

# BOON

BEFORE THE INDEPENDENT HEARING COMMISSIONER WASLEY APPOINTED BY THE NEW  
PLYMOUTH DISTRICT COUNCIL

UNDER

the Resource Management Act 1991  
("RMA")

IN THE MATTER

of an application under section 88 of the Act  
by **REGINA PROPERTIES LIMITED** to the **NEW  
PLYMOUTH DISTRICT COUNCIL** for  
alterations and extensions/additions to an  
existing commercial building to establish a  
new residential rooftop apartment at 1 and  
3 Dawson Street, New Plymouth.

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**STATEMENT OF EVIDENCE OF EMILY KATHRYN BATCHELOR ON BEHALF OF REGINA PROPERTIES  
LIMITED**

**4 August 2020**

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## **1.0 INTRODUCTION**

- 1.1 My name is Emily Kathryn Batchelor.
- 1.2 I am a Registered Architect at Boon Team Architects Limited (BOON).
- 1.3 I have worked in the architectural industry for 7 years; 2 years spent in the United Kingdom, and the remaining 5 years in New Plymouth. I hold a Bachelor of Architectural Studies, a Bachelor of Building Science, and a Master's Degree in Architecture from Victoria University in Wellington. I have been a registered architect with the New Zealand Registered Architects Board since December 2020. Over this time I have undertaken a myriad of project types, including residential and commercial.
- 1.4 In my professional capacity I have been involved in a number of developments which have included technical inputs and analysis for assessments of environmental effects. This has included site planning, and 3D representations of proposed developments. Some of those projects, for example, include:
  - E+M House, Warea;
  - Excel Refrigeration Office Renovation, Hāwera; and
  - Armstrong House Alterations, New Plymouth
- 1.5 BOON, as an office, has been involved with a number of resource consent applications for projects involving shading analysis. Some of those projects, for example, include:
  - Hobson Hotel Development, corner of Hobson and Leach Streets New Plymouth
  - 37 King Street Apartment Development
  - Brougham Street Commercial Development
- 1.6 I have worked with Senior Associate Kyle Arnold of BOON on the proposed Dawson Street development for Regina Properties Ltd. (the applicant) since September 2019.
- 1.7 My work on the shading diagrams supplied in this application has been reviewed by Associate Architect Shaun Murphy of BOON to provide an internal quality assurance of the work done.
- 1.5 Although this is not an Environment Court hearing, I confirm that I have read, and agree to comply with, the Environment Court's Code of Conduct for Expert Witnesses (Environment Court of New Zealand Practice Note 2011). This evidence I am presenting is within my area of my expertise, except where I state that I am relying on the evidence of another person. To the best of my knowledge I have not omitted to consider any material facts known to me that might alter or detract from the opinions I express.

## **2.0 OUTLINE OF EVIDENCE**

- 2.1 This evidence provides four sections for discussion:

### General Site Information

- Description of the site and activity

### Architectural Design Evidence

- The project description and history
- The design philosophy
- A description of the design process
- A description of the design constraints involved and the solutions proposed
- Response to s42a report

## Shading Study Evidence

- Outline of modelling techniques and processes
- Permitted baseline development shadow study
- Proposed development shadow study
- Response to submissions received
- Response to s42a report

## Conclusions

- 2.2 All of the relevant shadow study graphics discussed in my evidence (including all of those submitted to New Plymouth District Council pursuant to section 92 Resource Management Act 1991 requests) are attached within Appendix 1.
- 2.3 My evidence does not pass judgement on the significance of the shading effects. This is addressed in the section 42a report and the evidence of others.

## **3.0 DESCRIPTION OF SITE AND ACTIVITY**

- 3.1 The site for the proposed development has been well described in the Application for Resource Consent and Assessment of Environmental Effects – Apartment Addition – 1-3 Dawson Street, BTW Company Limited, 12 February 2020 (the application), the Landscape and Visual Impact Assessment, Bluemarble, 11 February 2021, Mr. Balchin’s Section 42A Hearing Report, and in the evidence of others called for the applicant.
- 3.2 In the context of my evidence I wish to briefly highlight the following features of the site which have impacted on my evidence.
- 3.3 The proposed site for development is comprised of three lots that align from north to south, two of which are owned by the applicant; Lot 1 DP 19148, and Lot 1 DP 10510. The third site Lot 2 DP 19148 is owned and maintained by NPDC. The overall north-south site dimension is on average approximately 38 metres and the east-west site dimension is approximately 38 metres. The site is split over two levels; 1 Dawson Street and the Regina Place landscape strip were excavated when the commercial building was created in the 1990s, and the ground level is at approximately 9.00 meters across the property. 3 Dawson Street is contoured with the land at a high point of 14.13 meters in the southeast corner, to a low point of 11.82 in the northwest corner. There is an additional low point of 10.91 meters in the north-western corner, with an isolated zone that drops away to the retaining wall between 1 and 3 Dawson Street.

## **ARCHITECTURAL EVIDENCE**

### **4.0 PROJECT DESCRIPTION AND HISTORY**

- 4.1 This application for resource consent involves the retention of the existing 3 storey, 1990's office building at 1 Dawson Street, and the currently vacant land at 3 Dawson Street. The development will enable the creation of a new 3 storey house which is in part built on top of the existing building, and in part a new building on 3 Dawson.
- 4.2 The development will consist of a five-bedroom private residence for the applicant.
- 4.3 The development footprint covers 220m<sup>2</sup> of the 545m<sup>2</sup> 3 Dawson Street site, and includes three entry points; a vehicle entry to garage from Dawson Street, a main front door from Dawson St, and a rear entry accessed via the courtyard.
- 4.4 Prior to this application (12 February 2021) a previous application was submitted (27 January 2020). The previous application occupied only the property at 1 Dawson Street, and was different by the following; the rooftop addition was designed to be 5.5m further to the north, the rooftop addition overhung the sides of the existing building to the east and to the west by 1.3m each side, and a four storey addition was created to the west of the existing building. Between the time of the two consent applications the applicant was able to acquire the property at 3 Dawson Street, and therefore enable the design change and this new application which responded to submissions that had been made on the original application.

### **5.0 THE DESIGN PHILOSOPHY**

- 5.1 The site setting is an extension to the top and to the south of an existing three storey building on the New Plymouth Coastal Walkway, and therefore has the capacity to demonstrate the adaptive re-use of existing infrastructure, reinvigorate the currently vacant area, enhance the existing urban form, and create inner city living in New Plymouth.  
The design concept focusses on a modern residence, which is sympathetic in scale, to the existing building at 1 Dawson Street. The design intent is that the residence be visually distinct from the commercial building by use of materiality and colour, but to also provide a cohesive unification of the two. Final cladding selections and colours are yet to be decided, but will be of neutral nature.
- 5.2 The design is modern and contemporary in style and seeks to transform the existing carpark site into a residential development that will showcase a high quality design in New Plymouth.
- 5.3 The addition and extension have been carefully designed in consideration with the bulk and form of the existing building to mitigate visual dominance effects of the new extensions.
- 5.4 The roof top addition is stepped back on the northern (seaward side) by 8m at the east, and 5m at the western end. It is set within the existing parapet walls to the east and west. This design strategy minimises the dominance of the form of the proposed building additions.
- 5.5 The southern addition is for the most part aligned with the western wall of the existing building, except for the pop-out staircase which is glazed on all three sides to enable



visual transparency. This design strategy assists in creating a light extension that will enable views and daylight to pass through.

- 5.6 The new fire egress stair aligns with the existing building on the eastern side, and then sets back for the remainder of the addition.
- 5.7 The addition is set back 2.5m from the southern boundary of 3 Dawson Street. This design strategy achieves building density through vertical development rather than with site coverage, and will enable light and views to pass through the rear of the property.
- 5.8 Extensive use of glass in the façade provides visual softness, connectivity to the adjoining surrounds, and lightness to the proposed design. The glass will enable views through the proposed development from neighbouring buildings.
- 5.9 The roof is designed as a 'flat roof' in order to be of the minimum height possible.
- 5.10 Passive surveillance to the area is also greatly improved through the transparency of the proposed façade, creating visual links between inside and outside. In addition to this, the mixed-use nature of the development means that the building will be occupied and therefore operational 24 hrs a day.
- 5.11 Quality urban design reduces the environmental impacts of our towns and cities through environmentally sustainable and responsive design solutions. The Dawson St Development makes use of the existing building, which results in reducing energy and emissions, waste generation and continues the story of the city.

## **6.0 DESIGN PROCESS**

- 6.1 Mr Murali Bhaskar, director at BOON Architects, was approached by the applicant Mr Peter Tennent, of Regina Properties Limited in 2019 to undertake the design for a proposed rooftop house development on 1 Dawson Street. Mr Bhaskar viewed this project as an exciting opportunity for the clients and for New Plymouth City, especially due to the prominent location on the coastal walkway.
- 6.2 My role – along with BOON senior associate Kyle Arnold – has been to develop the brief with the applicant, including constantly reviewing and adapting the preliminary designs to overcome the many challenges the site and its surrounding context posed. These challenges included;
  - Permitted height standards
  - The existing building
  - Existing site contours
  - Fire design compliance for egress
  - Amenity values of the environment generally

These are covered in more detail in below paragraphs of my evidence.

- 6.3 Over several months of consultation and discussions the design solution was developed based on the brief and site constraints. The initial result was for a proposed four level residential building extension to the west of the existing 1 Dawson Street building, which extended as a roof top addition over the existing building on the upper level.

- 6.4 In order to make the project commercially viable, the client advised that the residential building relies on the retention of the existing commercial building at 1 Dawson Street below.
- 6.5 Once the concept was developed, we took the opportunity to meet and meaningfully engage with NPDC to aid in the process. Draft plans of the initial apartment concept were discussed with Rowan Williams, Planning Lead of NPDC on 22 October 2019. A site walkover was undertaken on 31 October 2019 by planners and landscape architects representing both the client, and the council. Specific viewpoints were agreed from which an assessment of landscape and visual effects on public receptors would be undertaken. The design was resolved, the visualisations and assessment were undertaken, and a resource consent application was submitted on 27 January 2020. The application was thereafter withdrawn part way through the process after limited notification had occurred, as is explained in Ms Martin's evidence.
- 6.6 Following this, the applicant was able to purchase the adjacent property at 3 Dawson Street, which allowed us the opportunity to revise the design in a way that might have less impact on the surrounding neighbours, and take into account the feedback received on the first design via submissions. The original design was then revised to incorporate the new property, and remove the western extension. Various design iterations were undertaken to respond to some specific concerns including the softening the impact of the top floor layout. The result is a proposed three level residential building at 3 Dawson Street which extends as a roof top addition to the existing building at 1 Dawson Street.
- 6.7 In summary, through the extensive design and consultation process we have arrived at what I consider an optimum design solution that responds to the brief, site, context, scale and operational efficiency.

## **7.0 DESIGN CONSTRAINTS AND SOLUTIONS**

### **7.1 Permitted Height Standards**

The existing building at 1 Dawson Street is taller than 10m. It is not possible to add to the existing building height without exceeding the permitted height standard further.

### **7.2 Existing Building**

The proposed rooftop development is restricted in width to match that of the existing building. The levels have been set out accordingly also to suit.

### **7.3 Size of the site**

The site footprint is relatively large in the context of a residential development space, posing a challenge to provide vertical circulation, egress escape, building services core functions and pedestrian and vehicular access.

### **7.4 Existing site contours**

3 Dawson Street has an overall change in level of approximately 2.5 metres with a further level change of an additional approximate 3.5m to the adjacent northern site, posing challenges for site access, developing connections and foundation design.

### **7.5 Fire design compliance for egress**

The length of the escape path from the furthest point of the house (outside on the patio areas) to safety at Dawson street is too long to be given just one egress route. Therefore

a second egress stair in a separate fire cell had to be added to the eastern side of the proposed building.

## **8.0 RESPONSE TO PROPOSED CONDITIONS**

8.1 I have read the officer's draft conditions for a granted resource consent, and have the following comments:

8.2 *"All glazed facades shall have a design and finish which achieves a Visual Light Transmission (VLT) of between 40-60%"*

This is an unusual request, which does not have a clear purpose. A request such as this might be applicable for a fully glazed curtain wall façade, but is not appropriate for this particular design which includes windows within solid walls.

Visual Light Transmission (VLT) is measured as the percentage of visible light that is transmitted through glass. A standard double glazed unit comprised of 2 layers of 4mm glass, with a 12mm space, would achieve 80% VLT. Our design intent has been to create a building that is light in appearance, and minimises bulk and dominance. Therefore limitations on VLT are not expected to be necessary in this situation.

8.3 *"The finish colours of the external cladding shall have a reflectance value of less than xx and be a colour that is a neutral palette and complimentary to the coastal environment and surrounding buildings and shall be restricted to light sandy, grey, cream or blue tones."*

The Light Reflectance Value (LVR) of a colour or material indicates the amount of visible light that a colour will reflect. Black has a LVR of 0% and white has a LVR of 100%.

As previously noted, the final colours and material selections for the proposed design are yet to be decided, but are anticipated to be of neutral nature. We are happy to accept a condition in regard to the LVR of the proposed cladding selections, and I would recommend this be between 30-100 LVR.

## **SHADING EVALUATION EVIDENCE**

### **9.0 OUTLINE OF MODELLING TECHNIQUES AND PROCESSES**

9.1 To simulate the potential shade effects of the proposed development I used my expertise to develop a computer generated model of the proposal based on the survey data provided by BTW Company Ltd (BTW). The model was generated with Autodesk Revit software which is a typical software application used in this type of work, and standard practice for shading simulation as used within the BOON office.

9.2 Two versions of shading diagrams were created to generate the shadow study images; plan views, and a fixed aerial perspective view. The plan views assessed the sunrise and sunset shading, as these are the sections of the day when the shading from the proposed development will come into effect on the neighbouring properties. The perspective view further assessed the vertical shading component of the sunset shading on the properties to the east of the proposed development, since this is where the shading has the most impact.

Shading was assessed at four dates of the year; March 21, June 21, September 21 and

December 21. These dates represent the autumn equinox, winter solstice, spring equinox and summer solstice accordingly. Refer to Appendix 1.

- 9.3 The current topography of the property (1-3 Dawson Street), the existing building at 1 Dawson Street and the neighbouring buildings to the east have been surveyed by BTW to provide accurate building outlines, relative levels and heights. Mr. Preston's expert evidence outlines the rigorous process undertaken to ensure the survey data that informed my shade modelling is accurate.
- 9.4 The neighbouring buildings selected to be surveyed were those owned by submitters who had raised concerns about shading. This included 122 St Aubyn Street, 122A St Aubyn Street, 122B St Aubyn Street (did not submit, but was surveyed at the same time anyway), and the Richmond Estate complex.
- 9.5 The size/shape/height/location/levels/etc. of non-surveyed existing neighbouring buildings (which are not owned by submitters) are shown approximate only, conservatively modelled, based on data from NPDC GIS, photographs and observations of their relative locations, and are NOT based on surveyed information. These are identified in the drawings.
- 9.6 The contours of the extended neighbourhood geography and location of other neighbouring properties are created using data from NPDC GIS database for land contours and property lines.
- 9.7 The generation of the shading is created via the in-built sun-path data, specific to the project address, in the Autodesk Revit software used by BOON Ltd. As previously mentioned, this is standard practice within BOON for shading analysis.

## **10.0 PERMITTED BASELINE DEVELOPMENT SHADOW STUDY**

- 10.1 A permitted baseline development (baseline development) shadow study was modelled using the same technology and survey data discussed above as a tool to show the potential shadow effects of a compliant permitted activity development and the potential shadow effects of the proposed development.
- 10.2 The baseline development consists of:
  - The existing legally established building at 1 Dawson Street to remain
  - A new 10m high extension to the 1 Dawson Street building on the western side (over the current carpark area).
  - A new 10m high development with one hundred percent site coverage on 3 Dawson Street.
- 10.3 Simulations of the shade effects of the baseline development were generated for the same dates and times as described in 9.2 above, and overlaid for comparison. Refer to Appendix 1.

## **11.0 PROPOSED DEVELOPMENT SHADOW STUDY**

- 11.1 The proposed development shadow study was undertaken to determine the potential adverse shadow effect of the proposed development on the adjacent properties. Prior to this, various building forms were modelled and tested with the architect during the sketch design phase of the project in regard to minimising the potential shade effect. Measures were undertaken during design to mitigate any shadow

effects where possible (as is also discussed in the architectural evidence). Such measures included the building materiality (the amount of glass) and the setback design of the proposal to limit the shade.

11.2 The baseline development and proposed development shading were overlaid to allow a clear visual representation of the effects of shading from the proposed development over and above those that could occur as of right under a permitted baseline development scenario.

11.3 The shading caused by the proposed over-height portion of the proposed development will create shading effects during sunrise on the properties to the west, and towards sunset on the properties to the east at certain times of the year. The sunrise effects are evaluated to be negligible, and no property owners have submitted against the proposal based on the sunrise shading. Impact by the sunset shading is greater, and these properties were assessed using graphs and descriptions as provided in the architectural documentation, refer appendix 1.

To summarise these effects as part of this evidence:

#### **122 St Aubyn Street:**

This property is located to the south-east of the subject site, and already receives shading effects from the existing building. The proposed development will have the greatest amount of shading effect on this property. Shading will occur on the northern façade and rooftop during the months February-October. The northern façade is two stories high, and contains large windows and a balcony area. Shading effects are most often extensions of existing shadowing, and the size of the extension varies according to the time of day and year. The extensions range from small areas of the lower level of the house (low degree), to occasionally full coverage of both walls (highest degree).

There will be no additional shading created on this property in the summer months (November-January). The majority of the additional shading created on this property would also occur under a permitted baseline development scenario and in many cases, shading effects from a permitted baseline development would be greater than that of the proposed.

#### **122A St Aubyn Street:**

This property is located immediately to the east of the subject site, and already receives shading effects from the existing building. The western façade and rooftop will be affected year-round by additional shading, and the highest amount will be during the summer months (November-January) which will occur over the longest period of time (approximately 2.30pm -7.30pm across the wall).

The western façade is three stories high, and contains few windows (it is noted that there are two windows and a door missing from the surveyed model provided by BTW. These are understood to be for an ensuite, laundry and garage door). Since the lower portion of the wall falls into shadow earlier in the day with the existing situation, the majority of the shading effects on this façade will be noticed at the windows on the third floor level, which are understood to contain a scullery, toilet and ensuite.

Since the western façade is so close to the existing building at 1 Dawson Street, all new shading will be an extension of the existing. The size and amount of shading varies according to the time of day and year.

#### **122B St Aubyn Street:**

This property is approximately 15m to the east of the subject site, and already receives shading effects in the afternoon throughout the year. The proposed development will have additional shading effects to the rooftop in the autumn, spring and summer and to the northern façade slightly in the summer also.

122B St is three stories high, and contains balconies or outdoor spaces at all levels on the northern façade. The shading created by the proposed development on the northern façade is contained to mostly occur on the structural posts, as the overhangs of the roof and floors of the property itself already create shading to the balcony spaces. There will be some minor shading to the upper portion of the western façade, which will extend the shadowing already in existence on the building. The majority of the shading on this property is considered relatively minor (lowest degree). The effects of the proposed development are mostly beyond what would be created with a permitted development. There will be no additional effects in the winter months to this property.

#### **Richmond Estate:**

This collection of apartments and houses is located approximately 50m to the south-east of the subject site, and already receives shading effects in the afternoon from the existing building. The proposed development will have additional shading effects on the northern and western walls of these buildings during March-September. The apartments are understood to be a mixture of sizes and orientations, with balconies on the northern side of the majority of the estate.

Shading will have the greatest effect to this collection of dwellings in March, April, August and September, to the northern façade. Of the estate, the greatest impact will be experienced by unit GC (owned by the Stewarts) which is closest to the applicant site. In the winter months, the shading effect is mostly cast on the western side of the estate – the western façade of the Stewart's apartment.

Typically, the proposed shading effects of the proposed development are similar to what would be created with a permitted baseline development. There will be no additional effects in the summer months October-February.

## **12.0 RESPONSE TO SUBMISSIONS RECEIVED**

12.1 As a result of the submissions received in regards to possible shading of 122 St Aubyn Street, 122A St Aubyn Street, and the Richmond Estate, which questioned the accuracy of the work undertaken, a full point cloud survey was undertaken by BTW. This process is further explained in the expert evidence by Mr. Preston.

Following the survey, BTW provided us with a comprehensive Revit model of the neighbouring buildings, which was able to be linked into our own model in order to re-run the shading simulations.

- 12.2 Simulations of the shade effects relevant to the above were re-generated for the same dates and times as per the original diagrams, this time with more detail available in regard to accurate locations, size and shape of windows etc. Refer to Appendix 1.
- 12.3 The net effect of the re-generated shading diagrams was – in my opinion – no different to that which was evaluated under the original approximate neighbourhood data.
- 12.4 Following the creation of the new shading diagrams, our 3D model data was submitted for a peer review to Ardern Peters Architects. Their review process overall found the BOON modelling and documentation to provide an accurate representation of the proposed additions and shading effects, however it did identify some issues:
- 12.5 There was a discrepancy in the daylight saving time settings. This affected the description of our shading diagrams in the daylight savings months by one hour. This was remedied, and the revised diagrams were provided on 28 July 2021.
- 12.6 The IFC file type provided to Ardern Peters was coarse and obstructed the shadowing. Following discussion, we then provided a Revit file format on 28 July 2021 which was then able to be used conclusively.
- 12.7 In the BOON model, the shadowing level had been set to ground floor. This meant that surfaces below ground floor level were worse affected than originally represented. This only affected the shading on the seaward side of 1 Dawson Street (the coastal walkway), and this was rectified in the revised diagrams provided on 28 July 2021.

### **13.0 RESPONSE TO S42A REPORT**

13.1 I have read the Officers Section 42A Hearing Report (Luke Balchin) LUC21/47890 and have the following comments:

- Generally, I agree with Mr Balchin's summary of shading effects.
- Mr Balchin has recommended in his report that the applicant should elaborate on the definitions of 'degree of shading impact' within their evidence. I therefore offer the following description;  
The degree of shading is a subjective interpretation following a thorough review of the shading diagrams and shadows generated in the 3D model. It is intended as a relative way of communicating the difference in the amount of shading experienced. Primarily, this is based on the quantity of additional shading cast on the walls and windows of the buildings as witnessed in the model, and is not necessarily related to the activities or room types within the affected areas – though these are understood to often correlate.

### **14.0 CONCLUSIONS**

14.1 Through rigorous collaborative design and development, I consider a sophisticated design has been created that efficiently optimizes a challenging, high profile site for the applicant. The design integrates well within its surrounding urban environment whilst making a positive statement about the city.

14.2 I have undertaken detailed modelling of the development and surrounding area utilising industry standard software and techniques which has been peer reviewed within BOON, and by other experts engaged by NPDC. I have also used peer reviewed survey data from registered cadastral surveyors to produce a series of shadow studies that can be used by others to determine the extent of the effects of the proposed development in regard to shading and amenity. In my opinion this has resulted in an accurate modelling of shading from both a permitted development and the proposed development scenarios which can be relied on with confidence.

14.3 I have read the submissions in relation to shading effects, in my view, the evidence comprehensively addresses potential adverse shading effects on the relevant environment.

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

**Emily Batchelor**

**Boon Team Architects Ltd**

**4 August 2021**



## **APPENDIX 1:**

Shading diagrams prepared by Boon Ltd. for Resource Consent submission, submitted to NPDC 28 July 2020:

- SK0.01 Proposed Site Plan
- SK2.01 Parking Plan
- SK2.02 3 Dawson Proposed Ground Floor
- SK2.03 3 Dawson Proposed Level 1
- SK2.04 Proposed Level 2
- SK3.01.1 West Elevation – Proposed Only
- SK3.02.1 North Elevation – Proposed Only
- SK3.03.1 East Elevation – Proposed Only
- SK3.04.1 South Elevation – Proposed Only
- SK3.05 Dawson Street Elevation
- SK3.10 Permitted Baseline Building – Plan
- SK3.11 Permitted Baseline Building – Elevations
- SK3.12 Permitted Baseline Building – Elevations
- SK3.13 Permitted Baseline Building – 3D Diagram
- SK4.00 Shadow Study Check View – July 09
- SK4.01 Shadow Study – March 9.00am
- SK4.02 Shadow Study – March 10.00am
- SK4.03 Shadow Study – March 11.00am
- SK4.04 Shadow Study – June 8.00am
- SK4.05 Shadow Study – June 9.00am
- SK4.06 Shadow Study – June 10.00am
- SK4.07 Shadow Study – September 7.00am
- SK4.08 Shadow Study – September 8.00am
- SK4.09 Shadow Study – September 9.00am

- SK4.10 Shadow Study – December 8.00am
- SK4.11 Shadow Study – December 9.00am
- SK4.12 Shadow Study – December 10.00am
- SK4.13 Shadow Study – March 6.00pm
- SK4.14 Shadow Study – March 7.00pm
- SK4.15 Shadow Study – March 8.00pm – Considered redundant as after sunset with daylight savings consideration.
- SK4.16 Shadow Study – June 3.00pm
- SK4.17 Shadow Study – June 4.00pm
- SK4.18 Shadow Study – June 5.00pm
- SK4.19 Shadow Study – September 4.00pm
- SK4.20 Shadow Study – September 5.00pm
- SK4.21 Shadow Study – September 6.00pm
- SK4.22 Shadow Study – December 7.00pm
- SK4.23 Shadow Study – December 8.00pm
- SK4.23 Shadow Study – December 9.00pm – Considered redundant as after sunset with daylight savings consideration.
- SK5.01 Sunset Shadow Studies – March
- SK5.02 Sunset Shadow Studies – June
- SK5.03 Sunset Shadow Studies – September
- SK5.04 Sunset Shadow Studies – December
- SK5.05 Shading Effect Summary – 122 St Aubyn Street
- SK5.06 Shading Effect Summary – 122A St Aubyn Street
- SK5.07 Shading Effect Summary – 122B St Aubyn Street
- SK5.08 Shading Effect Summary – Richmond Estate Apartments
- SK5.10 Sunset Shadow Studies Graph

**1-3 Dawson Street**

**New Plymouth**

**ISSUED FOR:**

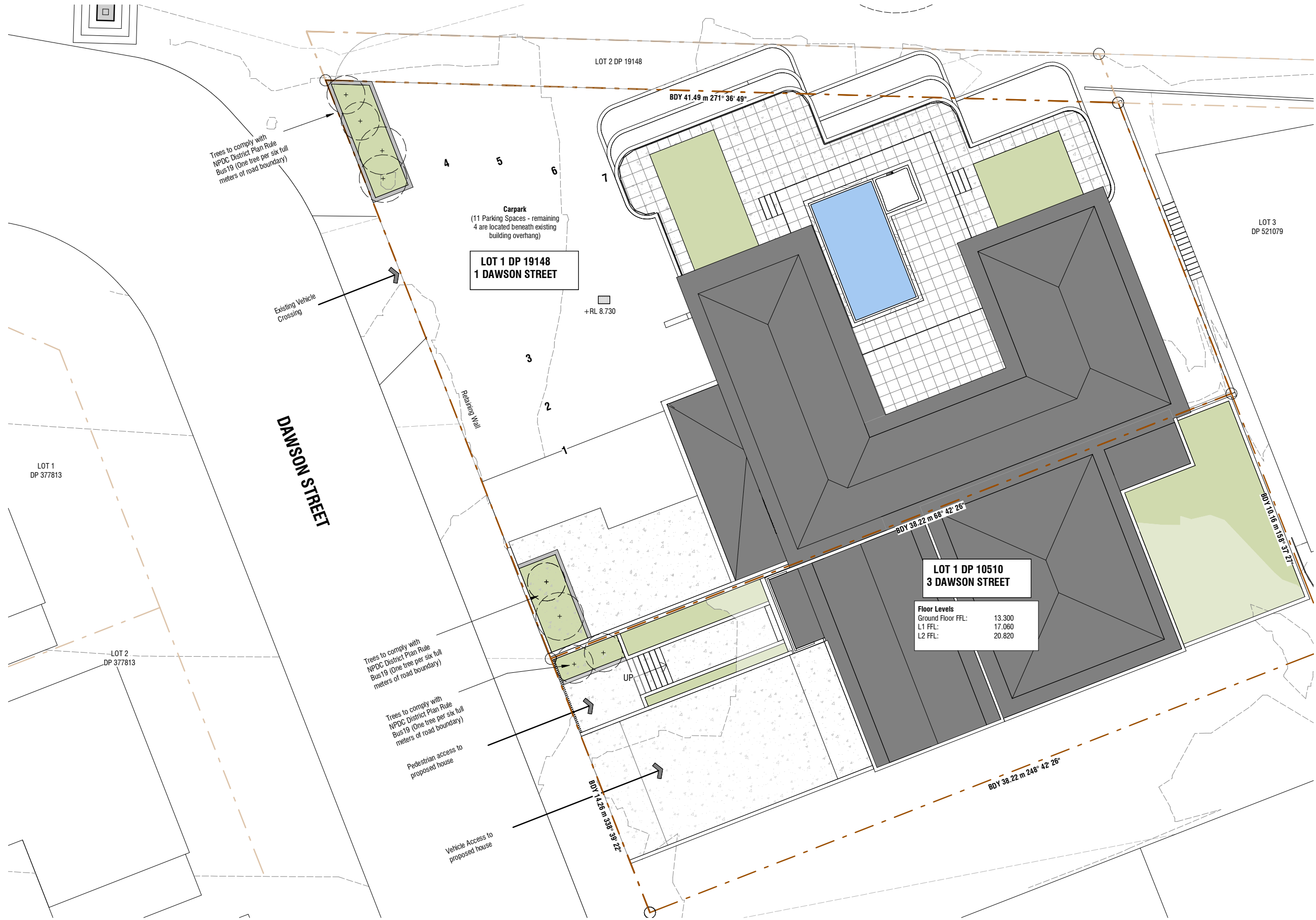
**RESOURCE CONSENT**

**6592**

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**BOON**  
**team**architects

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**1 DAWSON Site Description**

LOT 1&2  
 DP 19148  
 1 Dawson Street, New Plymouth  
 Zone: Business B  
 Wind Zone = Very High (50m/s or 1.6kPa)  
 Earthquake Zone = 1  
 Exposure Zone = D



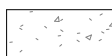


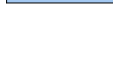
Site Area: 932m<sup>2</sup>  
 Existing Building Area: 610m<sup>2</sup>  
 Proposed Building Area: 628m<sup>2</sup>

**3 DAWSON Site Description**

LOT 1  
 DP 10510  
 3 Dawson Street, New Plymouth  
 Zone: Business B  
 Wind Zone = Very High (50m/s or 1.6kPa)  
 Earthquake Zone = 1  
 Exposure Zone = D

Site Area: 546m<sup>2</sup>  
 Proposed Building Area: 223m<sup>2</sup>

**Site Finishes Key**

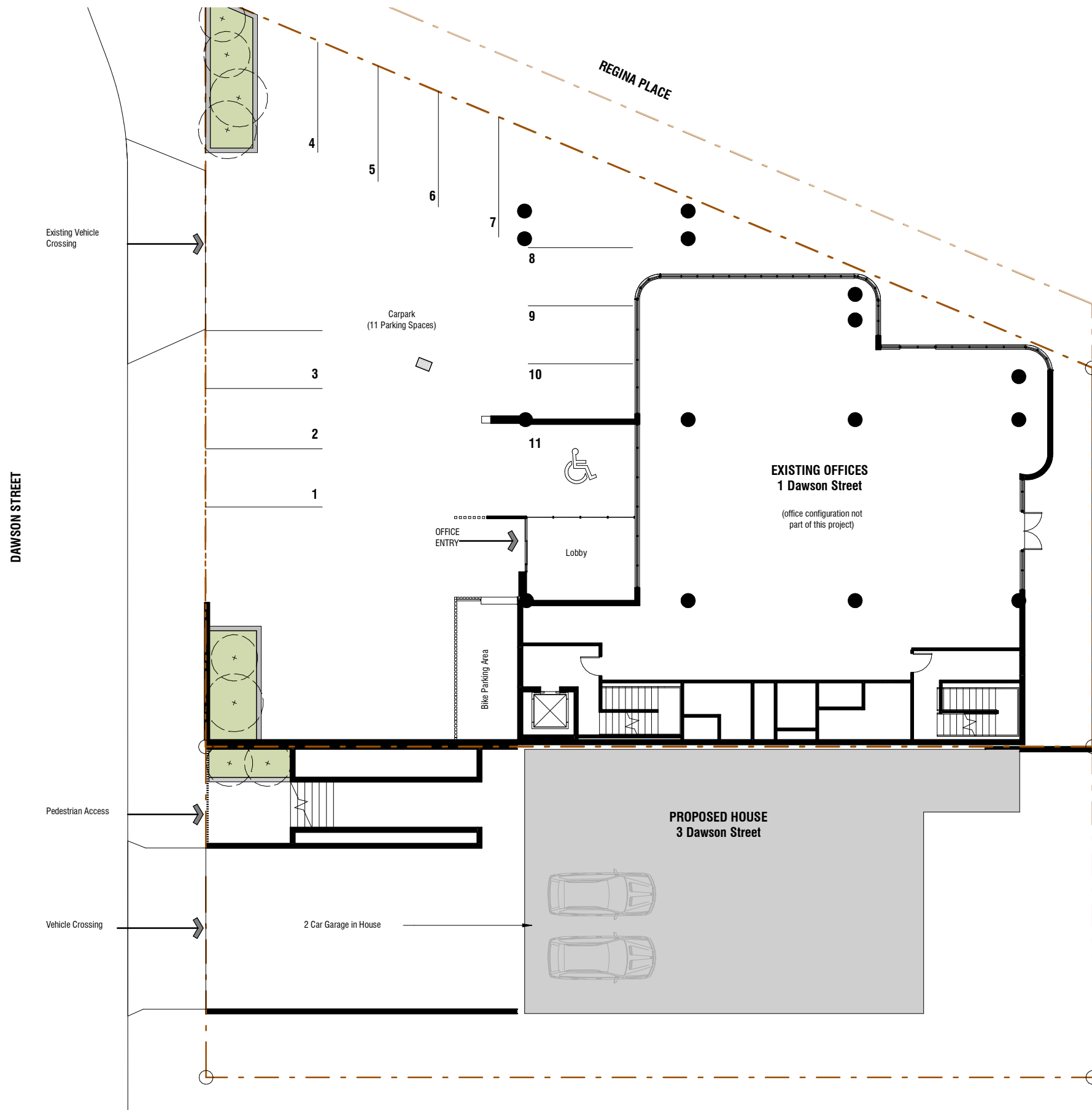
-  Existing Buildings
-  Proposed Building
-  Proposed driveway and access hard paved areas.
-  Proposed Grassed Areas
-  Swimming Pool
- 

**Proposed Site Plan**  
 Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
 New Plymouth  
**RESOURCE CONSENT**  
 JULY | 2021





**Parking Plan**  
Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
teamarchitects

job no. <b>6592</b>	a3 scale <b>1 : 200</b>	drawing no. <b>SK2.01</b>	rev <b>2</b>	drawing title <b>Parking Plan</b>	print date <b>09/07/21 04:42 PM</b>
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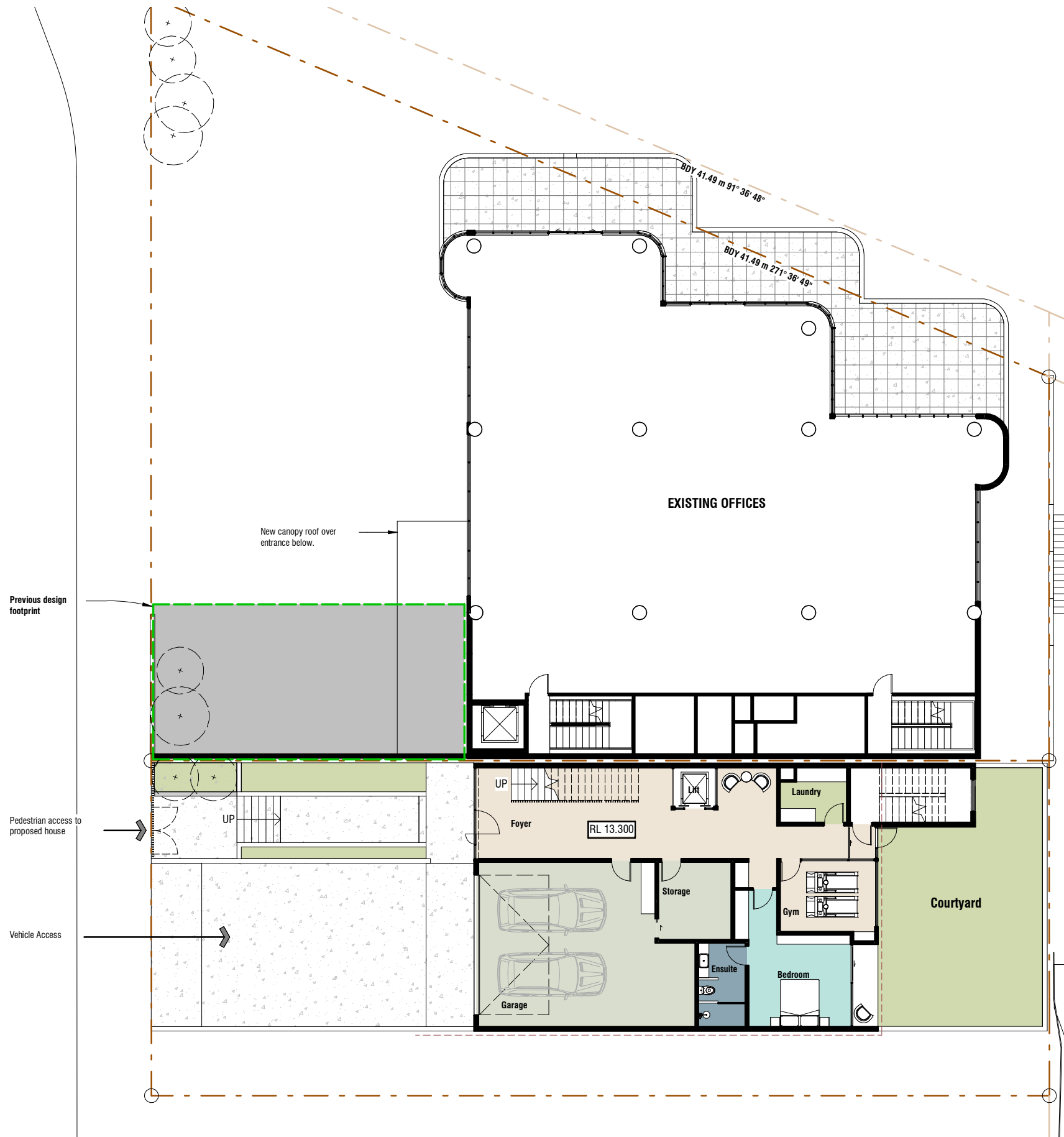
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**Resource Consent Key**

- Property Boundaries
- Previous Proposed Design Building Footprint  
Resource Consent: LUC20/47660
- Existing Building  
1 Dawson Street
- Proposed Building  
1-3 Dawson Street

**DAWSON STREET**



**3 Dawson Ground Floor**

Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth

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**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>1 : 200</b>	drawing no. <b>SK2.02</b>	rev <b>2</b>	drawing title <b>3 Dawson Proposed Ground Floor</b>	print date <b>09/07/21 04:42 PM</b>
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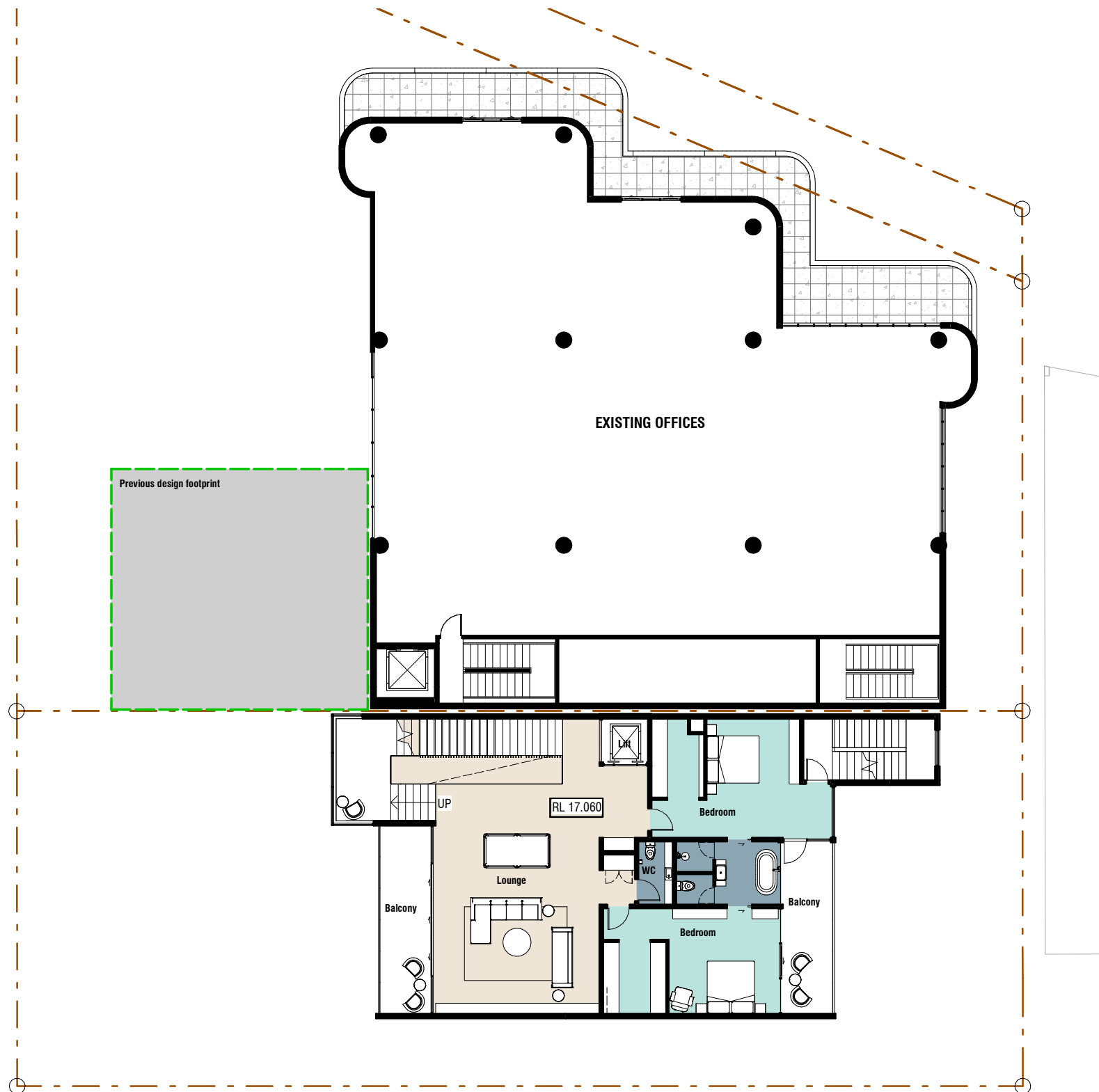
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**Resource Consent Key**

- Property Boundaries
- Previous Proposed Design Building Footprint  
Resource Consent: LUC20/47660
- Existing Building  
1 Dawson Street
- Proposed Building  
1-3 Dawson Street



**3 Dawson Proposed Level 1 Plan**

Scale 1 : 200 (A3)

Rev	Date	Description
1	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

job no. <b>6592</b>	a3 scale <b>1 : 200</b>	drawing no. <b>SK2.03</b>	rev <b>1</b>	drawing title <b>3 Dawson Proposed Level 1</b>	print date <b>09/07/21 04:42 PM</b>
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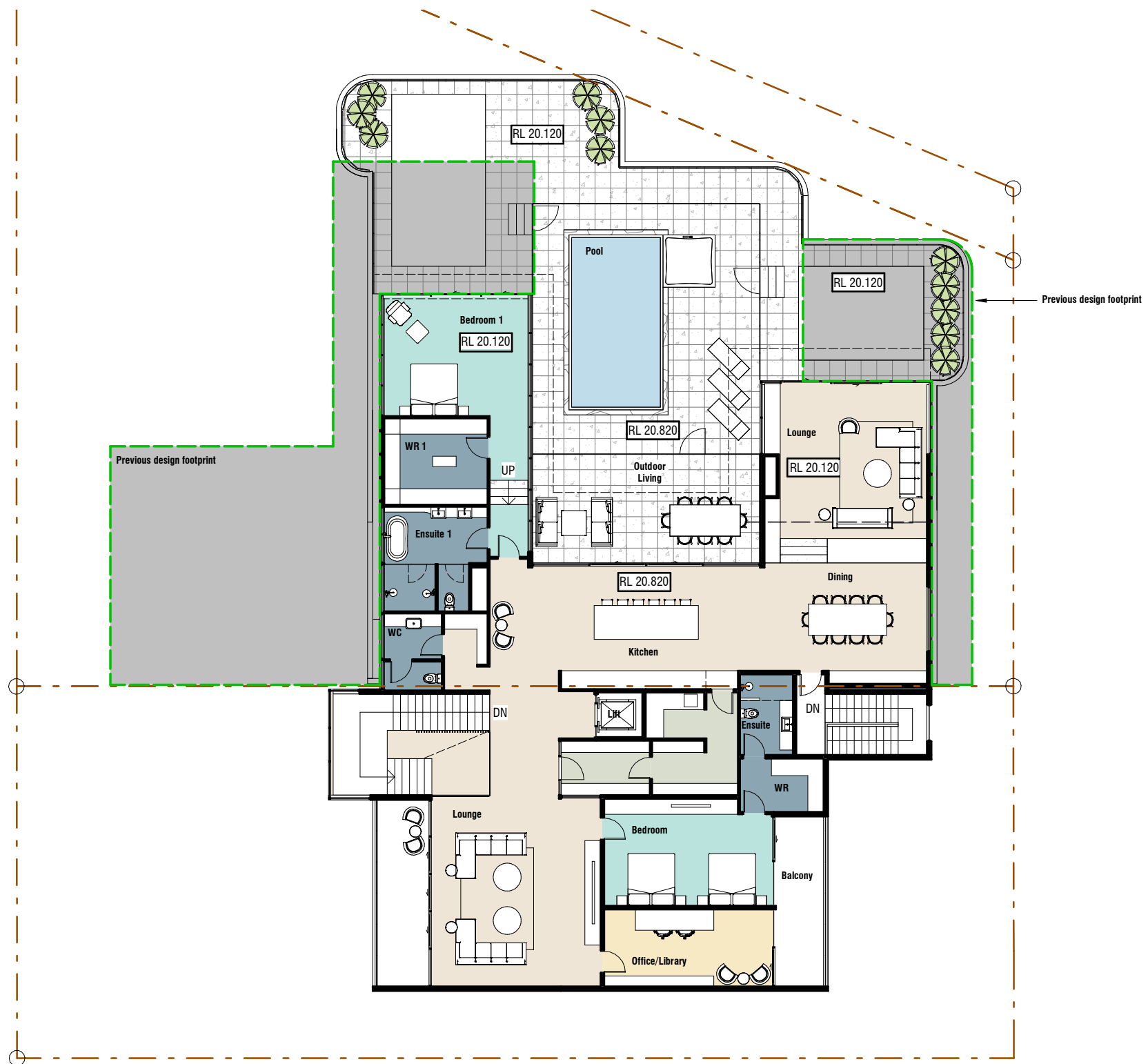
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**Resource Consent Key**

- Property Boundaries
- Previous Proposed Design Building Footprint  
Resource Consent: LUC20/47660
- Existing Building  
1 Dawson Street
- Proposed Building  
1-3 Dawson Street



**3 Dawson Proposed Level 2 Plan**

Scale 1 : 200 (A3)

Rev	Date	Description
1	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>1 : 200</b>	drawing no. <b>SK2.04</b>	rev <b>1</b>	drawing title <b>3 Dawson Proposed Level 2</b>	print date <b>09/07/21 04:42 PM</b>
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**Current Building**  
Portion of existing building to be removed shown dashed in red



**Proposed West Elevation - Proposed Only**

Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

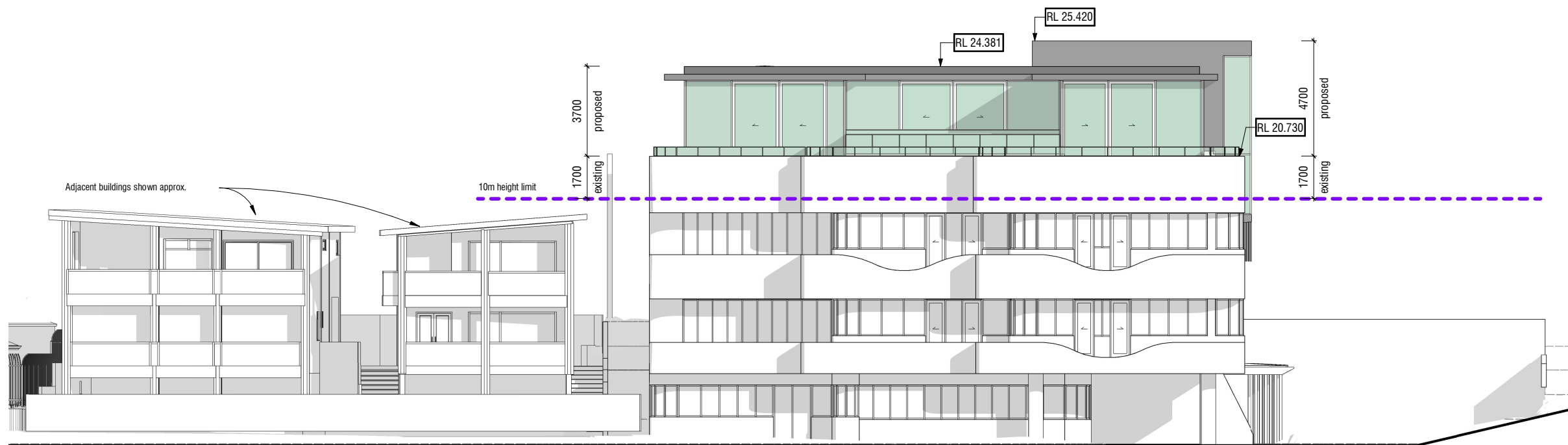
**1-3 Dawson Street**  
New Plymouth  
RESOURCE CONSENT  
JULY | 2021

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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592	1 : 200	SK3.01.1	2	West Elevation - Proposed Only	09/07/21 04:42 PM

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**Proposed North Elevation - Proposed Only**

Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

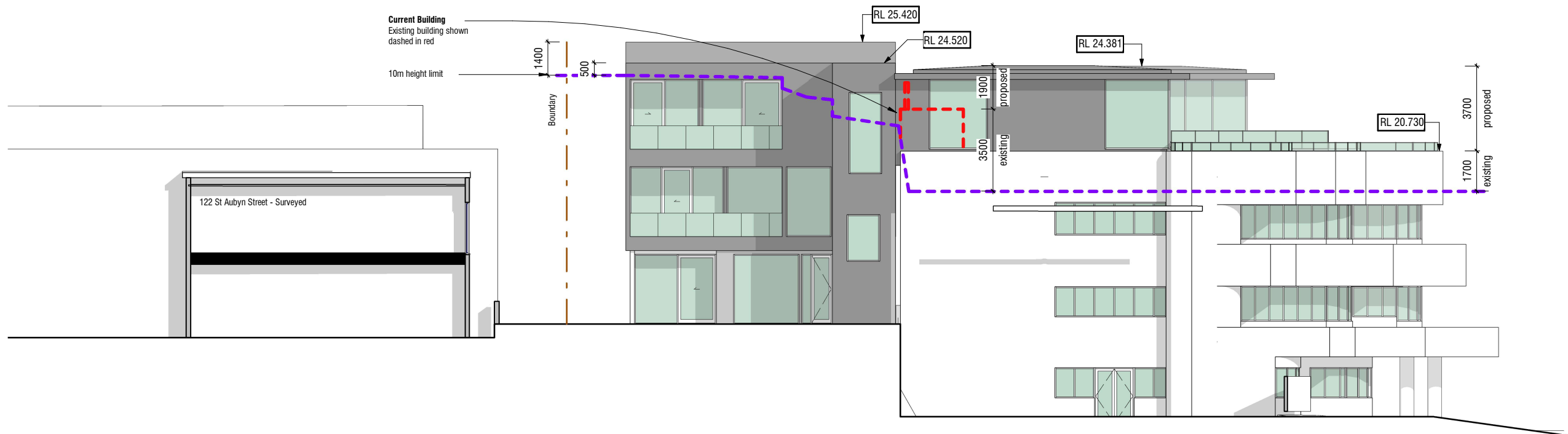
**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592	1 : 200	SK3.02.1	2	North Elevation - Proposed Only	09/07/21 04:42 PM

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**Proposed East Elevation - Proposed Only**

Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

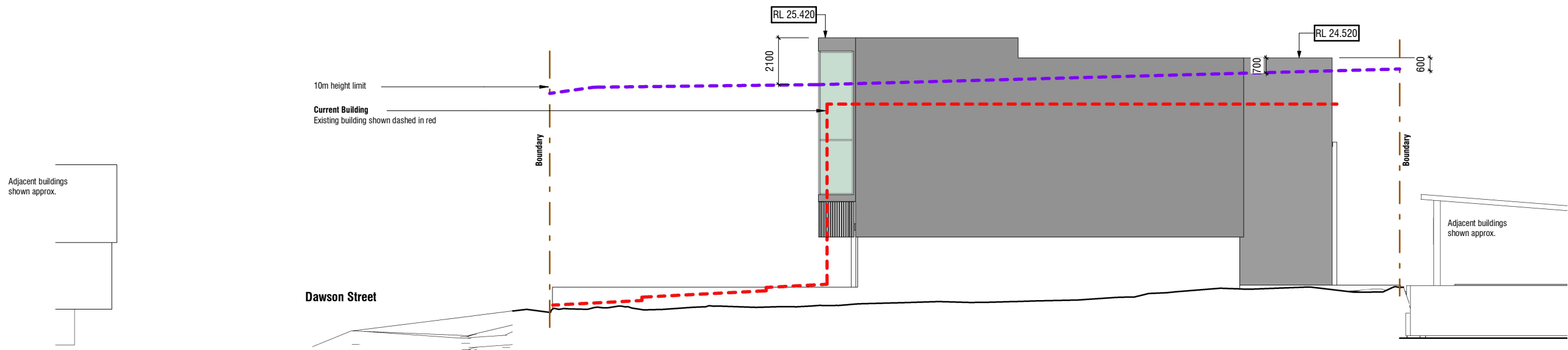
**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592	1 : 200	SK3.03.1	2	East Elevation - Proposed Only	09/07/21 04:42 PM

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**Proposed South Elevation - Proposed Only**

Scale 1 : 200 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

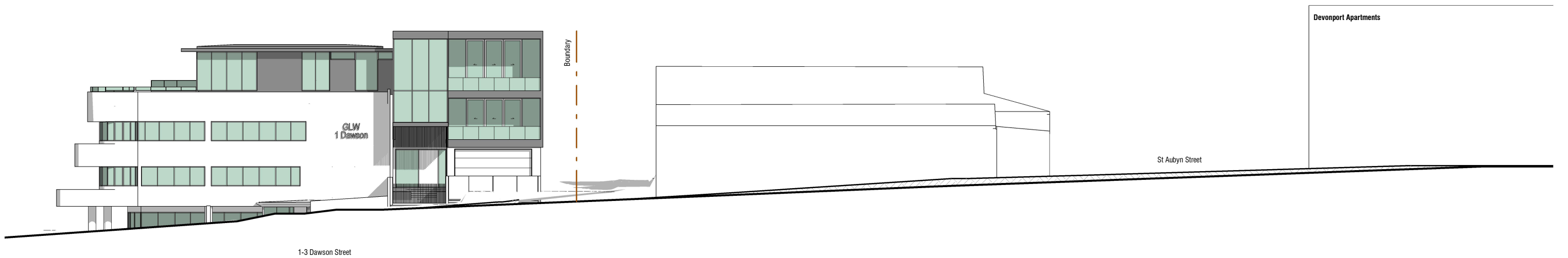
**1-3 Dawson Street**  
 New Plymouth  
 RESOURCE CONSENT  
 JULY | 2021

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job no. <b>6592</b>	a3 scale <b>1 : 200</b>	drawing no. <b>SK3.04.1</b>	rev <b>2</b>	drawing title <b>South Elevation - Proposed Only</b>	print date <b>09/07/21 04:42 PM</b>
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**Dawson Street Elevation**

Scale 1 : 300 (A3)

Rev	Date	Description
1	01.07.2021	RC RFI

**1-3 Dawson Street**  
 New Plymouth  
 RESOURCE CONSENT  
 JULY | 2021

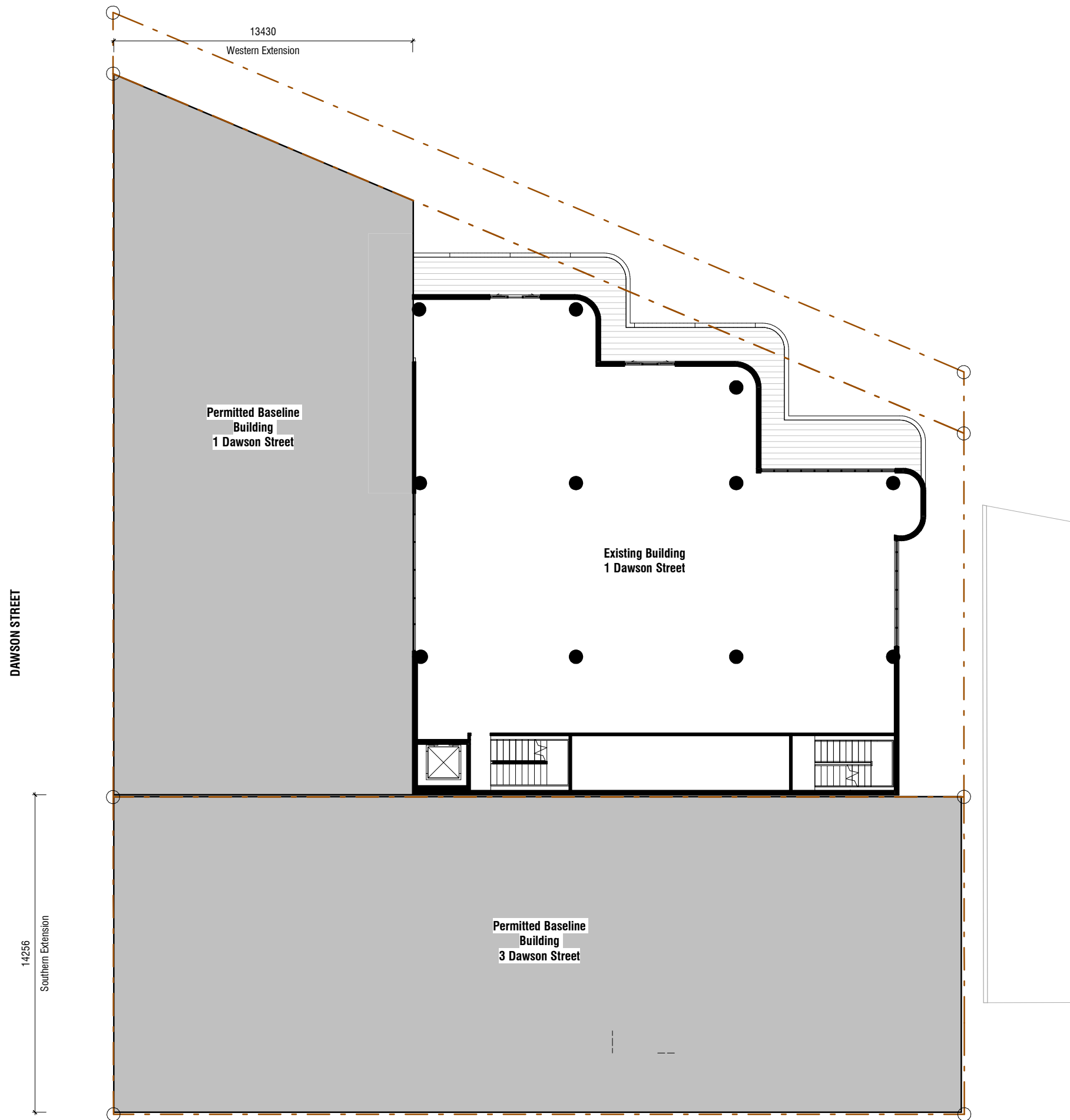
job no.	a3 scale	drawing no.	rev	drawing title	print date
6592	1 : 300	SK3.05	1	Dawson Street Elevation	09/07/21 04:43 PM

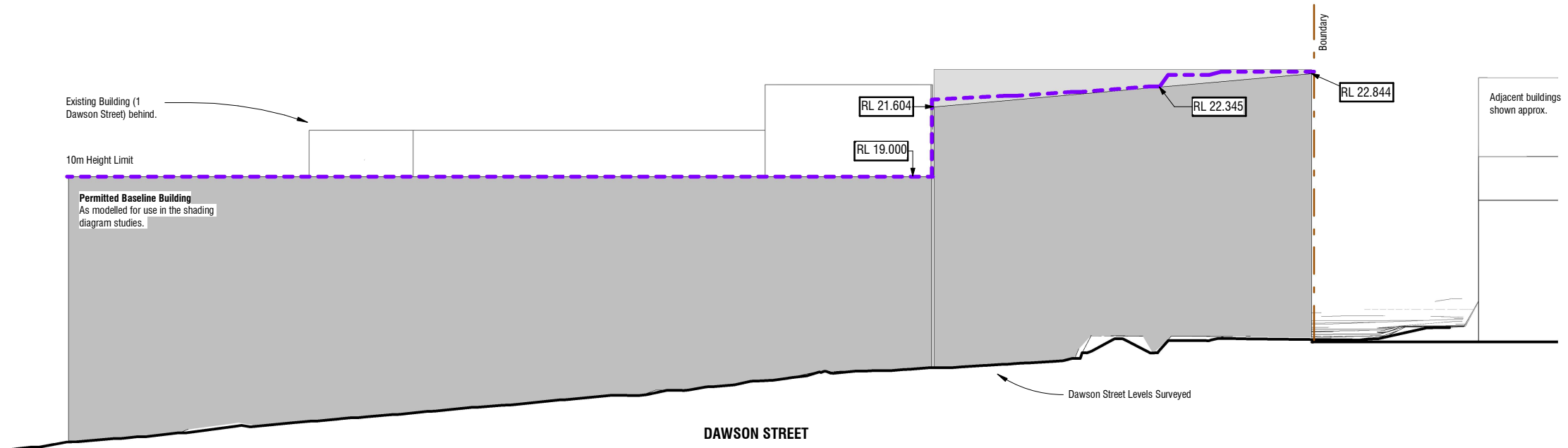
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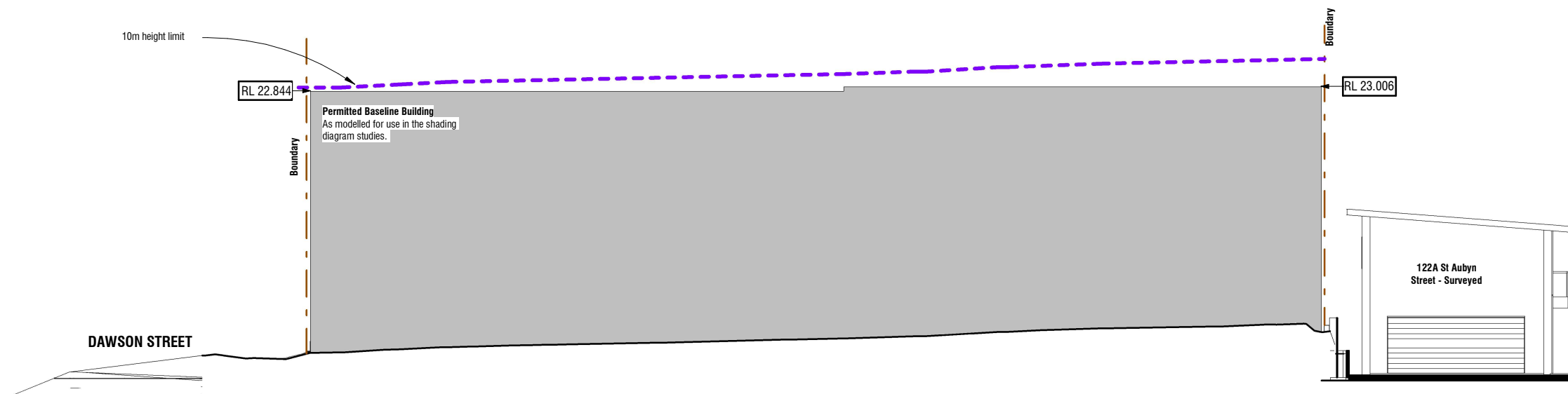
PERMITTED BASELINE BUILDING - DESIGN PROPOSAL  
PLAN EXTENTS





**Permitted Baseline Building - West Elevation**

Scale 1 : 200 (A3)



**Permitted Baseline Building - South Elevation**

Scale 1 : 200 (A3)

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Job Title  
**1-3 Dawson Street**  
New Plymouth

Scale (A3)  
**1 : 200**

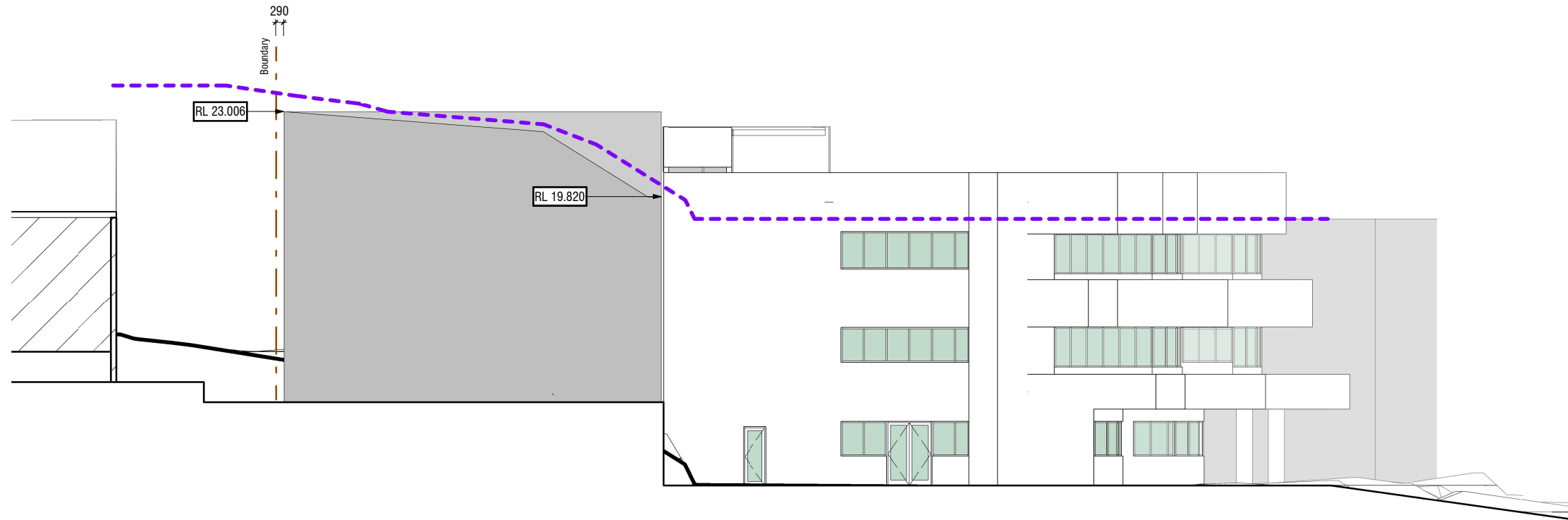
Drawing Title  
**Permitted Baseline Building - Elevations**

Rev Date Description

Issued For: **RESOURCE CONSENT** Print Date: **09/07/21 04:43 PM**

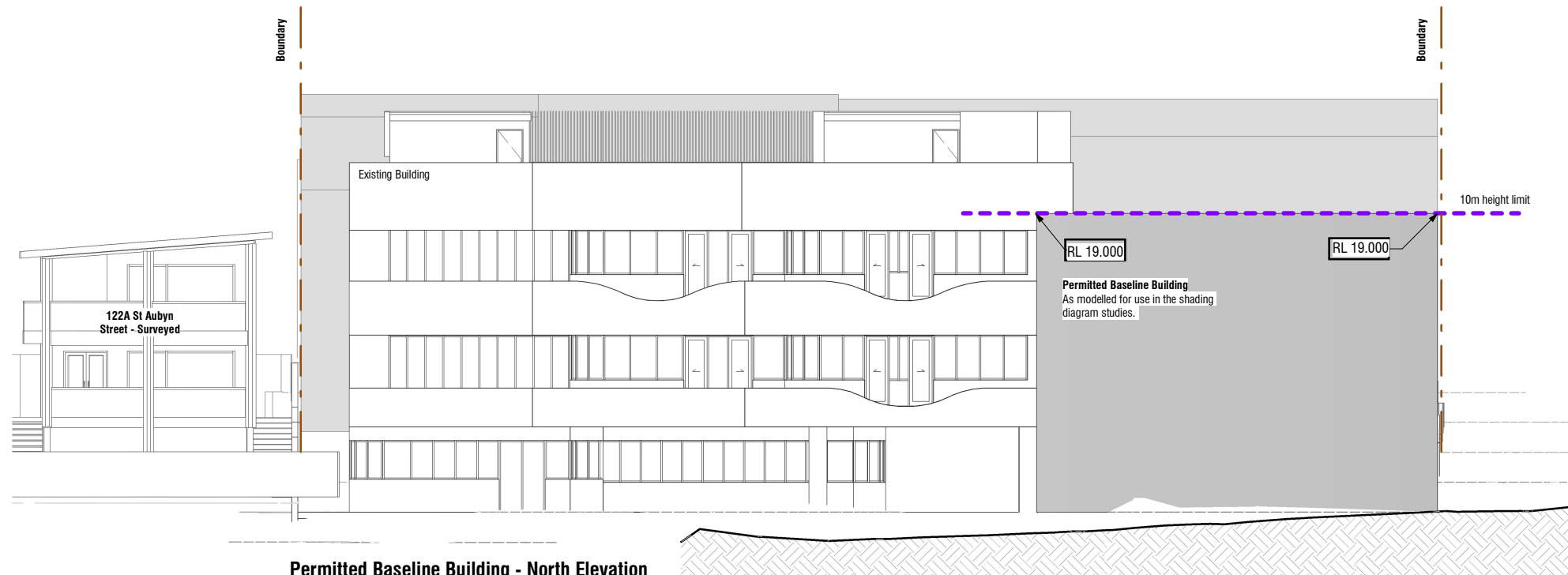
Job No. Drawing No. Rev  
**6592 SK3.11**

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ORIGINAL SIZE: A3 0 40mm



**Permitted Baseline Building - East Elevation**

Scale 1 : 200 (A3)



**Permitted Baseline Building - North Elevation**

Scale 1 : 200 (A3)

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Job Title  
**1-3 Dawson Street**  
New Plymouth

Scale (A3)  
**1 : 200**

Drawing Title  
**Permitted Baseline Building - Elevations**

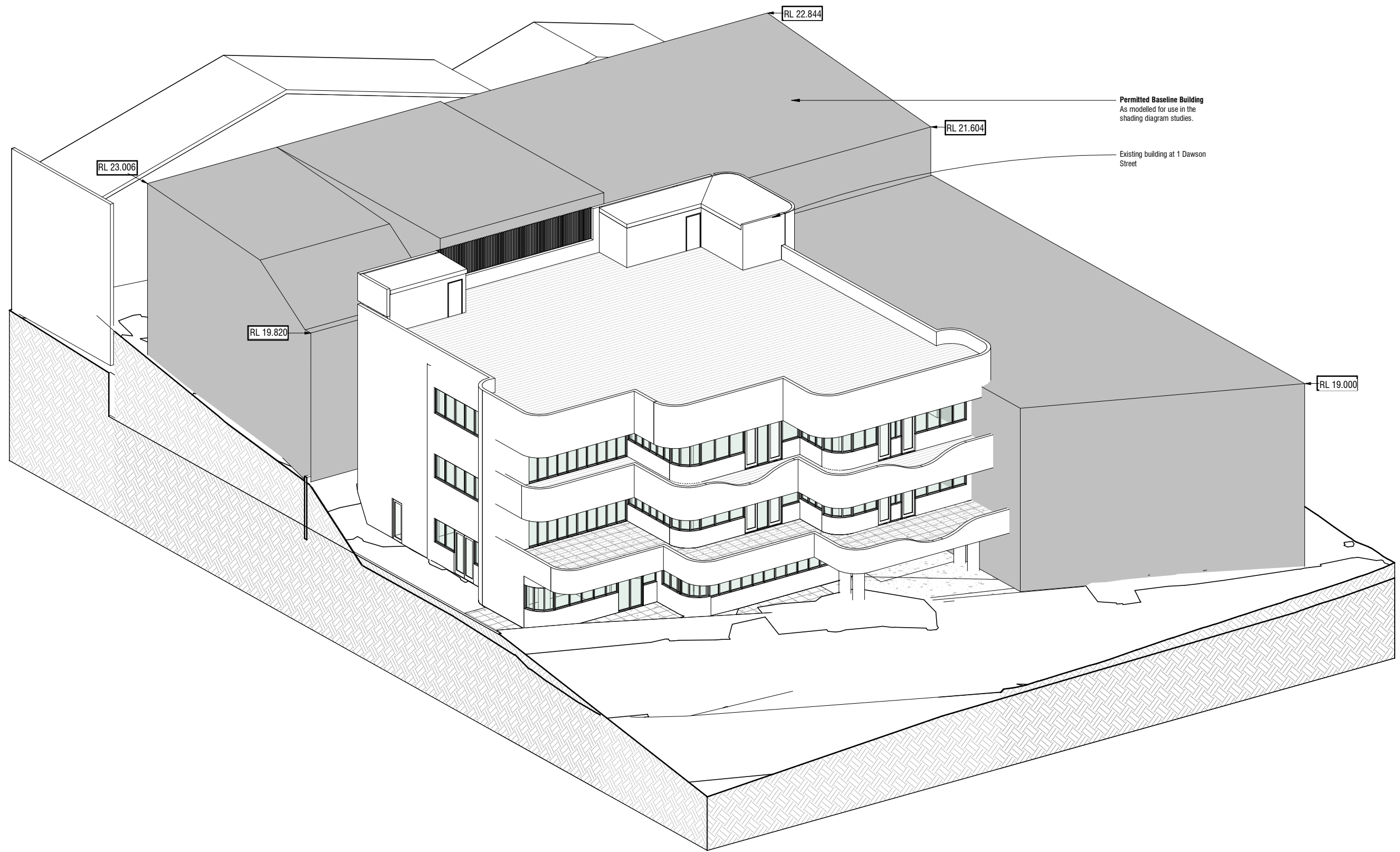
Rev Date Description

Issued For: **RESOURCE CONSENT** Print Date: **09/07/21 04:43 PM**

Job No. Drawing No. Rev  
**6592 SK3.12**

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ORIGINAL SIZE: A3 0 40mm





JULY 09 4.34PM

SUN SET: 5.20pm



Photo Taken from roof of 1 Dawson Street  
July 09 2020 - 4.34pm



Existing Shadows - July 09 4.34pm

Scale (A3)

NB: ALL EXISTING NEIGHBOURING BUILDINGS IN RICHMOND ESTATE HAVE BEEN SURVEYED BY BTW LTD. AS NOTED

ALL SHADOWS SHOWN ARE DERIVED FROM REVIT SOFTWARE

Rev	Date	Description
1	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592		SK4.00	1	Shadow Study Check View - July 09	15/07/21 03:52 PM

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# MARCH

*(Sunrise at 7.30am)*

## **SUNRISE SHADOW STUDY - 21 MARCH**

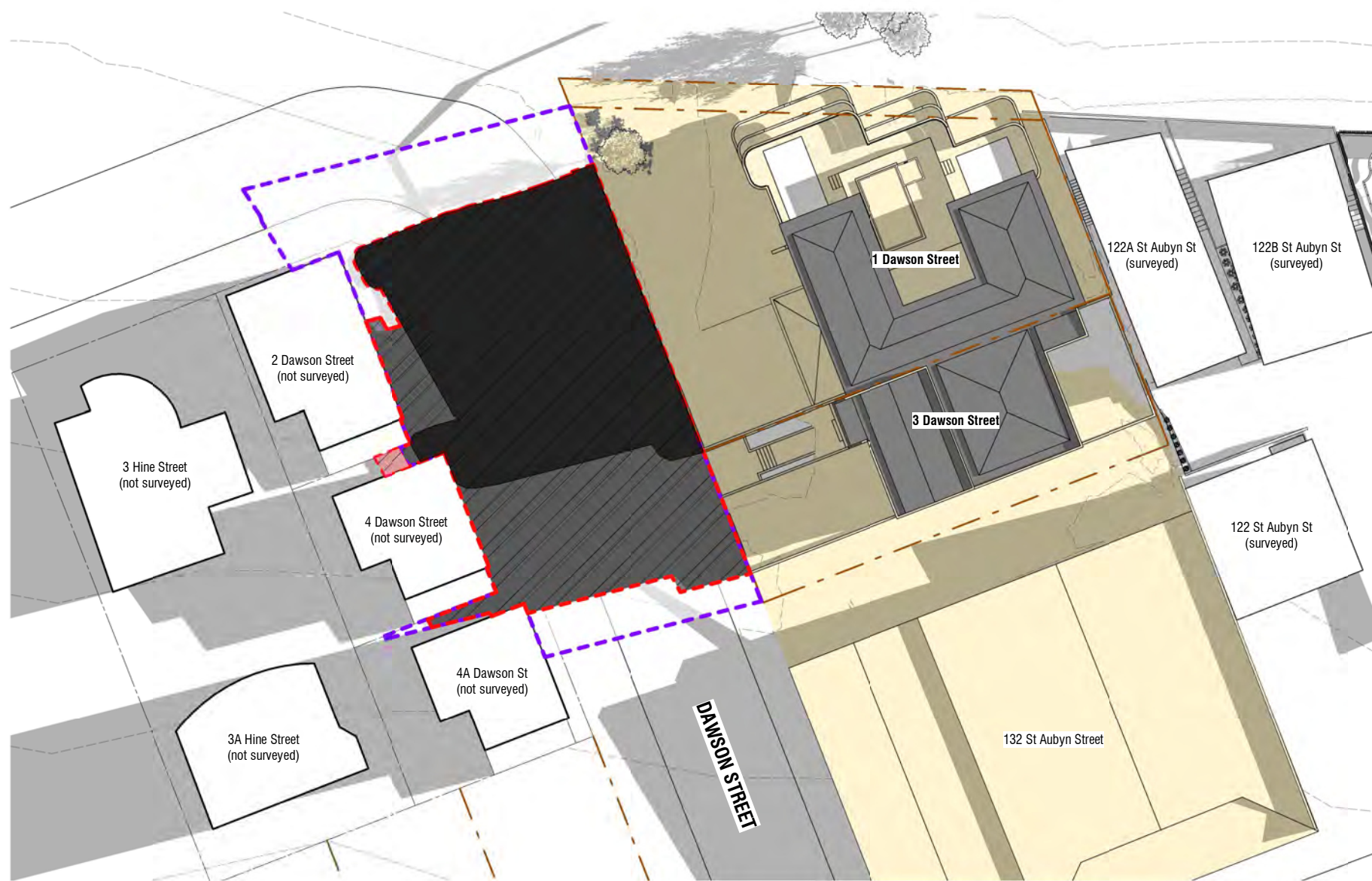
- **9.00AM**
- **10.00AM**
- **11.00AM**





**SHADOW STUDY - MARCH**  
(Sunrise at 7.30am)

**21 MARCH - 9.00AM**



**Shading Diagrams Key**

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building'  
Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - March 9am**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.01</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 9.00am</b>	print date <b>28/07/21 01:27 PM</b>
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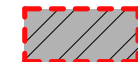

# SHADOW STUDY - MARCH

(Sunrise at 7.30am)

## 21 MARCH - 10.00AM



### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
-  Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - March 10am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.02</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 10.00am</b>	print date <b>28/07/21 01:27 PM</b>
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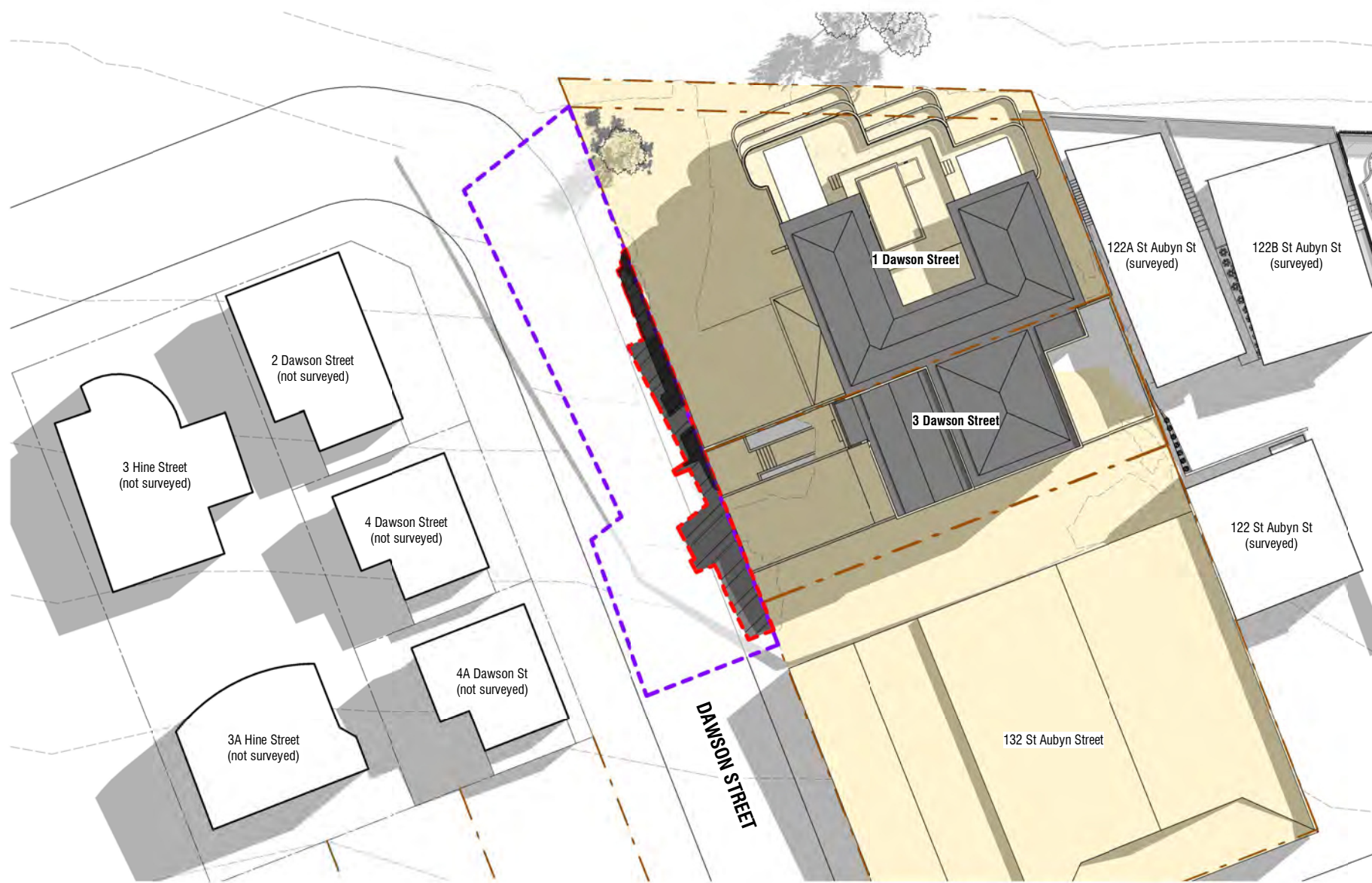
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**SHADOW STUDY - MARCH**  
(Sunrise at 7.30am)

**21 MARCH - 11.00AM**



**Shading Diagrams Key**

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - March 11am**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.03</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 11.00am</b>	print date <b>28/07/21 01:27 PM</b>
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# **JUNE**

*(Sunrise at 7.45am)*

## **SUNRISE SHADOW STUDY - 21 JUNE**

- **8.00AM**
- **9.00AM**
- **10.00AM**



# SHADOW STUDY - JUNE

(Sunrise at 7.45am)

## 21 JUNE - 8.00AM



### Shading Diagrams Key

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
- Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 8am

Scale 1 : 500 (A3)

Note: Infringing shadow is removed  
 From 1 Hine Street by 8.10am  
 From 3A Hine Street by 8.20am  
 From 4 Dawson Street by 8.10am  
 From 4A Dawson Street by 8.20am

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
 New Plymouth  
**RESOURCE CONSENT**  
 JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.04</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 8.00am</b>	print date <b>15/07/21 03:52 PM</b>
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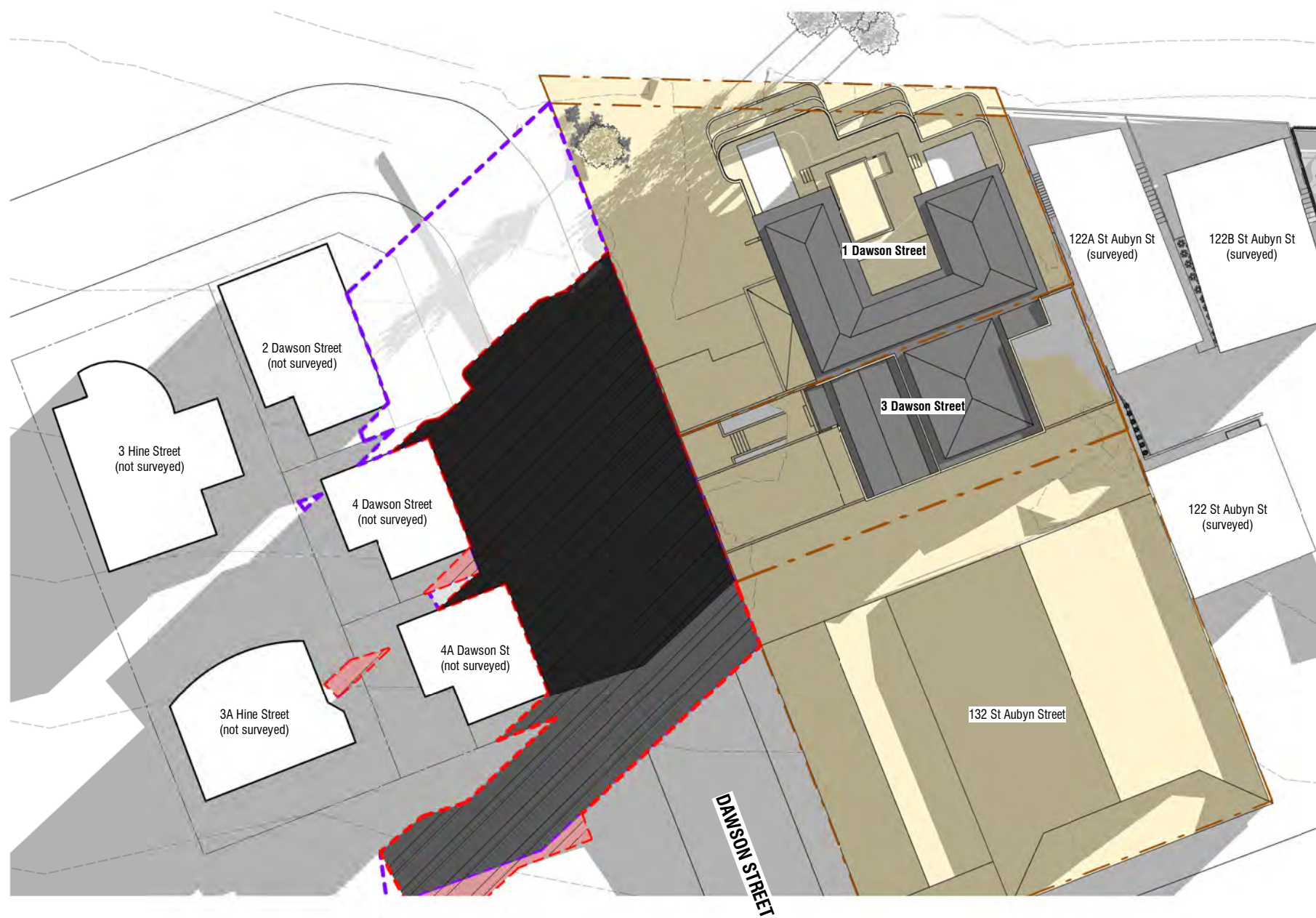










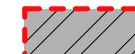

# SHADOW STUDY - JUNE

(Sunrise at 7.45am)

## 21 JUNE - 9.00AM



### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building'  
Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 9am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
teamarchitects

job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.05</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 9.00am</b>	print date <b>15/07/21 03:53 PM</b>
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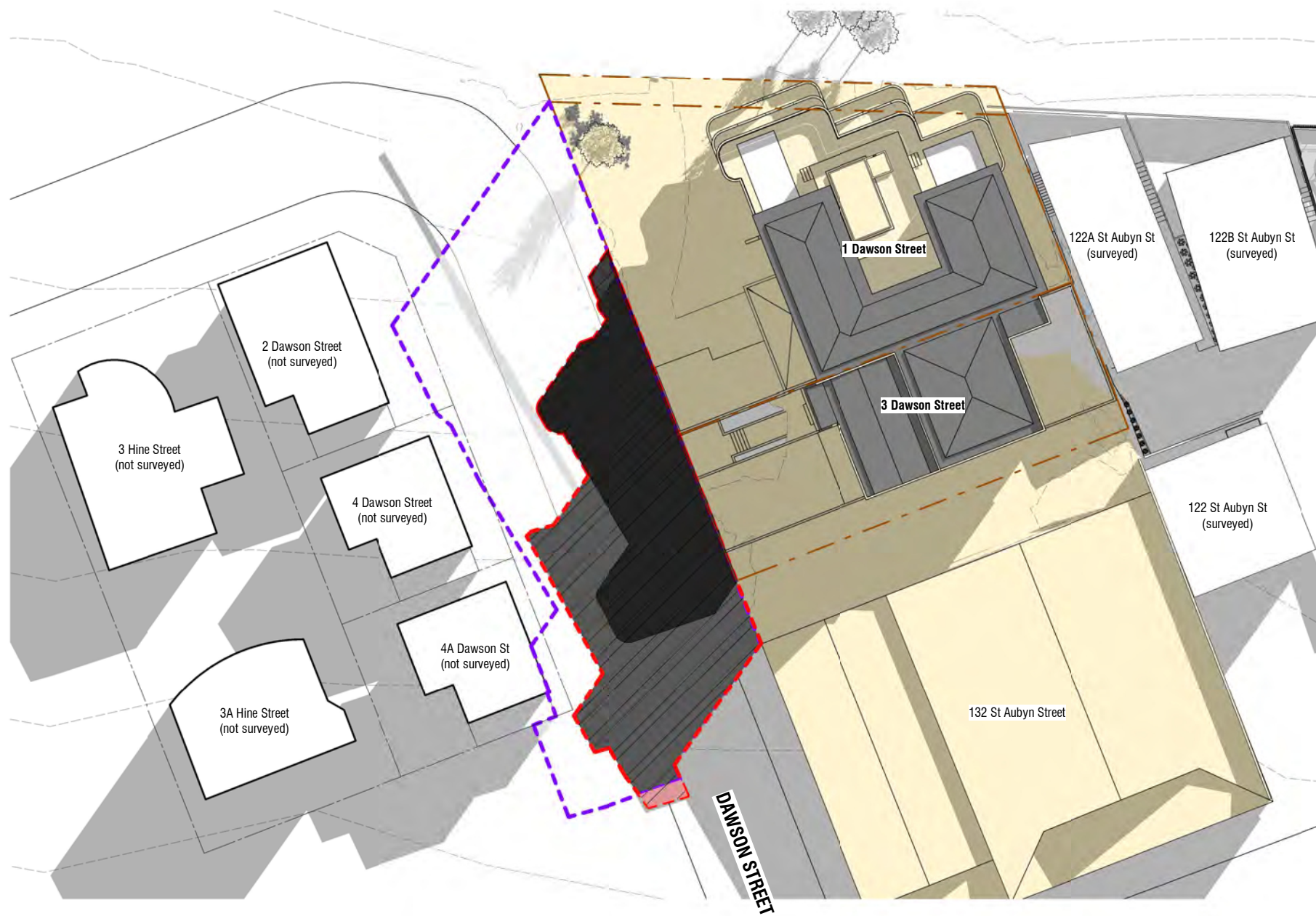
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P / 06 757 3200 E / office@boon.co.nz W / boon.co.nz



# SHADOW STUDY - JUNE

(Sunrise at 7.45am)

## 21 JUNE - 10.00AM



### Shading Diagrams Key

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
- Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 10am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021



job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.06</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 10.00am</b>	print date <b>15/07/21 03:53 PM</b>
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# SEPTEMBER

*(Sunrise at 6.15am)*

## **SUNRISE SHADOW STUDY - 21 SEPTEMBER**

- **7.00AM**
- **8.00AM**
- **9.00AM**









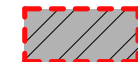

# SHADOW STUDY - SEPTEMBER

(Sunrise at 6.15am)

## 21 SEPTEMBER - 7.00AM



### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
-  Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - Sept 7am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.07</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 7.00am</b>	print date <b>15/07/21 03:53 PM</b>
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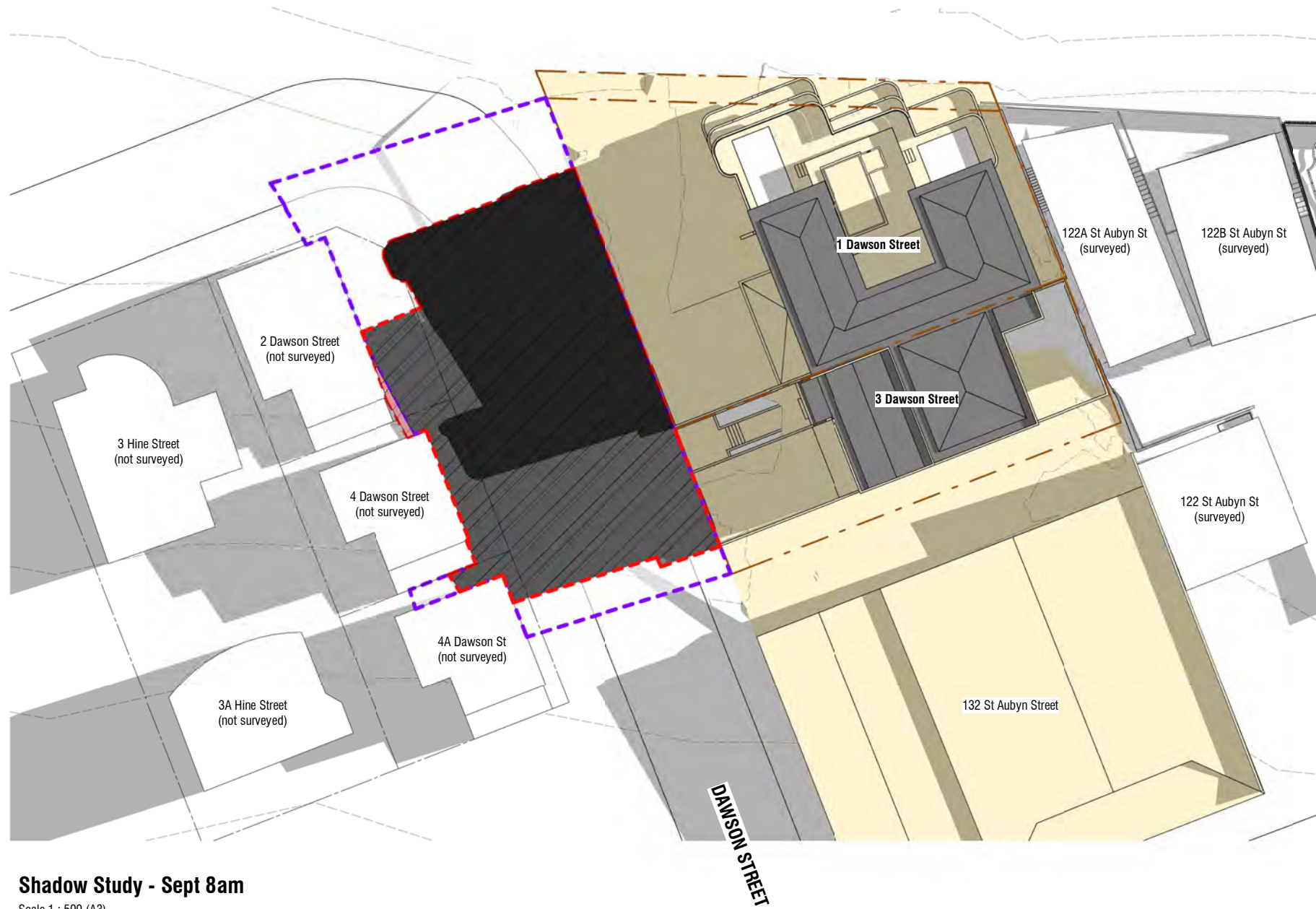
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**SHADOW STUDY - SEPTEMBER**  
(Sunrise at 6.15am)

**21 SEPTEMBER - 8.00AM**



**Shading Diagrams Key**

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sept 8am**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.08</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 8.00am</b>	print date <b>15/07/21 03:53 PM</b>
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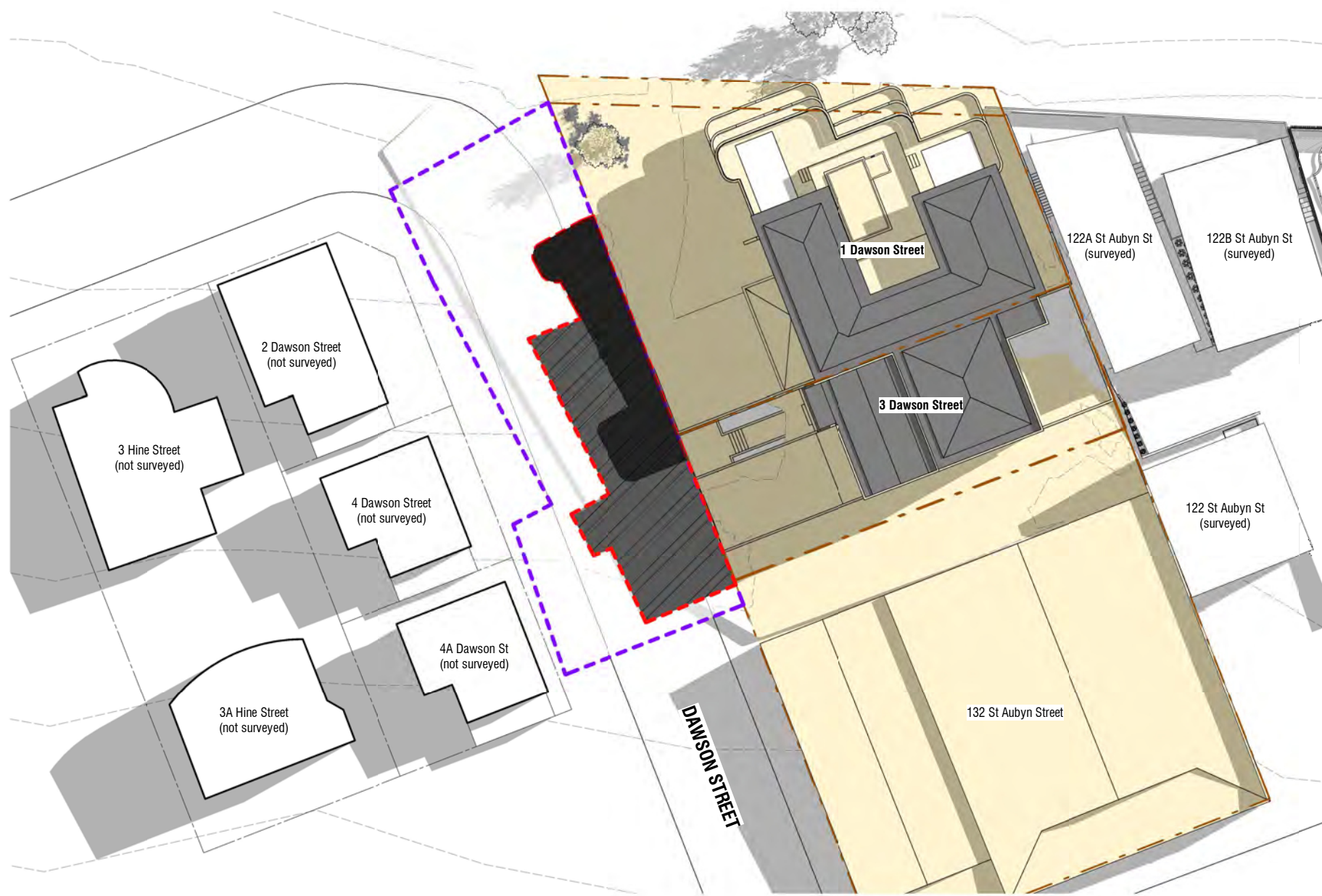
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**SHADOW STUDY - SEPTEMBER**  
(Sunrise at 6.15am)

**21 SEPTEMBER - 9.00AM**



**Shading Diagrams Key**

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sept 9am**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.09</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 9.00am</b>	print date <b>15/07/21 03:53 PM</b>
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# DECEMBER

*(Sunrise at 5.55am)*

## **SUNRISE SHADOW STUDY - 21 DECEMBER**

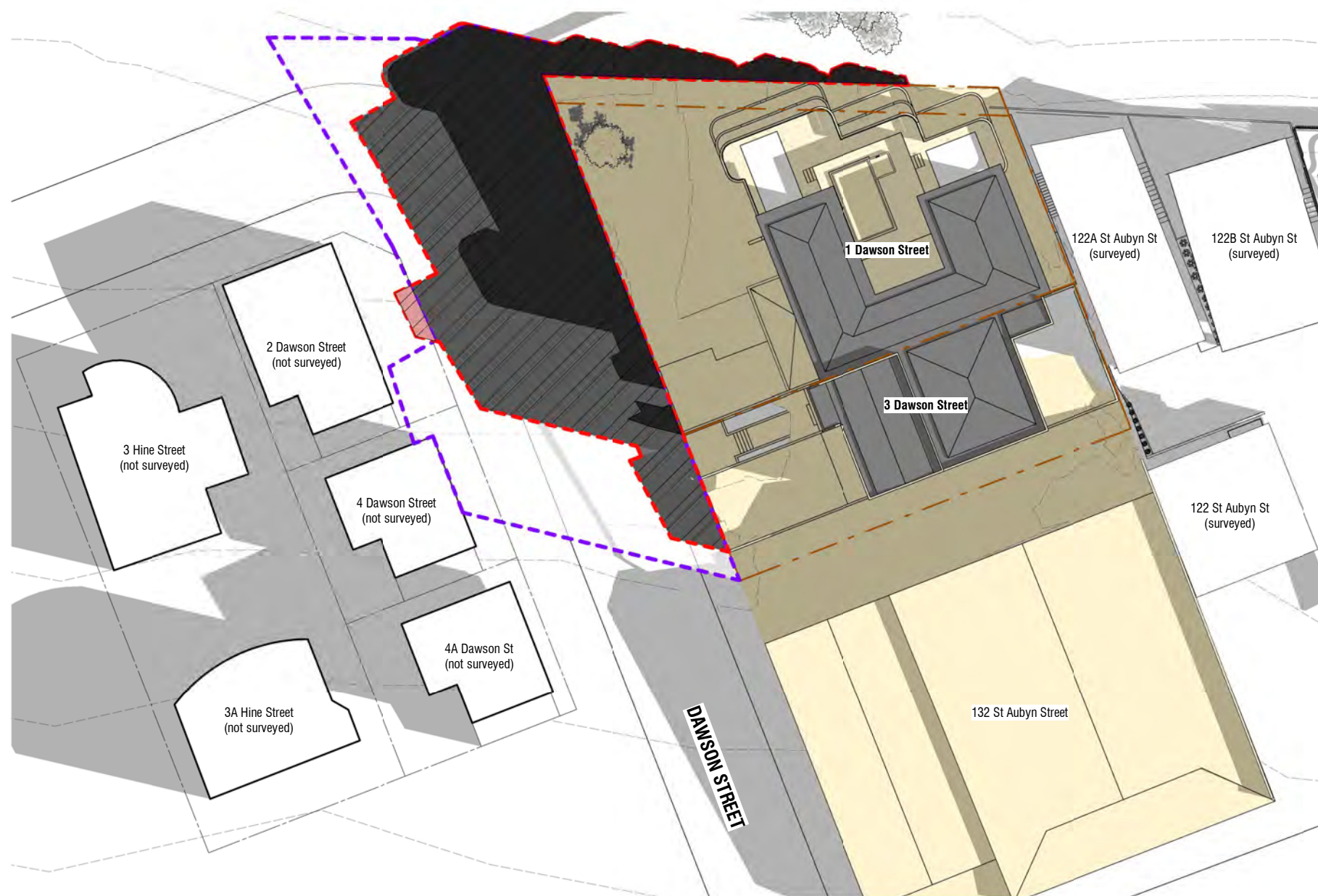
- **8.00AM**
- **9.00AM**
- **10.00AM**



# SHADOW STUDY - DECEMBER

(Sunrise at 5.55am)

## 21 DECEMBER - 8.00AM



### Shading Diagrams Key

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - Dec 8am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.10</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 8.00am</b>	print date <b>28/07/21 01:28 PM</b>
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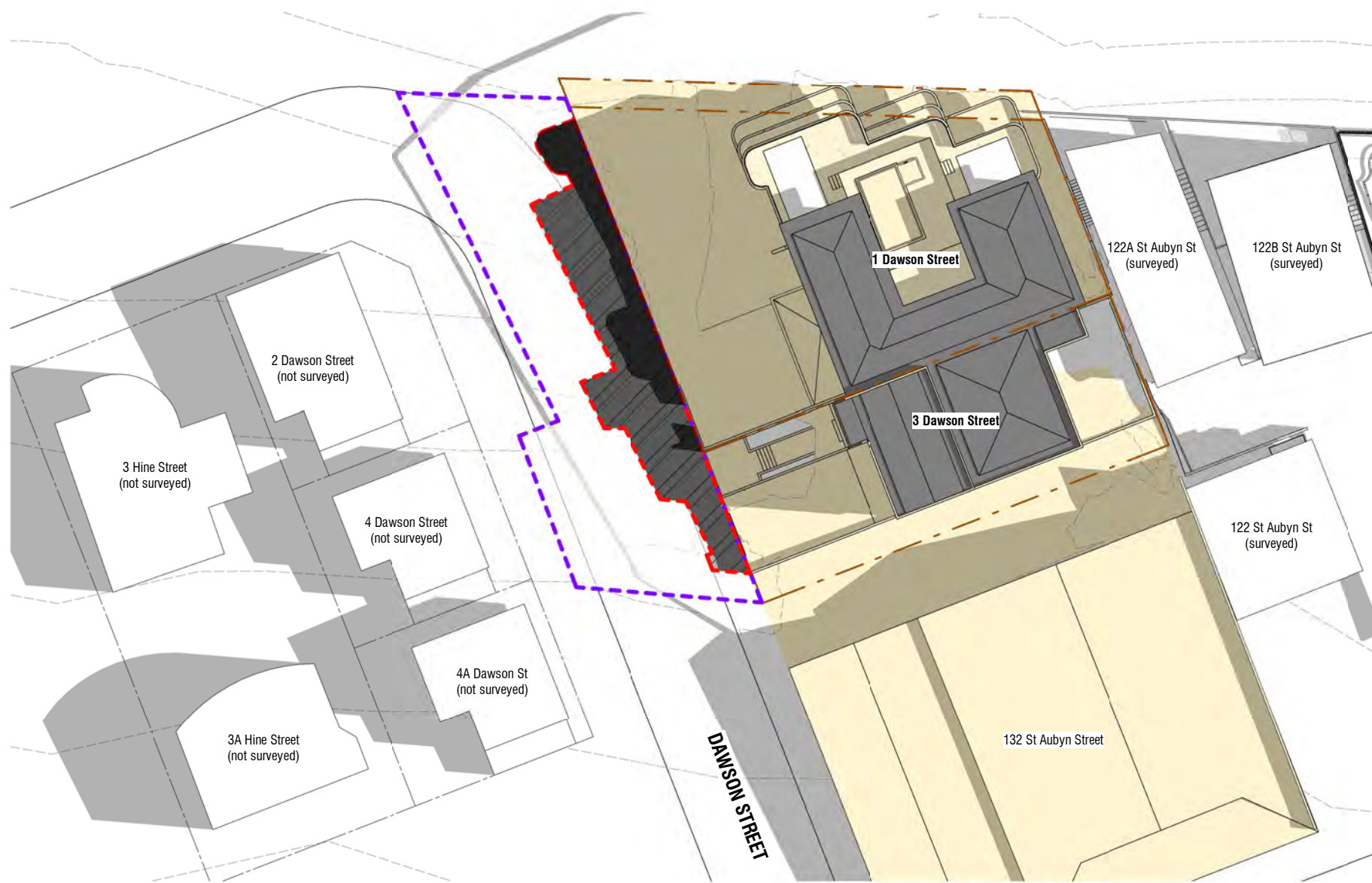




# SHADOW STUDY - DECEMBER

(Sunrise at 5.55am)

## 21 DECEMBER - 9.00AM



### Shading Diagrams Key

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
- Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - Dec 9am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.11</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 9.00am</b>	print date <b>28/07/21 01:28 PM</b>
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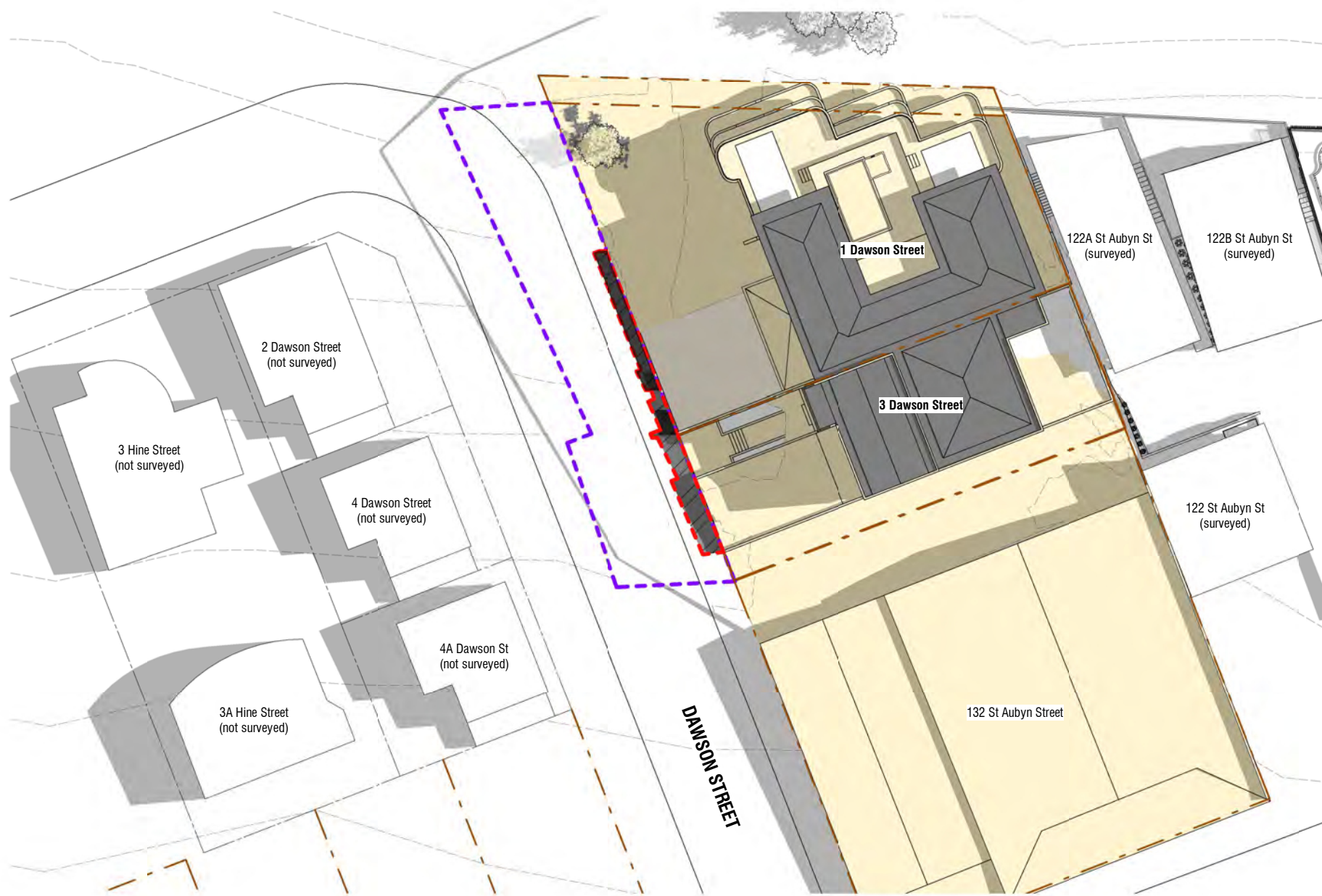
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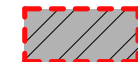

# SHADOW STUDY - DECEMBER

(Sunrise at 5.55am)

## 21 DECEMBER - 10.00AM



### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building'  
Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - Dec 10am

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.12</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 10.00am</b>	print date <b>28/07/21 01:28 PM</b>
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# MARCH

*(Sunset at 7.30pm)*

**SUNSET SHADOW STUDY - 21 MARCH**

- **6.00PM**
- **7.00PM**







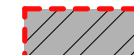





**SHADOW STUDY - MARCH**  
(Sunset at 7.30pm)

**21 MARCH - 6.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - March 6pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.13</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 6pm</b>	print date <b>28/07/21 01:28 PM</b>
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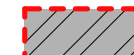

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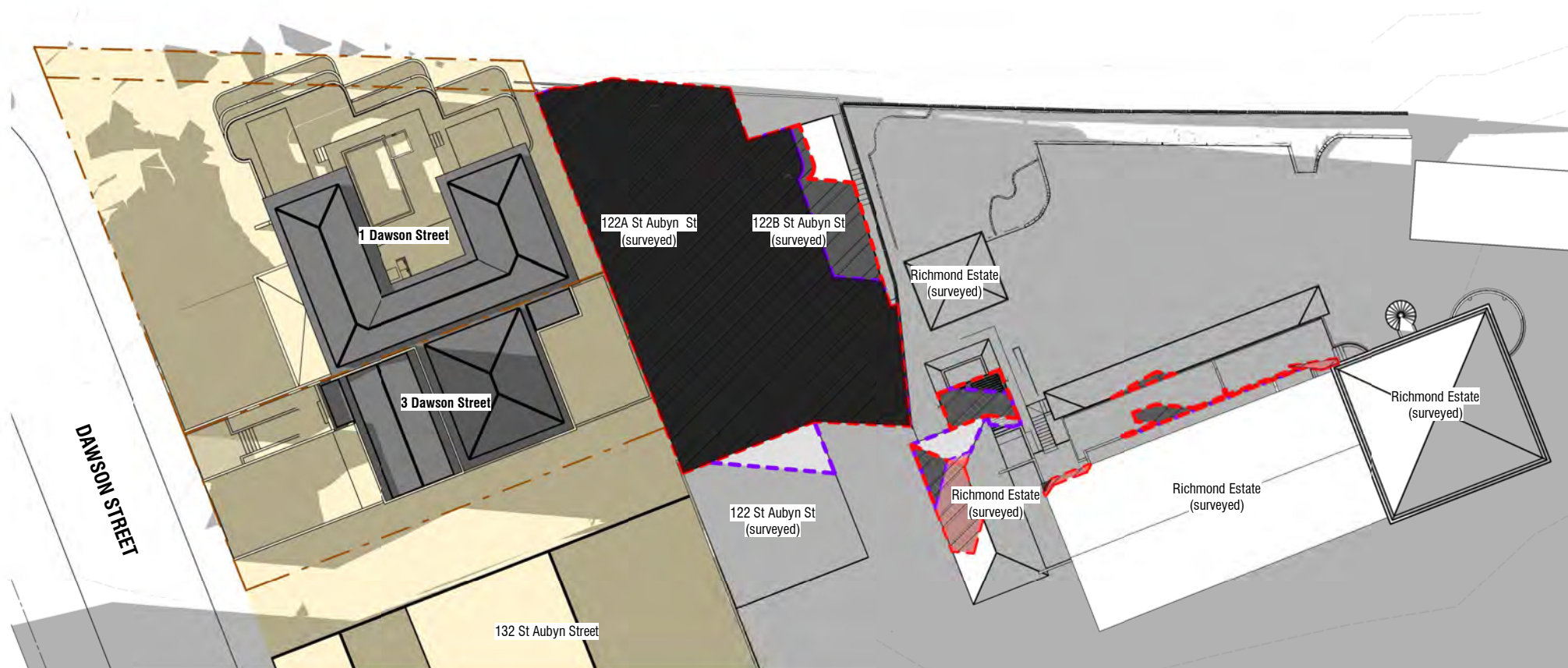


**SHADOW STUDY - MARCH**  
(Sunset at 7.30pm)

**21 MARCH - 7.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - March 7pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.14</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 7pm</b>	print date <b>28/07/21 01:28 PM</b>
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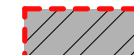



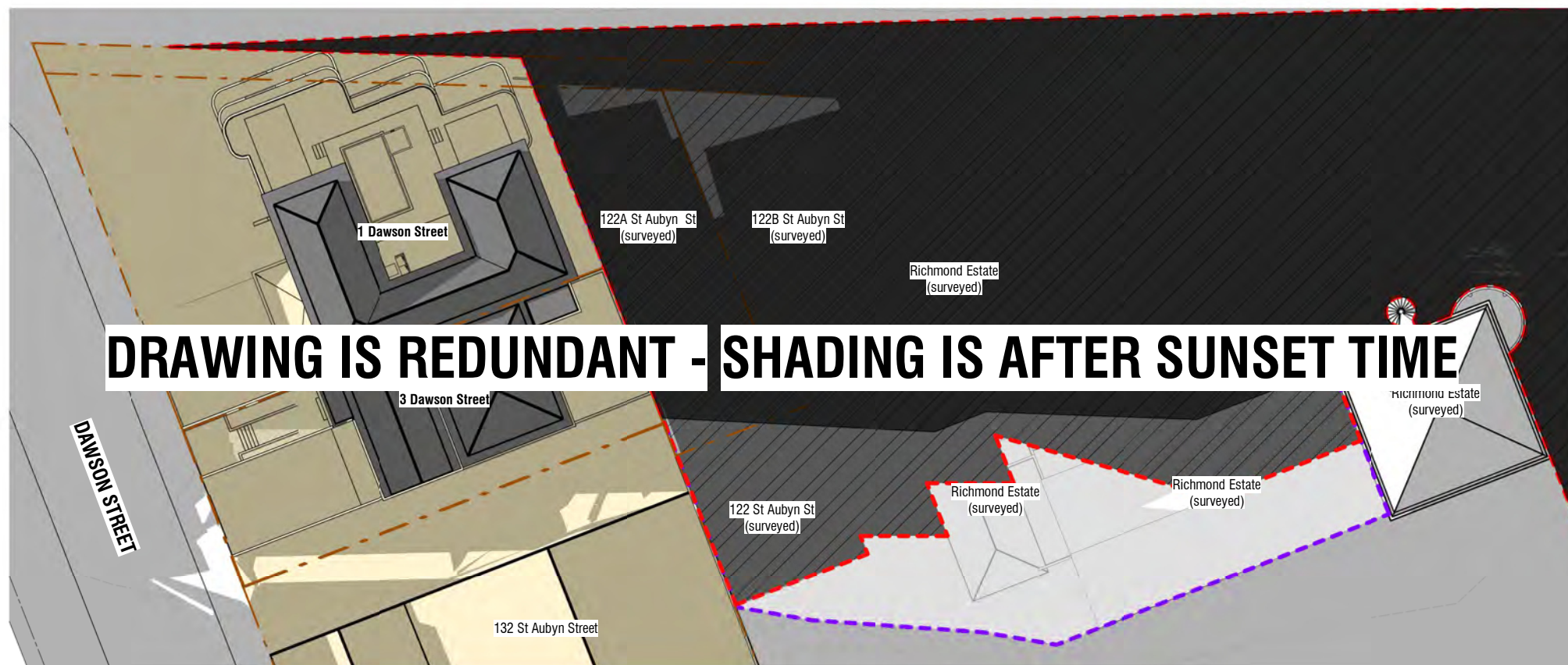


**SHADOW STUDY - MARCH**  
(Sunset at 7.30pm)

**21 MARCH - 8.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - March 8pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.15</b>	rev <b>3</b>	drawing title <b>Shadow Study - March 8pm</b>	print date <b>28/07/21 01:29 PM</b>
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# **JUNE**

*(Sunset at 5.10pm)*

## **SUNSET SHADOW STUDY - 21 JUNE**

- **3.00PM**
- **4.00PM**
- **5.00PM**







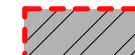



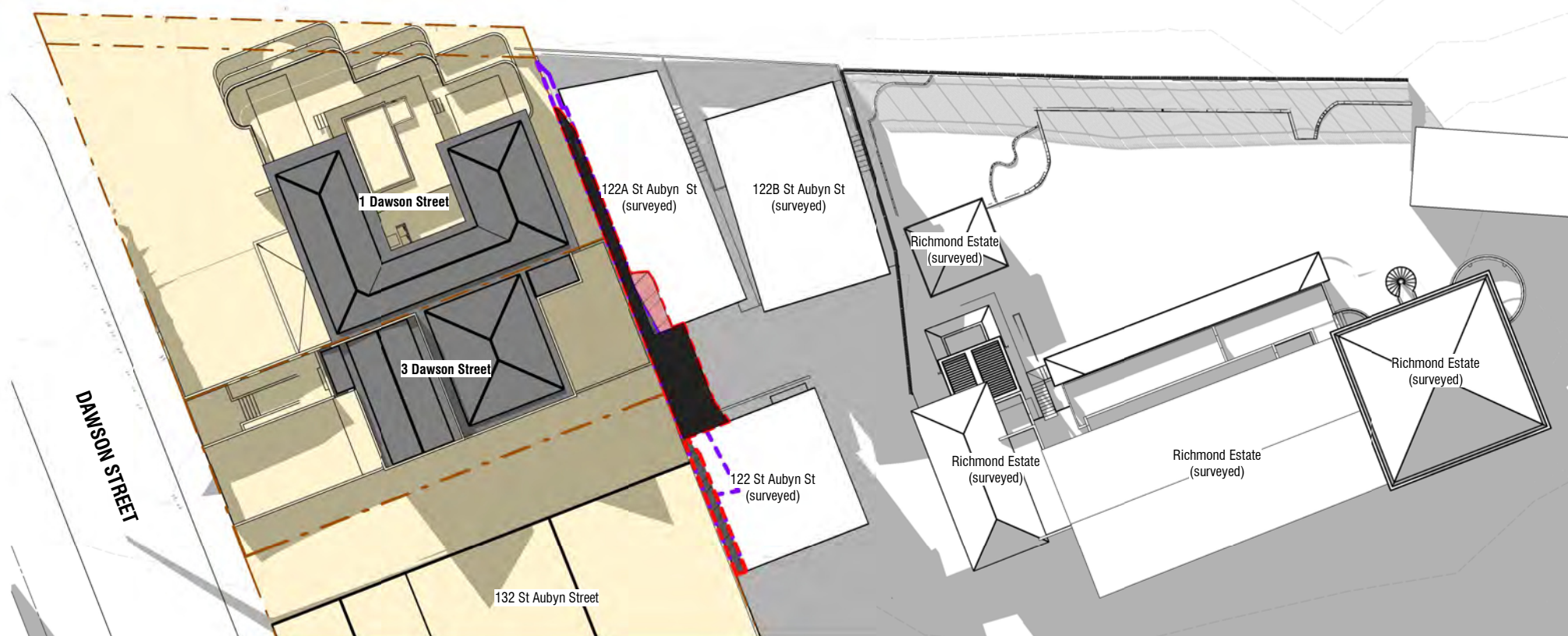
# SHADOW STUDY - JUNE

(Sunset at 5.10pm)

## 21 JUNE - 3.00PM

### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
-  Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 3pm

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

**BOON**  
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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.16</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 3pm</b>	print date <b>15/07/21 03:54 PM</b>
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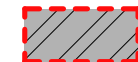



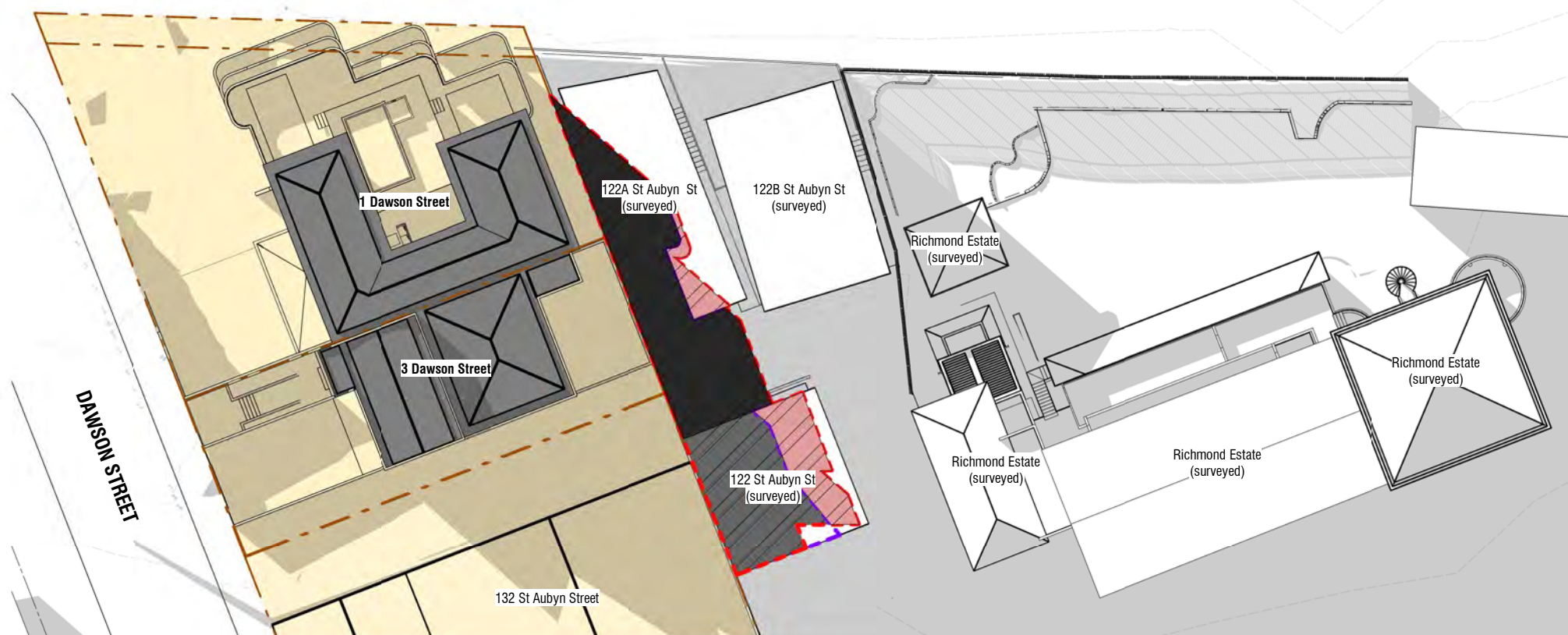
# SHADOW STUDY - JUNE

(Sunset at 5.10pm)

## 21 JUNE - 4.00PM

### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
-  Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 4pm

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.17</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 4pm</b>	print date <b>15/07/21 03:55 PM</b>
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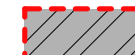



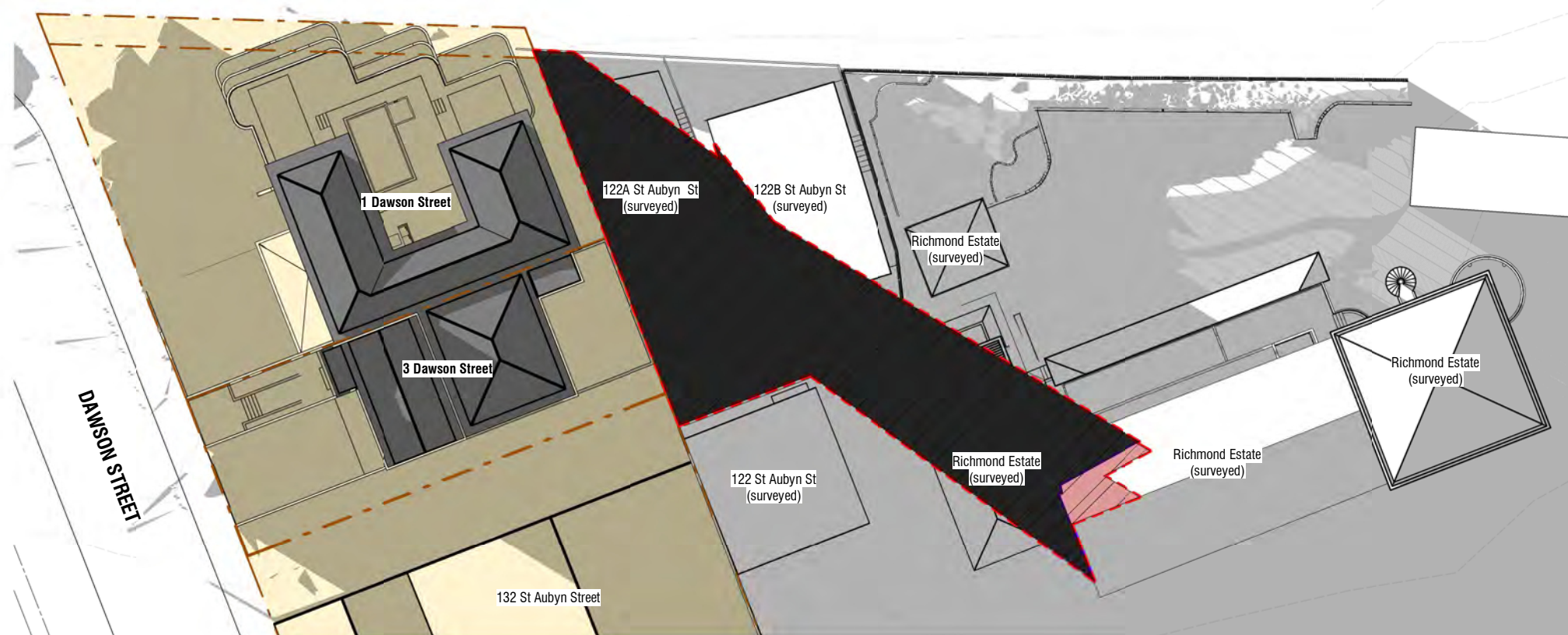
# SHADOW STUDY - JUNE

(Sunset at 5.10pm)

## 21 JUNE - 5.00PM

### Shading Diagrams Key

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
-  Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - June 5pm

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.18</b>	rev <b>2</b>	drawing title <b>Shadow Study - June 5pm</b>	print date <b>15/07/21 03:55 PM</b>
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# SEPTEMBER

*(Sunset at 6.20pm)*

## **SUNSET SHADOW STUDY - 21 SEPTEMBER**

- **4.00PM**
- **5.00PM**
- **6.00PM**







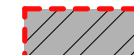



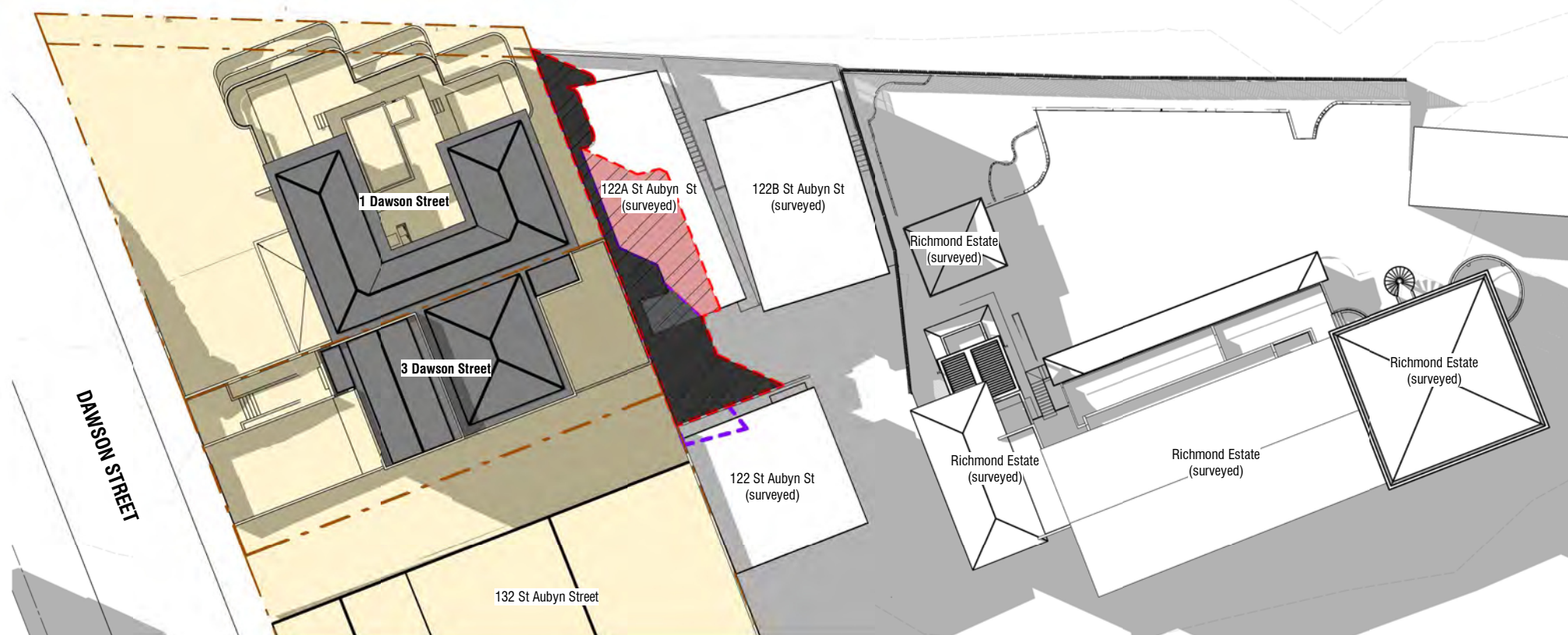


**SHADOW STUDY - SEPTEMBER**  
(Sunset at 6.20pm)

**21 SEPTEMBER - 4.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sept 4pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.19</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 4pm</b>	print date <b>15/07/21 03:55 PM</b>
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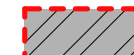

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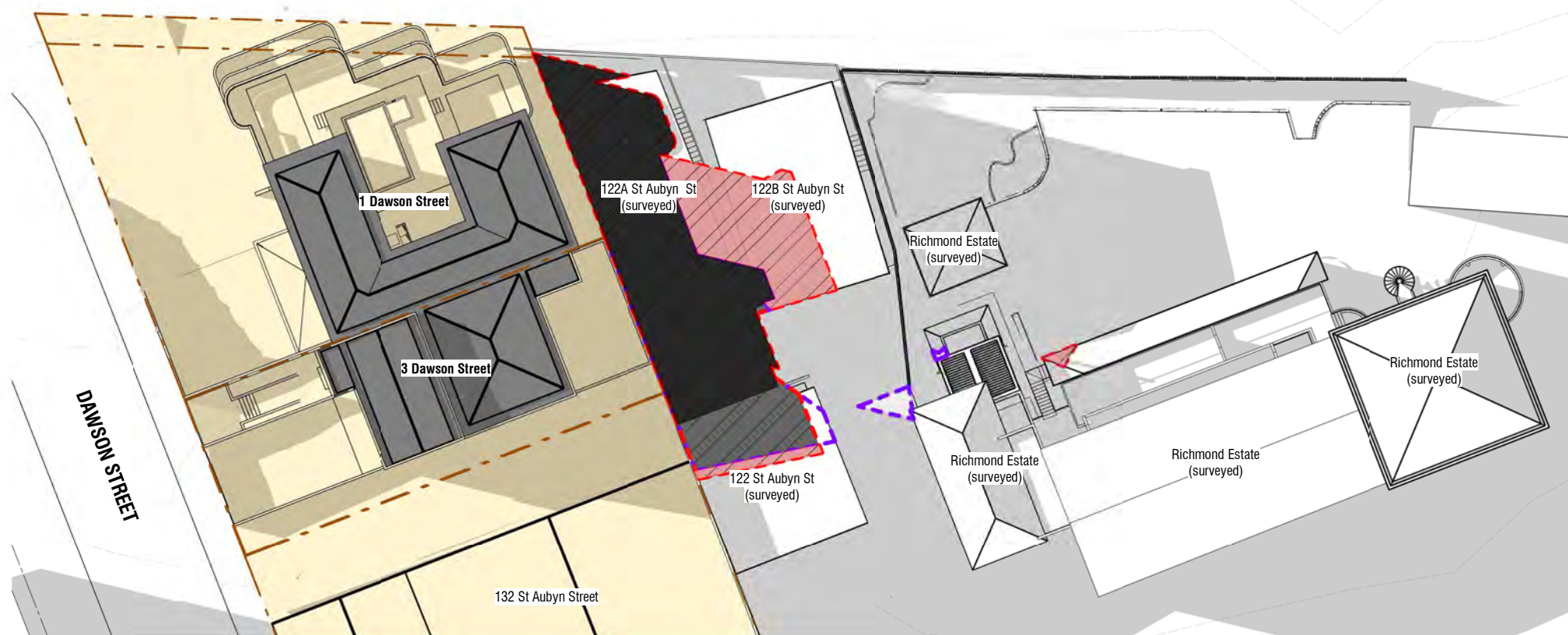


**SHADOW STUDY - SEPTEMBER**  
(Sunset at 6.20pm)

**21 SEPTEMBER - 5.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sept 5pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.20</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 5pm</b>	print date <b>15/07/21 03:55 PM</b>
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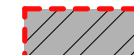



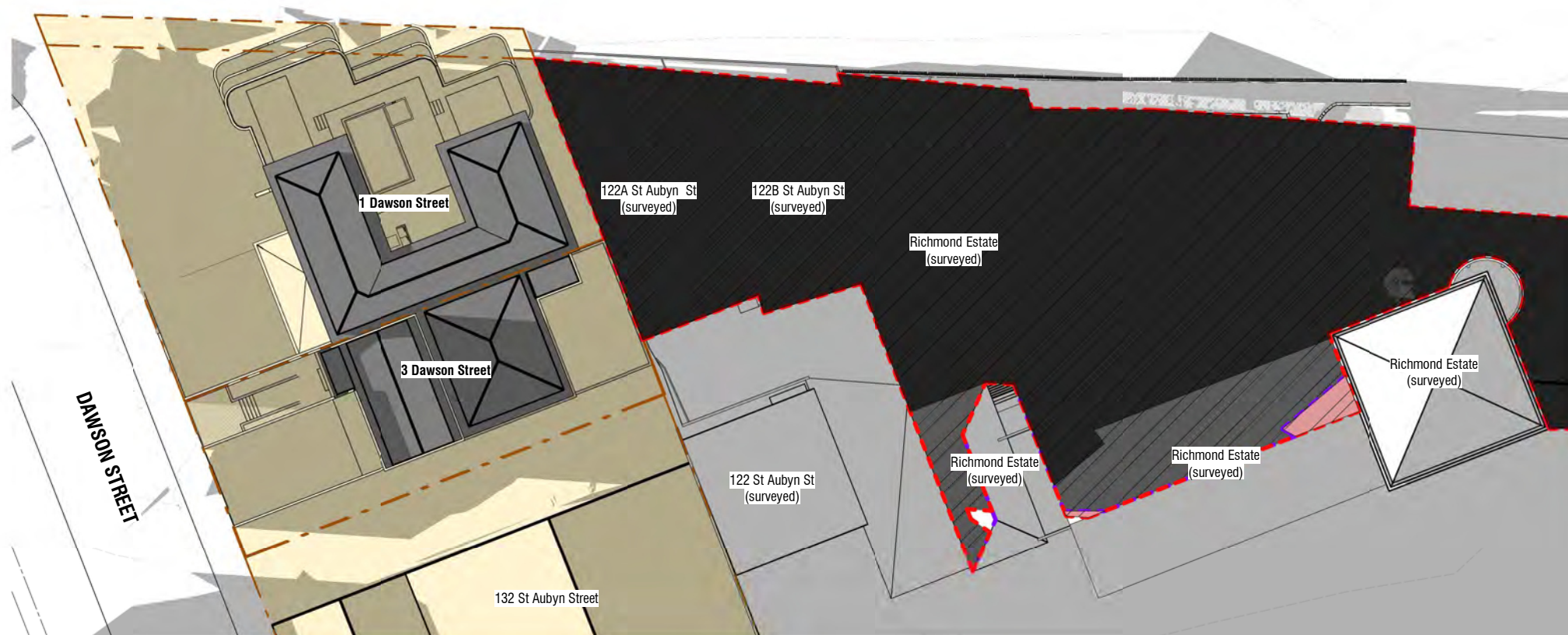


**SHADOW STUDY - SEPTEMBER**  
(Sunset at 6.20pm)

**21 SEPTEMBER - 6.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership 1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sept 6pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.21</b>	rev <b>2</b>	drawing title <b>Shadow Study - September 6pm</b>	print date <b>15/07/21 03:55 PM</b>
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# DECEMBER

*(Sunset at 8.50pm)*

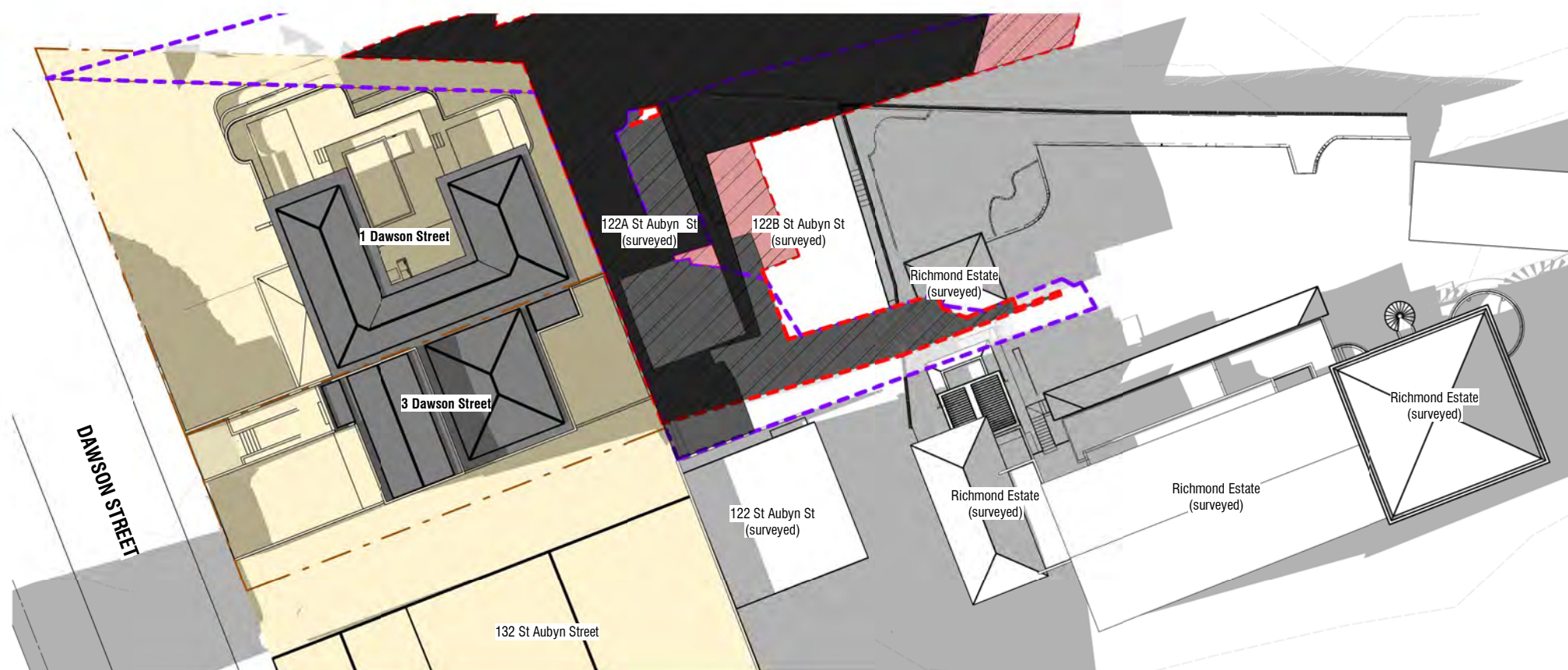
## **SUNSET SHADOW STUDY - 21 DECEMBER**

- **7.00PM**
- **8.00PM**



**SHADOW STUDY - DECEMBER**  
(Sunset at 8.50pm)

**21 DECEMBER - 7.00PM**



**Shading Diagrams Key**

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
- Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sunset Dec 7pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.22</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 7pm</b>	print date <b>28/07/21 01:29 PM</b>
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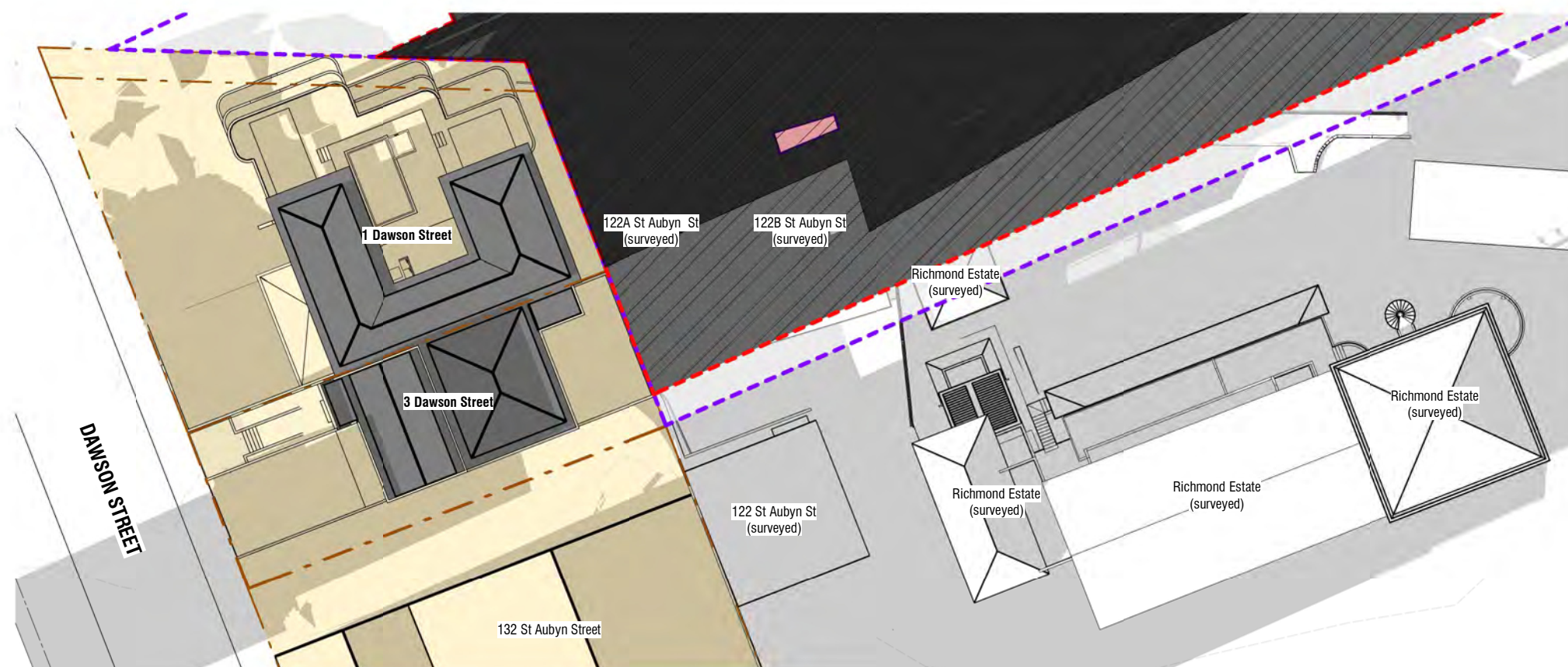
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# SHADOW STUDY - DECEMBER

(Sunset at 8.50pm)

## 21 DECEMBER - 8.00PM



### Shading Diagrams Key

- Site Boundaries
- Existing Buildings
- Proposed Building
- Existing Shadows
- Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:
  - 10m high
- Shadow of Proposed Development Hatched area includes Existing and Proposed buildings.
- Infringing Shadow - beyond shadow of existing/permitted buildings.
- Extent of Ownership 1-3 Dawson St. Affect of shadows not considered within the boundaries of the applicants boundary

Surveyed buildings as noted. Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software. The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

### Shadow Study - Sunset Dec 8pm

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.23</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 8pm</b>	print date <b>28/07/21 01:29 PM</b>
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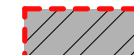



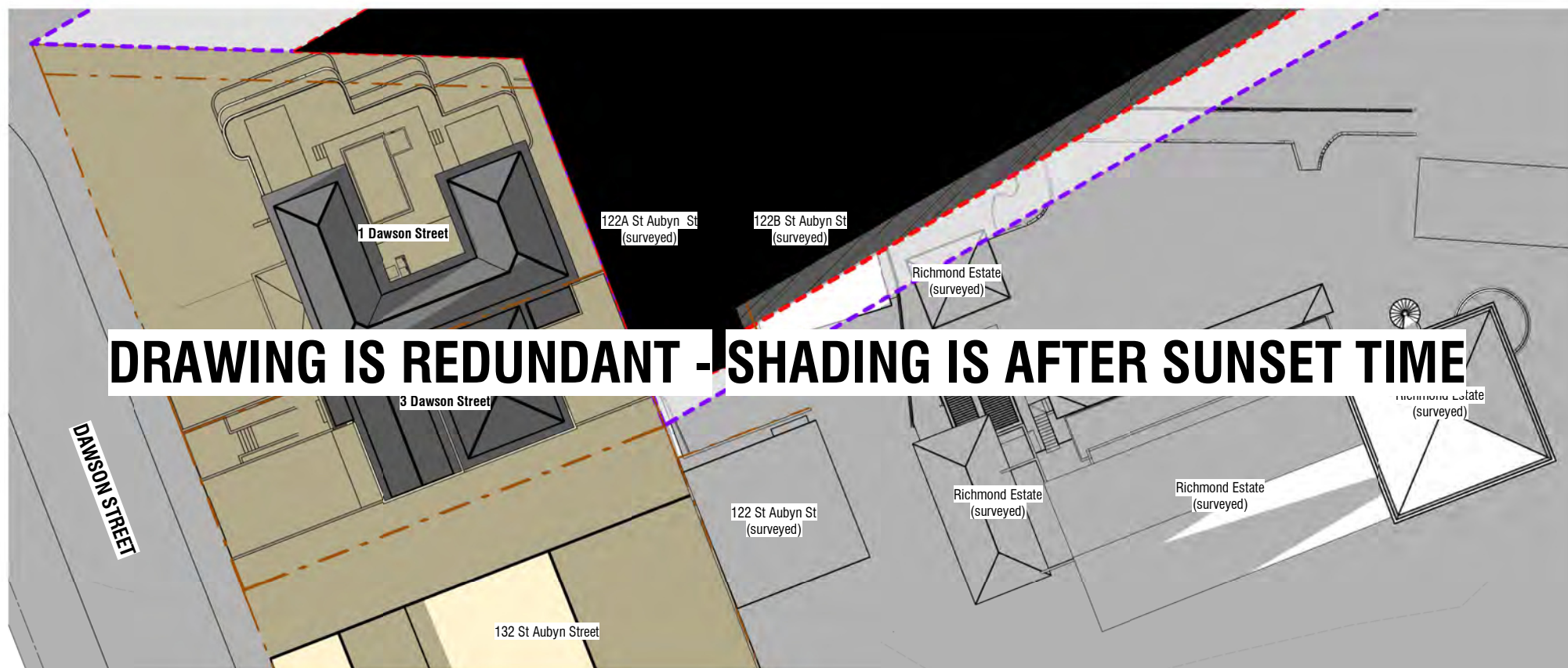


**SHADOW STUDY - DECEMBER**  
(Sunset at 8.50pm)

**21 DECEMBER - 9.00PM**

**Shading Diagrams Key**

-  Site Boundaries
-  Existing Buildings
-  Proposed Building
-  Existing Shadows
-  Shadow of a 'Permitted Building' Compliant under NPDC Operative District Plan:  
• 10m high
-  Shadow of Proposed Development  
Hatched area includes Existing and Proposed buildings.
-  Infringing Shadow - beyond shadow of existing/permitted buildings.
-  Extent of Ownership  
1-3 Dawson St.  
Affect of shadows not considered within the boundaries of the applicants boundary



Surveyed buildings as noted.  
Where buildings have not been surveyed, they have been modelled as near as practicable to provide a visible net-effect of shading.

Shadows are created using Revit 2022 Software.  
The site is located using Revit's inbuilt data to 1 Dawson Street New Plymouth.

**Shadow Study - Sunset Dec 9pm**

Scale 1 : 500 (A3)

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

**1-3 Dawson Street**  
New Plymouth  
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JULY | 2021



job no. <b>6592</b>	a3 scale <b>As indicated</b>	drawing no. <b>SK4.24</b>	rev <b>3</b>	drawing title <b>Shadow Study - December 9pm</b>	print date <b>28/07/21 01:29 PM</b>
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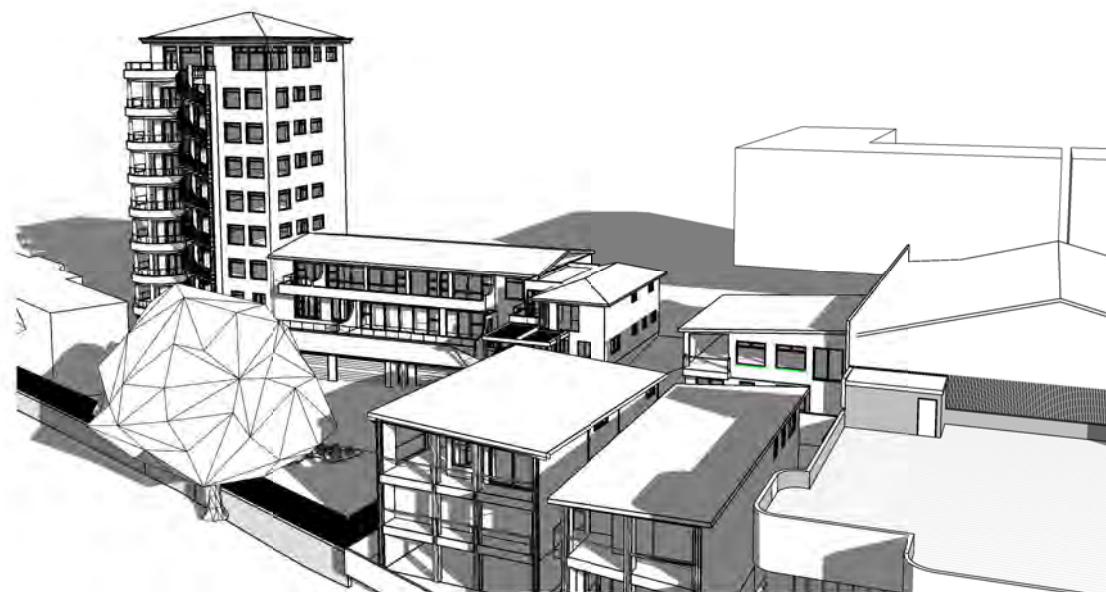
MARCH 21  
6.00PM AND 6.30PM

SUNSET TIME: 7.34pm

NB: The following buildings have been fully surveyed and modelled by BTW limited.

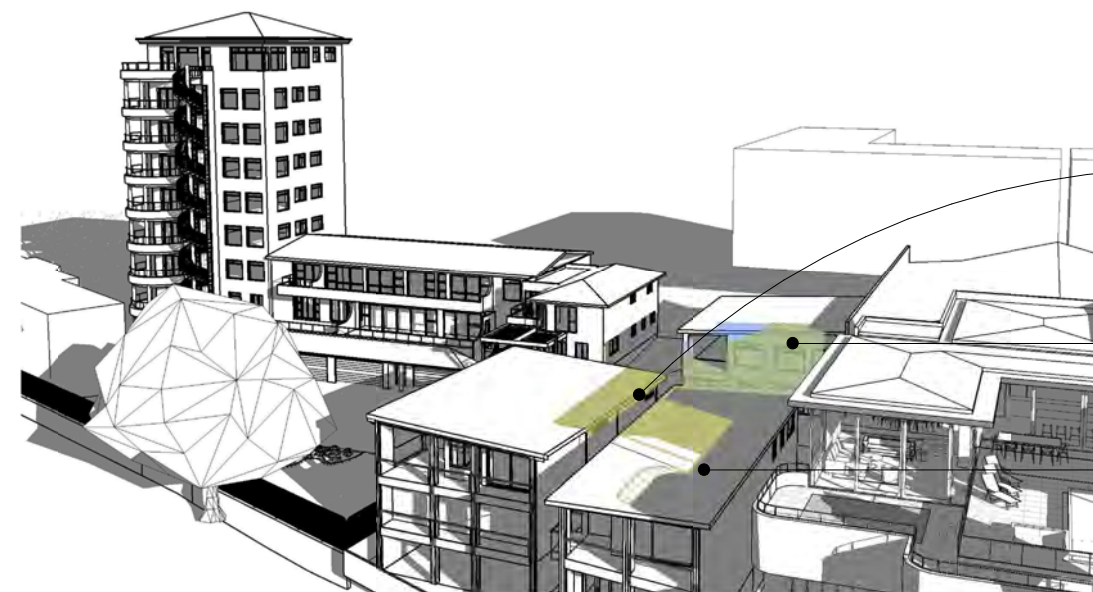
- 122 St Aubyn Street
- 122A St Aubyn Street
- 122B St Aubyn Street
- Richmond Estate Buildings

All other buildings are based on approximate data from NPDC GIS Viewer, and a broad level city survey of building heights by BTW.



Sunset Shading - March Existing 6.00pm

Scale (A3)



Sunset Shading - March Proposed 6.00pm

**122B St Aubyn Street**  
Additional shading to Western elevation, Northern elevation (from balustrade) and building roof top in March.  
Approx. 1.5 hours of the day affected by additional shading.

**122 St Aubyn Street**  
Additional shading to Northern elevation in March.  
Approx. 4 hours of the day affected by additional shading.

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in March.  
Approx. 3 hours of the day affected by additional shading.



Sunset Shading - March Existing 6.30pm

Scale (A3)



Sunset Shading - March Proposed 6.30pm




**Richmond Apartments**  
Additional shading to Northern elevation in March.  
Approx. 1.75 hours of the day affected by additional shading.

**122B St Aubyn Street**  
Additional shading to Western elevation, Northern elevation (from balustrade) and building roof top in March.  
Approx. 1.5 hours of the day affected by additional shading.  
*Example of balustrade extension shading.*

**122 St Aubyn Street**  
Additional shading to Northern elevation in March.  
Approx. 4 hours of the day affected by additional shading.

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in March.  
Approx. 3 hours of the day affected by additional shading.

**Proposed Sunset Shading Key**

-  Shadow of a Permitted Development
-  Overlap - Shadow of a Permitted Development AND Shadow of the Proposed Development
-  Additional shading created by shadow of the Proposed Development

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

job no. <b>6592</b>	a3 scale <b>1 : 100</b>	drawing no. <b>SK5.01</b>	rev <b>3</b>	drawing title <b>Sunset Shadow Studies - March</b>	print date <b>28/07/21 01:30 PM</b>
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New Plymouth  
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JULY | 2021

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JUNE 21  
4.00PM AND 4.30PM

SUNSET TIME: 5.08pm

NB: The following buildings have been fully surveyed and modelled by BTW limited.

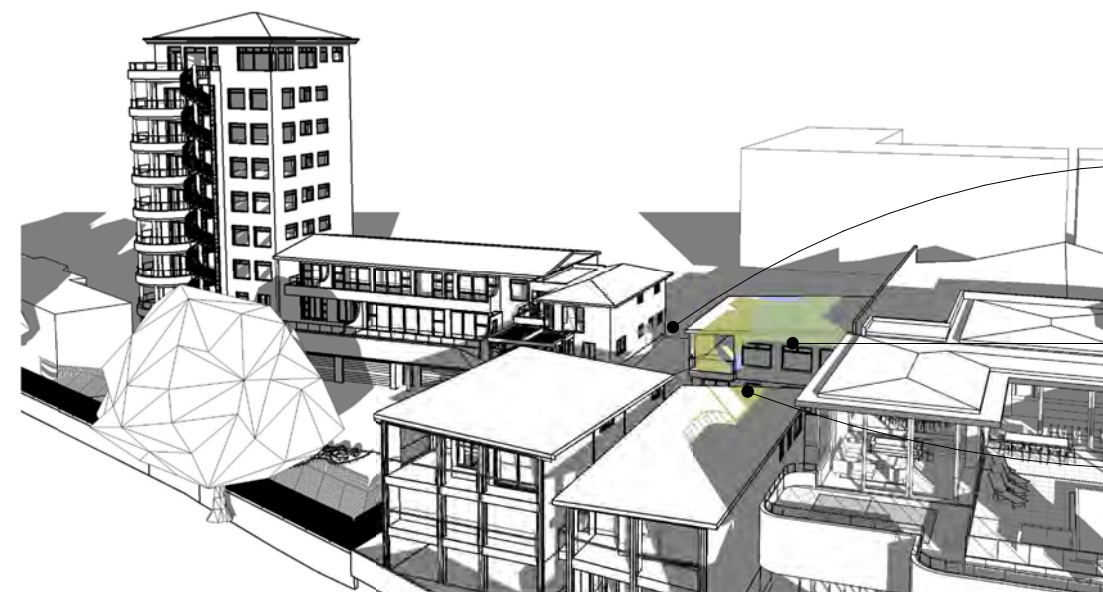
- 122 St Aubyn Street
- 122A St Aubyn Street
- 122B St Aubyn Street
- Richmond Estate Buildings

All other buildings are based on approximate data from NPDC GIS Viewer, and a broad level city survey of building heights by BTW.



Sunset Shading - June Existing 4.00pm

Scale (A3)



Sunset Shading - June Proposed 4.00pm

**Richmond Apartments**  
Additional shading to Western elevation in June.  
Approx. 1 hour of the day affected by additional shading.

**122 St Aubyn Street**  
Additional shading to Northern elevation in June.  
Approx. 2 hours of the day affected by additional shading.

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in June.  
Approx. 0.5 hours of the day affected by additional shading on walls.



Sunset Shading - June Existing 4.30pm

Scale (A3)






Sunset Shading - June Proposed 4.30pm

**Richmond Apartments**  
Additional shading to Western elevation in June.  
Approx. 1 hour of the day affected by additional shading.

**122 St Aubyn Street**  
Additional shading to Northern elevation in June.  
Approx. 2 hours of the day affected by additional shading.

**122B St Aubyn Street**  
Negligible additional shading to Western elevation and building roof top in June due to new balustrade extension.

**Proposed Sunset Shading Key**

-  Shadow of a Permitted Development
-  Overlap - Shadow of a Permitted Development AND Shadow of the Proposed Development
-  Additional shading created by shadow of the Proposed Development

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

job no. <b>6592</b>	a3 scale <b>1 : 100</b>	drawing no. <b>SK5.02</b>	rev <b>2</b>	drawing title <b>Sunset Shadow Studies - June</b>	print date <b>14/07/21 02:43 PM</b>
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**1-3 Dawson Street**  
New Plymouth  
**RESOURCE CONSENT**  
JULY | 2021

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SEPTEMBER 21  
5.30PM AND 6.00PM

SUNSET TIME: 6.19pm

NB: The following buildings have been fully surveyed and modelled by BTW limited.

- 122 St Aubyn Street
- 122A St Aubyn Street
- 122B St Aubyn Street
- Richmond Estate Buildings

All other buildings are based on approximate data from NPDC GIS Viewer, and a broad level city survey of building heights by BTW.



Sunset Shading - September Existing 5.30pm

Scale (A3)



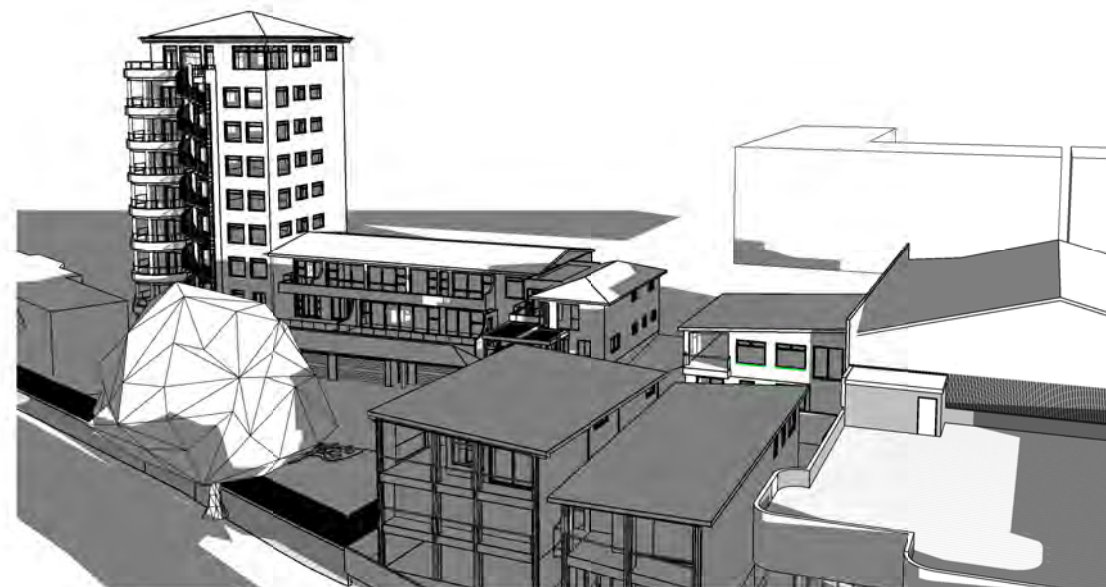
Sunset Shading - September Proposed 5.30pm

**Richmond Apartments**  
Additional shading to Northern and Western elevation in September. Approx. 1.5 hours of the day affected by additional shading.

**122 St Aubyn Street**  
Additional shading to Northern elevation in September. Approx. 3.25 hours of the day affected by additional shading.

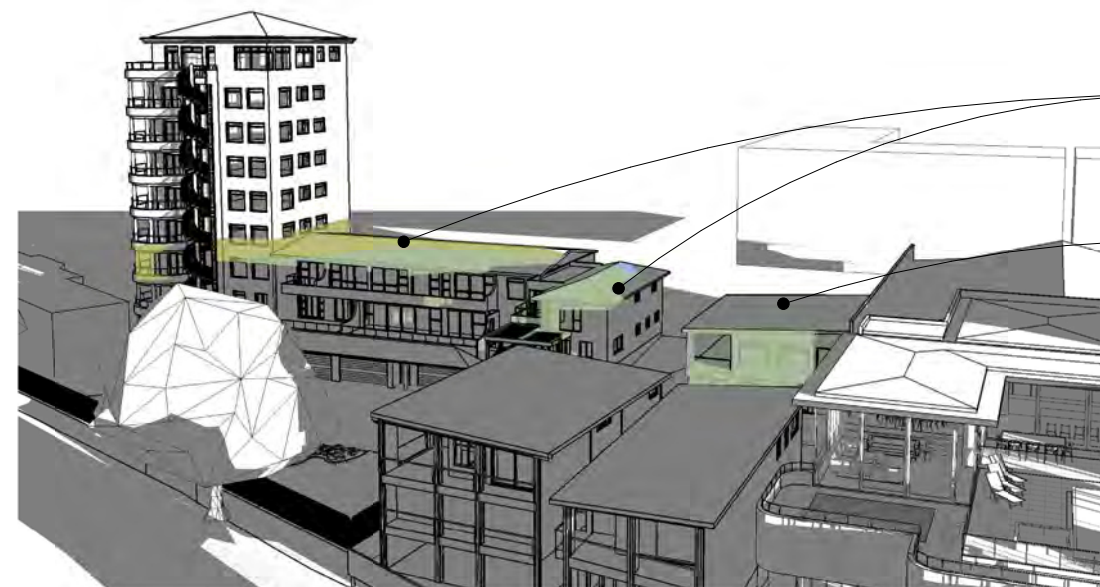
**122B St Aubyn Street**  
Additional shading to Western elevation and roof top in September. Approx. 1.25 hours of the day affected by additional shading.

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in September. Approx. 2 hours of the day affected by additional shading on walls between 2.30-4.30pm.



Sunset Shading - September Existing 6.00pm

Scale (A3)



Sunset Shading - September Proposed 6.00pm

**Richmond Apartments**  
Additional shading to Northern and Western elevation in September. Approx. 1.5 hours of the day affected by additional shading.

**122 St Aubyn Street**  
Additional shading to Northern elevation in September. Approx. 3.25 hours of the day affected by additional shading.

**Proposed Sunset Shading Key**

- Shadow of a Permitted Development
- Overlap - Shadow of a Permitted Development AND Shadow of the Proposed Development
- Additional shading created by shadow of the Proposed Development

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI

job no. <b>6592</b>	a3 scale <b>1 : 100</b>	drawing no. <b>SK5.03</b>	rev <b>2</b>	drawing title <b>Sunset Shadow Studies - September</b>	print date <b>14/07/21 02:43 PM</b>
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**1-3 Dawson Street**  
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**RESOURCE CONSENT**  
JULY | 2021

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DECEMBER 21  
7.00PM AND 7.30PM

SUNSET TIME: 8.49pm

NB: The following buildings have been fully surveyed and modelled by BTW limited.

- 122 St Aubyn Street
- 122A St Aubyn Street
- 122B St Aubyn Street
- Richmond Estate Buildings

All other buildings are based on approximate data from NPDC GIS Viewer, and a broad level city survey of building heights by BTW.



Sunset Shading - December Existing 7.00pm

Scale (A3)



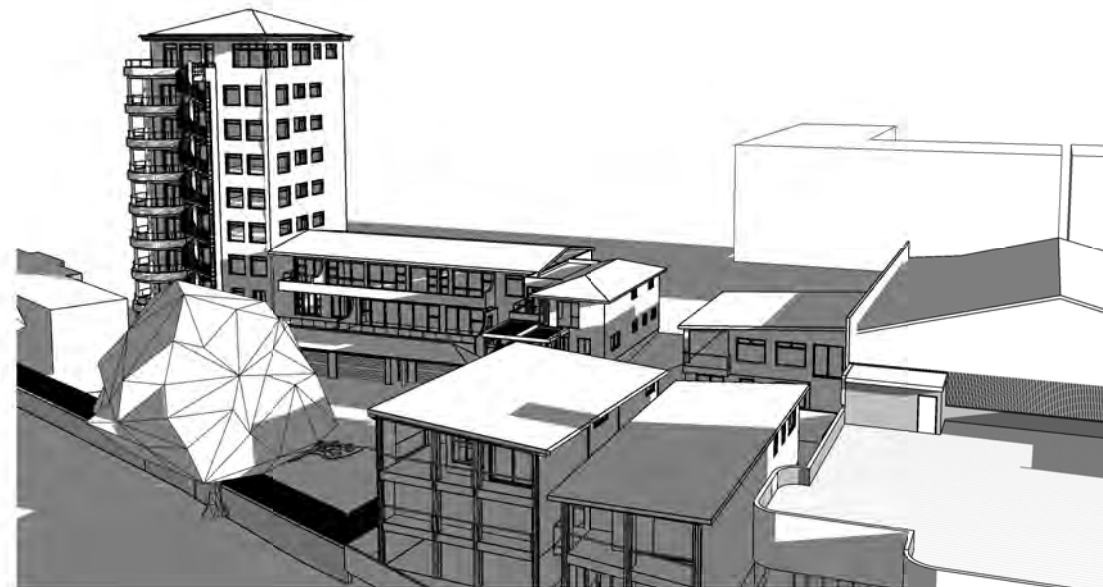
Sunset Shading - December Proposed 7pm

**Richmond Apartments**  
No additional shading to these properties in December

**122B St Aubyn Street**  
Additional shading.  
Approx. 2 hours of the day affected by additional shading.

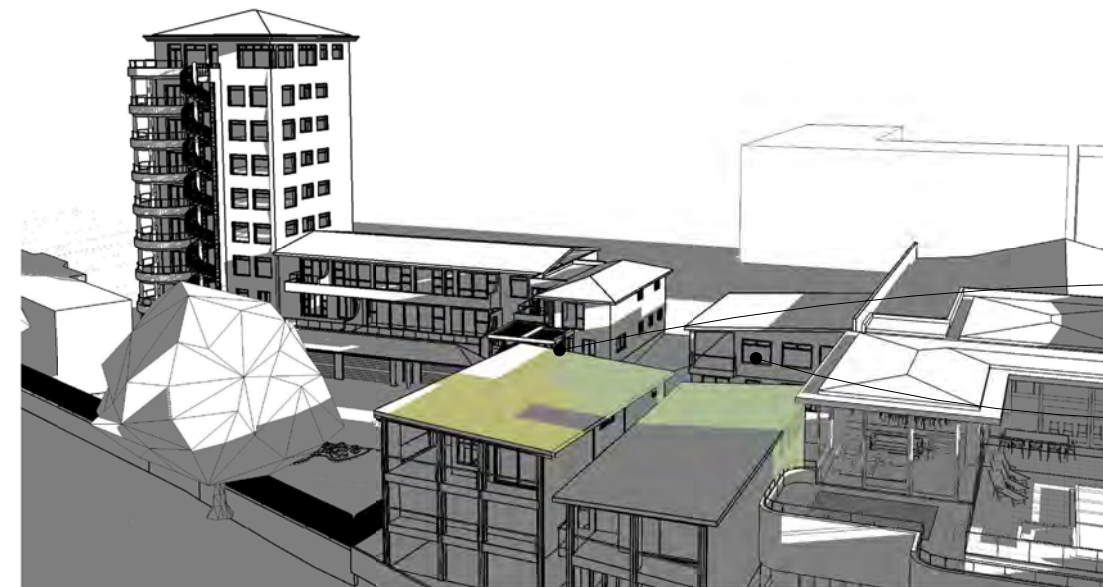
**122 St Aubyn Street**  
No additional shading to this property in December

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in December.  
Approx. 5.5 hours of the day affected by additional shading on walls.



Sunset Shading - December Existing 7.30pm

Scale (A3)






Sunset Shading - December Proposed 7.30pm

**122B St Aubyn Street**  
Additional shading to Western elevation and roof top.  
Approx. 2 hours of the day affected by additional shading.

**122A St Aubyn Street**  
Additional shading limited to Western elevation and building roof top in December.  
Approx. 5.5 hours of the day affected by additional shading on walls.

**Proposed Sunset Shading Key**

-  Shadow of a Permitted Development
-  Overlap - Shadow of a Permitted Development AND Shadow of the Proposed Development
-  Additional shading created by shadow of the Proposed Development

Rev	Date	Description
1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

job no. **6592** a3 scale **1 : 100**

drawing no. **SK5.04**

rev **3** drawing title **Sunset Shadow Studies - December**

print date **28/07/21 01:30 PM**

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**1-3 Dawson Street**  
New Plymouth  
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JULY | 2021

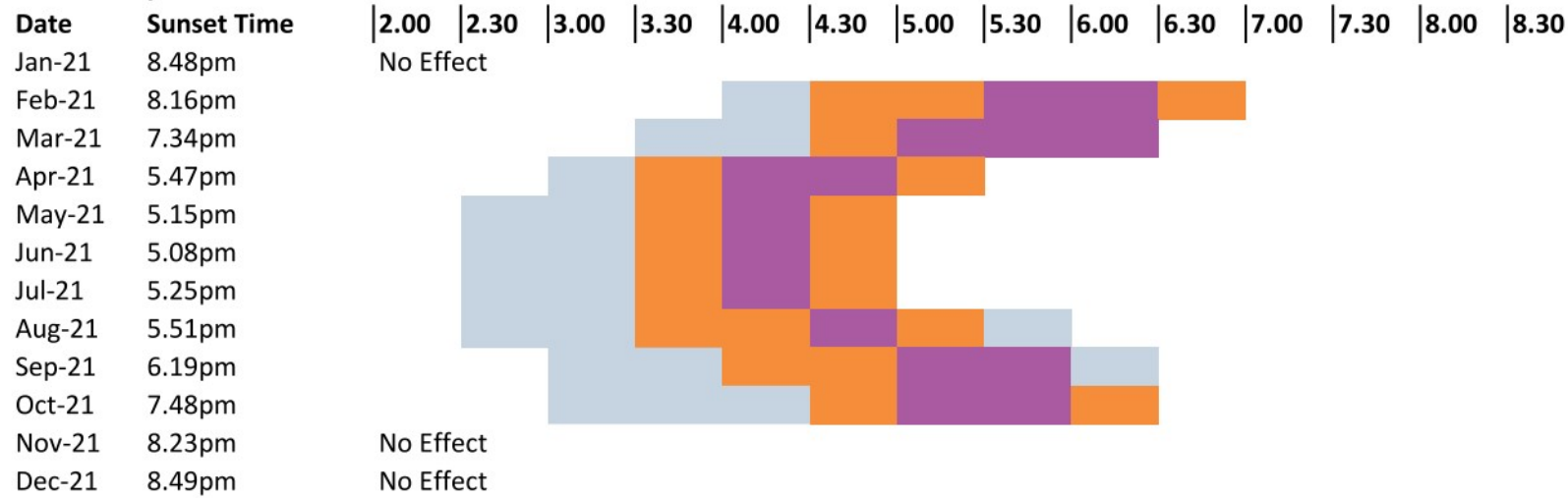
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**Analysis of Additional Shading by Proposed and Permitted Developments - 122 St Aubyn Street**

**Proposed Development Shading**

**122 St Aubyn Street**



**Proposed Design - Description of Shading Effects**

122 St Aubyn Street is located to the South-East of the existing building at 1 Dawson Street, and is already subject to shading effects from the existing building.

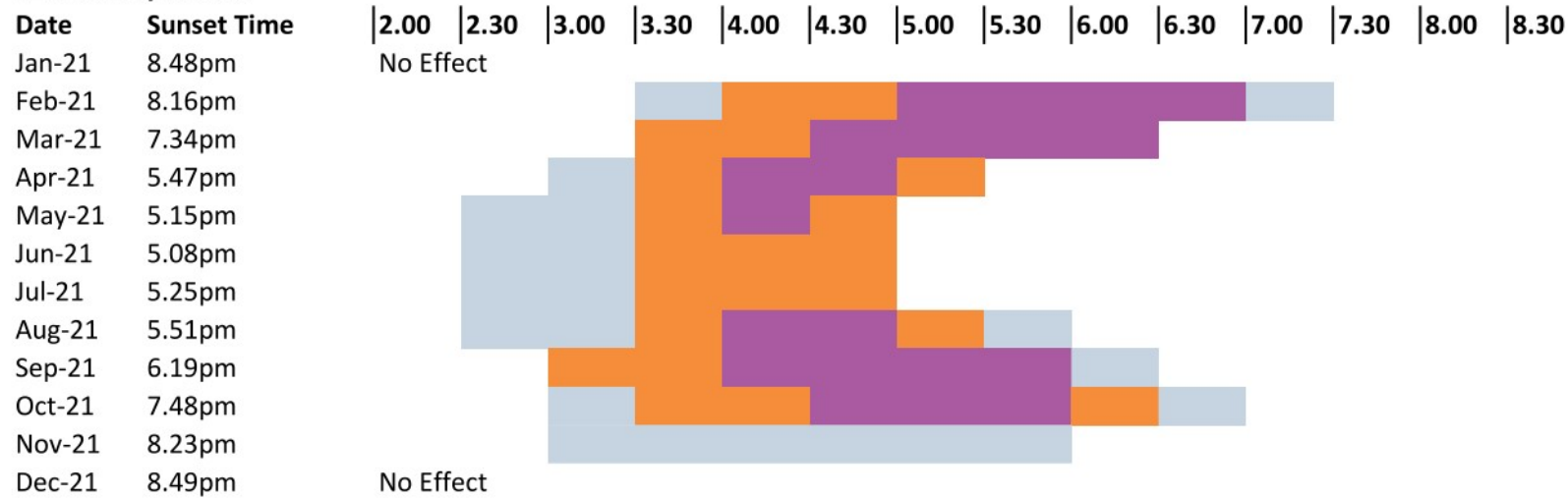
The proposed development will have additional shading affects to the Northern walls of the building from February until October.

122 St Aubyn Street will experience the highest degee of additional shading when compared to the other analysed properties (122A, 122B and the Richmond Apartments).

There will be no additional shading affect to 122 from the proposed development during the summer months when the sun angle is high (November through to January).

**Permitted Development Shading**

**122 St Aubyn Street**

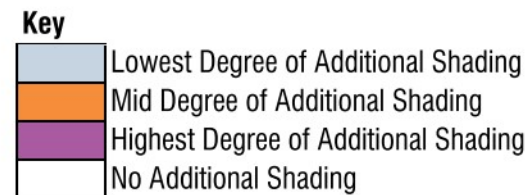


**Permitted Baseline - Description of Shading Effects**

The creation of a permitted baseline development would also have additional shading effects on 122 St Aubyn Street.

In many months of the year (February, March, August, September, October and November) the shading effects of a permitted development would be greater than that of the proposed. There would be low degrees of additional shading in November, when the proposed development would have no effect.

In June and July between 4pm and 4.30pm, the shading effects of a permitted development would be less than that of the proposed development.



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1	29.03.2021	RC RFI
2	01.07.2021	RC RFI
3	28.07.2021	RC RFI

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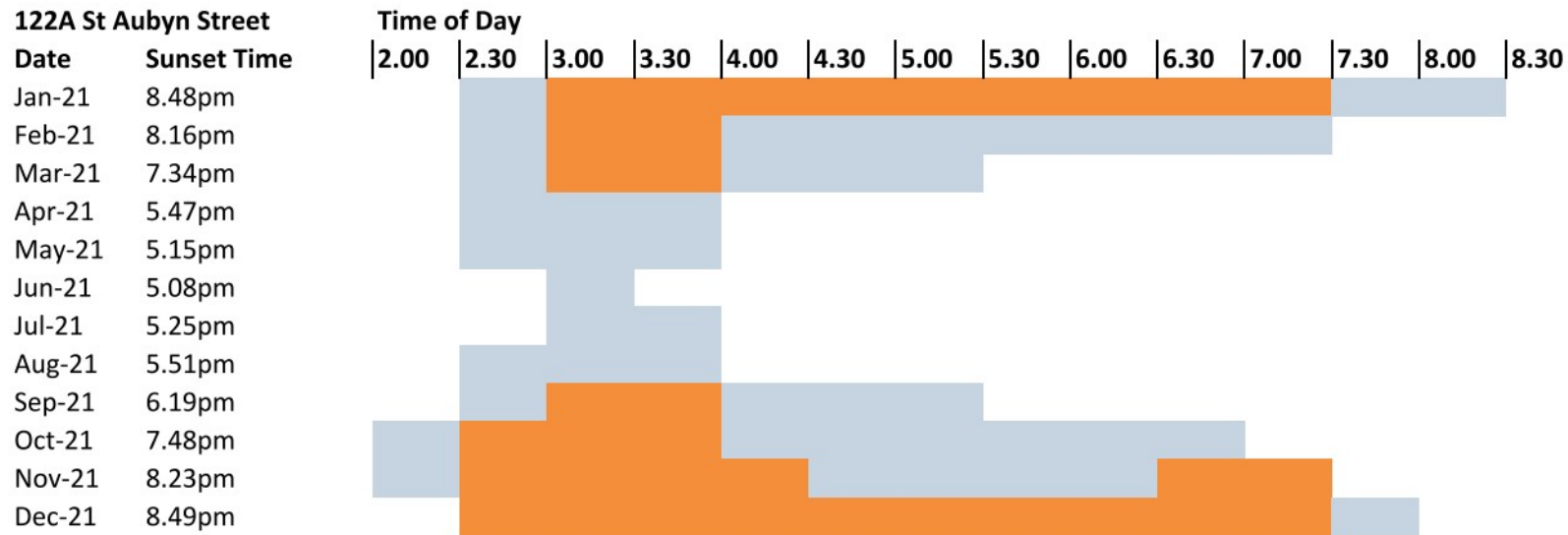
job no. <b>6592</b>	a3 scale	drawing no. <b>SK5.05</b>	rev <b>3</b>	drawing title <b>Shading Effect Summary - 122</b>	print date <b>28/07/21 12:44 PM</b>
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**Analysis of Additional Shading by Proposed and Permitted Developments - 122A St Aubyn Street**

**Proposed Development Shading**



**Proposed Design - Description of Shading Effects**

122A St Aubyn Street is the closest property to the proposed development. It is located approximately 4 meters away from the North-Eastern wall of the existing building at 1 Dawson Street, and is already subject to shading effects in the afternoon throughout the year.

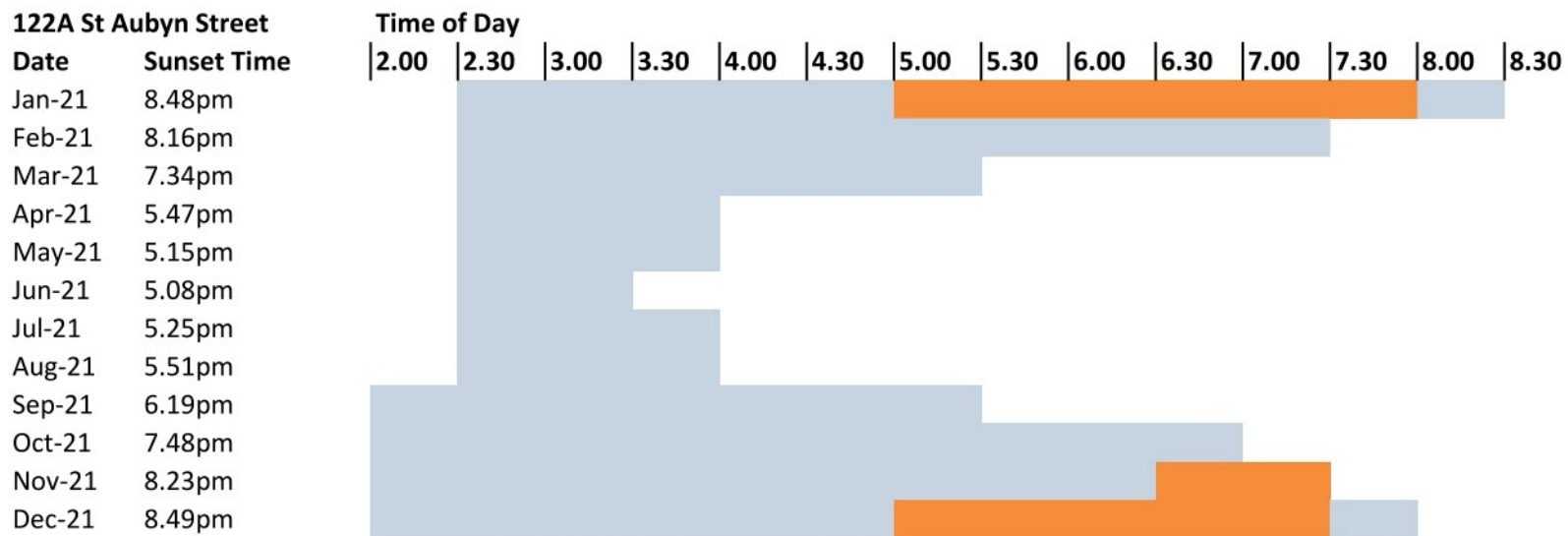
The proposed development will affect the Western wall and Roof Top of 122A St Aubyn Street during each month of the year. The additional shading affects will typically be a widening of the existing shading.

122A St Aubyn Street will experience the longest duration of additional shading when compared to the other analysed properties (122, 122B and the Richmond Apartments).

The highest degree of effect will be during the summer months, when the high sun angle will be affected by the additional height of the proposed development.

The lowest degree of effect will be during the winter months, when the low sun angles are already affected by the existing building.

**Permitted Development Shading**



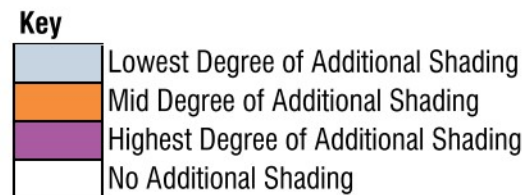
**Permitted Baseline - Description of Shading Effects**

The creation of a permitted baseline development would also have additional shading effects on 122A St Aubyn Street.

In many months of the year (January, February, March, June, July, September, October, November, December) the shading effects of a permitted development would be less shading, or in effect for a shorter amount of time than that of the proposed.

In June and July, the shading effects of a permitted development would be in effect for longer than that of the proposed.

In other months the shading effects would be the same.



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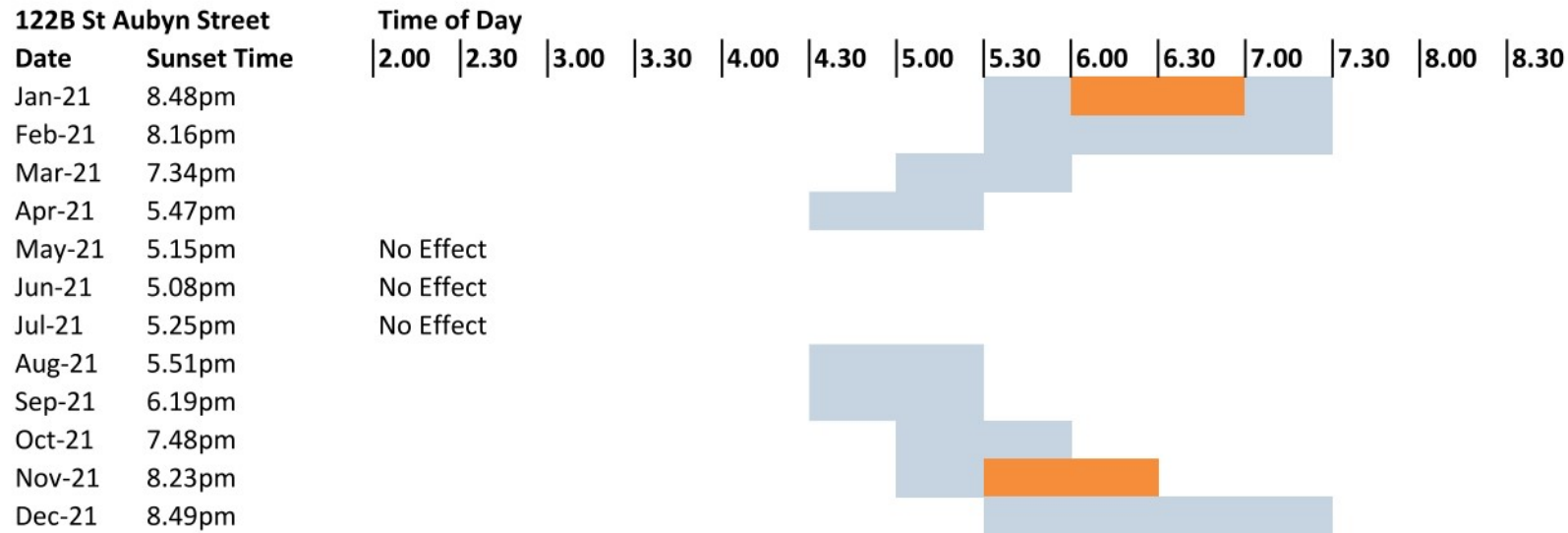


job no. <b>6592</b>	a3 scale	drawing no. <b>SK5.06</b>	rev <b>3</b>	drawing title <b>Shading Effect Summaries - 122A</b>	print date <b>28/07/21 12:44 PM</b>
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**Analysis of Additional Shading by Proposed and Permitted Developments - 122B St Aubyn Street**

**Proposed Development Shading**



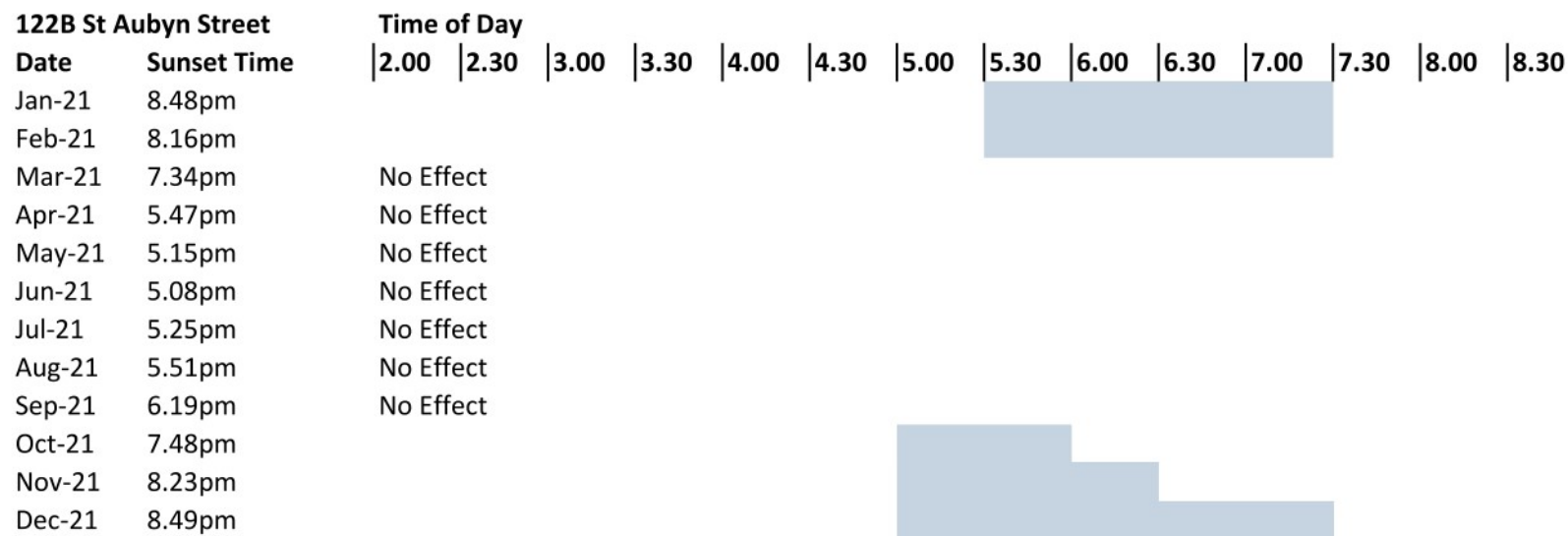
**Proposed Design - Description of Shading Effects**

122B St Aubyn Street is approximately 15m to the East of the existing building at 1 Dawson Street, and is already subject to shading effects in the afternoon throughout the year.

The proposed development will have additional shading affects to the upper part of the Western wall and Roof Top in spring, summer and autumn months. It will have a slight affect to the Northern wall in the summer months also.

There will be no additional shading affect to 122B from the proposed development during the winter months.

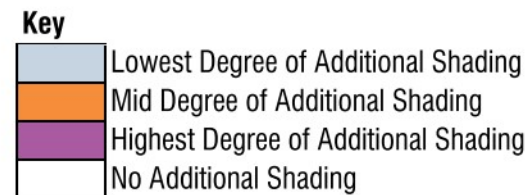
**Permitted Development Shading**



**Permitted Baseline - Description of Shading Effects**

The creation of a permitted baseline development would also have additional shading effects on 122B St Aubyn Street.

In many months of the year (January, March, April, August, September, November) the shading effects of a permitted development would be less than that of the proposed. In other months the shading effects would be the same.



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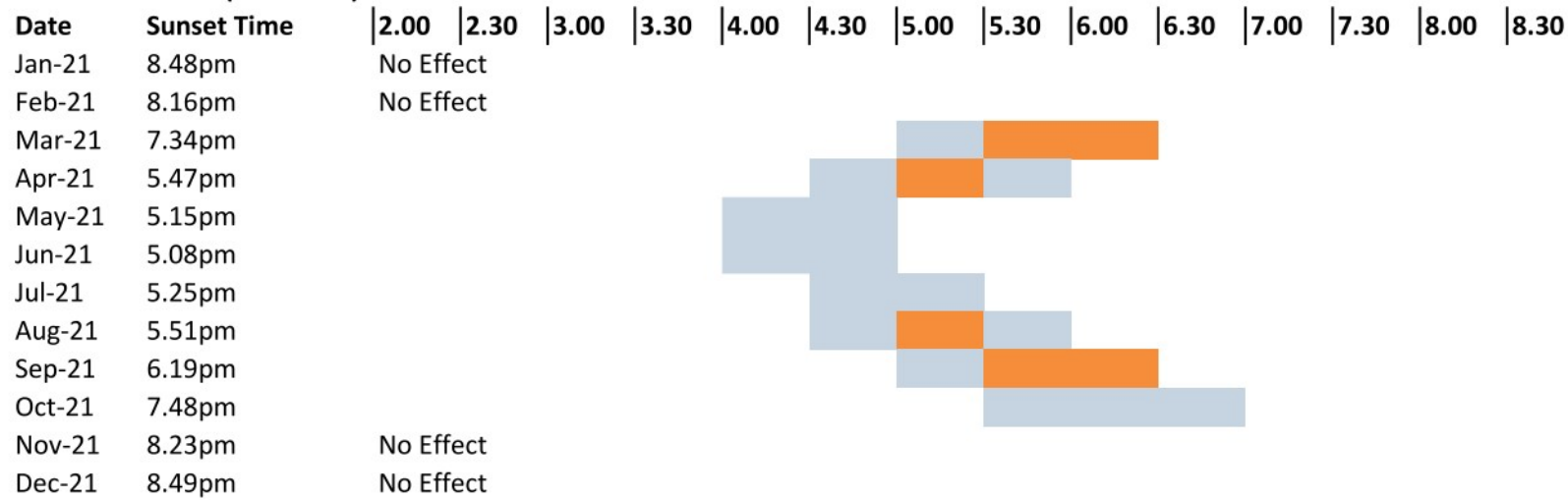
job no. <b>6592</b>	a3 scale	drawing no. <b>SK5.07</b>	rev <b>1</b>	drawing title <b>Shading Effect Summaries - 122B</b>	print date <b>28/07/21 12:44 PM</b>
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**Analysis of Additional Shading by Proposed and Permitted Developments - Richmond Estate Apartments**

**Proposed Development Shading**

**Richmond Estate (Collective)**



**Proposed Design - Description of Shading Effects**

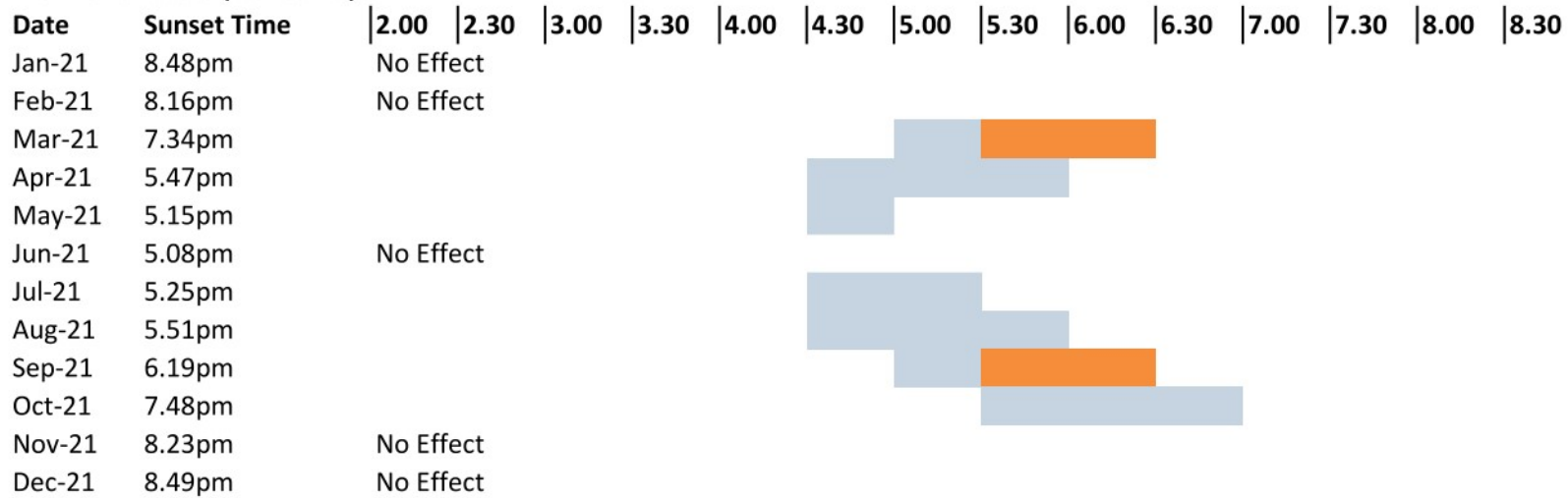
The Richmond Estate apartments are approximately 50m to the South-East of the existing building at 1 Dawson Street, and are already subject to shading effects in the afternoon in the winter months of the year.

The proposed development will have additional shading affects to the Northern and Western walls of these buildings during March-October. The largest impact will be effected in the autumn and spring equinox months - March and September.

There will be no additional shading affect to the Richmond Estate from the proposed development during the late autumn and summer months (November-February).

**Permitted Development Shading**

**Richmond Estate (Collective)**



**Permitted Baseline - Description of Shading Effects**

The creation of a permitted baseline development would also have additional shading effects on the Richmond Estate Apartments.

In many months of the year (April, May, June, August) the shading effects of a permitted development would be less than that of the proposed. In other months the shading effects would be the same.

**Key**

- Lowest Degree of Additional Shading
- Mid Degree of Additional Shading
- Highest Degree of Additional Shading
- No Additional Shading

Rev	Date	Description
1	28.07.2021	RC RFI

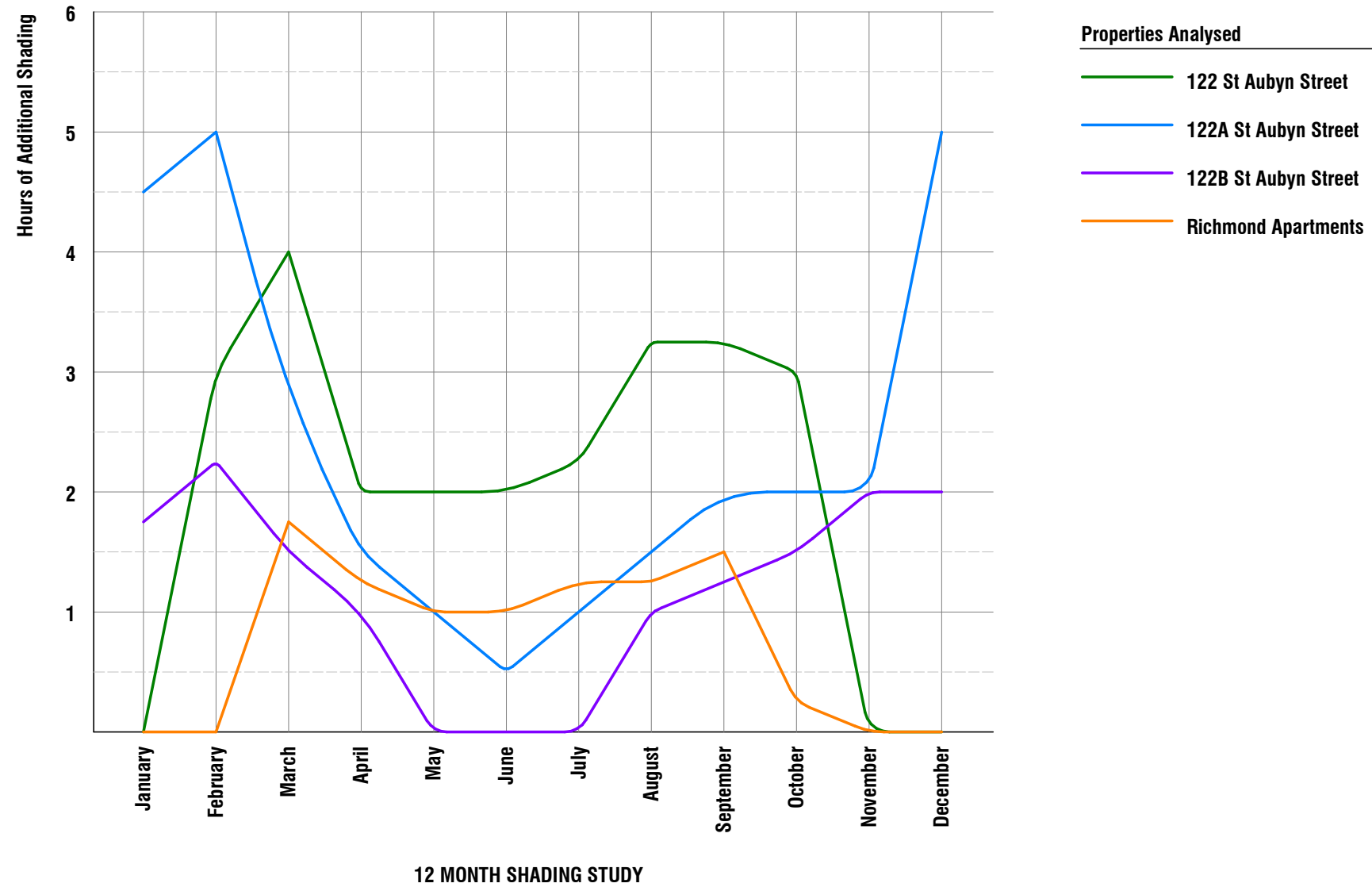
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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592		SK5.08	1	Shading Effect Summaries - Richmond	28/07/21 12:44 PM

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**Analysis of Additional Shading created by Proposed Development, compared against Existing Shading**



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job no.	a3 scale	drawing no.	rev	drawing title	print date
6592		SK5.10	1	Sunset Shadow Studies - Graph	14/07/21 04:17 PM

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