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Request for Private Plan Change

Two Note Ltd

Formby Street, Outram

PART 1.

November 2011

Dunedin City Council

Reference: 478002
Revision FINAL

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Request for Plan Change

Pursuant to Section 73(2) and Part 2 of the First Schedule of the Resource Management Act 1991

TO: The Dunedin City Council

Two Note Ltd requests the following change to the Dunedin City Plan:

To rezone Pt Sec 1 SO 61 Dunedin from **Rural** to **Residential 5.**

1. **The names** of the owner and occupier (other than the applicant) of any land to which this application relates are as follows:

   N/a

2. **The location** to which this application relates is:

   Formby Street, Dunedin: The land is legally defined as Pt Lot 1 SO 61 held in Certificate of Title OT 15A/945 over a total area of 7.74 hectares. A copy of the Certificate of Title is attached as Annexure 1 to this application.

3. Attached, in accordance with Section 73(2) and Part 2 of the First Schedule of the Resource Management Act, is an explanation for and a Section 32 evaluation and Assessment of Environmental Effects, of the proposed plan change.

.....
(Signature of applicant or person authorised to sign on behalf)

DATED:.....

Address for service:

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INTRODUCTION

OVERVIEW

1. Two Note Ltd ('the applicant') requests the Dunedin City Council ('the Council') to change the Dunedin City Plan by rezoning the land held in Pt Lot 1 SO 61 on Formby Street ('the site') from Rural to Residential 5 adopting the operative provisions of the Residential 5 zone and provisions for standards, assessment matters and reasons for rules.

2. It should be noted that part of this site is already zoned Residential 5. This is that part of the site is in the southern corner of the site that contains the existing dwelling and sleep out building.

3. The evaluation under section 32 of the Resource Management Act 1991 (the RMA) and Assessment of Environmental Effects (AEE) has been prepared on behalf of the applicant in support of and forms part of the proposal. This is attached as Annexure 7 of this application.

4. The purpose of the Plan Change is to rezone approximately 7.6ha (factoring in the existing land already zoned Residential 5) of land on the Outram town boundary from Rural to Residential 5 in order to provide for some future residential growth of Outram.

5. An Outline Development Plan, known as the **Mockford Outline Development Plan** ("the Mockford ODP") has been prepared as part of this Plan Change which validates the suitability of the site for residential zoning and activity. More detail with regard to the reason for creating an ODP is detailed below.

6. The name Mockford has close links to the West Taieri area with family still residing within the township. Indeed the family has lived in this area for many decades with the applicant's father being involved with the West Taieri Rugby Football Club and Tennis Club for many years. A member of the family served New Zealand during World War at which time this family member resided in Outram and his parents remained in the District. Therefore in terms of a history with the area the name "Mockford ODP" is considered appropriate. The site is considered suitable for rezoning as it provides for the integrated management of the effects of the development and use of the land.

OVERVIEW OF STATUTORY FRAMEWORK

7. The Resource Management Act (1991) is the principal legislation for the management of the natural and physical resources of New Zealand. The Act provides a framework within which a Plan Change proposal may be exercised, which is detailed as follows:

Section 5 – Purpose of the Act

8. *Section 5 outlines the Act's purpose as follows:*

   (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

   (2) In this Act, "sustainable management" means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while:

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(a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*

(b) *Safeguarding the life supporting capacity of air, water, soil and ecosystems; and*

(c) *Avoiding, remedying or mitigating any adverse effects of activities on the environment."*

9. For this Plan Change request the application will demonstrate how the proposed rezoning contributes to the sustainable management of the land and water resources. This is by requesting a zone appropriate to encourage future development within the Outram urban area for the benefit of the local economy through additional residential development options.

Section 6 – Matters of National Importance

10. Section 6 – Matters of National Importance sets out the matters of national importance that shall be recognised and provided for:

(a) *The preservation of the natural character of the coastal environment (including the coastal marine area) wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development:*

(b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development:*

(c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*

(d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers:*

(e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga*

(f) *The protection of historic heritage from inappropriate subdivision, use and development.*

(g) *The protection of recognised customary activities.*

11. None of the above matters under Section 6 are considered of direct relevance to the application.

Section 7 – Other Matters

12. Section 7 sets out other matters to which particular regard shall be had:

(a) *Kaitiakitanga*

(aa) *The ethic of stewardship:*

(b) *The efficient use and development of natural and physical resources:*

(ba) *The efficiency of the end use of energy:*

(c) *The maintenance and enhancement of amenity values:*

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(d) Intrinsic values of ecosystems

(e) repealed

(f) Maintenance and enhancement of the quality of the environment:

(g) Any finite characteristics of natural and physical resources:

(h) The protection of the habitat of trout and salmon:

(i) The effects of climate change:

(j) The benefits to be derived from the use and development of renewable energy.

13. The matters of relevance to this Plan Change are the efficient use of natural and physical resources i.e. the land and the use of that land through future housing development potential, the maintenance and enhancement of amenity values and the maintenance and enhancement of the quality of the environment. The formulation of this Plan Change has had regard to these matters, and particular regard was had as part of this planning process and the development of the Mockford Outline Development Plan.

Section 8 – Treaty of Waitangi

14. Section 8 requires that the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) be taken into account. It is assessed in this Proposed Plan Change that the principles of the Treaty are not brought into question by this proposal however consultation with the local iwi has been undertaken as part of this proposal. A copy of the consultation had with KTKO Consultancy Ltd on behalf of Te Runanga O Otakou is included as Annexure 9 to this application.

Section 31 - Functions of Territorial Authorities

15. Section 31 outlines the functions of territorial authorities in regards to giving effect to the Act as follows:

Every territorial authority shall have the following functions for the purpose of giving effect to this Act in its District

(1) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the District:

(a) The control of any actual or potential effects of the use, development, or protection of and, including for the purpose of:

(i) the avoidance or mitigation of natural hazards; and

(ii) the prevention or mitigation of any adverse effects of the storage, use disposal, or transportation of hazardous substances; and

(iii) the maintenance of indigenous biological diversity:

(b) repealed

(c) The control of the emission of noise and the mitigation of the effects of noise:

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(d) The control of any actual or potential effects of activities in relation to the surface of water in rivers and lakes:

(e) Any other functions specified in this Act

(f) The methods used to carry out any functions under subsection (1) may include the control of subdivision.

Section 32 – Consideration of Alternatives, Benefits and Costs

16. Section 32(1)(c) and (d) sets out that the applicant and territorial authority shall evaluate a proposed plan change in accordance with section 32(3) – (6) as follows:

*(1) In achieving the purpose of this Act, before a proposed plan, proposed policy statement, **change** or variation is publicly notified, a national policy statement or New Zealand Coastal Policy Statement is notified under section 48, or a regulation is made, an evaluation must be carried out by*

(d) the person who made the request, for plan changes that have been requested and the request accepted under clause 25(2)(b) of part 2 of the 1st Schedule.

(2) A further evaluation must also be made by

(a) a local authority before making a decision under clause 10 or clause 29(4) of the 1st Schedule; and

(b) the relevant minister before issuing a national policy statement or New Zealand coastal policy statement

(3) An evaluation must examine:

(a) the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and

(b) whether, having regard to their efficiency and effectiveness, the policies rules, or other methods are most appropriate for achieving the objectives.

(3A) This subsection applies to a rule that imposes a greater prohibition or restriction on an activity to which a national environmental standard applies than any prohibition or restriction in the standard. The evaluation of such a rule must examine whether the prohibition or restriction it imposes is justified in the circumstances of the region or district.

(4) For the purposes of the examinations referred to in subsections (3) and (3A), an evaluation must take into account.

(a) the benefits and costs of policies, rules, or other methods; and

(b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.

(5) The person required to carry out an evaluation under subsection (1) must prepare a report summarising the evaluation and giving reasons for that evaluation.

(6) The report must be available for public inspection at the same time as the document to which the report relates is publicly notified or the regulation is made.

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17. A report pursuant to Section 32 of the RMA has been completed and is included as Annexure 7 to this application.

Section 73 – Preparation and Change of District Plans

18. Section 73(2) sets out that any person may request a territorial authority to change a District Plan in the manner set out in Schedule 1 of the Act. Clause 22 of Part 2 of Schedule 1 states that a plan change request must:

- Explain the purpose and reasons for the request;
- Assess the environmental effects, taking into account the provisions of the Fourth Schedule of the RMA, in such detail as corresponds with the scale and significance of actual or potential environmental effects anticipated from the implementation of the requested plan change; and
- Contain an evaluation under Section 32 of the RMA of any objectives, policies, rules or other methods proposed.

19. These matters are addressed in the sections that follow.

THE SITE & SURROUNDING AREA

20. The site is situated on the urban fringe of Outram being located on the western fringe of the existing Residential 5 boundary on Formby Street. The site is partly zoned Residential 5 now with the two areas of the site providing frontage to Formby Street.

21. Outram is a rural township within the Dunedin City boundaries in New Zealand, with a statistical population of 642 (2006 Census). It is located 28 kilometres west of Dunedin City at the edge of the Taieri Plains, close to the foot of Maungatua Range. The Taieri River flows close to the southeast of the town. Outram lies on State Highway 87 between Mosgiel and Middlemarch.

22. The site contains an existing dwelling and accessory buildings on the site which are located at the southern end of the site. Toward the centre of the site is a large accessory building with yard area which is utilised as a storage building for farming activities. This building and yard area has been utilised as a plant nursery in previous years.

23. The site itself consists of predominantly fenced pastureland however around the boundary of the site is a vegetative area which consists partly of significant garden plantings which adjoins a wetland area which contains a large volume of the towns stormwater. This area is essentially a detention and drainage area and will be utilised for this purpose as part of this development.

24. The site is adjoined to the west, north and south by rural land holdings utilised for both arable and pastoral purposes. To the east is the residential area of the Outram Township. Essentially opposite to this site are established residential dwellings including the recently approved and partially developed Willowfield residential development. This is an approved 20 residential unit development which is developed under the Unit Titles Act 1972. There are approximately half of the twenty units created on the site. The proposal the applicant is creating will be a similar type of development albeit it will be creating freehold titles with the road and reserve areas to vest with the Council.

25. Further north along Formby Street is the Outram Primary School. Outram School is a full primary school, with nine full-time and five part-time teachers including a non-teaching principal. The school roll varies between 220 and 250.

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26. The site is on higher ground in terms of the topography of the township. There is no flood notation shown on the planning map for this land. The township of Outram is protected from flood breakout waters from the Taieri River to a significant extent by the establishment of flood protection works (stopbank) on the true right bank of the Taieri River which adjoins the town.

27. Formby Street provides direct access between Huntly Street to the south and Holyhead Street and the Lee Stream-Outram Highway (State Highway 87) to the north.

28. There are no designations, heritage buildings, structures or significant trees on the application site that affect this plan change proposal.

29. The site comprises a total area of 7.74ha. It is currently zoned Rural in the Dunedin City Plan and consists of only one certificate of title being Pt Lot 1 SO 61 held in Certificate of Title OT 15A/945. A copy of this certificate of title is included as Annexure 1 to this application.

30. The site is on the western side of Formby Street which is essentially the western urban boundary of Outram. The City Plan shows Formby Street as a local road as shown on planning map 73 of the City Plan. As can be seen on the Outline Development Plan there will be two points of access onto Formby Street under the proposed re zoning. This is discussed in detail in the Traffic Assessment that accompanies this Plan Change.

31. The site is slightly undulating in topography except for a slight gradient which falls in a northwest to southeast direction. The extent of this fall is shown on the topographical maps appended to this application. The New Zealand Land Resource Inventory (NZLRI) and Otago Regional Council GIS (GrowOtago) shows this site has recent soils which are noted as moderately fertile. These soils are generally suitable for both arable and pastoral use.

NATURE OF THIS PLAN CHANGE

Purpose of the Plan Change

32. The purpose of this Plan Change is to enable activities to be undertaken on the site within the provisions of the existing Residential 5 zone rules.

33. The proposed Mockford Outline Development Plan and the proposed on-site servicing report(s) describe the suitability of this site for its new zoning and provide a workable and co-ordinated framework for future development.

34. The purpose of the Plan Change is to extend the urban boundary of the Outram Urban Area, and to rezone approximately 7.6ha from Rural to Residential 5 in order to provide for future residential growth at Outram. The land lies to the immediate west of existing Residential 5 zone at Outram and the proposed plan change will implement a "logical extension to the urban form" of Outram and suitable for future urban growth.

35. The site has been identified as having good natural and physical attributes for urban activity including the opportunity to provide for a variety of residential densities, good connectivity to the town centre of Outram, and the opportunity for enhanced recreational activities. This exists in a setting which will provide a high level of visual amenity and outlook.

36. It is understood that there has been land rezoned within the Mosgiel area in recent years that has access and capacity for essential services. This proposal promotes a development essentially on the edge of the existing township that has the ability to be serviced by reticulated services with the exception of wastewater which will be via on site wastewater treatment and disposal. This is

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no different to that which exists for the Willowridge development on the opposite side of Formby Street. This proposal can be seen as another option for residential development within an established urban setting. It may appeal to a number of people who have a connection to the Outram area via family or farming reasons. This is not a rezoning proposal of significant scale but more a complimentary development to what exists within Outram now. Testament to that is that the applicant wishes to work within the existing rules and objectives and policies for the Residential 5 zone.

37. In terms of whether there is a need for such a development based on the current growth for the Dunedin District and in particular land that is available for residential development within the greater Mosgiel area and potential infill development within Outram itself, it needs to be noted that need is not a matter that is a significant resource management issue. There is some relevant case law on the matter of identifying a need for an activity. The *Gulf District Plan Association vs Auckland City Council, Environment Court (Decision A101/2003)* the Court considered the need for the activity on the basis that the appellants had stated that there was no need for this activity to proceed. The Court concluded that "*we hold that our task is to consider the effects on the environment of the activity and not the need (or lack of need) of the facility* ". Therefore this becomes relevant with regard to identifying any potential need for the proposed plan change and it is the effects of this proposal that needs to be considered by the Council in its decision making as opposed to any need for the proposal.

Open Space

38. The proposed area of the Open Space is located to the north end of the site and includes an area of walkway and existing vegetation that bounds the development between the edge of the existing waterway and the proposed residential allotments. It is proposed that the land will vest with the Dunedin City Council as reserve. Initial discussion has been undertaken with regard to this and at this time it is understood that the land is being assessed before it can be included within the reserve portfolio. It will provide for an area of informal open space and recreation.

39. Stormwater management is a critical part of this plan change and the existing wetland area will be utilised for on site stormwater treatment and disposal. This existing wet pond area is used for disposal of stormwater from within part of the Outram Township now. The Engineering Servicing Report contained as Annexure 4 provides greater details on this.

Cultural

40. The site contains no heritage buildings or archaeological sites by reference to the Operative District Plan. It is our understanding that key issues for Te Runanga O Otakou relate to water quality of both ground and surface waters and in particular the protection of surface water and matters related to any significant archaeological finds within the site. Consultation has been undertaken with KTKO Consultancy Ltd who prepared a detailed response to preliminary matters on behalf of Te Runanga O Otakou. These matters will be reflected in the applications for discharge and treatment of effluent to land and stormwater treatment and disposal prior to discharge from the site therefore protecting both ground and surface water systems. These applications have been applied for from the Otago Regional Council.

41. Further details are provided in the consultation section further in this application. Further to this it is anticipated Te Runanga O Otakou will receive public notice of the Plan Change request.

Transport

42. The site sits at a prominent but not highly visible location on the periphery of Outram township. Although access to the site will be readily visible from the main road, provision is made through the plan change to accommodate a number of transport related outcomes.

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These include:

- ease of access for the wider township,
- a permeable internal road network which provides for good circulation and linkages both internally and to the surrounding areas to the east;
- provision of highly visible walking links that access a developing community walkway network; and
- road frontage planting at the entry to the development.

43. A transport assessment has been prepared and is attached as Annexure 8.

Outline Development Plan (ODP)

44. Outline Development Plans (ODP) are generally considered to be simplification of a development framework. In this case, a planning process which will sustainably develop the site and provide for the needs of the wider District.

45. The ODP has been developed to ensure an integrated, efficient and attractive urban outcome. The ODP provides for the road and walkway network functions in a safe and highly permeable manner throughout the development and links well to the surrounding residential community. The ODP also provides for residential opportunities in a manner that achieves the highest amenity outcomes and recognises the important visual and amenity enhancement of the area. In particular the proposal adjoining existing residential housing on the Formby Street frontage and is opposite a newly created development (Willowfield) and the Outram Primary School.

46. Initial discussions with the Council Policy staff suggested preference for a Structure Plan as opposed to an Outline Development Plan. The proposal is for an ODP and this is discussed below.

47. ODP's are generally used as part of the plan change process as a clear form of presenting the proposed zoning, road layout and infrastructure i.e. stormwater retention ponds. The ODP is then included in the District Plan to ensure that future development is undertaken in accordance with the ODP, this is particularly important if the land is sold after rezoning. Furthermore, at the time of rezoning land, it is likely that much greater emphasis will be placed on the objectives and policies of the relevant zone rather than the subdivision section of the Plan. This is because consideration is given to the suitability of and, the ability of the plan change to achieve the objectives and policies of a proposed zone rather than the ability to subdivide the land. The Section 32 assessment attached as Annexure 7 provides details in this regard.

48. With regards to the rezoning of land, that process is directed by the provisions of Schedule 1 of the RMA 1991 and not by any standards or rules in the District Plan. There are two potential options available for rezoning of land. These are structure plans and ODP's. Structure plans often comprise one or more maps, plans or diagrammatic representations of the proposed layout, features, character and links for areas being developed or redeveloped. The maps or plans do not typically go into such detail as to define individual lot boundaries or the physical form of buildings and structures, but are usually supported by text explaining the background to the issues which initiated the structure plan and the management approaches to be used to deal with those issues.

49. Outline Development Plans are much simpler and typically only show the proposed zones, access points and key infrastructure such as roads and stormwater basins.

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50. Structure plans are often used by Councils when planning the long term development of a large area i.e. whole settlements or significant new development. Such plans are usually undertaken outside any requirement in a district plan and are very strategic documents that guide future development. As such, when rezoning small areas of land, especially as a private developer, it is considered that requiring a structure plan is too onerous and costly and that all matters of consequence can be addressed through the use of an ODP and the accompanying Assessment of Effects. The ODP therefore provides some certainty through the District Plan as to the intended development outcome, and also enabling some future flexibility for the developer.

51. The proposed Mockford Outline Development Plan is attached as Annexure 3.

Reason for this Plan Change

52. Detailed investigation of the site, its surrounds and the applicant's willingness and opportunity to provide for additional Residential 5 zone land on the urban fringe of Outram are reasons why this plan change in being sought. This Plan Change seeks to initiate the rezoning which provides an option for residential growth in what is seen as a suitable location within Outram.

53. This Plan Change has come about because in our opinion there is potential future demand for residential housing in Outram on sites larger than 1000m^2 right on the urban fringe of the existing town which avoids some requirement for "infill" development and thus provides for site areas that will meet and be consistent with the existing Residential 5 zone provisions. This proposal is intended to be a new subdivision development with tenure of the land being freehold allotments sections with reserve land to vest with the Council for public recreation and use.

54. Within Outram township itself there are some vacant sections of land existing that generally are a minimum of 1000m^2 in net area. There are also a limited number of sections within the township that potentially could be utilised for infill subdivision however the suitability of these vacant or infill parcels of land for development has not been investigated as part of this subdivision proposal.

55. The Willowfield residential development is a twenty unit development opposite the site on Formby Street. It is a Unit Title subdivision with all owners of the units having a share in the common land and facilities on the site under a body corporate function. There are a number of dwellings that have been erected on this site. It is considered that this proposed plan change will compliment this development by providing dwellings within the development that are intended to be on freehold sections however this development intends to provide land as reserve as shown on the Outline Development Plan.

56. The site provides additional residential land on a site that is slightly elevated from the township area below but still connected to the township and in a position that captures good visual outlook from the site and still provides medium density allotments that are keeping with the existing allotment characteristics of Outram.

57. This location still enables good vehicle and pedestrian access to town and the ability to utilise existing infrastructure such as water supply, stormwater detention, roading, telephone and power services. This development is not fragmented or proposed to be created outside of the existing urban boundary.

58. This proposal wishes to use the existing rules for the Residential zone and therefore not create any new rules or objectives and polices for that matter that may not be suitable for a rural hinterland town such as Outram.

59. The applicant's have been and still are residents of Outram and the West Taieri area for many years and feel that any future housing development in the township may be restricted due to the availability of larger residential allotments. Most of the town sections now have dwellings upon them and any future development may require subdivision of existing allotments as "in-fill"

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development as opposed to Greenfield development. The important issue here is that there is no Council wastewater/sewer disposal in the township and all sewer must be disposed of via on site treatment through septic tanks or specifically designed on site disposal system(s). Such a wastewater treatment and disposal system has been approved for this development and the decisions for this are contained in Annexure 10.

60. This plan change, as can be seen from the Outline Development Plan, will provide an option for lower residential density on what is an area situated right on the urban/rural fringe of Outram. This provides some security for future landholders in the knowledge that the site density of their neighbouring allotments are not subject to re-subdivision to become sites created at less than a minimum site density of 1000m^2.

61. The site included within the Outline Development Plan includes provision for a reserve area as open space which is free to be utilised by all owners/occupiers of the proposed sites and the general public. These specific details will be covered within the subdivision application to Council following approval of the Plan Change.

62. The site has been identified as suitable for residential zoning however the specific use of the land area would be subject to either change to the District Plan by a local authority (under part 1 of the 1st Schedule of the RMA) or as a Private Plan Change (under part 2 of the 1st Schedule RMA) as is proposed under this application.

63. This proposed plan change is in general accordance with the development plan, but in addition significant consideration will be given to appropriate urban design principles.

64. This Plan Change provides for a zoning for the site being an existing Residential 5 zone. The proposed residential zoning will replicate the existing residential zone rules.

Residential

65. The proposal includes utilising the existing residential zone provisions with a minimum site density with building commitment of 1000m^2. The applicant's intention is to provide for some larger residential allotments within the site near the existing waterbody area to provide an option for some allotments larger than the minimum area to future purchasers. Therefore, an opportunity for greater areas of open space with good urban design by locating living and outdoor areas with a good northerly aspect makes larger residential allotments an attraction.

66. The existing water body area is discussed in the engineering report contained as Annexure 4 to this application. It is essentially a stormwater detention area which is partially over land owned by the applicant and adjoining landowners. The legal boundary of this site (and future allotments) actually exists within the wet area of the waterbody. This is a matter which will be required to be assessed as part of the suitability of land to be taken for reserve area. It is noted that this wet pond area acts as stormwater detention for other land within Outram outside of the land owned by the applicant.

67. The Residential 5 zone provides for allotments that allow the overall development and appearance of lesser density and more open space from a visual perspective. This way the development will be consistent with the neighbouring land within the township.

68. It can be said that the location of this site on the west of Outram does have good visual aspects in all directions and is partially screened in view from the existing rural land to the north and west of the site by the existing trees and vegetation established around the existing waterbody.

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Photo 1: Existing Site Vegetation

69. The allotment size at a minimum of 1000m^2 for the Residential 5 zone is a larger residential allotment for the reasons described in the zone purpose stated in the District Plan and for completeness is stated below;

Residential 5 (Unserviced or Semi-Serviced Residential)

This is a zone of small rural townships and settlements which have developed independently of the main urban centre. Seaside townships at Blueskin Bay and on the Peninsula were developed mainly as crib settlements for weekend and holiday use by Dunedin residents. Even though the cribs are rapidly being converted to permanent use in many of these townships, they retain a casual seaside character. Other rural towns developed to service the farms of the district as typical small rural centres offering a range of day to day services.

Developments in these areas take a variety of forms. They range from seaside crib developments to settlements servicing the needs of the surrounding farming community. Dwellings are generally single storeyed.

In these townships and settlements which are not serviced by a public sewerage system, every development has to dispose of effluent effectively and safely within the boundaries of the site and without any impact on the adjacent sites or the wider environment.

These areas are generally very low density with site coverage peaking at around 20%. Developments are set back from the roads with a large front yard in excess of 4.5 m. Buildings are widely spaced with large yards. Properties are generally well landscaped with substantial trees, few formed footpaths, no kerb and channel and wide grass berms. These areas have a feeling of openness and have a high level of amenity.

Development in the Residential 5 Zone is characterized by:

- *Large front yards, generally more than 6 m deep.*
- *Side yards 2 m or more giving good space between buildings.*
- *Generally large sites greater than 1000 m2.*
- *Low site coverage (20%).*

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- *Smaller dwelling size.*
- *Low population density.*
- *Number of vacant sites.*
- *No or limited infrastructure.*

70. The dwellings and accessory buildings typical of the Outram township tend to be well within the permitted building coverage of 30% and at this level of coverage it allows proposed site's scope for a larger dwelling with accessory buildings plus provision for substantial lawn/garden areas with potential for expansive landscape plantings. This is indeed what the applicant anticipates and encourages for the site.

71. The land is not proposed to be developed as a compact urban form but a more open form which appeals to people wanting a level of manageable open space within their own allotments. This development is seen as having a quality that will contribute and blend amongst the surrounding land environment and not be detrimental to the predominant rural zoning that adjoins the site.

72. The proposal involves land which can connect into infrastructural services with capacity in the system to provide water, roading, reserves with pedestrian access, electricity and telephone services therefore retention of a Rural zone is underutilising the sites potential.

73. Furthermore, the low density site size proposed is consistent with the existing objectives and policies for the residential zone, in particular those relevant for character and scale, pleasantness and amenity of a residential environment.

74. Therefore there is no new residential zone proposed to be included in the District Plan however there is provision for sites to be created at the time of subdivision that are larger allotments and with the exception of minimum site density, they will be bound and administered under the existing residential zone rules.

75. There are no designations, airport noise boundary limitations, heritage buildings, structures or significant trees affecting the plan change request site and no flood hazard overlay exists in terms of this site having regard to Planning Map 7 of the City Plan.

76. The natural character of the site is not considered high in its present state but the location of the site, its proximity to the river and the views from the site to the surrounding basin and mountains, make it potentially an attractive living environment.

77. A topographical survey was undertaken by E2 Solutions Ltd in 2009. The topographic plan shows that the site gently slopes to away from Formby Street which this natural fall will be utilised for the conveyance of stormwater runoff from the site.

78. The soil is a mix of gravel and silts underlying typical top soil of around 200mm in depth.

OPPORTUNITIES AND CONSTRAINTS

79. The site is approximately 7.6ha. The physical landscape is generally flat and predominantly used for grazing. It lies outside of the flood hazard area and is well set back from the Taieri River. The ground conditions from the information available seem stable and as such there appears to be no physical constraints that create issues in developing the site.

80. The site offers a wide range of opportunities. The land is easily accessible, integrates with adjoining urban activity and has excellent access to the surrounding road and pedestrian network.

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It does not impact adversely on the natural landscape of the area and given its size and configuration can accommodate a range of living, working and recreation opportunities. It will also support District Plan objectives in terms of residential amenity and can contribute to stormwater management in this part of Outram.

SERVICING

81. Engineering servicing reports are attached as Annexure 4. In summary, the following is concluded.

(i) Water Servicing:

There is a 100mm Dunedin City Council Water Main in Formby Street. The gradient across the site should ensure few issues in terms of water pressure. Discussions with the City Council have confirmed that there is adequate water supply available to the site. A network of water mains up to 150mm is proposed with the opportunity to provide ring main supply to ensure a fire fighting water supply.

(ii) Sewage

All of the proposed lots will drain sewer by gravity to a deep wet-well. Effluent will be pumped out of this well and processed in a proprietary wastewater treatment facility prior to being discharged to a sand filter and ground soakage. Ownership of this wastewater system is to be determined and will be finalized at the time of subdivision for the development. An application for resource consent for effluent discharge to land has been approved from the Otago Regional Council.

(iii) Onsite Stormwater Disposal and Treatment:

The proposal for the disposal of stormwater involves the on site treatment of stormwater by detention basins and infiltration fields. Stormwater runoff from the site will be generated from roading, hardstand and roof areas. This runoff will discharge via kerb and channel to swales prior to discharging to the existing soakage pond west of the site.

(iv) Power:

Power reticulation will be available to the subdivision including the relocation of the existing trunk supply line which crosses the property. A letter from Delta, an Asset management and intrastructure contracting company, determined that there is capacity for electrical power to be provided to the site. An email to that effect is included within the engineering services report at Annexure 4.

(iv) Telecommunications:

Chorus, a Telecom New Zealand business, provided a letter that they would need to undertake more investigation re determining capacity for telephone communications at the site. This can be undertaken should Council wish now or this can be determined at the time of subdivision where it is required through the subdivision section of the City Plan.

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ASSESSMENT OF EFFECTS

82. Clause 22(2) of the First Schedule of the Resource Management Act requires that where environmental effects are anticipated from the implementation of a Plan Change, an assessment of those effects shall be provided.

83. The following and potential effects which may arise as a result of the proposed zoning are as follows:

- Effects on the Outram Community
- Effects on the Site
- Reverse sensitivity
- Infrastructure and stormwater
- Natural Hazards
- Effects on the Transport Network
- Effects on visual amenity
- Effects on Productive and Versatile Soils
- Positive effects

EFFECTS ON THE OUTRAM COMMUNITY

84. The proposed Residential zone provides for similar densities to the properties to the northwest, south and west. The future development of this site will create a number of lower density residential sections which subsequently provides purchasers, the option of a larger land area to create outdoor landscaping and space for on site amenity on the rural/urban town fringe.

85. As is shown in the ODP detail submitted as part of this Plan Change there is provision on site for recreation in terms of the reserve area located to the north with ease of access provision for access which provides connections to both road frontages.

86. There will be an increase in traffic generation as a result of the future development on this site. On average, a residential unit typically generates up to 8 vehicle movements per day. The traffic effects will typically involve peak traffic movements in the 7.45am to 9.00am period and again from 4.30pm to 6.00pm for vehicle movements associated with typical work and school times. It is considered that although this Plan Change will alter the character of what was a rural environment, it will have very minor effects on the existing neighbourhood and Outram Community.

87. From a socio-economic perspective the proposal includes some 7.6ha of land being made available for low intensity residential use which will offer future choice in terms of variety and orientation of the allotments for building upon for land purchasers. The proposal will essentially increase the availability of quality saleable residential sections in Outram.

88. The character of Outram results from its location within the foothills area of the Taieri Plains which provides a natural setting, and built character and land use setting as part of a foothills

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environment with views of the surrounding mountains and access to a wide range of outdoor recreation activities and the river network. The applicant proposes a walkway linkage around the perimeter of the site near the waterway and through the reserve area and through the site via the future roading linkage.

89. A number of matters identified by the applicant have particular relevance the land subject of this plan change request, namely:

- *The impact of subdivision and lifestyle development for the greater Outram Area;*
- *The need to identify suitable land that could be zoned to provide for the establishment of new residential activities in the town; and*
- *Investigation and provision for appropriate infrastructure services that are increased and arranged in a way that meets the expected growth in the township and immediate surrounds.*

90. There is no Growth Management Strategy or similar development strategy prepared that identifies areas suitable for redevelopment however what is important for this proposal is to provide for sufficient land to be zoned for residential use. This supply can be supplemented through additional rezoning occurring through private plan changes and develop land in a way that is consistent within the existing established township and surrounding areas.

91. This plan change has sought to address all of the above outcomes so as to ensure that the site can deliver the future residential needs for the land and achieve a high standard of visual amenity and connectivity within the site and to the town.

92. The development of an Outline Development Plan (ODP) puts in place a number of provisions to promote a good built outcome and a sustainable growth node as part of the Outram urban area. In particular the ODP has been designed facilitate:

(i) a range of residential section sizes;

(ii) a network of pedestrian and open space linkages that connect to existing or proposed walkways and to the principal amenities of the river and the town centre, and in particular walking linkages which connect to the existing walkways within the community; .

(iii) recognition of the visual impact of development; and

(iv) the provision of and good accessibility to the existing township area.

EFFECTS ON THE SITE

93. The site is presently zoned Rural and has been used for grazing and arable farming. As the land is close to existing residential amenities, it can be serviced with essential utilities including water, access and power. On site wastewater treatment is proposed for the development and provision for on site stormwater treatment and disposal.

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94. The proposed size and alignment of allotments will allow for a transition of the existing urban area to the adjoining rural zone. The development reflects the existing residential zone which already defines the southern edge of urban Outram and as such provides a well defined low density residential edge to this section of the urban area.

95. The site is presently zoned Rural and is currently used for both residential living and grazing land. The present Residential 5 zone boundary of the Outram Township adjoins this site to the east. The land can be serviced and provide for future residential development that can be accommodated in a manner which meets the objectives and policies of the Dunedin City Plan. There are no factors affecting the site that make it unsuitable for the proposed use or will result in any adverse effect on the natural and physical qualities of the site.

REVERSE SENSITIVITY

96. There is some potential for reverse sensitivity effects to arise given that the site adjoins the rural zone to the west, north and south.

97. To the north of the site is rural land used for stock finishing. A portion of this land closest to the boundary of this subject land has previously been utilised for the Outram Rodeo. This however in recent years has been moved to the Huntly Road site.

98. The rural land to the east and north are utilised for mixed farming activities. This land is zoned Rural and contains a number of mixed size allotments. In particular the directly adjoining land has been utilised for intensive horticultural activities on smaller allotments. The nature of the farming activities are that effects of daily activities are intermittent with some weeks passing by where little or no human or mechanical activity occurs on site to times of planting crops or harvest where activity on site may last for several days and evenings, usually in the late spring, summer period. The potential for adverse effects on this residential Plan Change are considered minimal as the planted water boundary and recreation area separates the Plan Change area.

99. It is considered that due to the buffers and mitigation measures any potential reverse sensitivity effects on the site arising from this Plan Change will be no more than minor.

EFFECTS ON INFRASTRUCTURE AND STORMWATER

100. The site is able to be serviced and no adverse economic, efficiency or financial impact will occur in terms of the district's infrastructure as a result of the proposed rezoning. The rezoning will result in the generation of increased volumes of stormwater runoff. A preliminary design concept has been undertaken to address the issue of stormwater treatment and disposal. The preliminary design demonstrates that the concept of treatment and detention will work and that there are substantial areas of land within the site able to address stormwater management.

NATURAL HAZARDS

101. The land in question is not shown as subject to flooding or ponding (Planning Maps 7 of the District Plan). However, significant flood protection works were undertaken many years ago with the establishment of the flood protection stopbanks constructed to provide protection from a significant flood event from the Taieri River.

102. There are no other known issues as to erosion, instability or subsidence that the applicant is aware of specific to this land. In any event at the time of subdivision of the land the Council will consider section 106 of the Resource Management Act with regard to these matters.

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EFFECTS ON THE TRANSPORT NETWORK

103. A separate traffic assessment has been prepared and is included as Annexure 8 to this application. The conclusions reached from that assessment are:

(i) Development of the site as proposed is estimated to generate around 350 vehicles per day approximately on average. However this level of traffic generation is based on full development of the application site which will take several years to be realised. When spread across the day and distributed over the adjoining network, this level of traffic can be easily accommodated with negligible effects on existing levels of service;

(ii) These modest levels of additional traffic on the surrounding road network will have a negligible effect on the continued safe and efficient operation of the surrounding road network, including existing and proposed intersections.

(iii) The proposed road width for the principal road within the development is sufficient to accommodate the traffic estimated to be generated by the development of this site i.e. two way movement with provision for kerbside parking. The location of the proposed Formby Street intersections achieves sight distances which exceed relevant design guidelines;

(iii) The location of the proposed and existing site access/intersections with Formby Street achieve sight distances that exceed relevant design guidelines. The location of the proposed access/intersection lies within the existing 50 kph zone.

(iv) The internal roading layout set out on the Outline Development Plan will be developed in accordance with the Councils engineering requirements. It is recommended that pedestrian connections be created from the application site to the existing footpath network along Formby Street.

EFFECTS ON VISUAL AMENITY

104. From an amenity perspective the site is to be developed within a rural setting however the site is on the fringe of the Outram Township residential area. This proposal will change the existing environment with the future erection of dwellings, the inclusion of formed and sealed access ways, infrastructure, subsequent vehicle movements and typical noise from predominantly residential development within this area which alters the ambient noise environment.

105. However, in consideration of the above the location of the site is within an area that is developed with residential sections to the east and on either side of the development to the west and east there are existing dwellings on landholdings generally of 6-10ha in area with established vegetation

106. Adverse effects on residential character and amenity are not considered to arise with the establishment of residential activities especially considering the minimum allotment areas proposed.

107. Notwithstanding the above, it is acknowledged that this development will be a slight contrast to the existing rural zone and environment that has existed on this site for many years. However, it must be

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considered that the land holdings in the vicinity range from smaller rural holdings adjoining the town to larger holdings the greater the distance travelled from the town and therefore this proposal provides an allotment size minimum of 1000m^2 albeit a buffer area is provided in terms of the planted out stormwater detention area along a substantial area of the site boundary.

108. In time the development of each section with a dwelling erected will encourage the establishment of amenity planting and landscaping. As part of a future subdivision application to follow the approval of this Plan Change the applicant will include some landscaping details which will include promotions of locally sourced and suitable landscape plantings for the development and include any additional plantings that can be used in additional to those existing species that exist around the wetland area now.

109. At the proposed minimum site density (min 1000m) the site is characterised by a level of open space to compliment the proposed common area of open space and therefore develop a greater level of open space over built form. In terms of the proposed residential zone for this development compliance with bulk and location standards in conjunction with boundary treatments along internal boundaries (fencing, hedging, trees), landscaping along both road frontages a shown on the ODP and landscape gardens and lawns will also mitigate any adverse privacy effects associated with increased activity on the site.

110. With regard to the streetscape there will be vehicle access points to both existing roads with most allotments accessed by rights of way via easements at time of subdivision.

111. Good visual connection with the street and pedestrians will occur and specifically considering the views of the development from nearby dwellings, and in time vegetative plantings on the reserve area in the northern portion will provide some screening of the sites.

112. Views of the site along Formby Street will be generally restricted to the new road intersecting with Formby Street and the existing residential properties along the road frontage. This is consistent with the existing character of the Outram Township.

113. The proposed Plan Change provides an opportunity to enhance pedestrian access for the Outram Township with the walkway around the reserve area following the edge of the existing waterbody. As part of the development, it is proposed to create this walkway along the edge of the site adjacent to the waterway as part of a loop walkway which in turn will link to various parts of the town.

Effects on Productive and Versatile Soils

114. As indicated earlier in this application the soils identified on this site are Pomahaka deep silt loam soils on gently undulating lands which are suitable for mixed cropping and horticulture and/or pastoral farming uses which are enhanced with inputs such as fertiliser and irrigation. Planning Map 75 in the Dunedin City District Plan identifies the land as having high profile soils.

115. Soil profiles were undertaken on the site for purposes of soil testing and soakage pits. In the interim the Plan Change will not alter the sites ability to be continued to be utilised for arable and pastoral purposes however with the approval of the Plan Change this essentially rezones the land to residential which in time, when development commences, will limit the land's ability to be utilised for production to individual garden and landscape areas.

116. This particular land area owned by the applicant has been utilised for predominantly grazing purposes and whilst in the applicants ownership the land has not been utilised for market gardening or intensive horticulture which is a predominant activity on the quality soils of this area.

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117. The site is considered to be within the edge of what is the town boundary now. The total land area subject to the Plan Change equates to some 7.6ha. The issue of loss of versatile soils has been the subject of many resource management related issues in recent years, in particular the Environment Court. Land/soil is a resource and is to be considered in terms of sections 5 and 7 of the Resource Management Act 1991 in relation to both present and future generations. The Environment Court has found the protection of such soils in not within the intent of the Resource Management Act.

118. The subject site is shown on the planning map 75 as containing high profile soils. Recognition is given by the Otago Regional Policy Statement (RPS) to these high profile soils with mention of "*uses incompatible with preservation of the primary productive capacity of high class soils are encroaching onto these high class soils which are limited in extent around Otago*".

119. Planning Map 75 shows the areas of high profile soils within the Taieri area as relatively localised areas (in particular Outram). This current Rural zone soil can be said to be land which has superior potential for primary production. This is because of its inherent soil qualities which allow it to sustain a given level of outputs with fewer inputs than would be required for less versatile soil. Such versatile land is a valued resource.

120. There are matters which are relevant for consideration under Part II of the Resource Management Act. There will be some situations where irreversible development will occur to enable the needs of other users or potential users of the land resource to be met in accordance with the purpose of the RM Act. Particular regard can be had to the proposal to develop for urban expansion as the circumstances of the case require an exemption from the need to protect such land from irreversible effects that may foreclose some future land use options. There can be circumstances where the use of such soils to provide for urban, commercial and industrial activities would enable people and communities to provide for their economic, social and cultural well-being and their health and safety where such provision is in accordance with the purpose of the RM Act.

121. Direct from Brookers commentary on Versatile Soils is an excerpt regarding soils and depending on circumstances, may be a matter to be considered under Sections 5 and 7 of the Resource Management Act. *The Resource Management Act does not require protection of high value soils as such, but depending upon the circumstances in each case, that may be an outcome that is most consistent with the RMA's purpose. Section 5(2)(b) speaks of the life-supporting capacity of air, water, soil and ecosystems in a general sense, not of soil quality as such. See Becmead Investments v Christchurch CC A088/96.* The case *Canterbury RC v Selwyn DC W142/96* also analyses this effect. Protection of versatile land is no longer recognised by the RMA as being of national importance. Land/soil is a resource and must be considered in terms of ss 5 and 7 of the RMA in relation to both present and future generations.

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122. Based on the above is could therefore be concluded that it is not just a matter of protection of soil at all costs but in this case the value of the location of this land and its ability to provide for future growth that are valid considerations. On balance the Dunedin District does have a reasonably large productive land area. Certainly in this proposal there is a loss of use of the soil generally (although in time land owners of allotments within the development may utilise the soil for gardens and amenity planting), however it can be said that development of fringe urban land on good soil is almost unavoidable in the context of Outram's fringe urban/rural land areas.

123. This land owned by the applicant has been utilised for nursery activities over part of the land with some of the nursery plants being planted out on the boundary of the site by the waterway. This is not to say it cannot be utilised for such activities but an alternative long term development option for the Outram Area in this location is seen as an efficient and economic alternative for the land.

124. The proposal including the residential density will essentially utilise the entire site however as the site is only some 7.6ha in total it is not considered that a significant amount of productive soil is removed from the total pool of similar soils available within the District.

125. As there is a substantial amount of productive land that is beyond the outskirts of the Outram Township and as this site is essentially physically adjoined to the township and is considered a logical expansion the loss of some 7.6ha of this land in the future is not anticipated detrimental to the rural production of the District.

126. Any potential adverse effects from the loss of this Rural land as part of this Plan Change proposal are considered to be of low potential effect.

POSITIVE EFFECTS

127. Issue 8.1.2 of the District Plan identifies the special amenity values of rural townships and settlements and the special characteristics they possess. To quote:

Issue 8.1.2

The scale and nature of activities can result in adverse effects on the special amenity values of rural townships and settlements.

In turn, Policies 8.3.6 and 8.3.9 states:

Policy 8.3.6

Ensure that development in rural townships and settlements does not exceed the limitations of the urban service infrastructure.

Policy 8.3.9

Recognise and retain views of rural surroundings from the urban areas, rural townships and settlements.

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128. The proposal involves land which is on the urban/rural fringe of the Outram settlement. This development will be in accordance with the existing provisions for the Residential 5 zone therefore maintaining and enhancing the special amenity characteristic and contributing to and become a part of a compact and sustainable urban community. It can readily connect to the existing available infrastructure services which have been designed with adequate capacity to service the development.

129. The plan change will provide additional land which will over time, increase the range of housing choice and location. It will also ensure and consolidate the community's economic wellbeing through the provision of additional recreational land.

130. This site can link to adjoining walkways through to Outram via Formby Street. If existing and proposed walkways are used, then various options exist to walk and cycle between the site and the village centre including options that link into the existing and developing footpath and walkway into the township.

MITIGATION

131. No new mitigation measures are necessary. The development of the site in accordance with the plan change will be subject to the existing City Plan rules which are tested and appropriate for the development proposed. In addition, integration of the development and activity will be consolidated in an efficient and effective manner through the Proposed Outline Development Plan.

CONSULTATION

132. In terms of Clause 1(h) of the Fourth Schedule of the RMA, persons affected by the proposal are to be identified, along with *the consultation undertaken, if any, and any response to the views of any person consulted.*

133. The applicant has however undertaken consultation and/or forwarded details of the proposal to the following groups:

- Officers of the Dunedin City Council;
- Otago Regional Council;
- Te Runanga O Otakou
- Willowfields Development
- Outram Charitable Trust
- Outram Primary School
- Mosgiel/Taieri Community Board

134. Initial meetings were held with members of the Dunedin City Council Planning and Policy team, water services and Reserve Policy staff. This was to canvass the purpose and reason for the development and specific matters that may need to be addressed in the Plan Change documentation. The purpose of the consultation was to explain the development outcome that would result from the plan change, and to address any matters of concern that were raised.

135. A meeting was had with members of the Otago Regional Council for the purpose of discussing methods of discharge for both stormwater and wastewater. This in turn has resulted in an application for both resource consents and a Certificate of Compliance being applied for from the Regional Council.

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136. In terms of Consultation with local iwi E2 Solutions consulted with KTKO Consultancy Ltd (who act on behalf of Te Runanga O Otakou) on specific issues related to stormwater and wastewater designs and the background details for the Proposed Plan Change. A detailed response was received by KTKO which in summary suggested the following be considered within the Plan Change document;

i. That best practice methods are adopted to minimize the risk of sedimentation and contaminants entering the waterbody on the site during earthworks;

ii. Groundwater monitoring should be undertaken before the communal wastewater treatment system is commissioned to establish background contaminant levels;

iii. The discharge from the communal onsite wastewater treatment system should be regularly monitored. An independent analysis of the monitoring results should be made available to Te Rūnanga o Ōtākou;

iv. The communal onsite wastewater treatment system should be upgraded if there is a significant increase in groundwater contamination;

v. A maintenance plan for the communal onsite wastewater treatment system should be developed;

vi. That best practice management of water and stormwater should be an integral part of the structure plan for the development. In particular, the proposed use of swales to treat stormwater is encouraged.

vii The plan change should incorporate an accidental discovery protocol for any earth disturbance work. There are no artefact find-spots recorded on the subject site. However, culturally significant spot-finds may be uncovered during earthworks, especially during site preparation and topsoil stripping. An accidental discovery protocol is attached as Appendix 1.

viii. That the plan change promotes the restoration and enhancement of biodiversity with particular attention to fruiting species to facilitate and encourage the breeding of native birds;

ix. That locally sourced genetic plants be used for landscaping, regeneration and restoration;

x. That the waterbody on the site be reinstated as a wetland, using locally sourced genetic plants.

137. The applicant has considered this response from Te Runanga O Otakou and can meet those requirements as suggested above. A copy of the response from KTKO Consultancy Limited is attached as Annexure 9.

138. Initial consultation in terms of a description of the proposal was provided to Outram Primary School's Board of Trustees, Mosgiel/Taieri Community Board and Outram Charitable Trust for their information and any preliminary comments. It was felt that due to the proximity of the development to the school in particular it was appropriate to make them aware of this proposal and provide the opportunity to make any comments should they wish.

139. It should be noted that, under Clause 25 of Part 2 of the First Schedule of the RMA, should the Council agree to accept the plan change request, the proposal must be publicly notified for submissions. Public notification is a form of consultation, and the number of parties that will be

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made aware of the proposal will be much greater than those with whom the applicant could or will consult directly.

Conclusion

140. The conclusion reached is that the use of the land in the manner proposed will represent an efficient and effective outcome in terms of providing some of the future urban growth requirements at Outram. In summary:

- The site's topography is suitable for urban activity;
- The land can be serviced at no additional cost to the Council;
- Stormwater management can be undertaken within the site and potentially contribute to the wider stormwater management needs of the community;
- The site has good access to the local road network and the pedestrian and cycle networks in the area;
- The site can provide for residential density appropriate for this area;
- The land area is such that it provides the opportunity for extensive landscaping, buffer planting and a logical addition to the fringe growth of the town; and
- Development of the site can utilise the generally well tested existing district plan methods.

141. In terms of Clause 25(2)(b) of Part 2 of the First Schedule of the RMA, it is therefore requested the Council accept the proposed plan change request and proceed with public notification of it as soon as possible.

CHANGES TO THE DISTRICT PLAN

142. The Plan Change seeks to zone the site from Rural to Residential 5 in accordance with the existing zone as stated in the Dunedin City Plan.

143. It is not proposed to delete any existing text from the District Plan, however it is proposed that the following additions be made to the District Plan. The relevant sections of the District Plan showing the proposed changes as **bold and underlined** is included with this application as Annexure 9.

Amend District Plan map 7 of the Operative District Plan to provide for the Residential 5 zone.

Include the new Outline Development Plan (Mockford ODP) as attached.

Add the following new rules to section 8 and 18 of the City Plan.

Add the following to subdivision and residential chapters as follows;

Chapter 18 Subdivision

Rule 18.5.12 (d) Mockford Outline Development Plan

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Any subdivision and/or development within the Mockford Outline Development Plan shall be undertaken in general accordance with that Outline Development Plan included as Appendix 8.6 Mockford Outline Development Plan.

Chapter 8 Residential

Conditions attached to Permitted Activities 8.11.2 (xiii) Mockford Outline Development Plan

Any development within the area shown in the Mockford Outline Development Plan shall be undertaken in accordance with the Outline Development Plan included as Appendix 8.6 Mockford Outline Development Plan of the Dunedin City Plan.

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ANNEXURE 1: CERTIFICATE OF TITLE

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COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952
Limited as to Parcels

Search Copy

R.W. Muir
Registrar-General
of Land

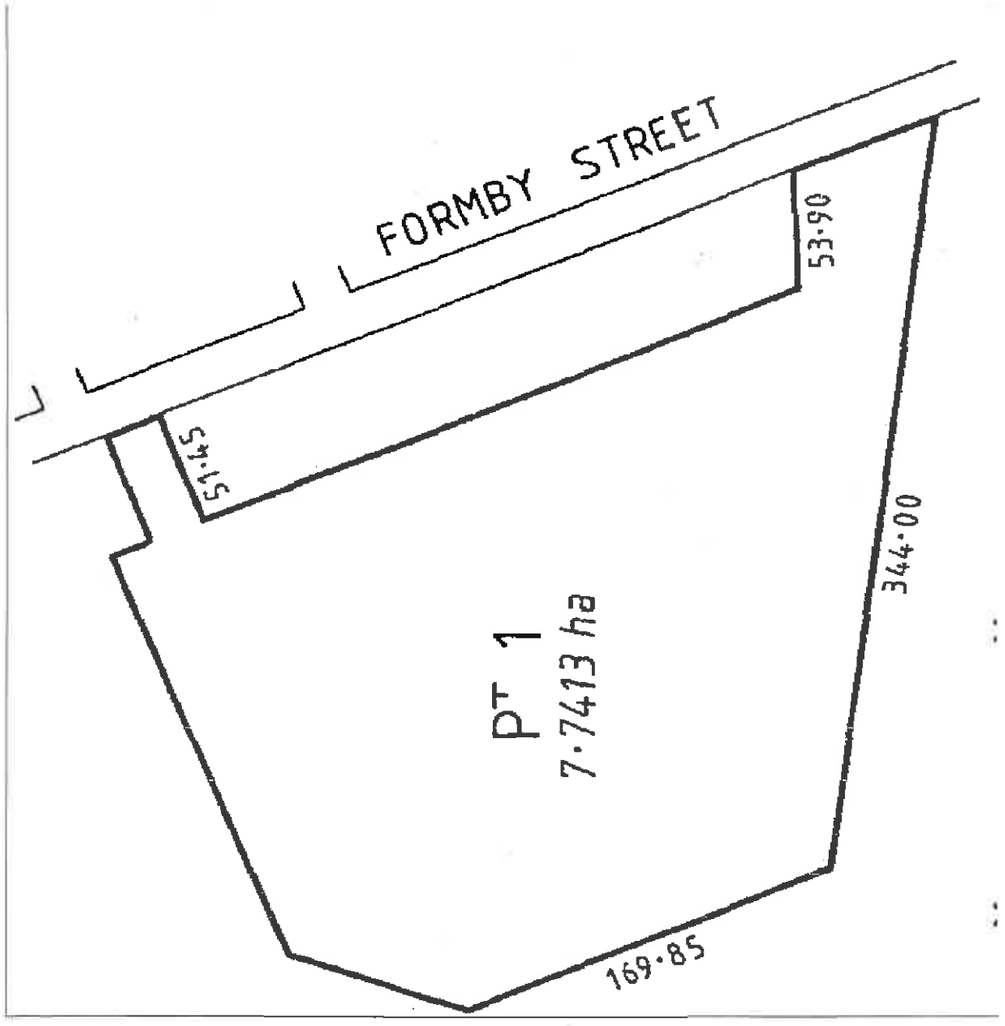
Identifier	**OT15A/945**
Land Registration District	**Otago**
Date Issued	17 June 1993

Prior References
OT13C/1094

Estate	Fee Simple
Area	7.7413 hectares more or less
Legal Description	Part Section 1 Block V West Taieri Survey District

Proprietors
Two Note Limited

Interests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169·85

ANNEXURE 2: LOCATION OF PROPOSED PLAN CHANGE

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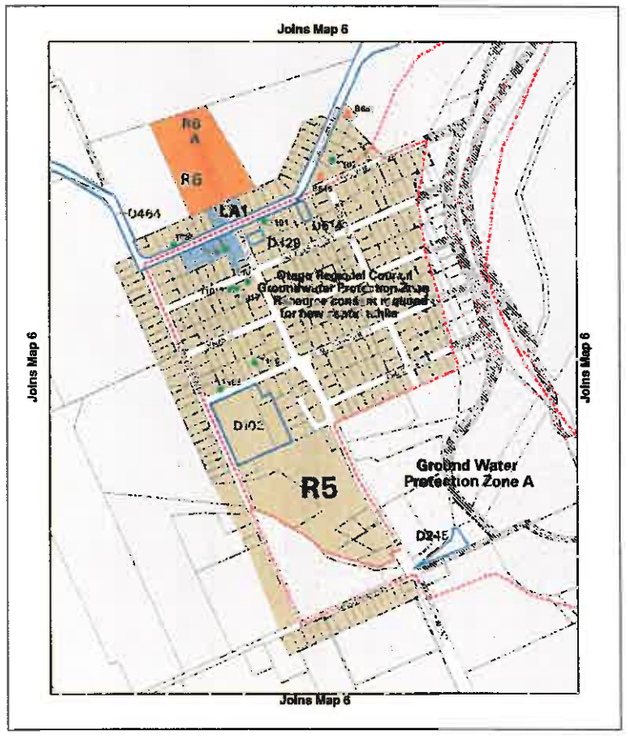

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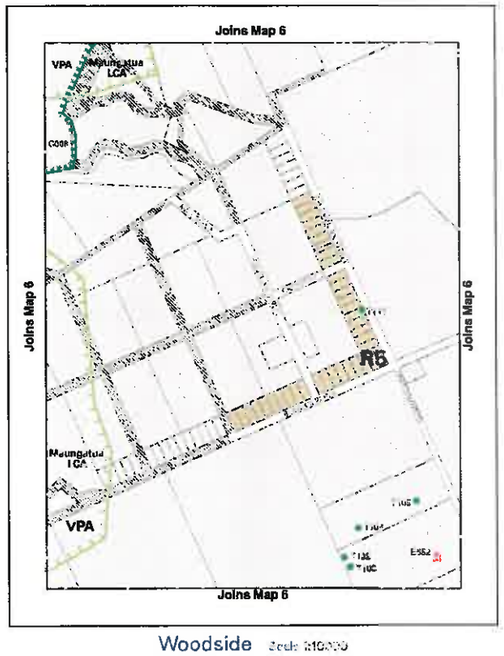

Woodside Scale 1:10000

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Legend

Metres
0 100 200 300

Map 7
Scale 1:10000

DUNEDIN CITY

Photographic Map

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Scale: 1:2,500

PARCEL LINES CAN VARY FROM LEGAL PARCEL BOUNDARIES
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Aerial Photography Dated March 2006
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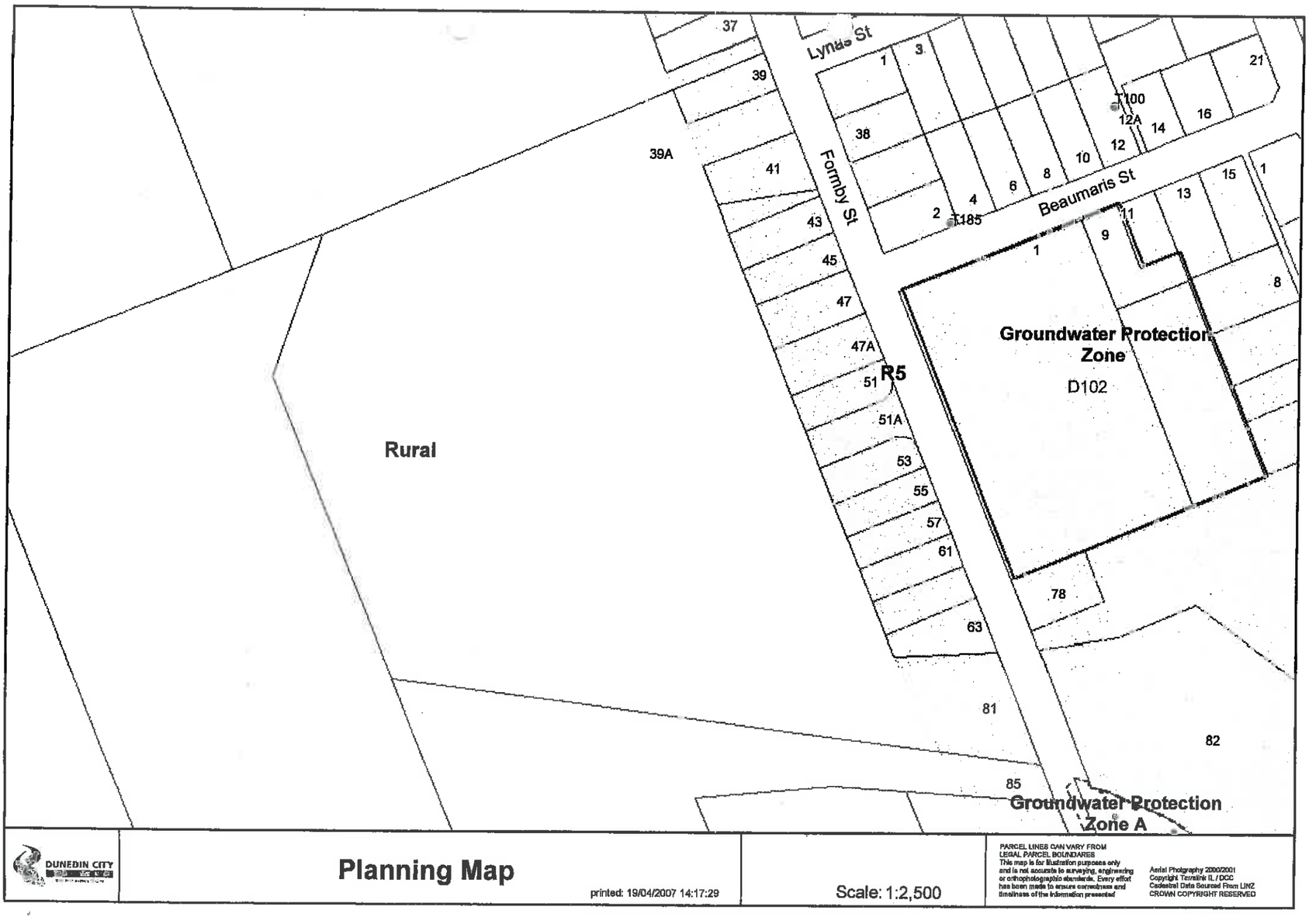

DUNEDIN CITY

Planning Map

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PARCEL LINES CAN VARY FROM LEGAL PARCEL BOUNDARIES
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ANNEXURE 3: OUTLINE DEVELOPMENT PLAN

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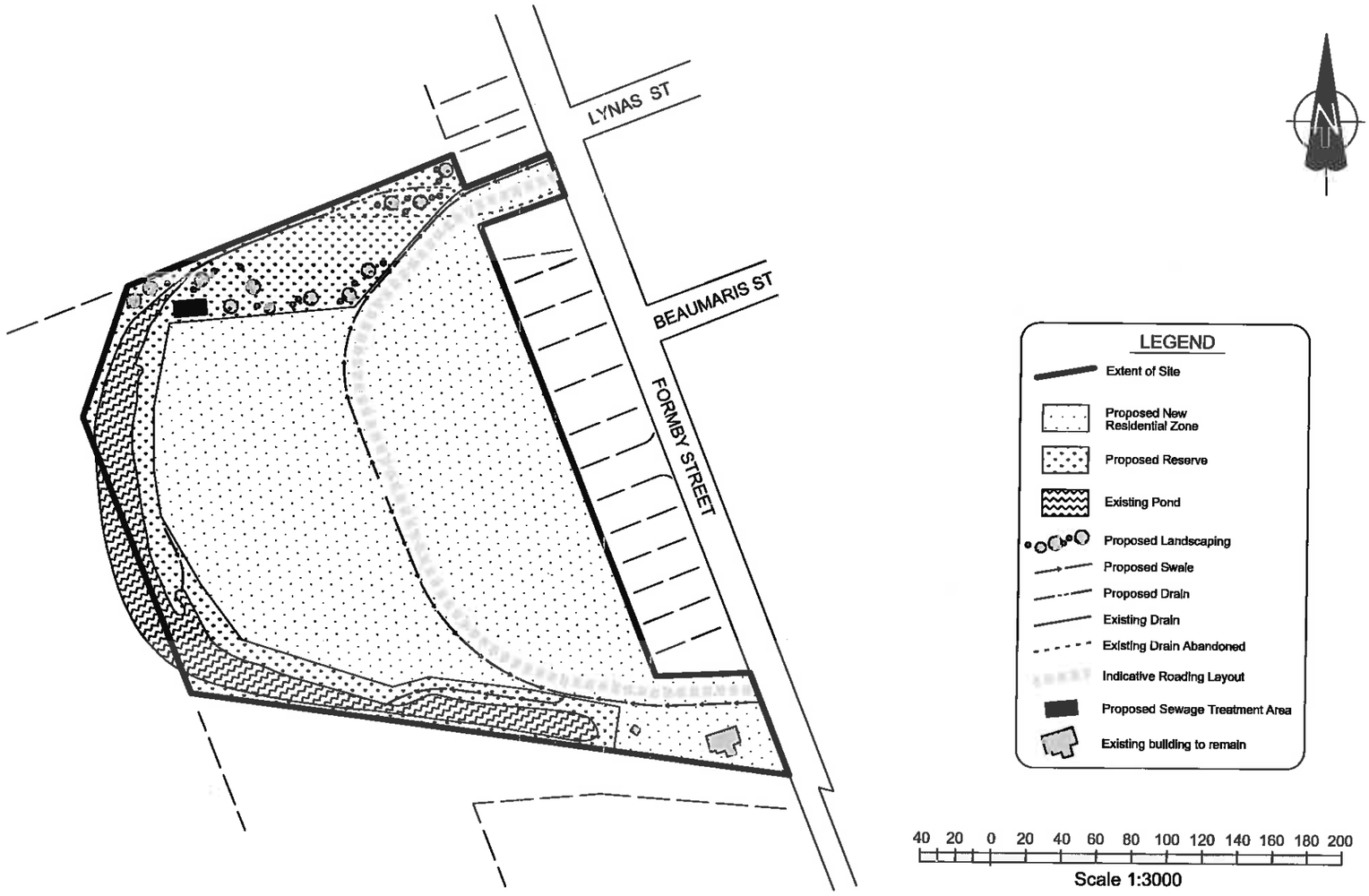

TWO NOTE LTD. 39A Formby Street - Outram. Outline Development Plan

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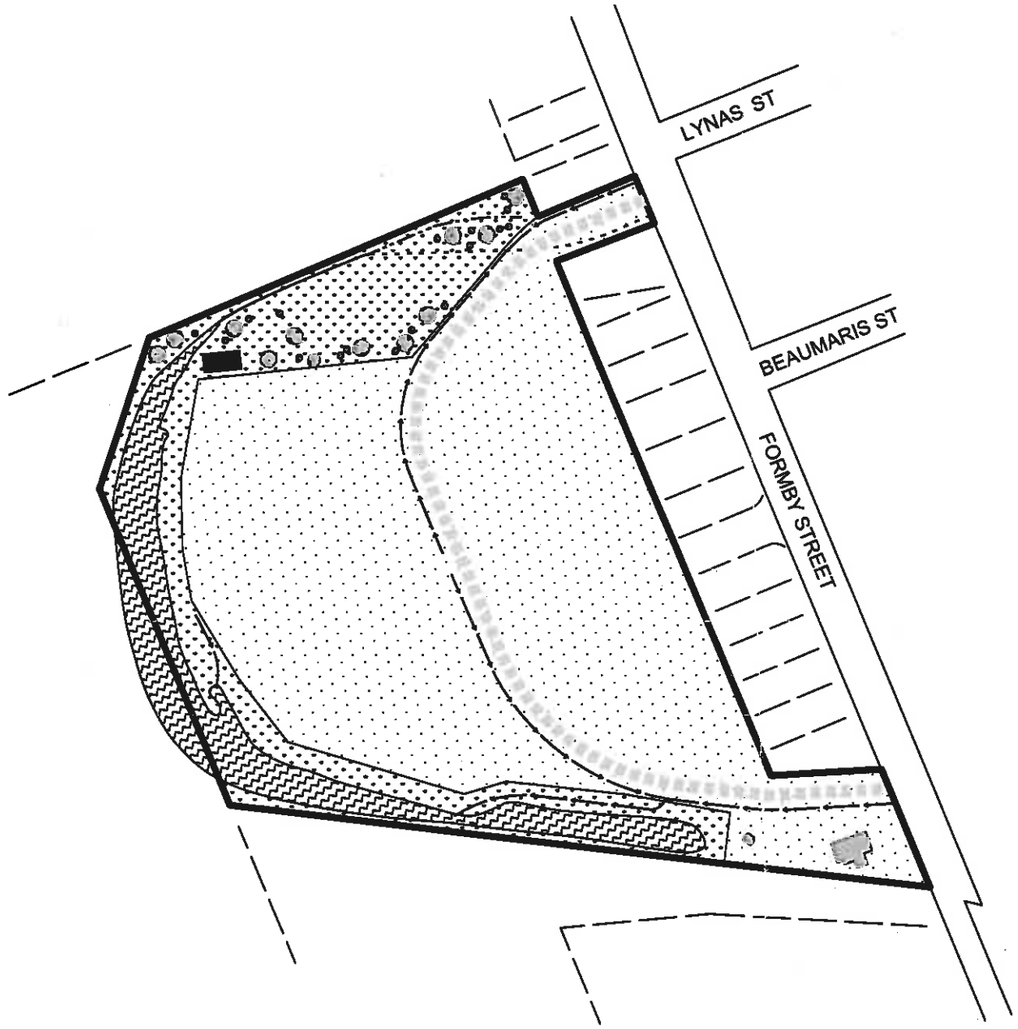
File: 09011-01-107 A
Date: November 2011
Sheet: 1 of 1



LEGEND

- Extent of Site
- Proposed New Residential Zone
- Proposed Reserve
- Existing Pond
- Proposed Landscaping
- Proposed Swale
- Proposed Drain
- Existing Drain
- Existing Drain Abandoned
- Indicative Roading Layout
- Proposed Sewage Treatment Area
- Existing building to remain

40 20 0 20 40 60 80 100 120 140 160 180 200

Scale 1:3000

TWO NOTE LTD. 39A Formby Street - Outram. Outline Development Plan

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File: 09011-01-107 A
Date: November 2011
Sheet: 1 of 1

ANNEXURE 4: ENGINEERING SERVICING DETAILS

TWO NOTE LTD

28 September 2010

ENGINEERING AND SERVICING REPORT

Proposed Subdivision, 39A Formby Street, Outram

Environmental Engineering

28 September 2010

TWO NOTE LTD
ENGINEERING AND SERVICING REPORT

Proposed Subdivision, 39A Formby Street, Outram

Client	*Two Note Ltd*	File Ref	*09011-01*
Author	*Lindsay Blakie*	Report Ref	*Rep 100927 Formby Subdiv Eng.doc*
Reviewed	*AJT*	Approved by	*Andrew Tisch*
Report Issued Date	*28 September 2010*	Revision No.	*1*

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Table of Contents

Table of Figures

1 Introduction

Two Note Ltd proposes to subdivide 7.7ha of land into 36 residential lots. This report has been written in support of the plan change application and describes how the servicing requirements of the subdivision will be met.

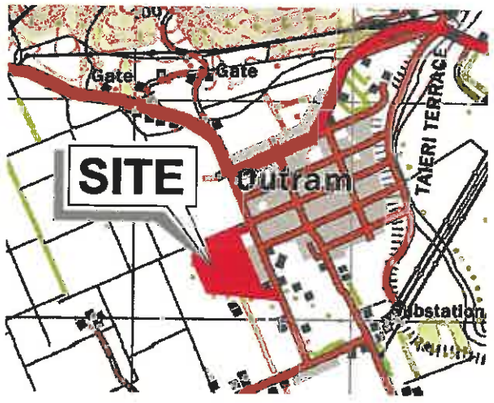
1.1 Background

The proposed subdivision is on the outskirts of Outram. The land is currently zoned rural and is proposed to become residential five (R5)[1]. When developed there could be approx 36 residential lots on the site.

1.2 Site Description

The 7.7ha site is located between Lynas Street and Huntly Road, to the southwest of Outram (see below and in Appendix A). The subdivision is to be constructed on a single parcel: Pt Sec 1 Blk V West Taieri Survey District (SO61).

Figure 1 Site Location



The site is currently used as a lifestyle block with the main activities being grazing of stock and a commercial nursery operation. Apart from a building and farm implement yard there are only very minor impervious areas on the site.

The site drains from north-east (away from Outram township) to a water way on the south-west boundary. This waterbody is formed by a series of interconnected ponds which are surrounded by willow and wetland vegetation. This waterbody feature is most likely the remnants of an old oxbow of the Taieri River[2].

[1] Dunedin City Zone Maps 6 and 7
[2] Irricon Ltd, Lower Taieri Groundwater Study 1997

2 Site Soils and Groundwater

2.1 *Soil*

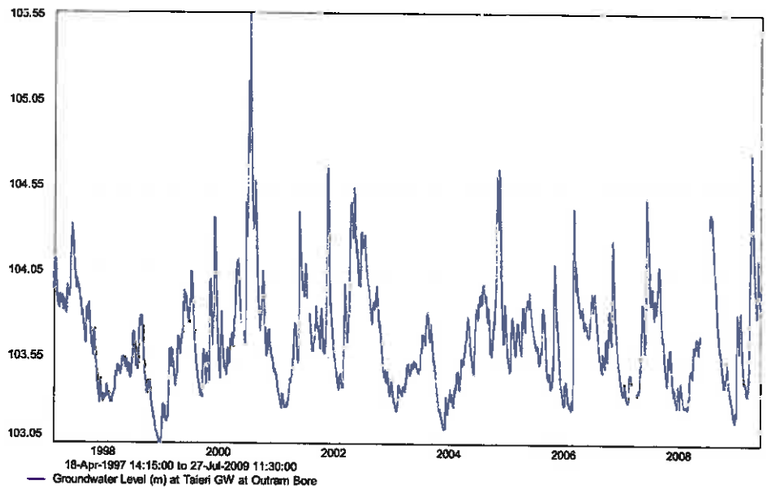
A geotech investigation of the site was undertaken in September 2009 to assess the potential for the proposed wastewater and stormwater activities. Six test pits were excavated and a description of the soil strata was recorded, along with infiltration rates in each test pit (See Appendix B for details of the soil profiles).

The soils are made up of various layers of sand or silty sand, above the gravely sand aquifer, indicating that there is likely to be good soakage potential above the groundwater surface. The soil has been classified as a type 1 and 2 soil (NZS1547:2000).

2.2 *Groundwater Depth*

E2environmental measured the groundwater level at approximately 103.5m RL in July 2009 (see geotechnical report in Appendix C). This level is similar to the long term groundwater levels recorded at I44/0838.

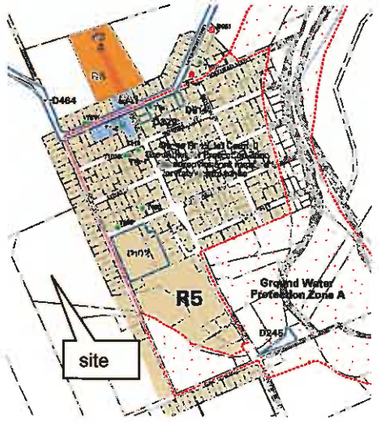
Figure 2 Groundwater Monitoring nearby well I44/0838



2.3 *Groundwater Recharge Zone*

The site is not within a ground water protection zone (see tan area in Figure 3 below) listed by the ORC. Consequently the minimum protection guidelines for recreational freshwater proposed by ANZECC are recommended as suitable trigger levels for contaminant monitoring in the nearby waterbody. We assume that the groundwater flow direction under the site is from the Taieri River under the groundwater protection zone, towards the proposed development.

Figure 3 Outram Groundwater Protection Zone



2.4 *Surface Water Quality*

The applicant has not tested the surface water quality of the ponds and drains near this site. As far as the applicant is aware this water is not used for stock water or potable drinking water and surface water level in this location varies depending on when it was last recharged from stormwater runoff from Outram and the rate at which it soaks away.

Given the source of the recharge, it is likely that there are contaminants consistent with urban runoff (i.e. bacteria, nutrients, dissolved metals and hydrocarbons). As the Irricon Ltd groundwater investigations did not find elevated contaminates in the nearby wells, it can be assumed that the waterbody is largely filtering any contaminates prior to reaching the groundwater.

3 Access

The most likely layout would include a loop road constructed through the site (similar but not necessarily identical to Figure 2 below), with entrances at 39A and 78 Formby Street (as shown in the attached development plan). All but allotment 78 will use either of these entrances to access the development. Allotment 78 has frontage on Formby street and the existing access will be maintained in the new development.

Figure 4 A Possible Development Plan (see Appendix A)

4 Water Supply

Outram Township's water supply is "*sourced from the Outram bore field on the true left hand side of the Taieri River upstream of the Outram Bridge. The field acts as an infiltration gallery for water from the Taieri River and does not abstract true groundwater*" (Irricon Ltd. 1997).

We have discussed the proposed development with council staff[3] and acknowledge that the head works and some pipes may need to be upgraded in order to supply this development with sufficient flows and pressure for drinking water and fire fighting protection. The water pressures in Formby Street were tested by the NZ Fire Service in 1999[4]. The static pressure was measured at about 400kPa, and about 200kPa from a single hydrant with a flow of 16 - 18 l/s. This flow is unlikely to be sufficient to meet both 60% of the peak demand flow in the network and the minimum flow of 12.5l/s from a fire hydrant recommended by the New Zealand Fire Service[5].

When the plan change is granted we will request a special consultative procedure (described in Section 83 of the Local Government Act) to include the subdivision within the drinking water network and begin discussions with council on financial contributions required to upgrade the network and supply this subdivision with potable water.

---

[3] Email conversation with Murugian Mohan (DCC) and Andrew Tisch (e2environmental), 1 July 2010.
[4] Email conversation with Murugian Mohan (DCC) and Lindsay Blakie (e2environmental), 27 Aug 2010
[5] NZS PAS 4509 Water Supplies Code of Practice

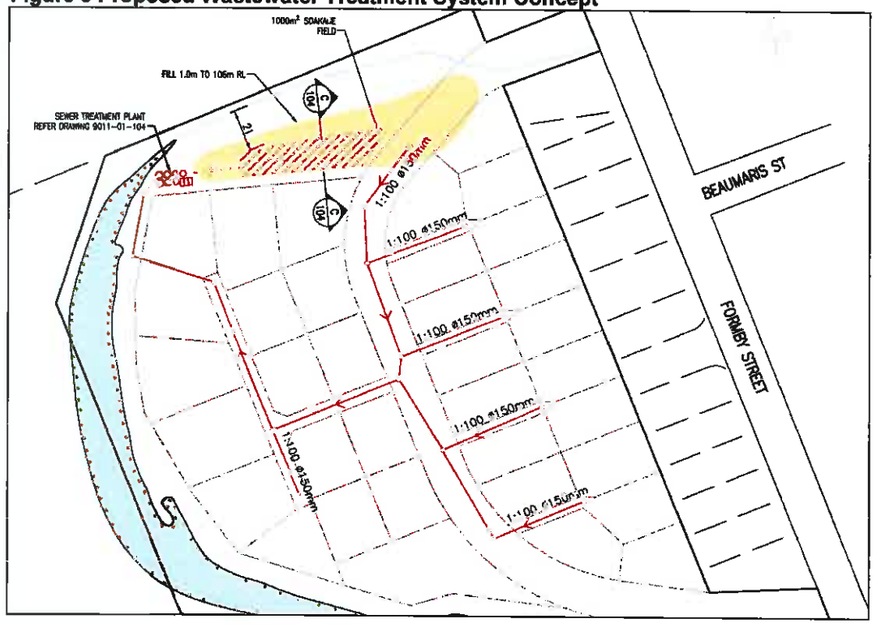
5 Wastewater

5.1 *Description of Proposed Activity*

Outram township does not have a reticulated sewer network. Individual allotments within Outram discharge sewage via individual septic tank systems to ground.

The applicant proposes that sewage will be treated in a community treatment system instead of individual septic tanks (see Appendix A for the conceptual wastewater plan). This will ensure that a higher quality of effluent treatment is produced and is likely to result in a better level of operations and maintenance.

Figure 5 Proposed Wastewater Treatment System Concept



As this activity is a discretionary activity in terms of the Otago Regional Council (ORC) Water Plan a discharge consent is required. An application was lodged with the ORC in September 2010.

The wastewater pipe network within the road corridor and council reserve(s) is proposed to be vested to council. The treatment plant, pipe work in non council land and the soakage field will be managed by a body corporate for the subdivision. The applicant proposes a maintenance agreement with the wastewater treatment plant supplier as a condition of the effluent discharge consent to ensure best practise operations and maintenance of the plant and soakage field.

Design wastewater flows for the site have been calculated based on the following parameters[6]:

- 200 L/day per person
- average of 3 persons/allotment[7]
- 36 allotments

This gives an average discharge of 600L/day per lot or 21.6m^3/day. We have assumed for design purposes a maximum of 25m^3/day will be processed and discharged to ground.

We have made no allowance for inflow and infiltration in our assessment of sewer flows and are proposing to install PE pipe network to mitigate possible future inflows.

The sewer reticulation within the subdivision will be via 150mm diameter gravity mains to a wet well in the northwest corner (see Appendix A for Concept Sewer Treatment drawings) and treated in an Oasis Clearwater Ltd TEXASS wastewater treatment plant (or similar). The treated effluent will then be discharged to land via a conventional sand bed (in the soakage field). We have assumed a conservative irrigation rate of 25mm/day (although experience on other projects indicates that 35mm/day is possible). The corresponding area for 25mm/day equates to a 1,000m^2 soakage field.

The treatment plant will be properly ventilated to mitigate any odour issues and to allow the reserve area to be utilised for recreational activities. The soakage field, that receives treated effluent from the treatment plant, will be constructed in the main reserve area. The soakage field land will be raised above existing levels to avoid interaction with overland stormwater.

Discussions with Council staff [8] indicated, in principle, that a community sewer treatment scheme was an acceptable solution for this subdivision.

5.2 *Effects of Proposed Activity*

The potential effects relevant to the proposed community treatment wastewater system are those on:

- Surface Water Quality
- Groundwater Quality
- Air Quality (Odour)
- Cultural, and other effects

5.2.1 Surface Water Quality Effects

There is a waterbody on the southwest boundary of the site and an existing drain to the north of the soakage field, however as there will be no physical connection to either of these waterbodies there will be no adverse effect resulting from this activity.

There will therefore be no contamination or decrease of surface water quality as a result of this activity and this activity is assessed as minor.

---

[6] Ref. NZS4404:2004 Sewer Design flows for pipe sizing (5.3.5.1), and ARC T58 2004 Table 6.3.2 Wastewater Flow Allowances

[7] Ref 2006 Census, Outram has 249 dwellings and 642 usually resident persons

[8] Meeting in September 2009 between David Dewhurst (DCC) and Andrew Tisch (e2environmental ltd)

5.2.2 Groundwater Quality Effects

There will be no direct connection to ground water from the soakage field. A minimum of 1m separation will be maintained from the invert of the sand filter of the soakage field and the highest measured groundwater level. The rate of application combined with the physical separation distance will ensure that contaminants remaining in the treated effluent are filtered out prior to reaching the groundwater.

The effect of this activity on groundwater quality is assessed as minor.

5.2.3 Air Quality Effects

Odour discharges are possible from the wastewater treatment plant or vented sewer manholes at this site from anaerobic decay of the wastewater. It is expected that the strength of the odours generated will be no greater than from the surrounding rural activities.

Odour is unlikely to be generated from the soakage field as this is located beneath the ground and will receive effluent that has been processed by the wastewater treatment plant. If these odours become objectionable an odour removal filter can be installed in the wastewater treatment plant prior to the soakage field.

The effect on air quality from the treatment system proposed will be minor.

5.2.4 Cultural Effects

The local Runanga have been consulted over the proposed activity. The proposed wastewater treatment plant will be regularly monitored and will produce treated effluent that has a lower proportion of contaminants compared with normal septic tank effluent (as is discharged from the existing Outram Township).
The effect of the proposed activity will be minor with respect to Cultural Landscapes, Mahika Kai, and Wai Maori.

5.2.5 Other Effects

The wastewater soakage field will be buried below ground surface over soils with good infiltration rates. As a result ponding of wastewater will not occur and members of public using the reserve above the filter bed will not come in contact with wastewater.

The wastewater treatment plant will mostly be located below ground to minimise the visual impact of the facility. There will only be a small shed housing a power board and several manhole risers located above ground. The only noise produced will be by the pump sets but the noise produced is unlikely to be perceptible at the nearest residence.

The effect visually, and audibly and with respect to public health will be minor from this activity.

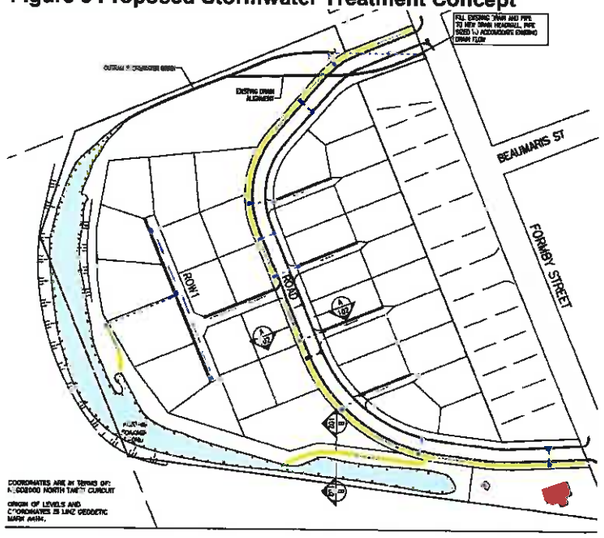
6 Stormwater

6.1 *Existing Situation*

The existing waterbody is made up of a series of interconnected ponds (on the western boundary of the site) and currently receives runoff from a) the undeveloped site and b) from the Outram drain at the northeastern part of the site.

The waterbody has no surface outlet and discharge is solely by infiltration[9]. The waterbody seasonally fill and empty over a range of approximately 0.1 to 0.4m (as noted by the gardening/lawn edging growing point and the water-line debris markings seen).

Figure 6 Proposed Stormwater Treatment Concept



6.2 *Description of Proposed Activity*

Stormwater runoff from roads, roofs and hardstands will be discharged to the waterbodies onsite after pre-treating the stormwater runoff in swales. The treatment swales will be constructed in the main access road and will be designed in accordance with Auckland Regional Council (ARC) TP10 criteria. These swales will treat the so called "water quality storm" (ARC TP10), and to convey larger events up to the 10%AEP event.

Existing flow paths towards the soakage pond on the western boundary will be maintained so that in storm events greater than 10% AEP, excess runoff will continue to discharge to the existing waterbodies.

The proposed treatment swales located in the road reserve will be vested to and maintained by DCC once constructed. We understand that DCC do not wish to maintain swales unless they are part of the roading maintenance programme[10].

---

[9] Ref. Irricon, Lower Taieri Groundwater Report, 1997

[10] Phone conversation between Norm Hinton (DCC) and Lindsay Blakie (e2environmental Ltd), 6 July 2010.

As this activity is permitted in terms of the Otago Regional Council (ORC) Water Plan a certificate of compliance is required. A request for a certificate of compliance was lodged with the ORC in September 2010.

6.3 *Effects of the propose activity*

The potential effects relevant to the proposed stormwater runoff are those on:

- Surface Water Quality
- Groundwater Quality
- Cultural Effects

6.3.1 Surface Water Quality Effects

Stormwater will discharge via treatment swales to the existing waterbodies. The stormwater system proposed will be designed in line with best practice treatment methods[11].

6.3.2 Groundwater Quality Effects

Stormwater from roads, roofs and hardstands are proposed to discharge to the kerb and channel or swales next to the lots. This will ensure that the runoff will be pre - treated prior to being discharged to the waterbodies at the site. Rapid soakage will not be used at this site which will limit the potential for degrading the groundwater quality with potentially contaminated stormwater.

The effect of this activity on groundwater quality is assessed as minor.

6.3.3 Cultural Effects

The local Runanga have been consulted over the proposed activity. Pre treating the stormwater is encouraged by the local Runanga. The effect of the proposed activity will be minor with respect to Cultural Landscapes, Mahika Kai, and Wai Maori.

[11] Best practice methods as described in NZWERF's On-site Stormwater Management Guide, 2004 and ARC TP10

7 Historic Activities

There is a landfill located on site that was used as one of the Outram township up until the early 1990's. Little is known about the:

- Materials located in the land fill,
- Depth and extent of the landfill or
- Effect of the landfill on the existing waterbodies or groundwater.

As far as the applicant is aware there are no issues with leachate at the site from the landfill and there are no visual effects on plants or the landscape resulting from the landfill.

If leachate is produced under the land fill by rainfall infiltrating through the soil to the landfill layers the proposed subdivision activity is likely to be beneficial. The increase of impervious areas on the site will decrease the proportion of surface runoff that can potentially soaks through the landfill area (and thus decrease the quantity of leachate produced).

As further mitigation, it is proposed (at the subdivision and building consent stage) that the landfill area is surveyed off and consent conditions limiting construction over the landfill are recorded against the title of the lots affected.

The effect of any leachate from the existing activity is expected to be minor or neutral as existing infiltrating runoff will be cut off from the landfill area.

8 Power and Telecommunications

There are existing services in Formby Street. Telecom and Aurora Electricity (now part of Delta Ltd) have been contacted with regard to servicing the subdivision. We understand that there is capacity in both of the service networks to supply this subdivision.

9 Consultation

We have discussed the proposed subdivision with the local Runanga representative and with the TLA's. The following table summarises the consultation to date:

Party	Comments
Dunedin City Council	The proposed activities have been discussed with Dave Dewhurst of the DCC in September 2009 with Andrew Tisch (e2), David Harford (consultant planner) and Gordon Mockford (Applicant). He advised that the applicant needed to determine if an on site wastewater consent from the ORC was required.
Otago Regional Council	Andrew Tisch (e2), David Harford (consultant planner) and Gordon Mockford (applicant) in September 2009 with Nigel Goodhew and Sarah Valk. Options for wastewater discharge were discussed and ORC showed e2 the plans and the relevant sections. We proposed discharge to ground. ORC believed that this was preferable to discharging to water.
Te Rūnanga o Ōtākou, c/- KTKO Ltd	KTKO were generally happy with the proposal but requested that as a condition of the plan change: Best practice methods are adopted to treat stormwater runoff The groundwater is monitored to determine the background concentration of contaminants in the aquifer under the site. The communal wastewater system should be regularly monitored and have a O&M plan in place.

Appendix A

Drawings

Figure 09001-01-F01 Concept Development Plan
Drawing 09001-01-100A Conceptual Stormwater Plan
Drawing 09001-01-101A Erosion and Sediment Control Plan
Drawing 09001-01-102A Typical Road Treatment Swale
Drawing 09001-01-103A Conceptual Wastewater Plan
Drawing 09001-01-104A Treatment Plant and Soakage Field Details

FILL EXISTING DRAIN AND PIPE TO NEW DRAIN HEADWALL, PIPE SIZED TO ACCOMMODATE EXISTING DRAIN FLOW

OUTFALL STORMWATER DRAIN

EXISTING DRAIN ALIGNMENT

BEAUMARIS ST

FORMBY STREET

A 102

B 102

NOTE:

1) ALL LOTS TO DISCHARGE TO ROW DIRECTLY TO KERB & CHANNEL OR VIA SUMPS EXCEPT WHERE SHOWN ON ROAD

2) ROW 1 RUNOFF IN KERB & CHANNEL

LEGEND

- EXISTING BUILDING TO REMAIN
- EXISTING DRAIN
- PROPOSED DRAIN ALIGNMENT
- EXISTING WATERWAY
- PUBELE-UP SUMP
- EXISTING SUMP
- PROPOSED PIPE
- FLOW DIRECTION
- SWALE
- KERB & CHANNEL

COORDINATES ARE IN TERMS OF: NZGD2000 NORTH TAIERI CURCUIT

ORIGIN OF LEVELS AND COORDINATES IS LINZ GEODETIC MARK 34H4.

20 10 0 10 20 30 40 50 60 70 80 90 100

Scale 1:1500

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P 64 3 358 4955 www.e2environmental.co.nz

Client: TWO NOTE LTD

Project: PROPOSED SUBDIVISION, 39A FORMBY ST, OUTRAM

Title: CONCEPT STORMWATER DESIGN LAYOUT PLAN

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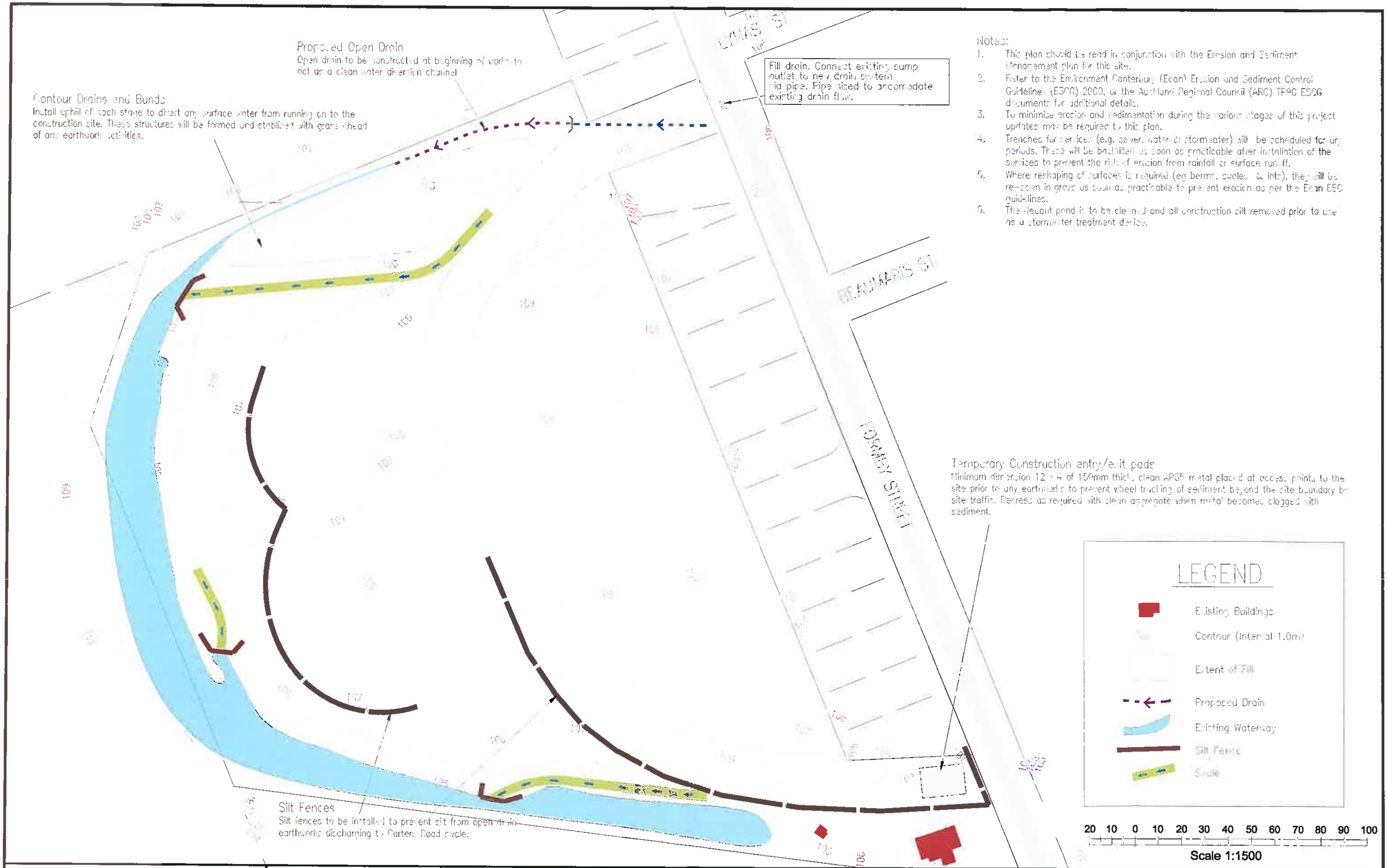
Date	26 AUGUST 2010	Sheet	1 OF 1	9011-01-100	A



Notes:

1. This plan should be read in conjunction with the Erosion and Sediment Management plan for this site.
2. Refer to the Environment Canterbury (Ecan) Erosion and Sediment Control Guidelines (ESCG) 2009, or the Auckland Regional Council (ARC) TP90 ESCG documents for additional details.
3. To minimise erosion and sedimentation during the various stages of this project updates may be required to this plan.
4. Trenches for services (e.g. sewer, water & stormwater) will be scheduled for dry periods. These will be backfilled as soon as practicable after installation of the services to prevent the risk of erosion from rainfall or surface runoff.
5. Where reshaping of surfaces is required (eg berms, swales & lots), they will be re-sown in grass as soon as practicable to prevent erosion as per the Ecan ESC guidelines.
6. The decant pond is to be cleaned and all construction silt removed prior to use as a stormwater treatment device.

Temporary Construction entry/exit pads
Minimum dimension 12 m x 4 of 150mm thick, clean AP65 metal placed at access points to the site prior to any earthworks to prevent wheel tracking of sediment beyond the site boundary by site traffic. Redress as required with clean aggregate when metal becomes clogged with sediment.

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Title: EROSION SEDIMENT AND CONTROL PLAN

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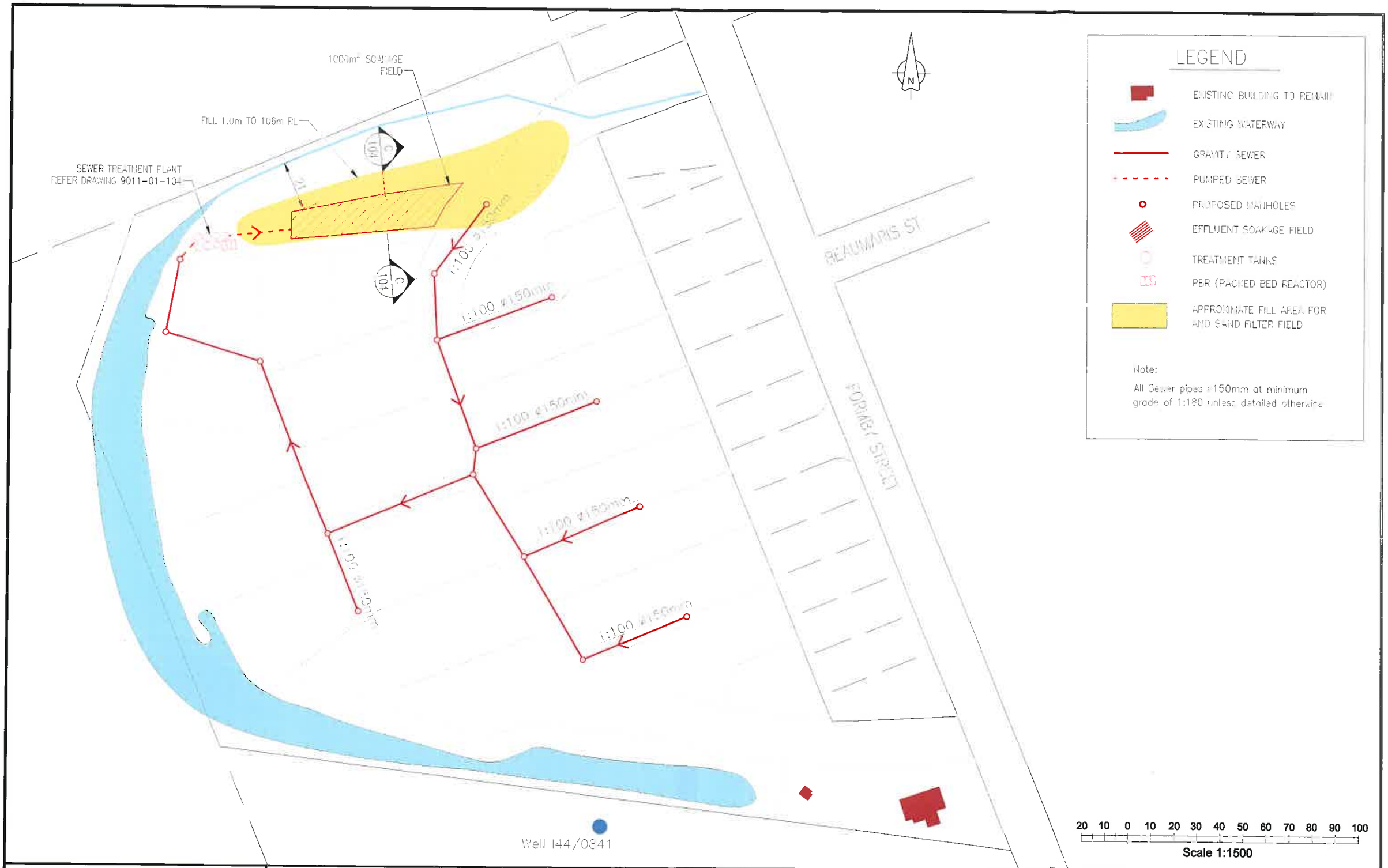
Date	22 JUNE 2010	Sheet	1 OF 1	9011-01-101	A



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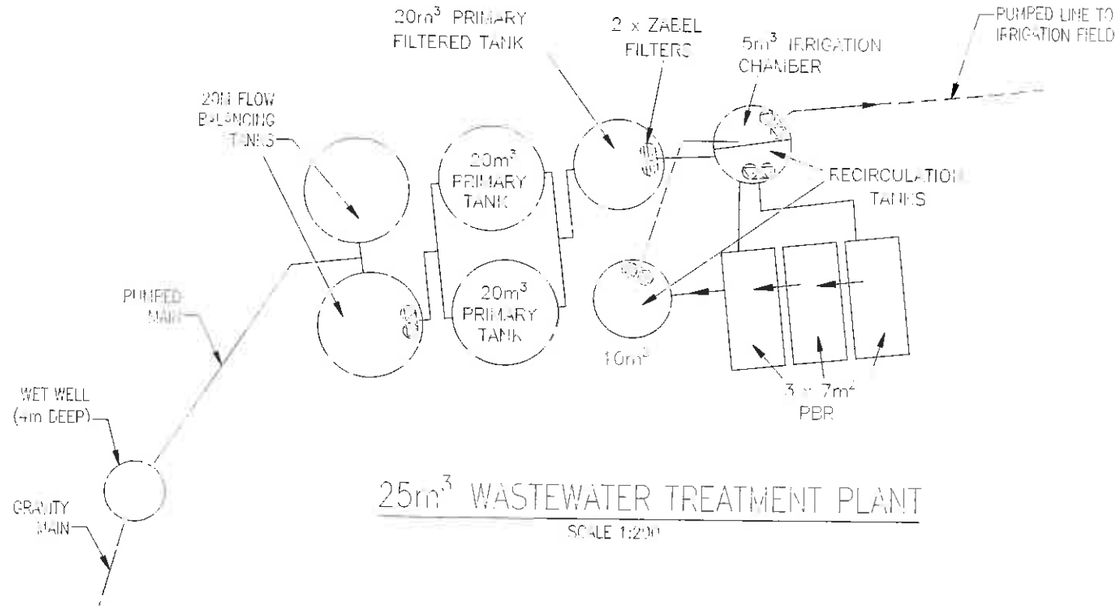
Date	22 JUNE 2010	Sheet	1 OF 1	Revision	A



25m³ WASTEWATER TREATMENT PLANT

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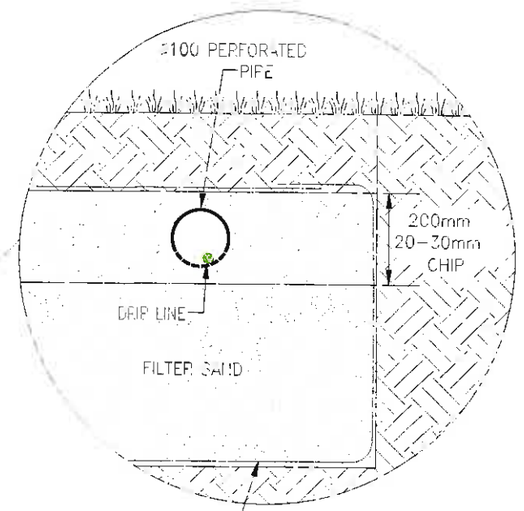

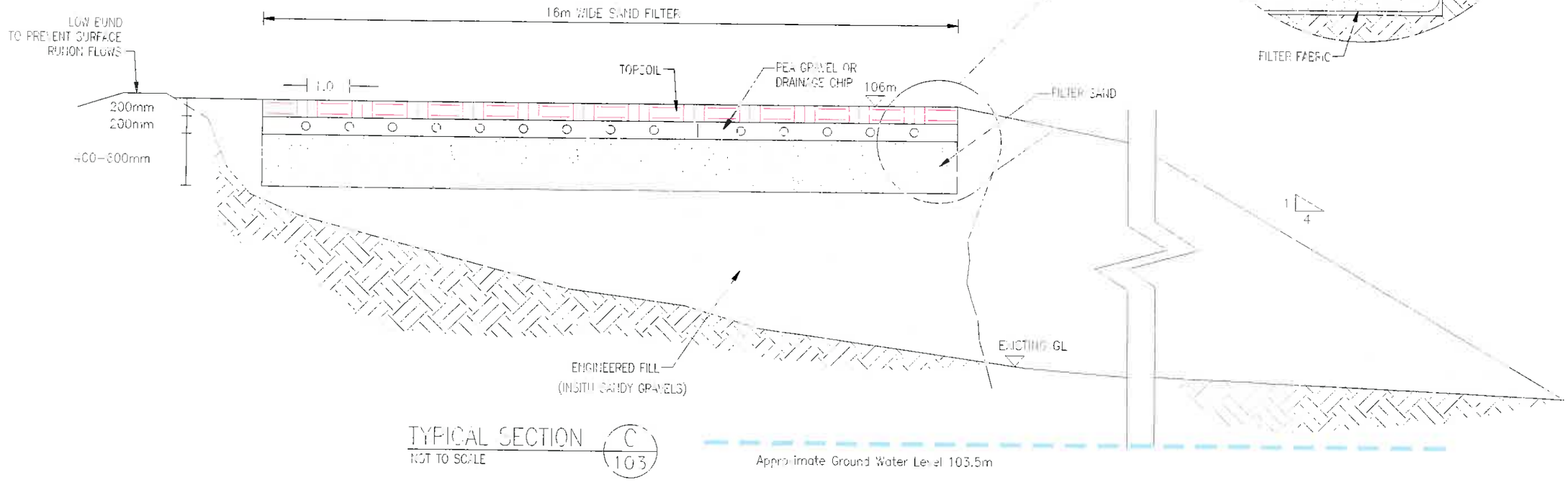

TYPICAL SECTION C

NOT TO SCALE

103

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Project: PROPOSED SUBDIVISION, 39A FORMBY ST, OUTRAM

Title: CONCEPT WASTEWATER DESIGN
TREATMENT PLANT AND SOAKAGE FIELD DETALS

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Approved		Scale	As Shown	Drawing No	Revision
Date	26 AUGUST 2010	Sheet	1 OF 1	9011-01-104	A

Appendix B

Geotechnical Report

Geotechnical Report
Drawing 09001-01-105A Topographical Survey and Test Pit Locations
Drawing 09001-01-106A Test Pit Logs

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PO Box 31159, Ilam, Christchurch 8444

Ph 03 358 4955 Fax 03 358 4956
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30 July 2009

Two Note Limited
c/- G Mockford
147 Bridge St
RD 2
ASHBURTON 7772

Dear Gordon

GEOTECHNICAL ENGINEERING REPORT – SOIL TEST PITS AND SOAKAGE TESTING FOR FORMBY STREET SITE, OUTRAM

The purpose of this investigation is to determine the soil, groundwater and drainage properties. This information will be used for stormwater, wastewater and engineering design.

Test Description and Purpose
Five test pits were excavated by Rob Webster on Thursday 30 July 2009.

The work included:

1. Digger excavations carried out by Dave Brownlie Drainlaying Services staff and supervised by Rob Webster. The purpose was to provide a soil classification and layer description.
2. Install ground water monitoring piezometric pipes with surveyor giving the location and reduced levels to standard datum. The purpose is to monitor the groundwater levels at the site and be able to correlate to all other input data (viz. nearby ponds, Tairei River, Outram bore groundwater level recorder, rainfall events etc).
3. Soakage testing for stormwater and treated wastewater soakage to ground. Water was supplied from containers. This data will be used in the design of stormwater treatment and conveyance systems and the treated wastewater disposal field.

Site Background

The site consists of rolling land and has a natural fall from the terrace on the east side, behind the row of dwellings along Formby Street, to the northern drain and to the western/southern edges. The fall is approximately 1:100 east to west over the terrace area with a natural gully in the middle at 1:50 and the ridges at 1:25. The northern area which is alongside the drainage path is some 2.5m below the terrace and it is generally flatter at 1:200 east to west. Apart from a building and yard there are minimal impervious areas on

the site. A series of low-lying ponds on the western and on the southern boundary seasonally fill and soak away.

Results Summary
The full test results are included in the accompanying reports and photo records. In summary:

There were 5 test pits excavated to a depth of at least 3m (the deepest being 4.3m). Groundwater was found in all pits. The highest groundwater was in test pit #3 at 1.75m below ground level (BGL). The range in groundwater level was 4.3m BGL in the centre of the terrace (and centre of the block) to the 1.75m in the northwest part of the block. Taking the groundwater reduced level (RL) for all of the pits gave a range of 103.41m to 103.57m (within 0.16m and a median of 103.47m RL). The ponded water surface at the northern ponds was 104.6m RL and towards the southern ponds 104.5m RL (median of 104.55m RL). Therefore, the general site groundwater was found to be 1.08m below the pond water surface.

The test pits #1 to #4 have been supplied with piezo tubes (PVC stand pipes) to allow monitoring of the groundwater levels over time for such things as seasonal variation, river level changes and large storm events.

In general, the soil profile consists of a layer of topsoil of dark brown humus (150mm to 200mm), which overlies fine silty/sandy loam (generally 700mm to 1000mm) followed by a sand that varies from fine to coarse sand (generally 500mm) where it becomes a coarse yellow to dark yellow sand with gravel (<15mm size) above the groundwater level (typically 1000mm thick layer). The low-lying area of test pit #3 showed evidence of saturation with water with the orange-mottled silts(iron oxides in water) and the blue clayey mix (silty blue pug and an organic material layer (eg tree branches). Others pits only showed coloured gravel and bands of darker sands which may have been the undisturbed depositied original river sedimentary layers from varying river flows in the Taieri Plains formation years.

The sandy layers cause a ready tendency for "cave-in" and undermining of the top layers. Typically the top layers were weak silts and they would collapse in as the sand layer caved away. Only test pit 4 had a deeper layer of clayey–silt before the sand layers were reached. When the groundwater is intercepted, the sand layers are wet and slump down, so that the test pit rapidly increases in size. The removal of further running sand and water to gain pit depth is difficult without trench shoring or sheet piles.

Testing of the soil layer bearing strength by scala penetrometer indicates that the silt and sand layers have typical values of between 40 to 90mm per blow between 200mm and 950mm soil depth. There are areas of firmer material on some of the ridges and also where regular vehicle tracks have firmed and compacted the ground (values of 15 to 30mm per blow). However the test pit profiles show extensive areas of silt and sand across the site. Therefore the result is that for the roading and ROW formation that in-situ materials will need to be excavated (possibly used elsewhere on site for filling/levelling) and replaced with imported materials. The use of imported aggregate materials to base-up the road formation when a sandy sub-grade is found is standard practise.

Soil permeability (percolation) was measured by open-ended water bucket infiltration testing of the in-situ soil. The test was done on the surrounding soils at a depth of 480mm below ground level. The result is 95 to 110mm/hr percolation in the soils. This soil percolation is ideal for stormwater soakage as swales and soakage basins. These have some topsoil mixed in to achieve the desired 20-50mm/hr percolation when grassed over.

Conclusion
The geotech investigation results show soil profiles, percolation rate and groundwater levels that are considered ideal for soakage of stormwater to ground for treatment and disposal. On this basis we recommend the following treatment and disposal options:

- Swales (pre-treatment) after collection from kerb and channel on roads
- Discharge of cleaned and attenuated water to the existing ponds

Similarly, the geotech findings are suitable for the disposal of treated wastewater. We recommend that the disposal field for either drip irigation or sand trench systems be a raised bed area to ensure that the depth of the filtering soil layers is maximised.

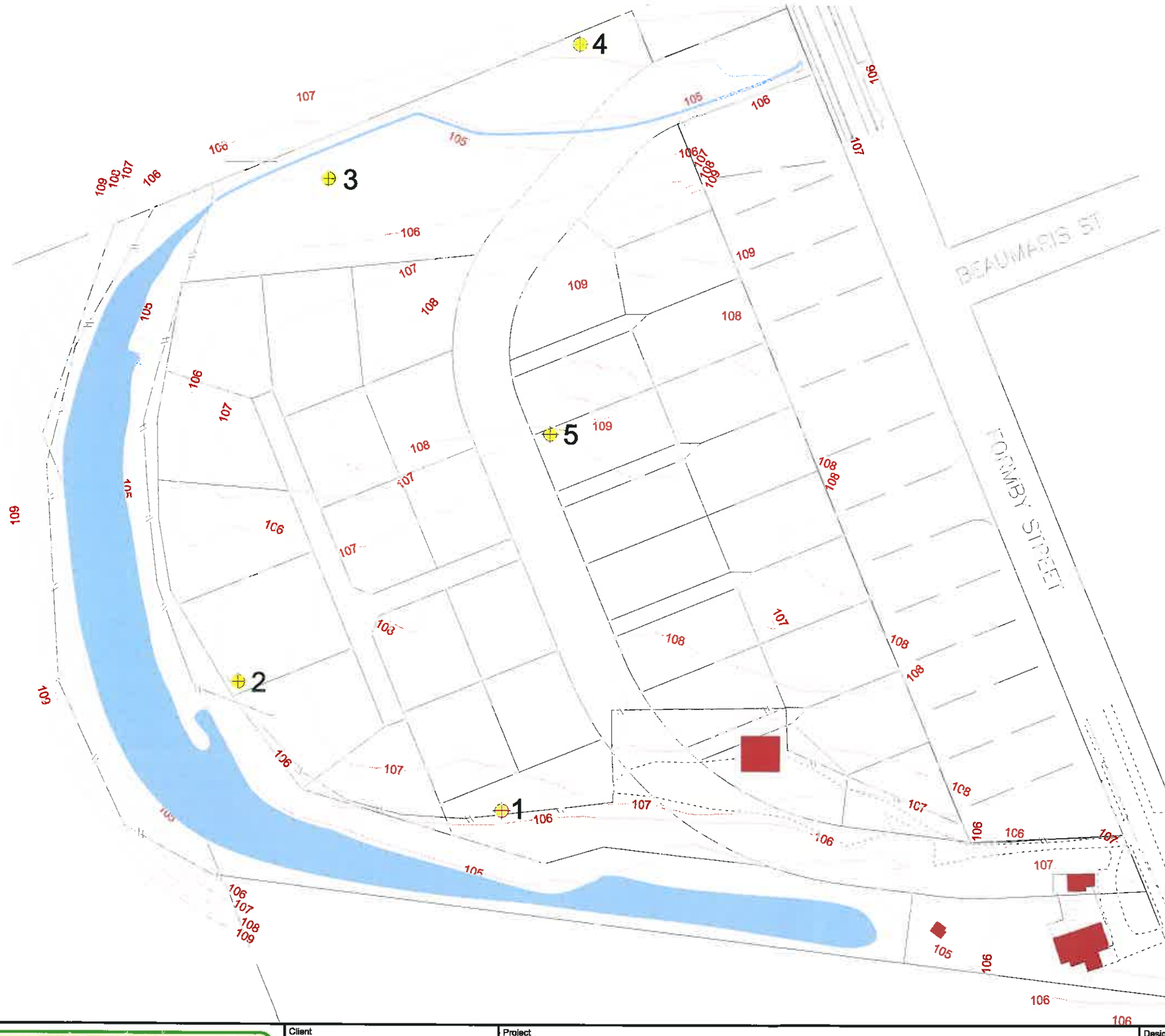
For test pit #3, in the lower lying area in the northwest, it shows that the area requires filling and shaping to raise the general ground level for the proposed development uses. Seasonal piezo tube readings from test pit #3 will most likely confirm this. Materials cut from the higher terrace area may be used to fill and shape the low-lying areas. Earthworks are proposed to create a fall from back sections of Formby Street dwellings. Therefore both areas will be enhanced by this cutting and filling within the development.

The site materials are suitable for road construction and piped services but care will be required at the construction stage as high groundwater and heavy rainfall weather events can reduce the subgrade strength and also increase the cost of trenching. We recommend carrying out this work at the most favourable times and particularly for finishing works such as the topsoiling of the allotments. Over-excavation may be required with deep cuts into the sandy layers with accompanying shoring of trenches necessary. The use of well-pointing, to remove excess water in the deepest trenches may also be needed. Imported aggregate materials to base-up the road formation provide the required subgrade strength. Topsoil and the firmer silty-sand materials will need to be cut to stockpile and then returned as a cover material once finishing levels are reached. Most future land purchasers prefer a reasonable soil layer for gardening and lawns and this should be achievable, but additional earthworks may still be required in some areas.

Please feel free to contact Andrew Tisch, e2 Solutions Ltd, company director, if you have any questions or comments.

Yours Sincerely,
e2 Solutions Ltd

Rob Webster
Engineer



LEVELS ARE IN TERMS OF: DUNEDIN VERTICAL DATUM 1958

COORDINATES ARE IN TERMS OF: NZGD2000 NORTH TAIERI CURCUIT

ORIGIN OF LEVELS AND COORDINATES IS LINZ GEODETIC MARK A4H4.

SEE DRAWING 9011-01-106 FOR TEST PIT LOGS

LEGEND

- Existing Building
- 108 Major Contour
- Minor Contour
- 1 Test pit
- Fenceline
- Edge of seal
- Waterway

20 10 0 10 20 30 40 50 60 70 80 90 100

Scale 1:1500

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Level 1, 136 Worcester Street, PO Box 31159, Christchurch
P 64 3 358 4955 www.e2environmental.co.nz

Client: TWO NOTE LTD

Project: PROPOSED SUBDIVISION, 39A FORMBY ST, OUTRAM

Title: TOPOGRAPHICAL SURVEY AND TEST PIT LOCATIONS

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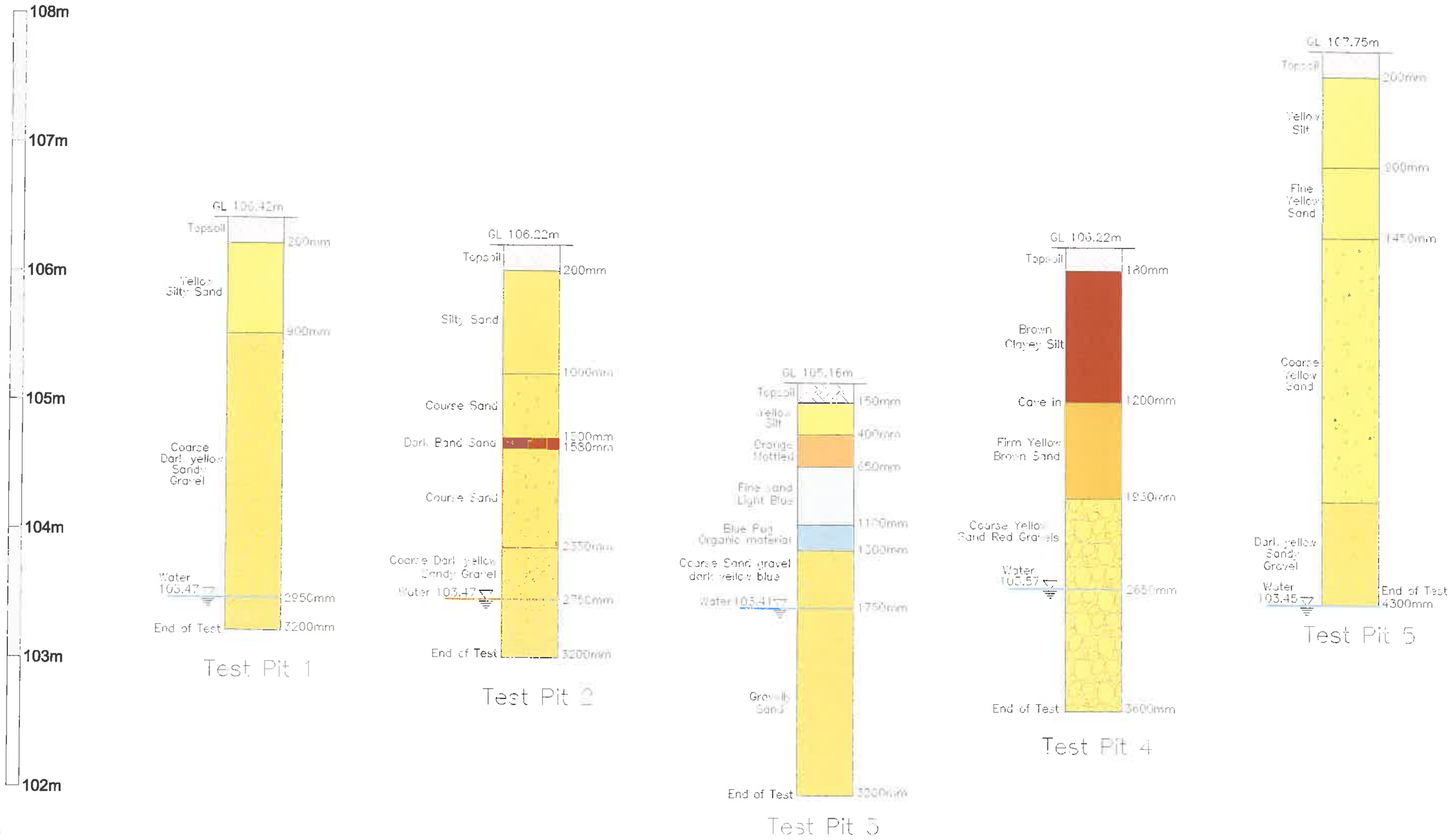
Approved		Scale	1:1500 (A3)	Drawing No / Revision
Date	22 JUNE 2010	Sheet	1 OF 1	9011-01-105 / A



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Drawn AF					
Checked		REV	COMMENTS	DATE	APR
Approved		Scale As Shown	Drawing No 9011-01-106		Revision A
Date 22 JUNE 2010		Sheet 1 OF 1			

Appendix C

Correspondence

Preliminary Statement from KTKO Ltd
Letter from Telecommunications Provider
Letter from Power Provider

The Subdivision Group
32 Magdala Place
P O Box 1374
Christchurch
Telephone: (03) 339 3402
Facsimile: (03) 339 3329
Email: tsg@telecom.co.nz

22 June 2010

Chorus Ref: ORA12620
Your Ref:

The Developer
C/o e2 Solutions Ltd
Level 1 Cardno House
Po Box 31159
136 Worcester St Christchurch

Attention: Lindsay Blakie

Re: Proposed Subdivision: ORA Lot Subdn 39A Formby Street Outram, Otago

(Subdivision Location: 39A Formby Street Outram)

Dear Sir / Madam

Thank you for letter and scheme plan for the above subdivision.

Chorus requires infrastructure and architecture design work to be completed prior to quoting the price for the provision of their services. At this time, due to other works in the area, the situation regarding spare capacity is unclear and requires further investigation.

Please allow up to six weeks for the Network design work to be completed, (some can occasionally take longer), before we can get back to you with confirmation of the cost to extend Chorus Network in Subdivision Location: 39A Formby Street Outram.

Please do not hesitate to contact me should you have any queries.

Yours faithfully

Don Henderson

Sub Division Specialist

Lindsay Blakie

From: Bruce Duncan [bruce.duncan@4delta.co.nz]
Sent: Thursday, 22 July 2010 1:40 p.m.
To: lindsay.blakie@e2solutions.co.nz
Subject: RE: Feasibility of supplying electricity for proposed subdivision

Lindsay

There is capacity on our high voltage overhead line at the corner of Formby and Beaumaris Streets.

A ground mount substation will need to be installed at a central location in the proposed new subdivision.
A high voltage underground cable will need to be installed from the pole top at Beaumaris Corner to new substation via 39A Formby St.

We would be happy to provide a price for the design & intallation of the electrical installation when you reach that stage.
Regards
Bruce Duncan, Engineering Officer

DELTA, www.4delta.co.nz
Phone +64 3 479 6745 (DDI), Fax +64 3 479 6694, Mobile +64 27 622 9494, Email bruce.duncan@4delta.co.nz.
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From: Scot Jefferies
Sent: Tuesday, 20 July 2010 11:33 a.m.
To: Bruce Duncan
Subject: FW: Feasibility of supplying electricity for proposed subdivision

Bruce,

Can you please advise on this. Some advise by Friday would be appreciated.

Regards
Scot

From: Scot.Jefferies@4delta.co.nz [mailto:Scot.Jefferies@4delta.co.nz]
Sent: Tuesday, 20 July 2010 9:20 a.m.
To: Scot Jefferies
Cc: Scot Jefferies
Subject: FW: Feasibility of supplying electricity for proposed subdivision

-----Original Message-----
From: Lindsay Blakie [mailto:lindsay.blakie@e2solutions.co.nz];
Sent: 17/06/2010 4:53:54 p.m.
To: Scot Jefferies [mailto:Scot.Jefferies@4delta.co.nz];
Subject: Feasibility of supplying electricity for proposed subdivision

Dear Scot
As discussed we are investigating the feasibility of a proposed subdivision on the outskirts of Outram. Can you please confirm that there is capacity in your line network to supply 36 residential allotments.
Note that there will be a community wastewater treatment plant on site in addition to the allotments. The supplier indicates that treatment plant would consume 12 units a day (there are four pumps all single phase and all less than 1.5kW's).

Regards

Lindsay Blakie. Senior Engineer

p 03 961 3558
m 021 174 7454
e2 Solutions Ltd
Level 1 Cardno House
136 Worcester Street
PO Box 31159
Christchurch

<![endif]>
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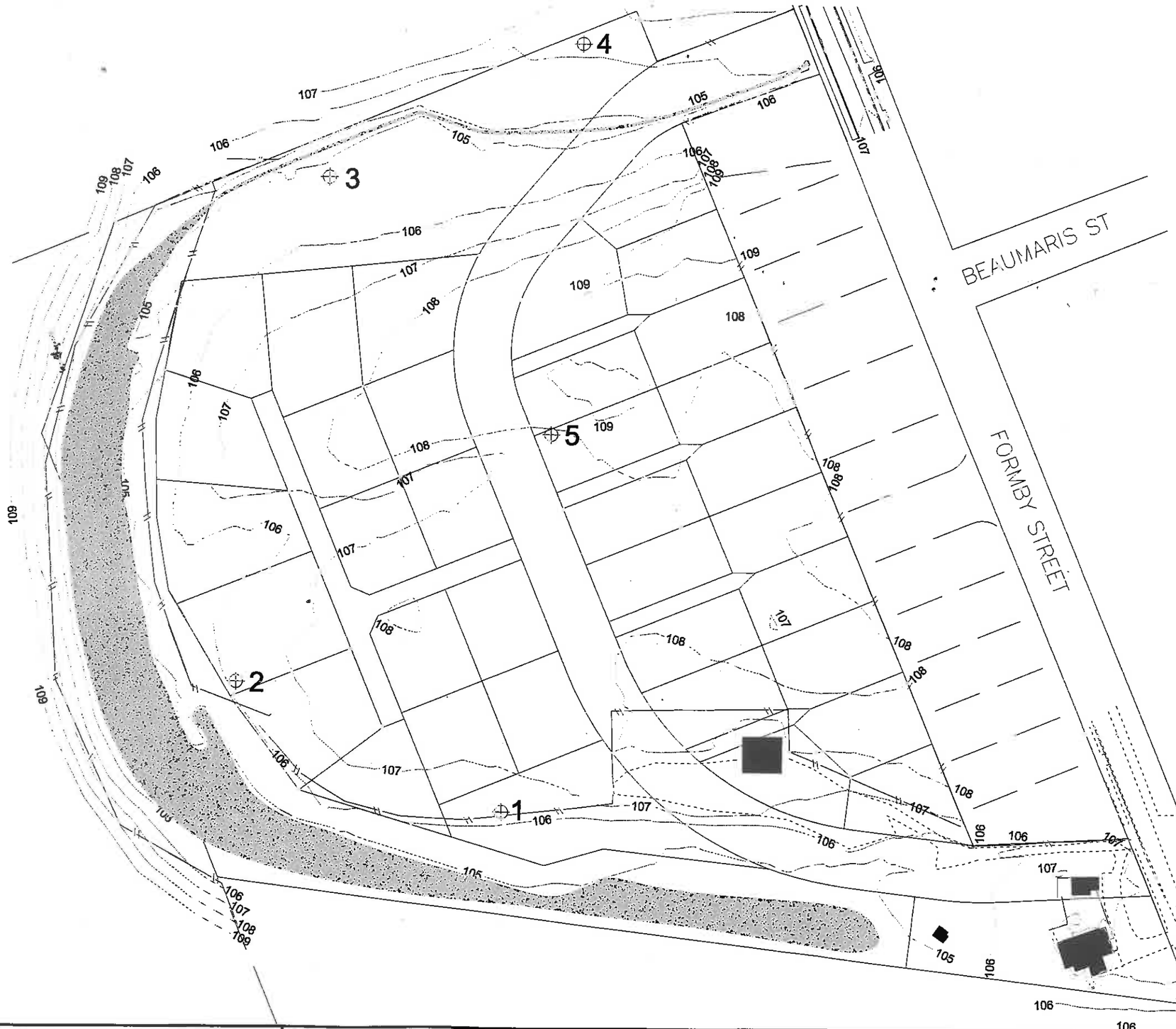
m 021 174 7454
e2 Solutions Ltd
Level 1 Cardno House
136 Worcester Street
PO Box 31159
Christchurch

ANNEXURE 5: TOPOGRAPHICAL SURVEY



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Drawn	AF				
Checked		REV	COMMENTS	DATE	APR
Approved		Scale	1:1500 (A3)	Drawing No	9011-01-105
Date	22 JUNE 2010	Sheet	1 OF 1	Revision	A

ANNEXURE 6: POSSIBLE SUBDIVISION PLAN

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e2 environmental CONSULTING ENGINEERS

Possible Layout (36 lots) - Formby Street - Outram

Pt Sec 1 Blk V West Tairei - 7.7413ha

20 10 0 10 20 30 40 50 60 70 80 90 100

Scale 1:1500

09011-01-F02

August 2011

ANNEXURE 7:SECTION 32 ASSESSMENT