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PROJECT FEASIBILITY & SITE ASSESSMENT REPORT

The property Address:

Case Study: Urban Residential Site – St Aubyn Street, New Plymouth



Prepared For: Sample client / Website Case Study

Prepared By: Haresh Parbhoo (Harpur Design) | LBP Design 2 | 30 Years Experience

Date: October 2024



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Section 1: Executive Summary & Professional Opinion

1.1: Project Brief and Objectives

The objective is to assess the viability of constructing a modern, high-density two-story residential dwelling with an attached minor dwelling (dual occupancy) on an urban infill site.

1.2: Veteran's Assessment

Drawing on 30 years of New Zealand architectural experience, this site is a "Strong Go" for high-density residential development. Its proximity to the New Plymouth CBD makes it highly desirable. However, being located on a secondary arterial route (St Aubyn St), specific attention must be paid to acoustic insulation and traffic vibration—technicalities often overlooked by less experienced designers.

1.3: Key Risks & Opportunities

- **The Opportunity:** High-density zoning allows for maximum site utilization and excellent capital growth.
- **The Hurdle:** The proximity to the coast (Corrosion Zone D) and the busy road frontage require premium material selection and specific "Acoustic Treatment" to meet Building Code Clause G6.



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Section 2: Site Overview & Legal Description

2.1: Land Identification

Lot No.: *PT SEC 121 TN OF NEW PLYMOUTH*

DP No.:

Land Area (m²): Approx. 476m²

2.2: Title Interests & Encumbrances

A review of the Record of Title indicates a standard drainage easement at the rear. No restrictive private covenants were identified that would prohibit multi-story construction.

2.3: Environmental Factors

- **Zoning:** *Residential B (High Density).*
- **Site Area:** *Approx. 476m².*
- **Site Coverage Allowed:** *50% for this zone (Higher than standard Residential A).*
- **Setbacks:** *Front: 4.5m | Side: 1.5m | Rear: 1.5m.*



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- **Height-to-Boundary (Recession Planes):** 2.5m + 45 degrees.
- **Wind region:** Region A7 (High Wind Speed). (Not in lee zone)
- **Earthquake Zone:** Zone 1 (Medium)
- **Durability exposure zone:** Zone D (High Corrosion/Sea Spray). Note: Requires Grade 316 stainless steel fixings for all external junctions.

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Section 3: District Plan & Zoning Analysis

3.1 Zoning Classification

- The site is within the **Residential B Environment** (NPDC District Plan). This zone encourages intensive residential development.

3.2 Permitted Activity Standards

- The maximum building height is 9.0m. Given the 50% coverage allowance, a building footprint of up to 238m² is achievable, provided permeable surfaces (driveways/lawns) are maintained at 30%.

3.3 Recession Planes (Height to Boundary)

- Due to the narrow urban nature of St Aubyn St lots, the 45-degree recession plane is the primary "envelope" constraint. Any second-story design must be "stepped in" from the boundaries to avoid the need for a costly Resource Consent.



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Section 4: Infrastructure & Underground Services

4.1 Sewer (Wastewater):

- NPDC GIS maps confirm a 150mm uPVC public sewer main located under the footpath at the front of the property. A new lateral connection will be required.

4.2 Stormwater Management:

- In accordance with NPDC's preference for Low Impact Design (LID), stormwater for this site will be managed via **on-site soakage**.
Primary Solution: Discharge to a standard scoria-filled soak hole or pre-cast concrete soakage chamber.
Technical Requirement: Due to the 30-year veteran's knowledge of the local volcanic strata, we anticipate high percolation rates. A standard percolation test will be conducted during the Geotechnical phase to confirm sizing in accordance with Building Code Clause E1/VM1.
Alternative: If site-specific testing identifies localized clay lenses, a secondary overflow to the kerb and channel may be applied for, though on-site soakage remains the primary intended outfall.

4.3 Water utilities:

- Standard 20mm water toby is present. Fiber-optic telecommunications and underground power are available at the boundary.



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Section 5: Site Constraints & Building Envelope

5.1 Natural Hazards: *The site is not within a known lahar or flood hazard zone. However, its urban location requires a standard sediment control plan during earthworks.*

5.2 Physical Constraints: *Traffic noise from SH44/St Aubyn St is a significant physical constraint.*

5.3 The Building Envelope: *The existing dwelling currently encroaches into the standard 4.5m front setback, sitting at 1.2m from the road boundary. This is a common characteristic of heritage and established builds on St Aubyn Street.*

- **Existing Use Rights:** *Because the building was legally established under previous rules, it benefits from "Existing Use Rights." Any renovation within the current footprint is generally permitted.*
- **Proposed Extensions:** *While the District Plan requires a 4.5m setback for new builds on arterial routes, Harpar Design's strategy would be to align any additions with the **existing building line**.*
- **Resource Consent:** *A Land Use Consent for "Front Yard Encroachment" may be required if we extend the non-compliance. However, given the established streetscape, there is a strong "precedent" to support this with Council.*
- **Remaining Envelope:** *After accounting for the 1.5m side setbacks and the established front building line, the usable building platform remains Area, 304m²*
- **Acoustic Treatment (SH44):** *Due to the proximity to the arterial road, any new habitable spaces within the building envelope will be designed with enhanced acoustic insulation (laminated glazing and specific wall-lining) to exceed Building Code G6 requirements, ensuring a premium, quiet living environment despite the urban location.*



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5.4 Topography: *Relatively flat. A Topographical Survey is recommended to confirm exact levels for drainage falls.*

5.5 Ground Conditions: *Likely "Good Ground" per NZS 3604, but a Scala Penetrometer test will be required for the Building Consent.*

5.6 Access/Driveway: *Existing vehicle crossing is in good condition. Any widening will require an NPDC "Vehicle Crossing Application."*

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Section 6: Architectural Recommendations & Next Steps

6.1 Design Strategy: *I recommend a "Living-Upstairs" design to capture coastal glimpses and maximize natural light. Acoustic-rated glazing (laminated) should be used on the southern elevation to mitigate road noise.*

6.2 Required Specialist consultants:

- *Land Surveyor (Boundary confirmation).*
- *Geotechnical Engineer (Soil testing).*

6.3 Project Roadmap:

- *Phase 2 (Preliminary Design): 3 weeks.*
- *Phase 3 (Council Consent): Approx. 20-30 working days once lodged.*

6.4 Recommendation: *Based on my assessment, this is a high-yield site. I recommend proceeding to the Preliminary Design phase immediately to lock in the 2024 building rates.*

*The high-yield assessment is based on the **Residential B Environment** standards in the District Plan, which allow for 50% coverage. The recommendation to act now is based on the **Cordell Construction Cost Index**, which showed a significant cooling of inflation in late 2024—a window of opportunity that is expected to close as the market recovers in 2025.*



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Section 7: Appendices & Legal Disclaimer

7.1 Supporting documentation:

- *NPDC Smart Map: Services & Infrastructure*
- *District Plan: Residential B Standards Sheet*

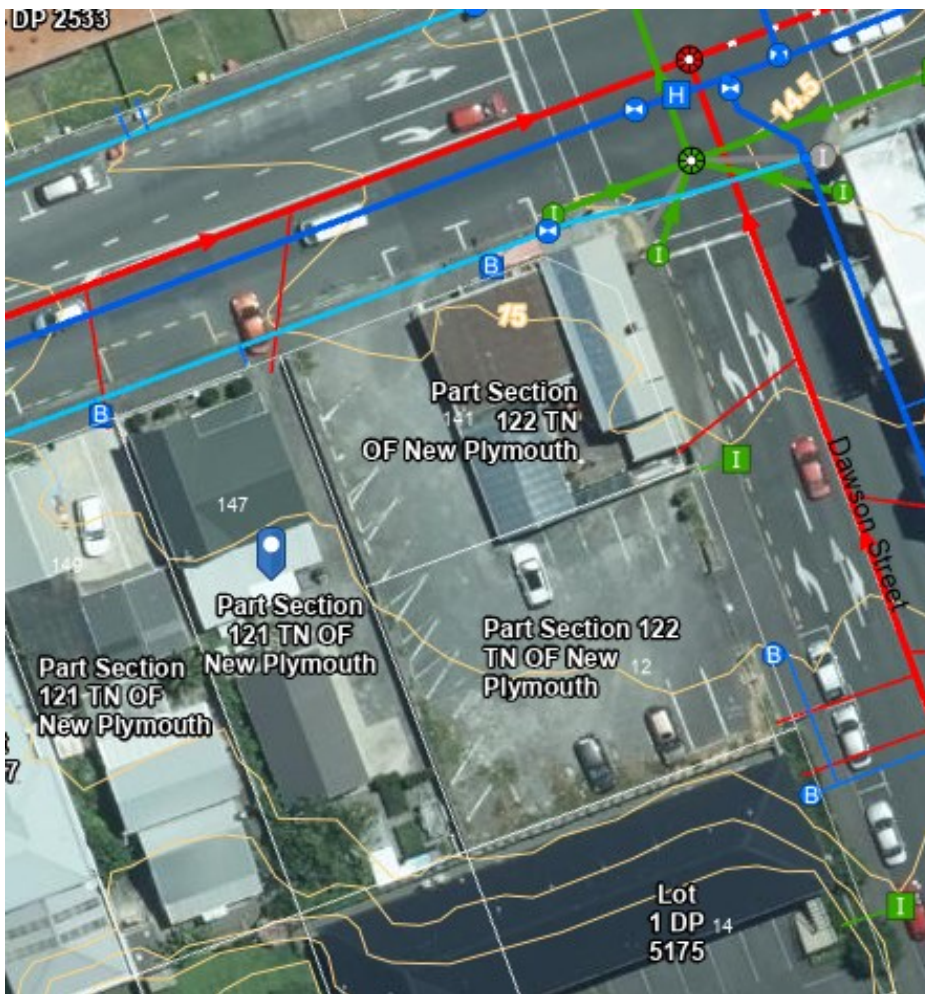
7.2 Professional Disclaimer:

This report is a preliminary assessment based on publicly available data and District Plan rules at the time of writing. It does not constitute a Building or Resource Consent. Detailed site surveys and specialist engineering may be required to confirm these findings.



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7.3 GIS Maps:



Waste Water Lateral

Symbology

— In Service, NPDC

Water Supply Main

Symbology

- In Service, NPDC, Trunk Main
- In Service, NPDC, Distribution Main
- In Service, NPDC, Rider Main