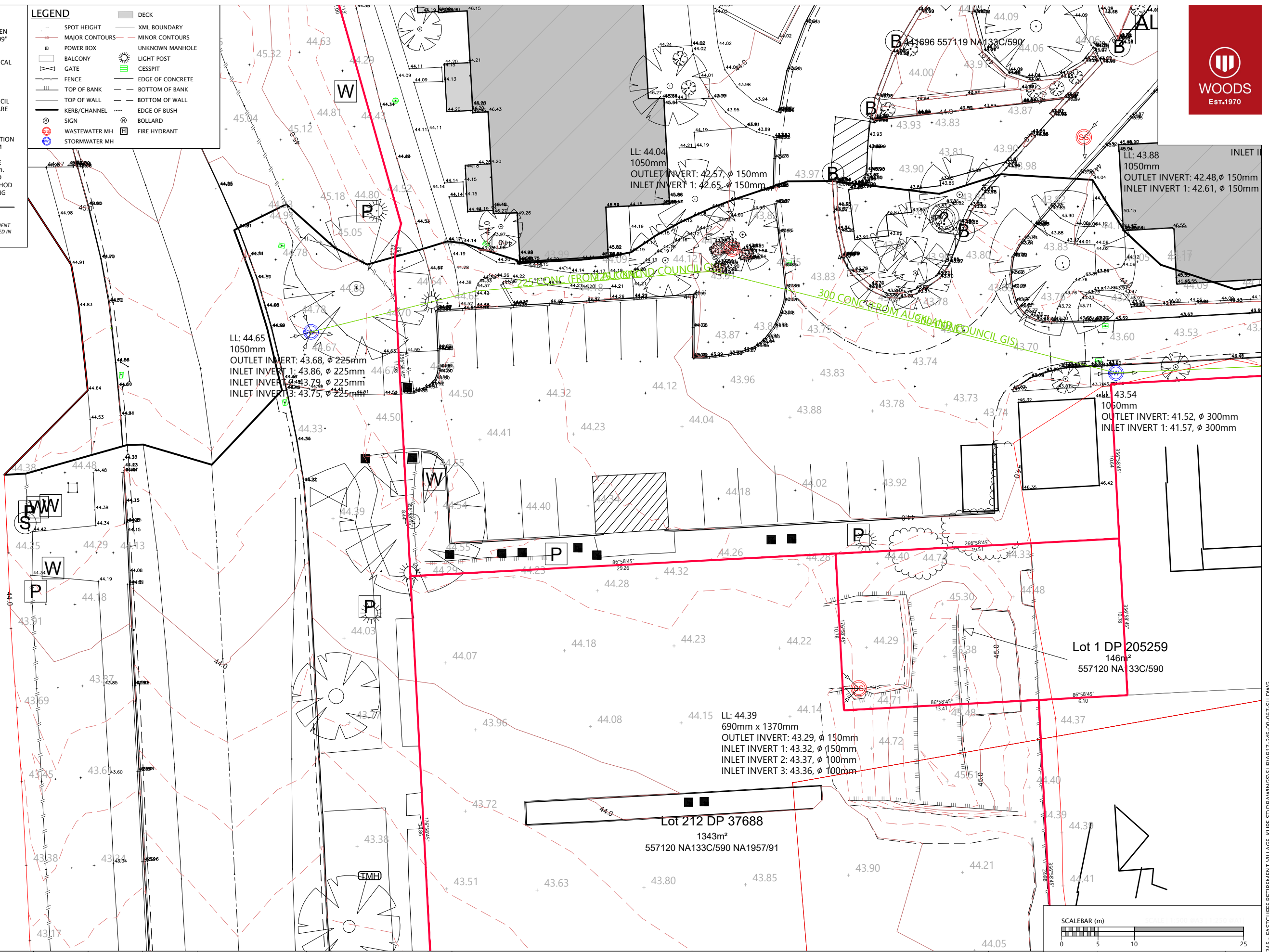
STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-060-SU	

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LEGEND

SPOT HEIGHT	XML BOUNDARY
MAJOR CONTOURS	MINOR CONTOURS
POWER BOX	UNKNOWN MANHOLE
BALCONY	LIGHT POST
GATE	CESSPIT
FENCE	EDGE OF CONCRETE
TOP OF BANK	BOTTOM OF BANK
TOP OF WALL	BOTTOM OF WALL
KERB/CHANNEL	EDGE OF BUSH
SIGN	BOLLARD
WASTEWATER MH	FIRE HYDRANT
STORMWATER MH	

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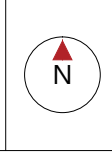


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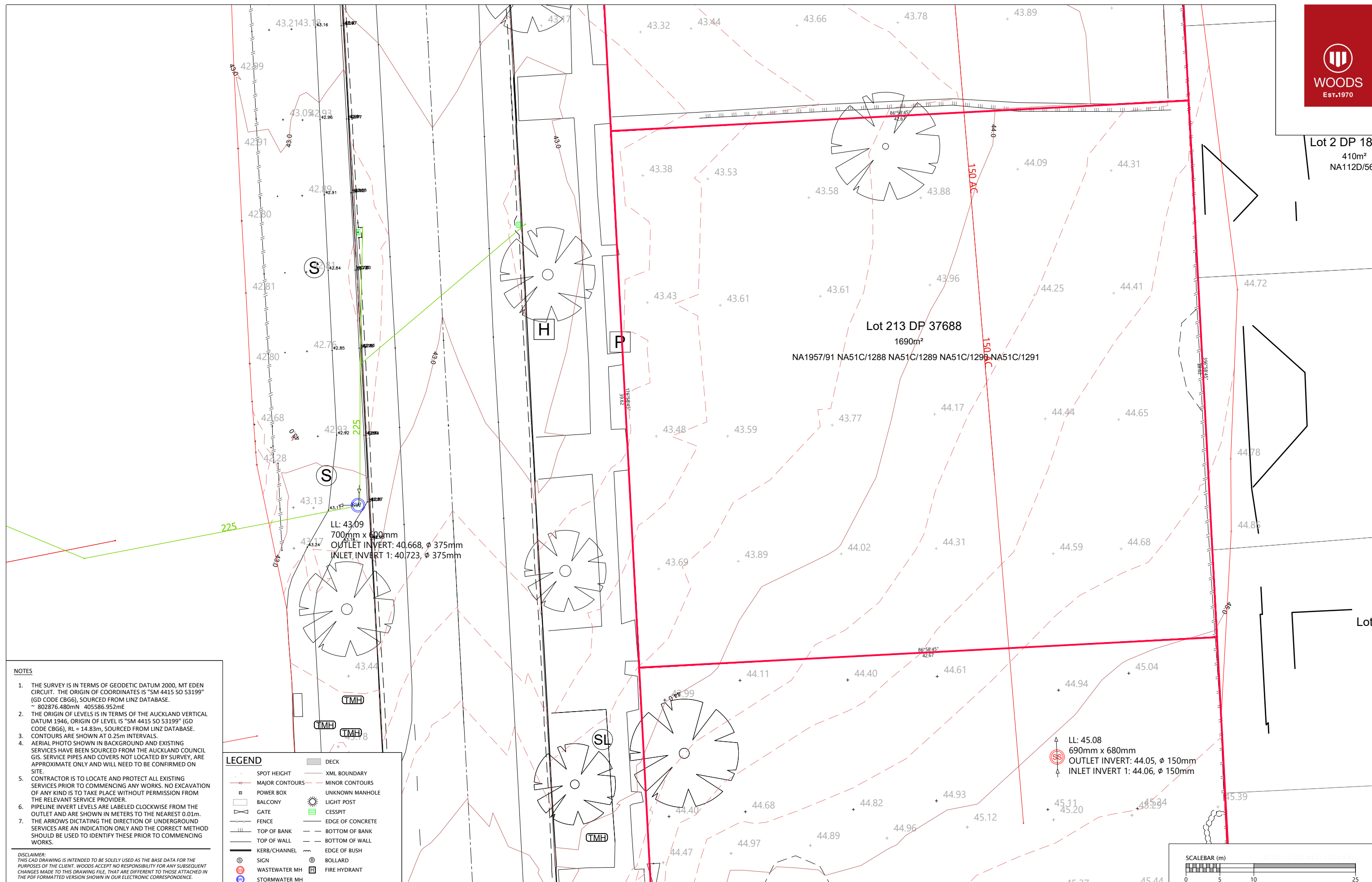
217 KUPE STREET
ORAKEI
AUCKLAND, 1071



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



SCALEBAR (m)	0 5 10 25	
STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-061-SU	



- NOTES**
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LEGEND

SPOT HEIGHT	XML BOUNDARY
MAJOR CONTOURS	MINOR CONTOURS
POWER BOX	UNKNOWN MANHOLE
BALCONY	LIGHT POST
GATE	CESSPIT
FENCE	EDGE OF CONCRETE
TOP OF BANK	BOTTOM OF BANK
TOP OF WALL	BOTTOM OF WALL
KERB/CHANNEL	EDGE OF BUSH
SIGN	BOLLARD
WASTEWATER MH	FIRE HYDRANT
STORMWATER MH	

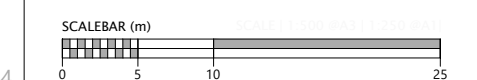
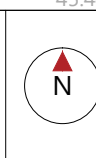
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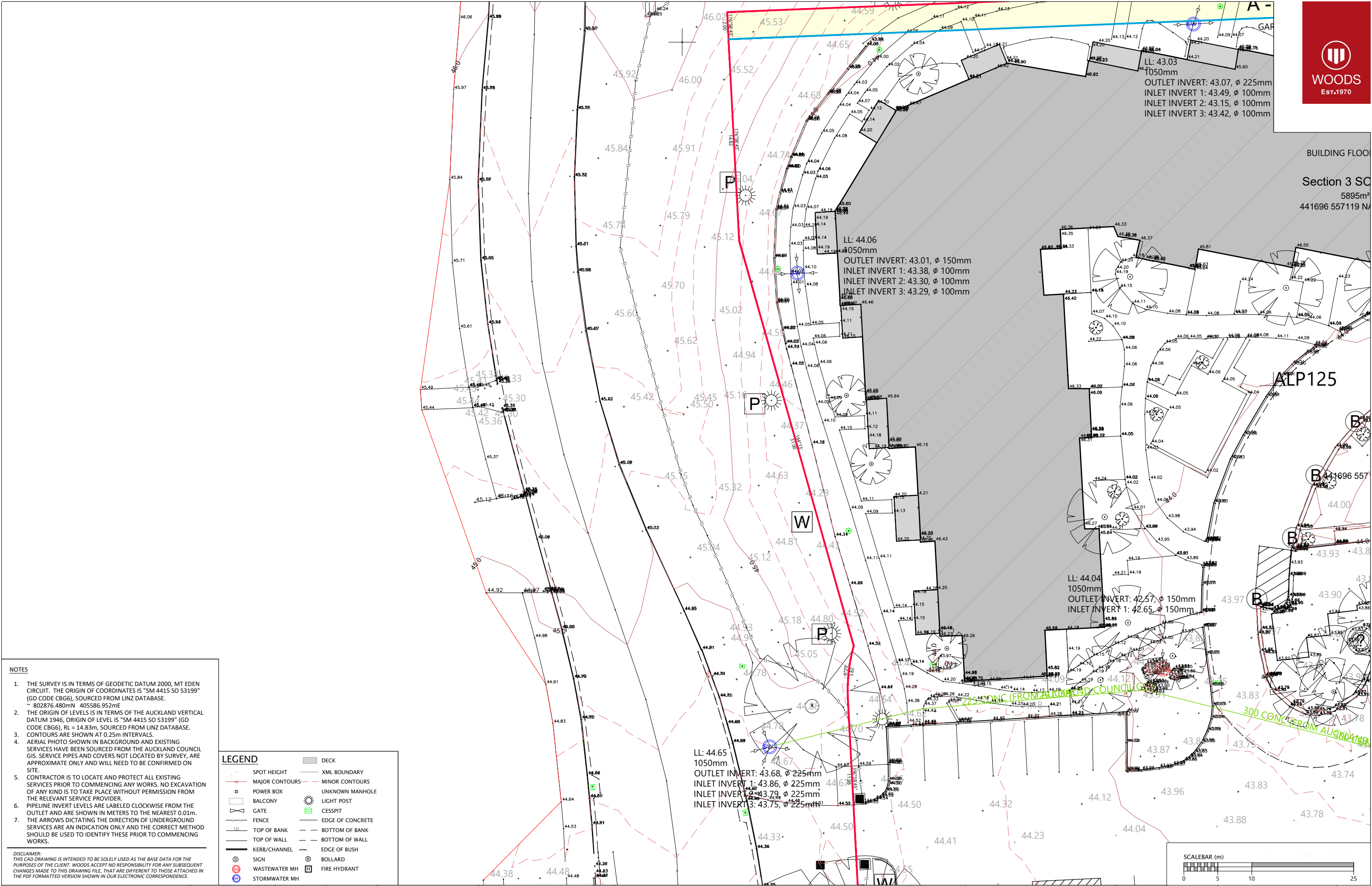
217 KUPE STREET
ORAKEI
AUCKLAND, 1071
WOODS.CO.NZ



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-062-SU	



NOTES

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LEGEND

SPOT HEIGHT	DECK
MAJOR CONTOURS	XML BOUNDARY
MINOR CONTOURS	UNKNOWN MANHOLE
POWER BOX	LIGHT POST
BALCONY	CESSPIT
GATE	EDGE OF CONCRETE
FENCE	TOP OF BANK
TOP OF BANK	BOTTOM OF BANK
TOP OF WALL	BOTTOM OF WALL
KERB/CHANNEL	EDGE OF BUSH
SIGN	BOLLARD
WASTEWATER MH	FIRE HYDRANT
STORMWATER MH	

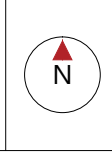
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217 KUPE STREET
ORAKEI
AUCKLAND, 1071

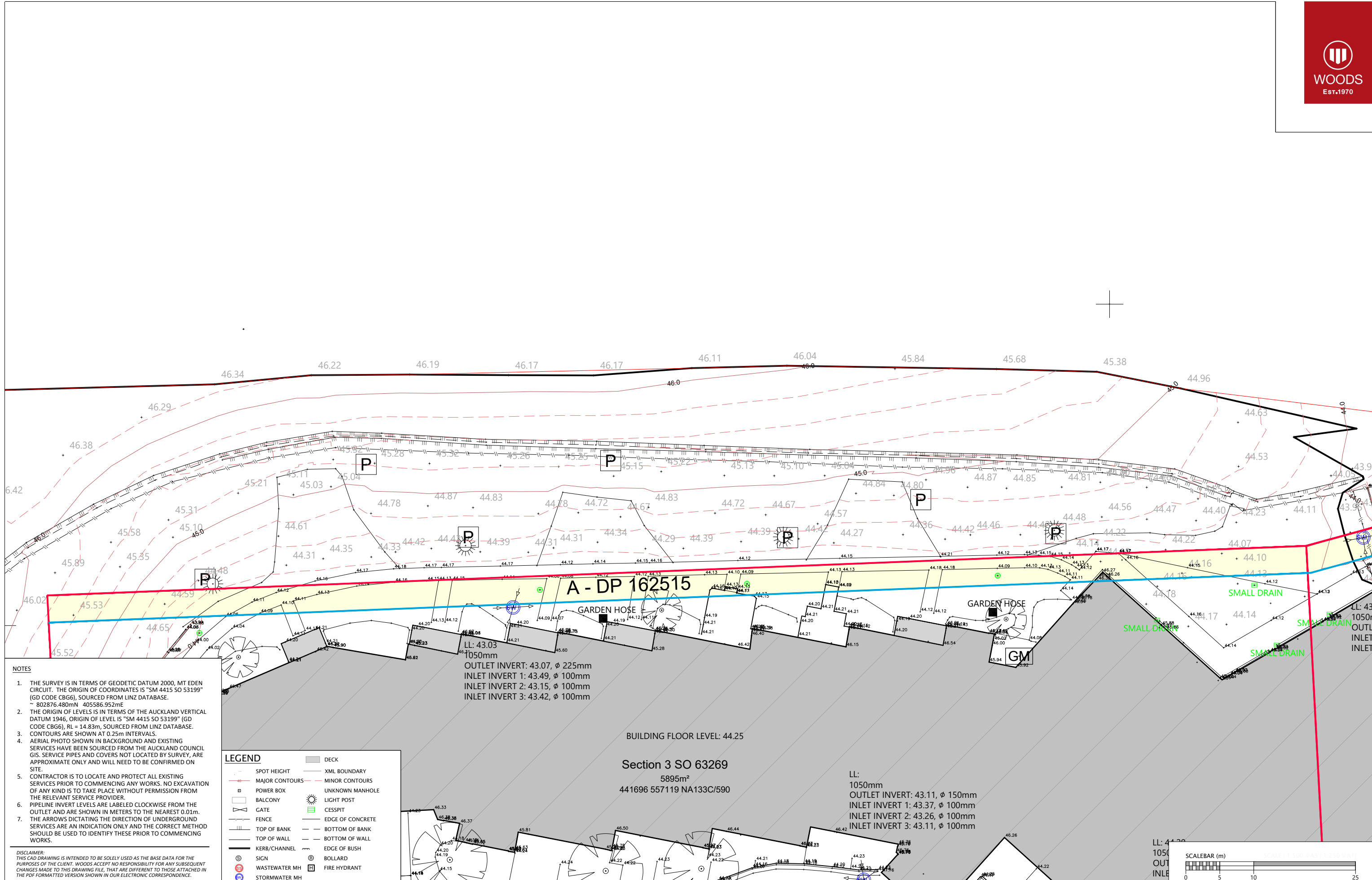


EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



SCALEBAR (m)

STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	4
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-063-SU	



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LEGEND

SPOT HEIGHT	DECK
MAJOR CONTOURS	XML BOUNDARY
MINOR CONTOURS	UNKNOWN MANHOLE
POWER BOX	LIGHT POST
BALCONY	CESSPIT
GATE	EDGE OF CONCRETE
FENCE	TOP OF BANK
TOP OF BANK	BOTTOM OF BANK
TOP OF WALL	TOP OF WALL
BOTTOM OF WALL	BOTTOM OF WALL
KERB/CHANNEL	EDGE OF BUSH
BOLLARD	BOLLARD
FIRE HYDRANT	FIRE HYDRANT
WASTEWATER MH	WASTEWATER MH
STORMWATER MH	STORMWATER MH

LL: 43.03
1050mm
OUTLET INVERT: 43.07, ϕ 225mm
INLET INVERT 1: 43.49, ϕ 100mm
INLET INVERT 2: 43.15, ϕ 100mm
INLET INVERT 3: 43.42, ϕ 100mm

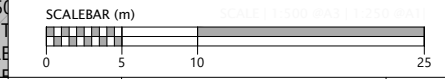
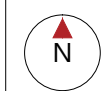
LL: 44.20
1050mm
OUTLET INVERT: 43.11, ϕ 150mm
INLET INVERT 1: 43.37, ϕ 100mm
INLET INVERT 2: 43.26, ϕ 100mm
INLET INVERT 3: 43.11, ϕ 100mm

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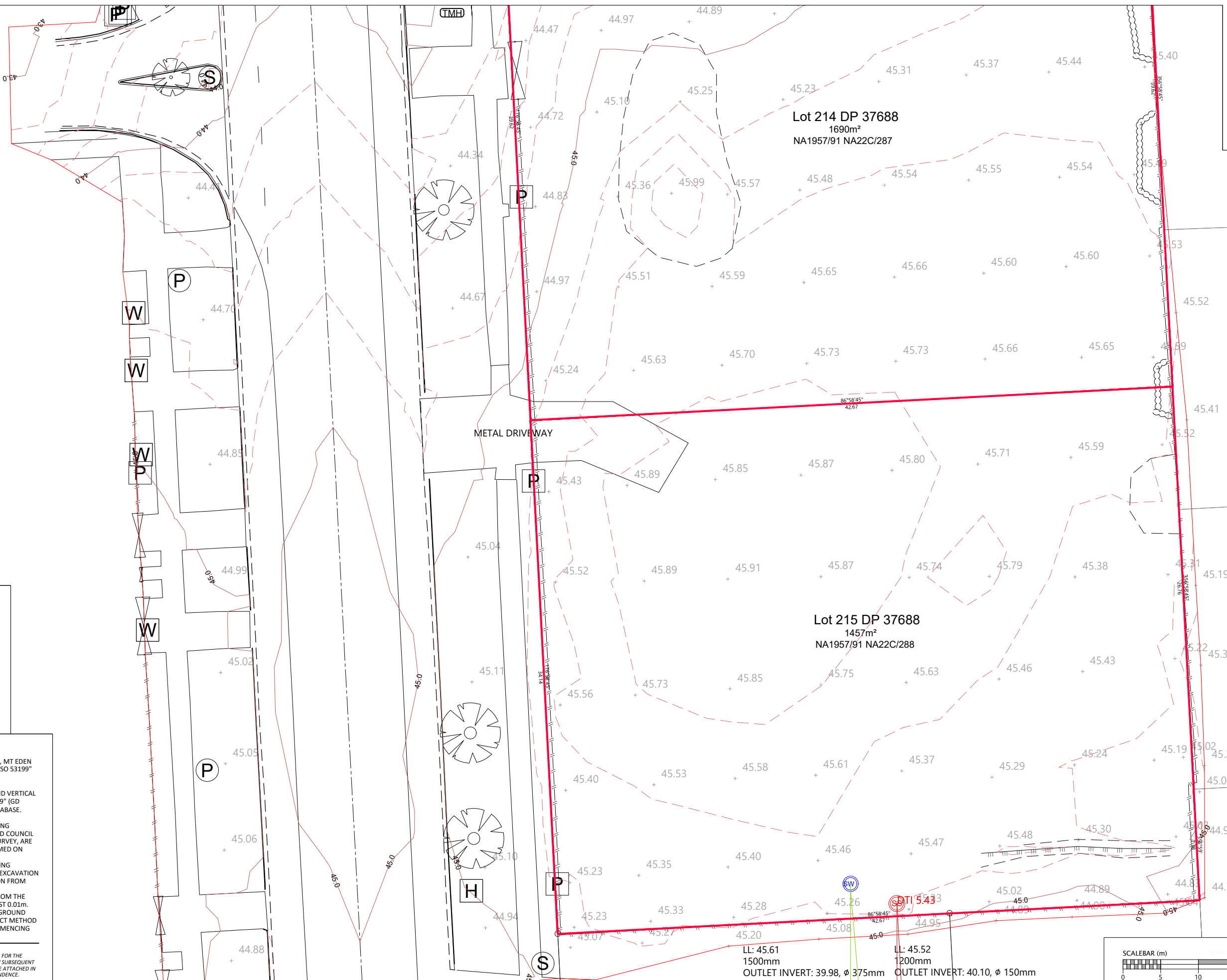
217 KUPE STREET
ORAKEI
AUCKLAND, 1071
WOODS.CO.NZ



EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-064-SU	



LEGEND

SPOT HEIGHT	DECK
MAJOR CONTOURS	XML BOUNDARY
MINOR CONTOURS	UNKNOWN MANHOLE
POWER BOX	LIGHT POST
BALCONY	CESSPIT
GATE	EDGE OF CONCRETE
FENCE	EDGE OF BANK
TOP OF BANK	BOTTOM OF BANK
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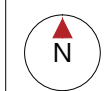
- NOTES**
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DISCLAIMER:
THIS CAD DRAWING IS INTENDED TO BE SOLELY USED AS THE BASE DATA FOR THE PURPOSES OF THE CLIENT. WOODS ACCEPT NO RESPONSIBILITY FOR ANY SUBSEQUENT CHANGES MADE TO THIS DRAWING FILE, THAT ARE DIFFERENT TO THOSE ATTACHED IN THE PDF FORMATTED VERSION SHOWN IN OUR ELECTRONIC CORRESPONDENCE.

REVISION DETAILS	INT	DATE	SURVEYED	CJ	
1 ISSUED FOR INFORMATION	CJ	22/02/2018	DESIGNED	N/A	217 KUPE STREET ORAKEI AUCKLAND, 1071
2 ADDITIONAL TOPO INFORMATION ADDED	CJ	09/08/2018	DRAWN	CJ	
6 ADDITIONAL TOPO INFORMATION ADDED	CJ	15/03/2019	CHECKED	WC	WOODS.CO.NZ
7 ADDITIONAL TOPO INFORMATION ADDED	SK	22/01/2020	APPROVED	WC	

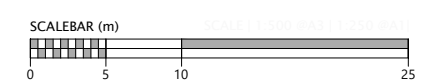


EASTCLIFFE RETIREMENT VILLAGE, ORAKEI
LOTS 1 & 2 DP 92924
TOPOGRAPHICAL SURVEY PLAN



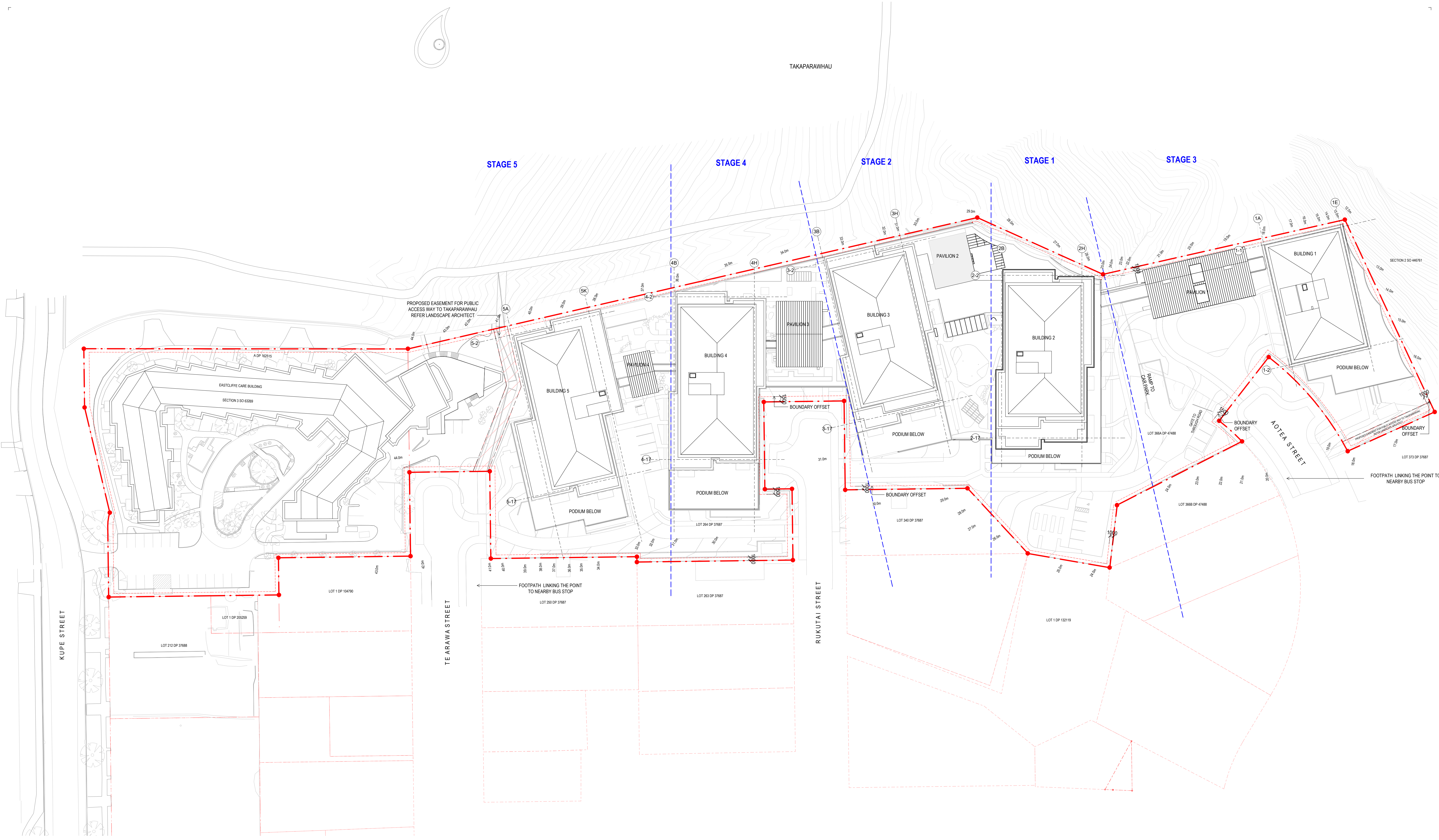
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1500mm
OUTLET INVERT: 39.98, ϕ 375mm

LL: 45.52
1200mm
OUTLET INVERT: 40.10, ϕ 150mm



STATUS	ISSUED FOR INFORMATION	REV
SCALE	1:250 @ A3	6
COUNCIL	AUCKLAND COUNCIL	
DWG NO	P17-245-00-065-SU	

Appendix B – Architectural & Landscape Drawings



RC PROPOSED SITE PLAN

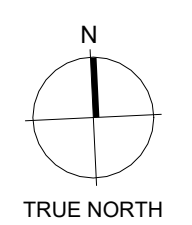
1:500

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WARREN AND MAHONEY

Revisions	
A	09.2025 RESOURCE CONSENT

Key Plan

Notes



Consultants
 HOLMES STRUCTURES
 Structural Engineer
 MESH CONSULTING
 Mechanical Engineer
 HOLMES FIRE
 Fire Engineer
 MESH CONSULTING
 Electrical Engineer

Client
 GENERUS LIVING GROUP

Project Title
 THE POINT, MISSION BAY
 Orakei
 Auckland 1071
 All dimension to be verified on site before producing shop drawings or commencing any work. Do not scale. The copyright of this drawing remains with Warren and Mahoney Architects New Zealand Ltd.

Drawing Title
 PROPOSED SITE PLAN
Drawing Status
 WORK IN PROGRESS

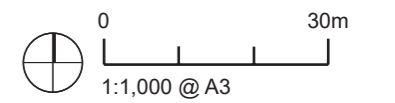
Drawing Details	
Scale	1:500@A1
Date	22/08/2025 3:44:33 pm
Job No	10476
Drawn	WAM
Checked	WAM
Drawing No	RC03-01
Revision	

LANDSCAPE CONCEPT PLAN

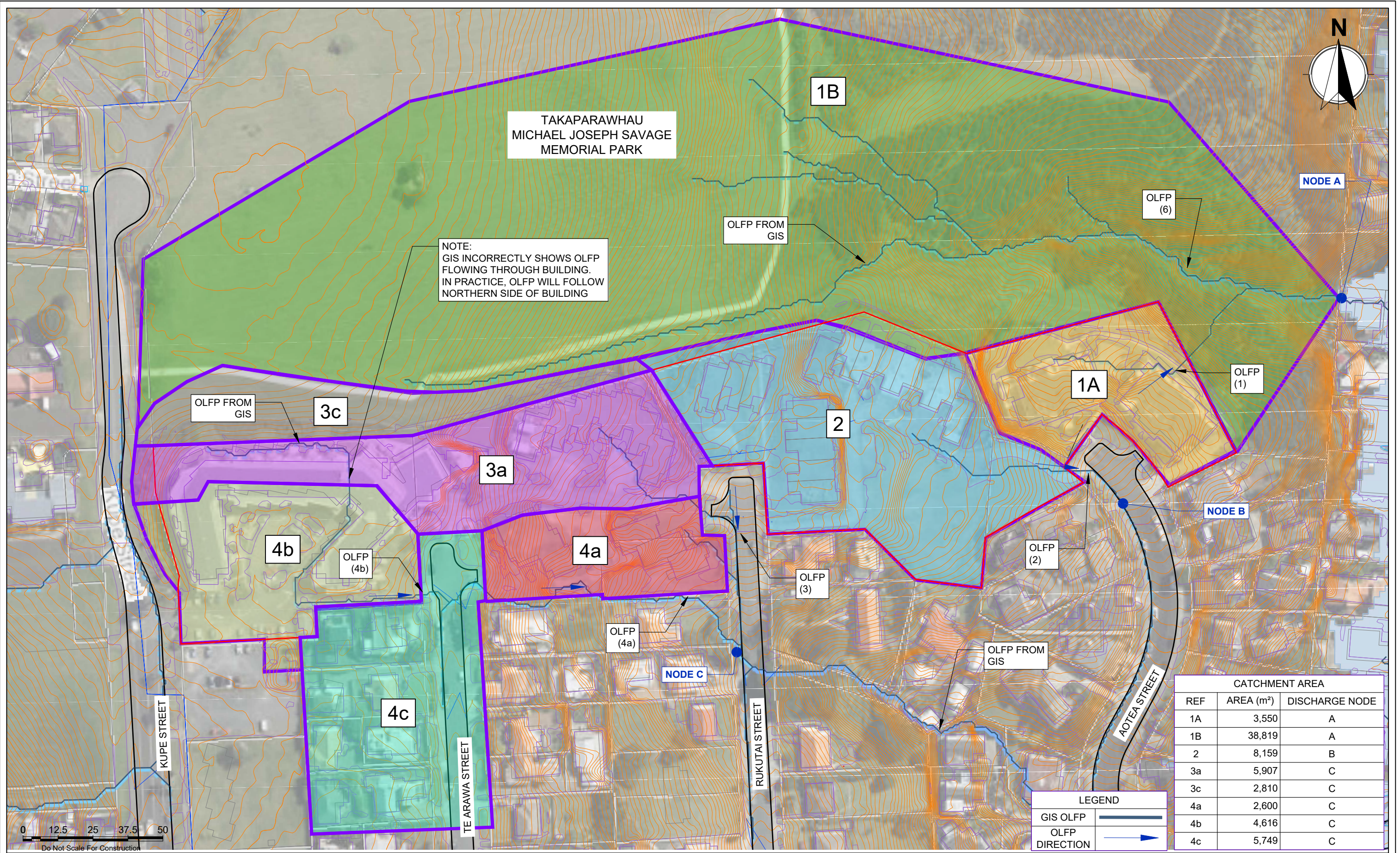


KEY

- | | | | | | | | |
|---|------------------------------|---|------------------------------------|---|------------------------------------|---|---|
| ① | ARRIVAL PORTE COCHÈRE | ⑤ | SENSORY & WELLNESS GARDENS - NORTH | ⑨ | WESTERN ENTRANCE | ⑬ | EASTERN SERVICE ACCESS - LOADING BAY |
| ② | NGAHERE WALK | ⑥ | SENSORY & WELLNESS GARDENS - SOUTH | ⑩ | PRIVATE PEDESTRIAN / CART PATHWAY | ⑭ | EASTERN PUBLIC WALKWAY (NOT INCLUDED IN THIS APPLICATION) |
| ③ | HEART OF THE VILLAGE - SOUTH | ⑦ | THE GARDENS - NORTH | ⑪ | SOUTHERN DRIVE AND PEDESTRIAN PATH | ⑮ | WESTERN PUBLIC WALKWAY (NOT INCLUDED IN THIS APPLICATION) |
| ④ | HEART OF THE VILLAGE - NORTH | ⑧ | THE GARDENS - SOUTH | ⑫ | PRODUCTIVE GARDENS | | |



Appendix C – Catchment Plans



CATCHMENT AREA		
REF	AREA (m ²)	DISCHARGE NODE
1A	3,550	A
1B	38,819	A
2	8,159	B
3a	5,907	C
3c	2,810	C
4a	2,600	C
4b	4,616	C
4c	5,749	C

LEGEND	
GIS OLFP	
OLFP DIRECTION	



Revision History:					
Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - CATCHMENT AREAS REVISED	VK	DH	KA	02-04-2026



Client: **GENERUS LIVING GROUP**

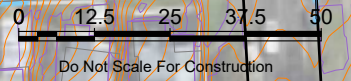
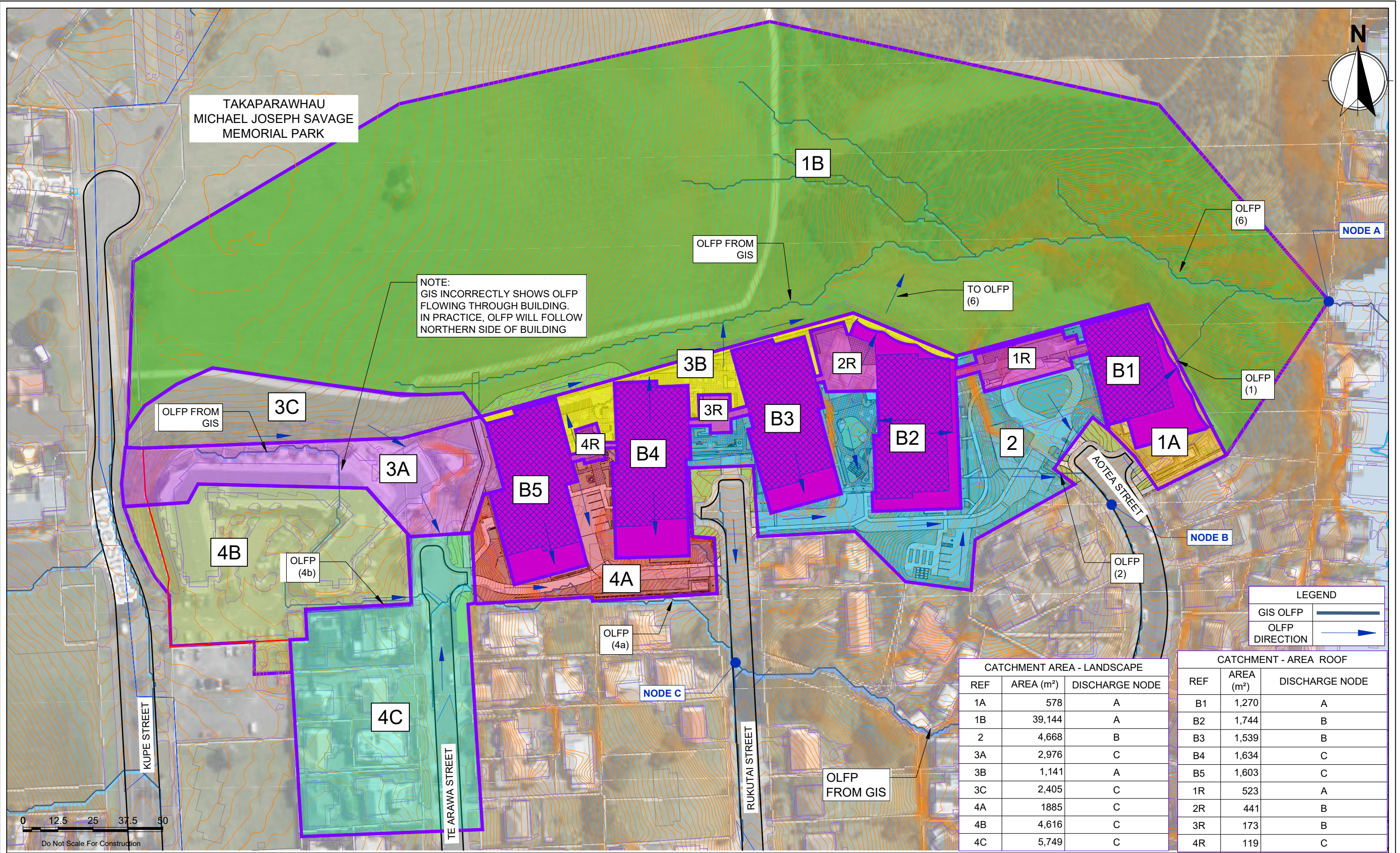
Project: **THE POINT, 217 KUPE STREET MISSION BAY, AUCKLAND**

Drawing Title: **PRE-DEVELOPMENT 1% AEP CATCHMENT PLAN**

Issue: **RESOURCE CONSENT**

Scale @ A3: **1:1250**

Dwg No: **22064-C915** Rev: **B**



Revision History:

Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - CATCHMENT AREAS REVISED	VK	DH	KA	02-04-2026



Client:
GENERUS LIVING GROUP

Project:
**THE POINT, 217 KUPE STREET
MISSION BAY, AUCKLAND**

Drawing Title:
**POST-DEVELOPMENT
1% AEP CATCHMENT PLAN**

Issue:
RESOURCE CONSENT

Scale @ A3:
1:1250

Dwg No:
22064-C916

Rev:
B

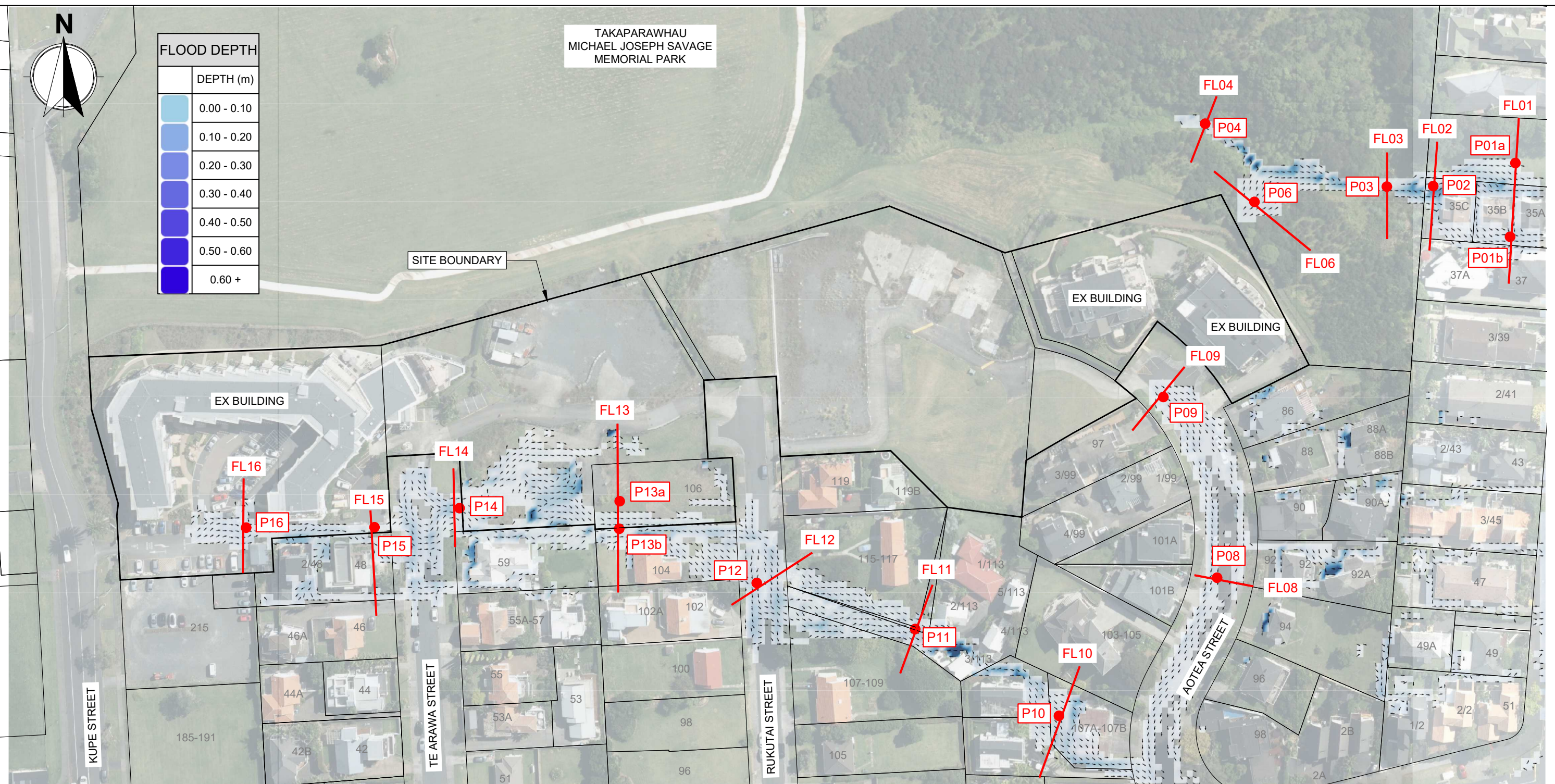
Appendix D – Flood Maps



FLOOD DEPTH	
	DEPTH (m)
	0.00 - 0.10
	0.10 - 0.20
	0.20 - 0.30
	0.30 - 0.40
	0.40 - 0.50
	0.50 - 0.60
	0.60 +

TAKAPARAWHAU
MICHAEL JOSEPH SAVAGE
MEMORIAL PARK

SITE BOUNDARY



MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F01	1.6042
F02	1.6213
F03	1.6188
F04	1.6689

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F06	0.1370
F08	0.2761
F09	0.3148
F10	0.9586

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F11	0.9612
F12	0.9634
F13	0.5655

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F14	0.4876
F15	0.1959
F16	0.2045

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P01a	3.727	0.218	0.037
P01b	3.130	0.530	0.118
P02	4.452	1.264	0.360
P03	5.629	0.275	0.338
P04	10.952	3.883	0.282

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P06	11.643	0.283	0.012
P08	15.319	1.280	0.024
P09	20.088	2.158	0.029
P10	13.310	1.461	0.066
P11	19.326	1.977	0.067

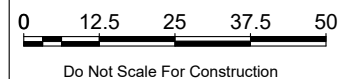
MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P12	26.532	1.551	0.076
P13a	31.775	0.029	0.000
P13b	31.341	0.626	0.022

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P14	41.786	1.221	0.043
P15	42.689	1.770	0.024
P16	43.782	0.495	0.084



Revision History:

Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - LAYOUT AND TABLES REVISED	VK	DH	KA	02-04-2026



Client:
GENERUS LIVING GROUP

Project:
**THE POINT, 217 KUPE STREET
MISSION BAY, AUCKLAND**

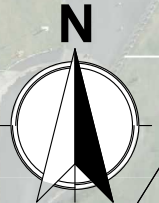
Drawing Title:
**PRE-DEVELOPMENT
1% AEP FLOOD MAP**

Issue:
RESOURCE CONSENT

Scale @ A3:
1:1250

Dwg No:
22064-C990

Rev:
B



FLOOD DEPTH	
DEPTH (m)	
0.00 - 0.10	[Lightest Blue Swatch]
0.10 - 0.20	[Light Blue Swatch]
0.20 - 0.30	[Medium-Light Blue Swatch]
0.30 - 0.40	[Medium Blue Swatch]
0.40 - 0.50	[Dark-Medium Blue Swatch]
0.50 - 0.60	[Dark Blue Swatch]
0.60 +	[Darkest Blue Swatch]

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MICHAEL JOSEPH SAVAGE
MEMORIAL PARK

SITE BOUNDARY



MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F01	1.5350
F02	1.5477
F03	1.5521
F04	1.6669

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F06	0.0680
F08	0.2923
F09	0.3337
F10	1.0641

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F11	1.0649
F12	1.0802
F13	0.6037

MODELLED FLOOD DATA	
NODE I.D.	PEAK FLOW (m³/s)
F14	0.5223
F15	0.1995
F16	0.2140

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P01a	3.127	0.166	0.027
P01b	3.128	0.526	0.115
P02	4.450	1.243	0.358
P03	5.624	0.146	0.333
P04	10.952	3.883	0.282

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P06	11.639	0.143	0.008
P08	15.320	1.305	0.025
P09	20.089	2.201	0.030
P10	13.314	1.512	0.067
P11	19.330	2.049	0.072

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P12	26.538	1.782	0.078
P13a	34.823	1.158	0.164
P13b	31.335	0.372	0.016

MODELLED FLOOD DATA			
NODE I.D.	WATER LEVEL (RL)	VELOCITY (m/s)	DEPTH (m)
P14	41.329	3.020	0.068
P15	42.690	1.779	0.024
P16	43.783	0.510	0.085



Revision History:

Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - LAYOUT AND TABLES REVISED	VK	DH	KA	02-04-2026

0 12.5 25 37.5 50
Do Not Scale For Construction



Client:
GENERUS LIVING GROUP

Project:
**THE POINT, 217 KUPE STREET
MISSION BAY, AUCKLAND**

Drawing Title:
**POST-DEVELOPMENT
1% AEP FLOOD MAP**

Issue:
RESOURCE CONSENT

Scale @ A3:
1:1250

Dwg No:
22064-C991

Rev:
B



TAKAPARAWHAU
MICHAEL JOSEPH SAVAGE
MEMORIAL PARK

SITE BOUNDARY

EX BUILDING

EX BUILDING

EX BUILDING

KUPE STREET

TE ARAWA STREET

RUKUTAI STREET

AOTEA STREET

0 12.5 25 37.5 50

Do Not Scale For Construction

LEGEND	
LOW HAZARD RISK	
MEDIUM HAZARD RISK	

LEGEND	
HIGH HAZARD RISK	
VERY HIGH HAZARD RISK	



Revision History:					
Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - LAYOUT REVISED	VK	DH	KA	02-04-2026



Client:
GENERUS LIVING GROUP

Project:
**THE POINT, 217 KUPE STREET
MISSION BAY, AUCKLAND**

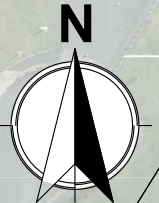
Drawing Title:
**PRE-DEVELOPMENT
FLOOD HAZARD MAP**

Issue:
RESOURCE CONSENT

Scale @ A3:
1:1250

Dwg No:
22064-C992

Rev:
B



TAKAPARAWHAU
MICHAEL JOSEPH SAVAGE
MEMORIAL PARK

SITE BOUNDARY

EXISTING AGED
EX BUILDING

NEW BUILDING

NEW BUILDING

NEW BUILDING

NEW BUILDING

NEW BUILDING

KUPE STREET

TE ARAWA STREET

RUKUTAI STREET

AOTEA STREET

0 12.5 25 37.5 50

Do Not Scale For Construction

LEGEND	
LOW HAZARD RISK	
MEDIUM HAZARD RISK	

LEGEND	
HIGH HAZARD RISK	
VERY HIGH HAZARD RISK	



Revision History:					
Rev	Description	Drawn	Designed	Approved	Date
A	FOR RESOURCE CONSENT	VK	DH	KA	12-11-2025
B	FOR RESOURCE CONSENT - LAYOUT REVISED	VK	DH	KA	02-04-2026



Client:
GENERUS LIVING GROUP

Project:
**THE POINT, 217 KUPE STREET
MISSION BAY, AUCKLAND**

Drawing Title:
**POST-DEVELOPMENT
FLOOD HAZARD MAP**

Issue:
RESOURCE CONSENT

Scale @ A3:
1:1250

Dwg No:
22064-C993

Rev:
B