Geotechnical Engineers ACT

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22 August 2024
Our ref: OB/C14191v1

Kosciuszko Thredbo Pty Ltd
Via email: Andrew_Harrigan@evt.com

Attention: Mr Andrew Harrigan

Dear Sir

PROPOSED DEMOLITION & REDEVELOPMENT
SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW

DEMOLITION WORK PLAN

We are pleased to forward our demolition Work Plan (DWP) for a proposed demolition and redevelopment of the Sonnblick Lodge in Thredbo, NSW.

The report outlines the methods of demolition to be adopted for proposed works and meet client/contractual/legal and other requirements.

Should you require any further information regarding this report, please do not hesitate to contact our office.

Yours faithfully,
ACT Geotechnical Engineers Pty Ltd

Olga Baruleva
Engineering Geologist
BSc (Geology) MPhil *MIEAust*

Reviewed by:

Jeremy Murray
Senior Geotechnical Engineer | Director
FIEAust CPEng Eng Exec NER RPEQ APEC Engineer IntPE(Aust)
Registered Professional Engineer of Queensland (RPEQ) #19719
NSW Professional Engineer Registration #PRE0001487

KOSCIUSZKO THREDBO PTY LTD

PROPOSED DEMOLITION & REDEVELOPMENT
SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW

DEMOLITION WORK PLAN

APRIL 2023

KOSCIUSZKO THREDBO PTY LTD

PROPOSED DEMOLITION & REDEVELOPMENT
SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW

DEMOLITION WORK PLAN

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KOSCIUSZKO THREDBO PTY LTD

PROPOSED DEMOLITION & REDEVELOPMENT
SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW

DEMOLITION WORK PLAN

1 INTRODUCTION

1.1 Project Description

At the request of the client, ACT Geotechnical Engineers Pty Ltd developed a demolition working plan for the existing Sonnblick Lodge, in Thredbo, NSW. The 340m2 site located on Lot 802 DP1119757, at 10 Bobuck Lane, in Thredbo, NSW.

It is understood the project involves the partial demolition of the existing lodge, in preparation for selling the vacant land for future redevelopment. The site could potentially be vacant for 12 to 24 months following demolition.

The type of work involved in this project is classified as unrestricted demolition work by SafeWork NSW. As such the company undertaking this demolition is required to carry an Unrestricted Demolition Licence and the Supervisor in charge of the works must carry an Unrestricted Demolitions Certificate.

1.2 Scope of Investigation

This DWP has been developed in accordance with AS 2601:2001 Demolition of Structures. The DWP is to be read in conjunction with the other plans and documents which accompany this application. The DWP will be developed with the SMP and EMP. These developed plans are considered to be the overarching documents to manage and control foreseeable work health and safety risks, environmental risks and meet legislative requirements for the project.

Other supporting documents that may be used during the project include:
- Quality Management Plan (QMP)
- Traffic Control Plan (TCP)
- Traffic Management Plan (TMP)
- Landslide Risk Assessment

The following key SWMS will be developed prior to staged works;

- Hand Strip Out and Enabling Works
- Operation of Excavator
- Operation of Skid-Steer Loader
- Operation of EWP
- Oxy Cutting Reo Bar on Live Edge
- Placing beams into building with crane
- Mechanical Strip Out
- Demolish Members Using Oxy LPG Equip
- Control of the Load Out Area

2 SITE INVESTIGATION

An investigation of the structures to be demolished and surrounding environment has been undertaken in accordance with the Code of Practice: Demolition Work (SafeWork, NSW) and AS2601: The demolition of structures. The observation from this investigation is broken up into three (3) sections 'Investigation of Structures', 'Investigation of Site', and 'Investigation of Services' and is recorded below.

2.1 Investigation of Structures

The main structure is the existing lodge (Sonnblick apartments building) is three-storey structure with a basement that will be partially demolished. The existing footings, retaining walls and concrete driveway will remained on site. The structure includes five flats with bathrooms and kitchens, external steel stairs, and masonry retaining walls. The structure is located below Bobuck Lane, ~4m north from the road carriage way, and 5-6m away from two neighbouring buildings, located to the east, west and south. Figure 1 shows the site locality, while Figure 2 is a recent aerial photograph showing the present site layout. Appendix A includes floor plans.

2.2 Investigation of Site

2.2.1 Description of Site

The site dips north at the angle of ~30° to 40° from ~RL1398 to ~RL1390 across the block. It does appear that some excavation spoil may have potentially been placed, assuming from cut-to-fill (~0.5m/1.0m) platform construction.

No heritage listed structures have been identified on site.

All neighbouring buildings are to remain operational throughout the demolition process. MDG works must not in any way hinder the operation of these surrounding buildings.

2.2.2 Underground Structures

The concrete pad and strip footings of the main structure`s and retaining walls` founded on colluvial soils at ~0.5/2m depth. The footings are proposed to remained buried.

2.2.3 Adjoining Structures

The external basement walls to the building are retaining walls. There are also four retaining walls external to the building that support driveway and Bobuck Lane carriageway. The walls are from 0.5 to 2.5m heigh and comprise boulders and mortar.

2.2.4 Hazardous Chemicals / Dangerous Goods Storage or Dumps

No major hazardous chemicals or dangerous goods (e.g. munitions, chemical storage systems, underground storage tanks, compressed gas cylinders, fire retardant cylinders, medical gases, dumps of noxious or toxic or hazardous substances, etc.) have been identified on site or have been communicated by the Client.

Work involving removal of hazardous chemicals / dangerous goods is not in MDGs scope of works and is the responsibility of the Principal Contractor to remove unexpected findings of hazardous chemicals / dangerous goods on site. In the event of encountering any unexpected findings of hazardous chemicals / dangerous goods, the following is to apply before work commences in the immediate area:

1. Work in the immediate area will stop

2. The Site Supervisor will be notified of the find
3. The Site Supervisor will notify the Project Manager
4. The Project Manager will notify the Principal Contractor
5. The Principal Contractor will organise the safe removal of the substance (which may necessitate the engagement of specialist contractors), work will not recommence in the area until the Principal Contractor has given approval.

2.2.5 Hazardous Chemicals / Dangerous Goods Storage or Dumps

The buildings, paths, roadways, and other items surrounding the site shows signs of deterioration and unsoundness of the main structure, such as external cracking. Retaining wall had cracking through the mortar. Site erosion removed the material below the basement rock façade.

A full Dilapidation Survey is to be undertaken by the Principal Contractor prior to demolition starting. MDG do not anticipate any physical impacts on the surrounding structures. Care will be taken to minimise impacts on adjoining sites and structures. Various methods will be employed to minimise the disruption to the surrounding buildings or adjoin sites and structures.

2.3 Investigation of Services

2.3.1 Services to be disconnected

All services shall be disconnected / made safe prior to commencement of demolition work. A sign-off on services will be received by the contractor prior to the commencement of any demolition works.

For early works prior to full disconnection of power, areas will be isolated and a sign off on the power in those areas received. For some minor demolition in localised areas where it is clearly evident that there is no power services going to be disturbed (e.g. removal or demolition of ceiling grids, furniture and fixings that do not contain power) the demolition may occur without a signoff.

For complex structures that involve many operational 'live' Client critical services (pressurised piping systems, other water/chemical/steam/air systems, electrical, communication, gas, etc.) requiring identification, relocation and decommissioning or isolation by the Client (and where MDG is the Principal Contractor). The following form may be used to assist MDG in obtaining required signoffs Request to Client for Service Id, Decommission & Approval to Remove form.

Where fire sprinkler systems are unable to be isolated due to Client operational needs, care shall be taken during works to prevent disruption to this service. Refer Service Disconnection Signoffs

2.3.2 Services to be maintained

Water and temporary power will be used during the course of demolition works. Some emergency access lighting will be installed and temporary power boards will be used to provide task lighting in the darker areas of the structures. Water will be used for dust suppression.

2.4 Hazard Investigation

The following key hazards associated with demolition work have been identified:

- Unplanned structural collapse
- Falls from one level to another
- Falling objects
- The location above and underground essential services, including the supply of gas, water,

- sewerage, telecommunications, electricity, chemicals, fuel and refrigerant in pipes or lines
- Exposure to hazardous chemicals – these may be present in demolished material or in the
- ground where demolition work is to be carried out (contaminated sites)
- Hazardous noise from plant
- The proximity of the building or structure being demolished to other buildings or structures

Each of the above risks has been investigated and control measures will be outlined in the Safe Work Method Statement (SWMS) developed for demolition and associated works.

2.5 Suspended Slabs and No-Go Areas for Machine's

The following areas are no-go areas for machinery unless an engineer's approval is sought first:

1. All suspended slabs
2. The high side of any retaining walls from the edge of the wall, back a distance equal to the height of the wall
3. On top of any underground structures including fuel tanks and the like. Note: where the walls of underground structures are retaining walls, they should be treated in accordance with the above point

All levels of the structures to be demolished with the exception of the basement slabs are suspended. No machines are to be placed on these slabs without first getting engineers approval. Certification will be sought as to the heaviest Skidsteer, EWP, truck and excavator types that can be places on area of the building prior to bringing any machines on site. Prior to heavier machines being brought onto site, temporary propping will be designed by a structural engineer, installed and finally certified by the design engineer for the areas the machine will be working in. A third party engineer will also check all temporary works including back propping and bracing.

Prior to installation of back propping a SWMS will be developed for the installation of the props. See Metropolitan Demolitions SWMS – Installation of Back Propping.

3 DEMOLITION EXCLUSION ZONE

The demolition Exclusion Zone will encompass the entire site with the exception of the site amenity areas (and access ways to and from), which will be deemed construction zones.

All personnel on the Principals contractor site have to be inducted into their system. In addition, all personnel not inducted by MDG will be required to visit the site office and not enter the demolition site until they have been inducted and signed on the Site Sign-In Register or brought on site with the permission of the MDG Site Supervisor under the supervision of an inducted person and have signed in the Site Visitors Register.

As well as the whole demolition site being a demolition zone, various area inside site will be demarcated with chain wire fencing and signs 'Warning Drop Zone, Do Not Enter', Jersey curbs, steel plates and other engineering barricades will also be used in the Drop Zones. The locations of these Drop Zones are also marked up on an Exclusion Zone Plan. The location of smaller temporary localised Drop Zones will be tool box talked daily and detailed in the demolition site sign on location.

All Exclusion Zones and Drop Zones will be properly demarcated. No unauthorised persons shall be permitted into the demolition work area. All personnel and visitors will follow Site Personnel and Visitor Registration Procedure.

5 DETAILS OF DEMOLITION

5.1 Sequence

Demolition

Work will follow the sequence below. Amended to this sequence may occur to suit. For more detail see separate Demolition Program.

1. Receive Handover of Site and sign off services
2. Site induction
3. Demarcate site and define Exclusion Zones
4. Install Environmental Controls
5. Practical Removal of Hazardous Materials
6. Create Drop Zones
7. Soft strip structure
8. Erect scaffold and protection
9. Mechanical Demolition
10. Install Man and Material Hoist
11. Mechanical Demolition
12. Remove rubble and rubbish from site
13. Handover
14. Demobilisation

More details on the sequence and flow of the work including durations will be provided in a separate Demolition Program and updated monthly programs.

Note: Where temporary works are necessary (propping, scaffolding needles and the like) the following sequence MUST be adhered to prior to the use of the temporary works item:

1. Design
2. Specialist Engineer Sign Off on Design
3. Tall Sign off on Design
4. Installation
5. Inspection and Certification (engaged specialist Engineer)
6. Use

Temporary Works

Note: Where temporary works are necessary (propping, scaffolding needles and the like) the following sequence MUST be adhered to prior to the use of the temporary works item:

1. Design
2. Specialist Engineer Sign Off on Design
3. Second engineer to check design
4. Installation
5. Inspection and Certification (engaged specialist Engineer)
6. Use of temporary works structure/item

5.2 Detailed Work Methodology

5.2.1 Receive Handover of Site and Sign-off on Services

Demolition will begin only when the site has been officially handed over and a sign off on services

- has been received by the appropriate service providers for appropriate areas.

5.2.2 Site Induction

A site induction is to be held before any work commences on site. The site induction includes the following:

- Induction into this DWP, other plans and SWMS
- Induction into the Principal Contractors Work Health and Safety Management Plan/system
- Induction into the Clients Work Health and Safety Management Plan/system (where
- required)

5.2.3 Demarcate Site and Define Exclusion Zones

The entire site will be fenced with 1.8m chain wire fencing. Other areas of site may be demarcated as hazard removal areas, exclusion or Drop Zones. The access gate will be closed during demolition works and manned during load out.

Site notices to be displayed in a prominent position are:

- Unauthorised entry prohibited
- Warning Demolition in Progress
- Mandatory PPE information signage
- MDG Site Supervisor in charge of works
- 24 hour site emergency contact number

5.2.4 Install Environmental Controls

A responsible demolition contractor should endeavour to ensure the unimpeded operation of the surrounding sites throughout our works. Importance will be placed on sensitive receivers and close proximity to adjacent buildings. The contractor should endeavour to do everything reasonably practicable to make what is by nature a noisy and disruptive process as quiet and dust free as possible.
A summary of the key environmental methods that will be used on site include:

Sediment Control

- Leaving all hardstands in place until the very end of the project. All truck movements will be on hardstand
- Installing sediment settling and filtration system in the sumps of building to collect and filter sediment prior to it being released into the storm water system. Prior to releasing any water into the storm water a testing system will be put in place
- A mechanical vacuum type street sweeper is to be employed wherever sediment or dust becomes an issue on the external roadways and on the internal hardstand on site. It is expected that initially there will be not much need for the sweeper however towards the peak load out period of the project the sweeper may need to return to site daily. The need for the sweeper will be assessed on a daily basis with input from interested parties and stakeholders.
- All drains will be covered in a Geotech material, with Geotech lined hay bales placed up stream of the flow to these drains. All fencing to the perimeter of site will be lined with shade cloth

Noise Management

Demolition is a noisy process; however many measures can be taken to minimise this noise.
The following noise reduction measures when implemented will minimise
noise disruption to the surrounding buildings:

- Demolition will be undertaken by as large as possible machines as they are far less obtrusive than the rapid crescendo of smaller machines.

- External walls of each floor will be left in place until the very last stage of each floors demolition. The walls act as a sound barrier shielding the neighbourhood buildings from much of the noise generated by machines on that floor.
- At least two decks of scaffolding will be lined with Metro Mesh to the full height of the perimeter of building providing a noise dampening measure.
- Drop Zones will be located to ensure minimum noise from their operation
- Material that generates a lot of noise when removed via Drop Zone (large steel members, etc.) will be craned off the structure)
- The base of drop zones will be covered with 500mm of rubble prior to their use
- A 3m high 'A Class' hoarding that will be erected to the perimeter of the demolition site will greatly reduce ground level noise from escaping the confines of site.

Dust Control

Demolition of brick and concrete can generate excessive amounts of dust however through the following dust suppression measures MDG anticipate the dust leaving the confines of the building being demolished will be kept below a level that adversely affects the surrounding billings and site:
Installing a minimum of 2 water points (with 3 outlets on each point) or as needed on every level of the building with booster pumps used to achieve sufficient water pressure at the top levels of the building (as required).

- Each machine used in the demolition process will be accompanied by a labourer with a water hose to ensure water is available on each separate demolition face and provide adequate dust suppression. Water runoff will be minimised.
- All scaffolding will be lined with Metro Mesh which reduces the wind over the active demolition faces and the possibility of dust permeating through the scaffolding screen
- Material will be saturated prior to being removed via the Drop Zone
- During load out of material, material will be wet down to minimise dust being generated
- The 3m high 'A Class' hoarding will be erected reducing ground level dust from escaping the confines of the site

Vibration Management

Vibration on this site will emanate from the excavator mounted hydraulic hammers used in the process of breaking down the concrete and brick structure into rubble and also from items reaching the base of the Drop Zone. The following measures will ensure that disruptive vibration will not travel beyond or site:

- Physical links from structure being demolished to adjoining buildings and structures will be demolished (e.g. overhead walkway etc.)
- Physical separation will be done by saw cutting a slice of the slab
- Breakup of slabs, beams and columns into smaller pieces of rubble to reduce vibrations being felt from Drop Zone operation
- Structural steel and large heavy objects will be craned off site
- Covering of the base of Drop Zone with 500mm of rubble prior to use.

Truck Movements

- Providing traffic controllers to control pedestrian and vehicular traffic
- Ensure trucks are covered prior to leaving site
- Providing drivers information on access, routes and site conditions and sensitive
- receivers
- Space allocated for trucks within hoardings

5.2.5 Soft Strip Structures

The structures will be stripped-out by hand and appropriate hand tolls where required, prior to mechanical stripping in appropriate areas. No heavy machines will be placed in the areas highlighted in the Demolition Exclusion Zones.

Bounded material such as non-loading bearing walls, partitions, and doors that may not be removed by machines will be removed by a combination of hand, picks, crow bars, and other associated tools, and stockpiled in the building or a secure area of site for load out by machines.

5.2.6 Mechanical Demolition

Mechanical demolition will be by hydraulic excavator. 5, 12 and 20 tonne hydraulic excavators with shear, pulveriser, hammer and bucket attachments. These machines will be on suspended slabs and transported from one level to the next via ramps. An engineer's approval will be sought regarding the size of machine that can be put on any particular slab.

Hydraulic excavators with shear attachments will cut down steel elements of structure in sections. Hydraulic excavators with hammer / pulveriser attachments will break up brick walls and concrete slabs of the structures in sections and removed via the Drop Zone. Only material of a suitable size will be placed into the Drop Zone to avoid blockages.

A watcher will work with plant and equipment operators at all times.

Water will be maintained at the face of demolition for dust suppression where required.

During demolition the floor area under the excavators and the bay area's being demolished will be closed off with warnings signs, ATF fence panels and existing wall's. No plant or personnel will be allowed in these areas.

Shear wall that is on the perimeter of the building will be demolished in the following sequence:

1. Excavator will punch a vertical line in the wall, leaving steel reinforcement intact
2. The excavator will then make a horizontal line at the base of the wall keeping the steel reinforcement intact. Leaving 300mm concrete between the vertical cut and the start of the horizontal cut
3. A worker will then cut the back steel reinforcement in the horizontal line and all the steel reinforcement in the vertical line
4. The machine will then fold the wall inside the building

The pulling in of perimeter beams will be done in the following sequence:

1. An excavator will hammer both ends of the beam leaving steel reinforcing intact
2. Chains will be attached to the beam at one end
3. All steel reinforcement will be oxy cut at the chained end and the only top reinforcement will be cut on the other end
4. The chained end will be towed in and placed on the slab
5. The remaining bottom steel will be oxy cut
6. The remaining end will fall onto some rubble or steel to cushion the impact on the slab
7. The beam can then be safely dragged in by the excavator

Mechanical demolition of lower structure from ground level will be by hydraulic excavator. 20, 30 and 40 tonne hydraulic excavators with shear, pulveriser hammer and bucket attachments. All buildings and structure can be reached from the ground.

5.2.7 Remove Rubbish and Rubble from Site

Demolished material will be separated and stock piled ready for load out. A combination of hydraulic excavator with grapple attachments or bucket and/or Skidsteer with grapple attachments will load out demolished material into appropriate bins for transportation to an EPA approved tipping or recycling facility.

Care shall be taken to watch for pedestrians when entering and leaving site.

Approved Traffic Control Plan will be adhered to at all times. All trucks will follow the truck route and guidelines on entering and exiting the site. A MDG RTA tickets traffic controller will assist trucks for site access and egress when required.

5.2.8 Handover Site to Client Representative

Demolished material will be separated and stock piled ready for load out. A combination of hydraulic excavator with grapple attachments or bucket and/or Skidsteer with grapple attachments will load out demolished material into appropriate bins for transportation to an EPA approved tipping or recycling facility.

5.2.9 Demobilise from Site

The site demobilisation will take place following the site handover to Clients representative. Truck floats will take plat off site, the mobile amenities (where used) will be towed off site and the site fencing dismantled and carted off site.

6 PERMITS BY AUTHORITIES

All relevant permits required by authorities will be sought and displayed on-site at all times. These permits include but are not limited to:

- SafeWork NSW Permit for demolition
- Council approval for temporary footpath closures (if necessary)
- Council approval for Hoardings and laybacks (if necessary)

6 PERSONNEL QUALIFICATIIONS

All personnel onsite shall hold a General Construction Induction Card (White Card).

The Site Supervisor shall be a SafeWork NSW recognised Demolition Class A (unrestricted) Competent Person with considerable expertise in the demolition of similar structures.
All plant will be operated by SafeWork NSW ticketed and experienced personnel.

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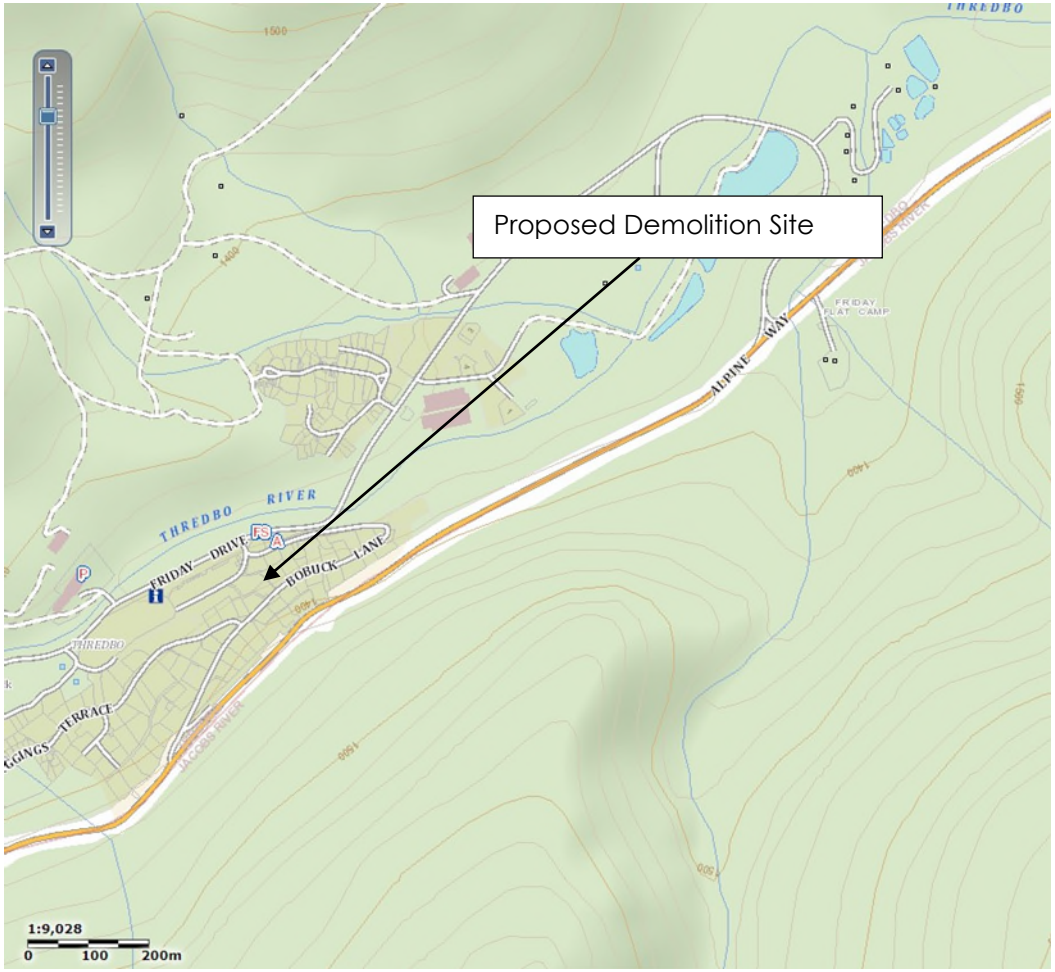


KOSCIUSZKO THREDBO PTY LTD
PROPOSED DEMOLITION & REDEVELOPMENT - SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW
SITE LOCALITY

ACT Geotechnical Engineers Pty Ltd	**C14191**	**FIGURE 1**

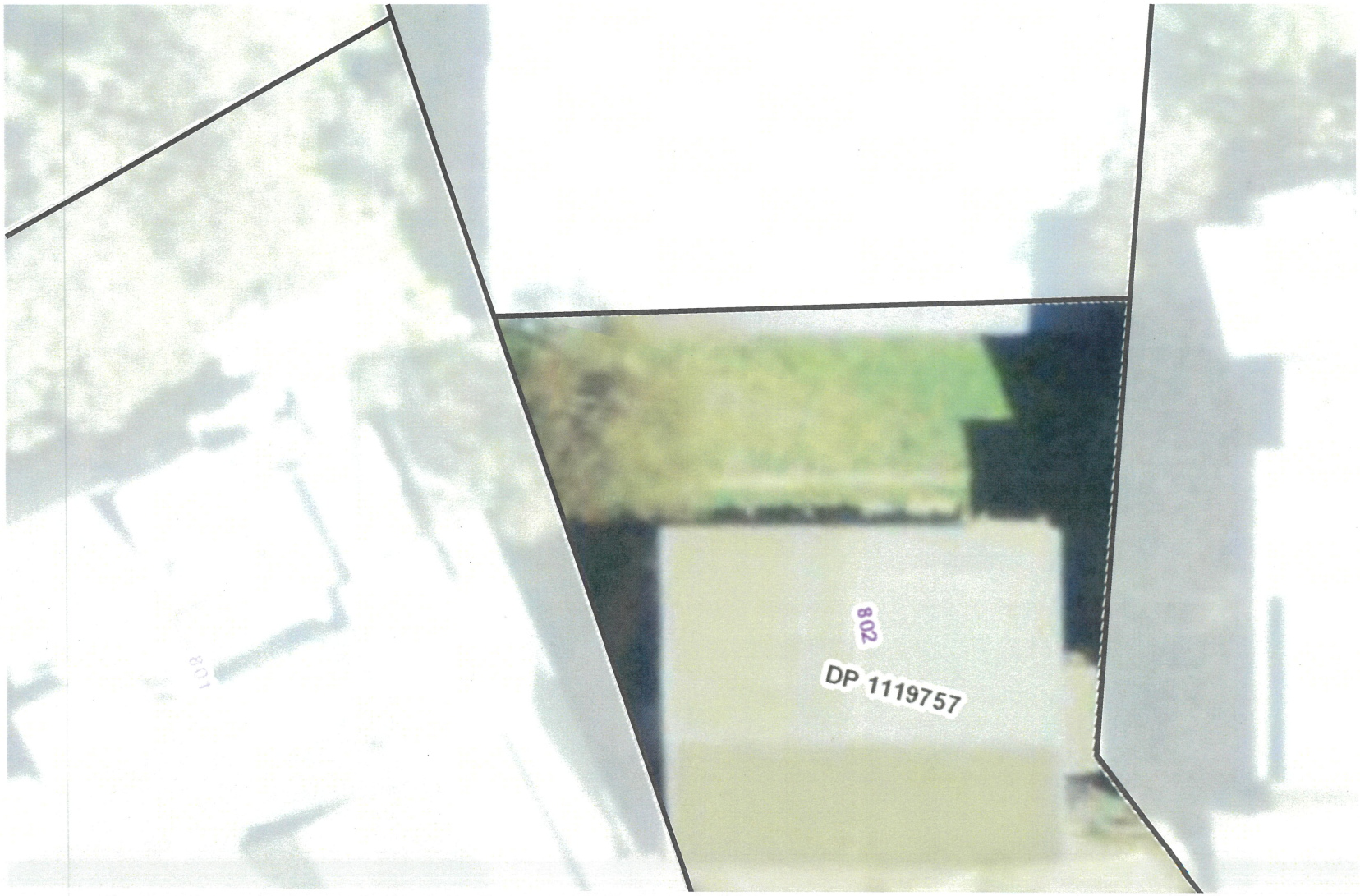
KOSCIUSZKO THREDBO PTY LTD
PROPOSED DEMOLITION & REDEVELOPMENT - SONNBLICK LODGE – 10 BOBUCK LANE, THREDBO, NSW
RECENT AERIAL PHOTOGRAPH

ACT Geotechnical Engineers Pty Ltd	**C14191**	**FIGURE 2**

APPENDIX A
SONNBLICK LODGE FLOOR PLANS

Sonnblick Lodge

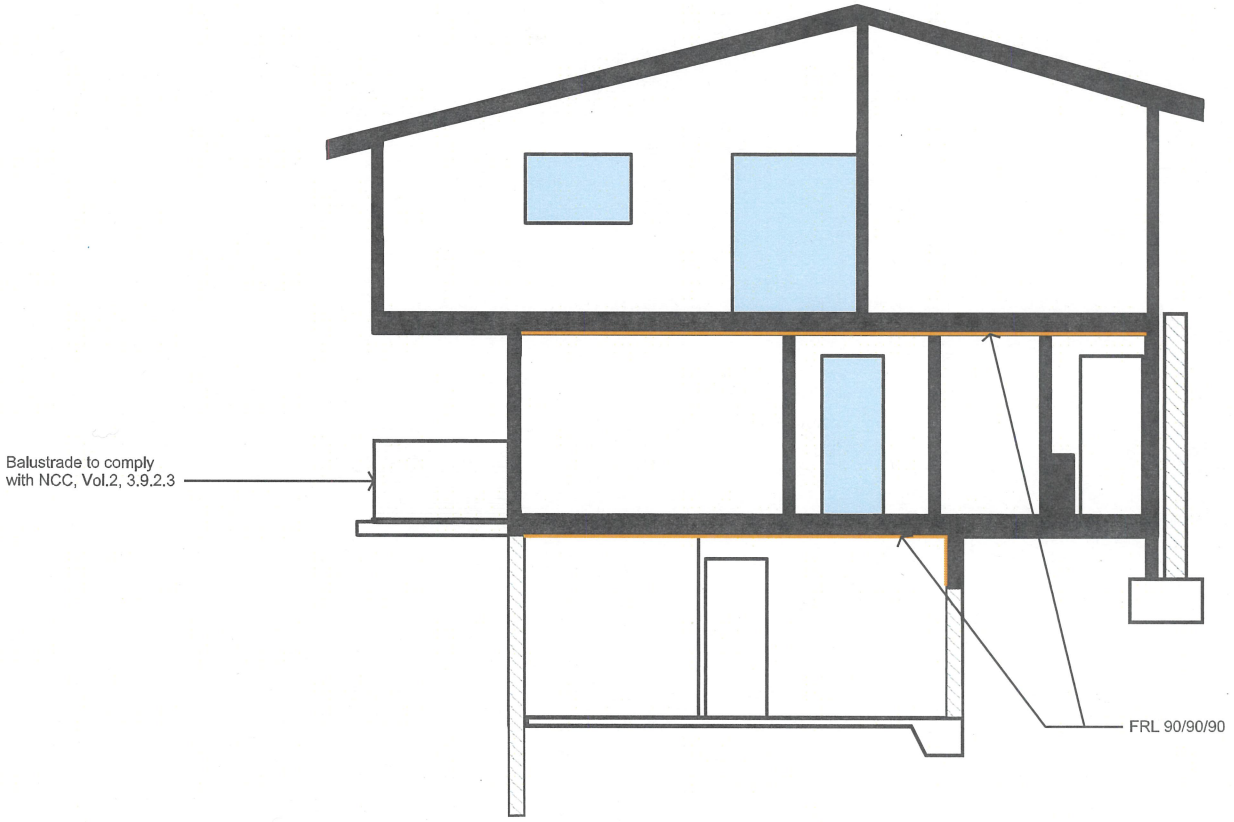
Date: November 7, 2019



CONTENTS

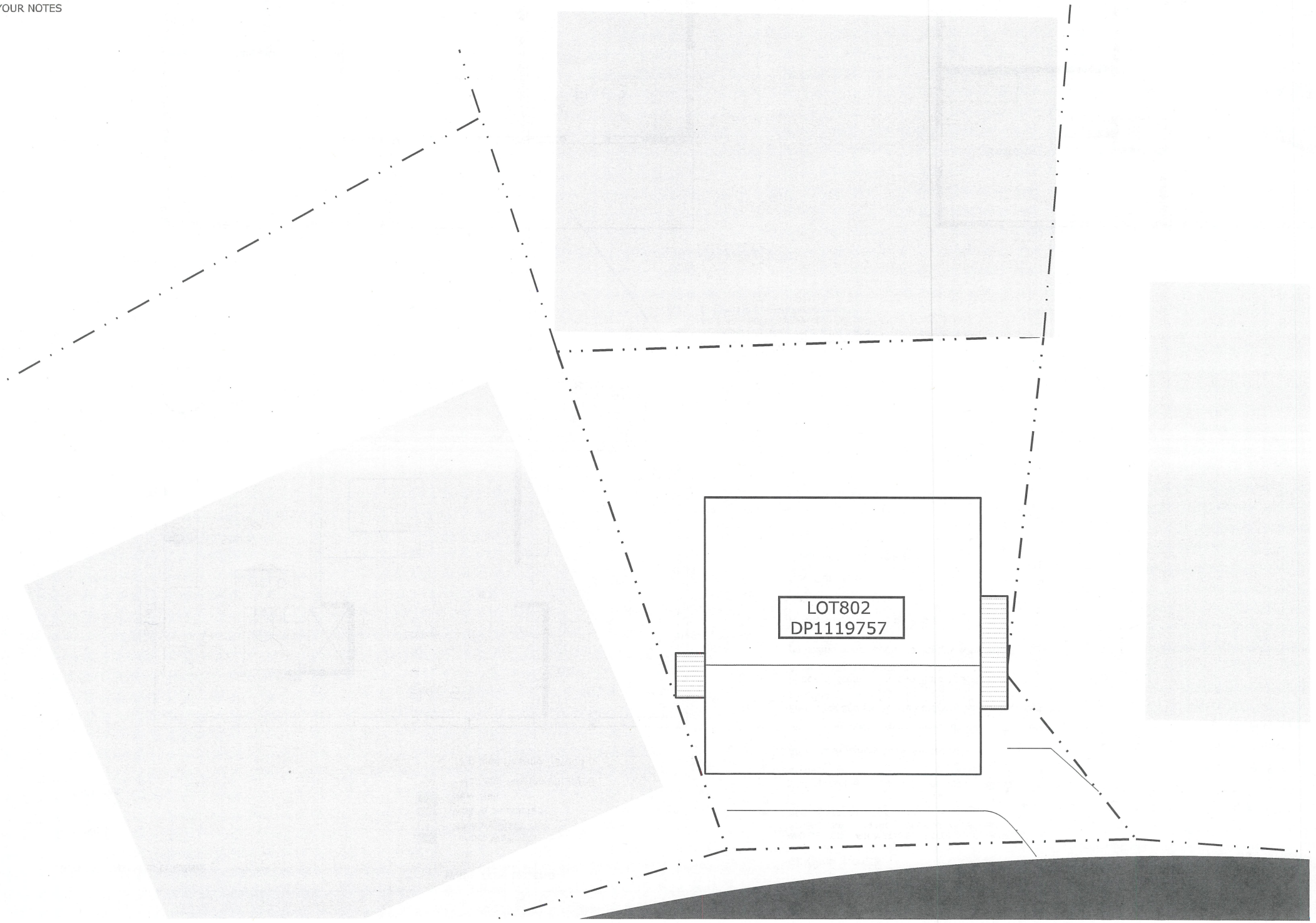
TYPE LEGEND

- Timber
- Masonry Block
- Concrete
- FRL: Load Bearing 90/90/90
  Non-load Bearing -/60/60



GENERAL NOTES

ADD YOUR NOTES



FLOOR FINISHES LEGEND

- Decking
- Wet areas

WALL TYPE LEGEND

- Timber Wall
- Masonry Block Wall
- Wall to be deleted
- New Wall
- FRL: Load Bearing 90/90/90

Non-load Bearing -/60/60

GENERAL NOTES

WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY ALL DIMENSIONS ON SITE

Waterproofing needs to be replaced in all Wet areas

All Kitchen joinery to be Replaced

All existing joinery to be replaced

Fire Panel and smoke detectors to be serviced and certified

Exposed Beam ceilings in Flats 2, 3, 4, 5, to Achieve FRL 90/90/90

All ceiling penetrations to comply with FRL 90/90/90

All Internal Doors to be Replaced

New Floor Coverings

New Light Fittings

Site may contain Asbestos

ABBREVIATIONS

WM - Washing Machir

D - Dryer

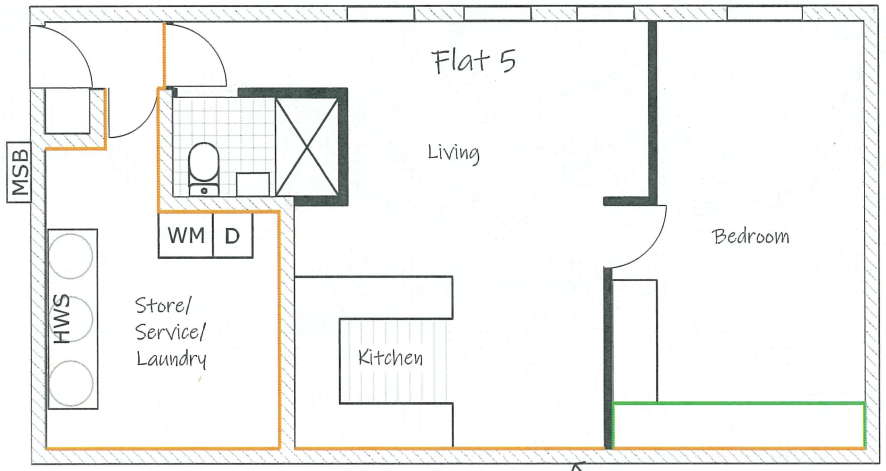
EF - Exhaust Fan

SB - Switch Board

MSB - Main Switch Bc

FHR - Fire Hose Reel

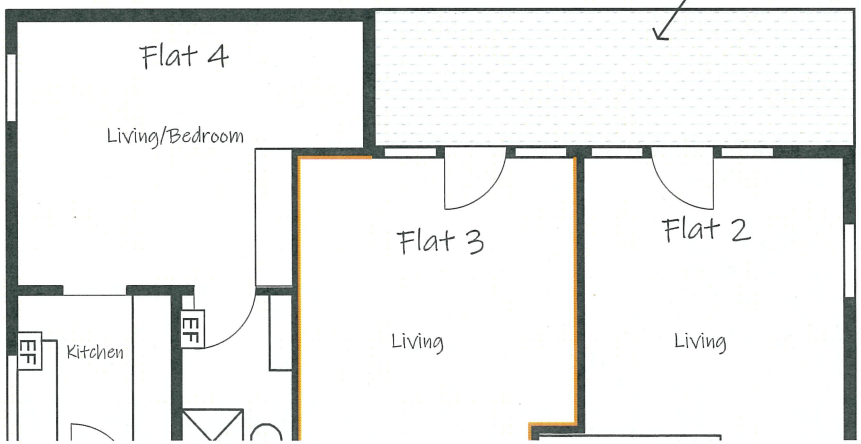
HWS - Hot Water Sys

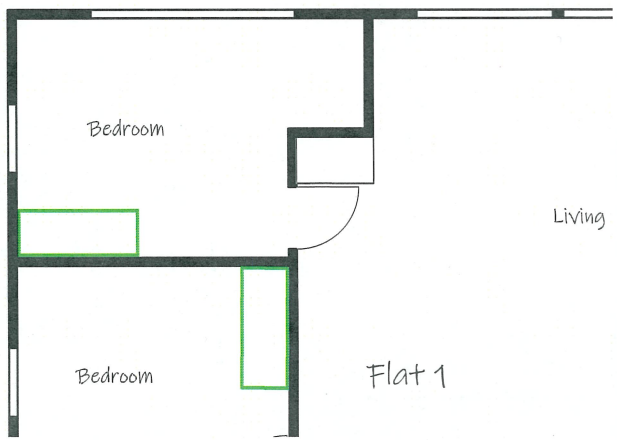


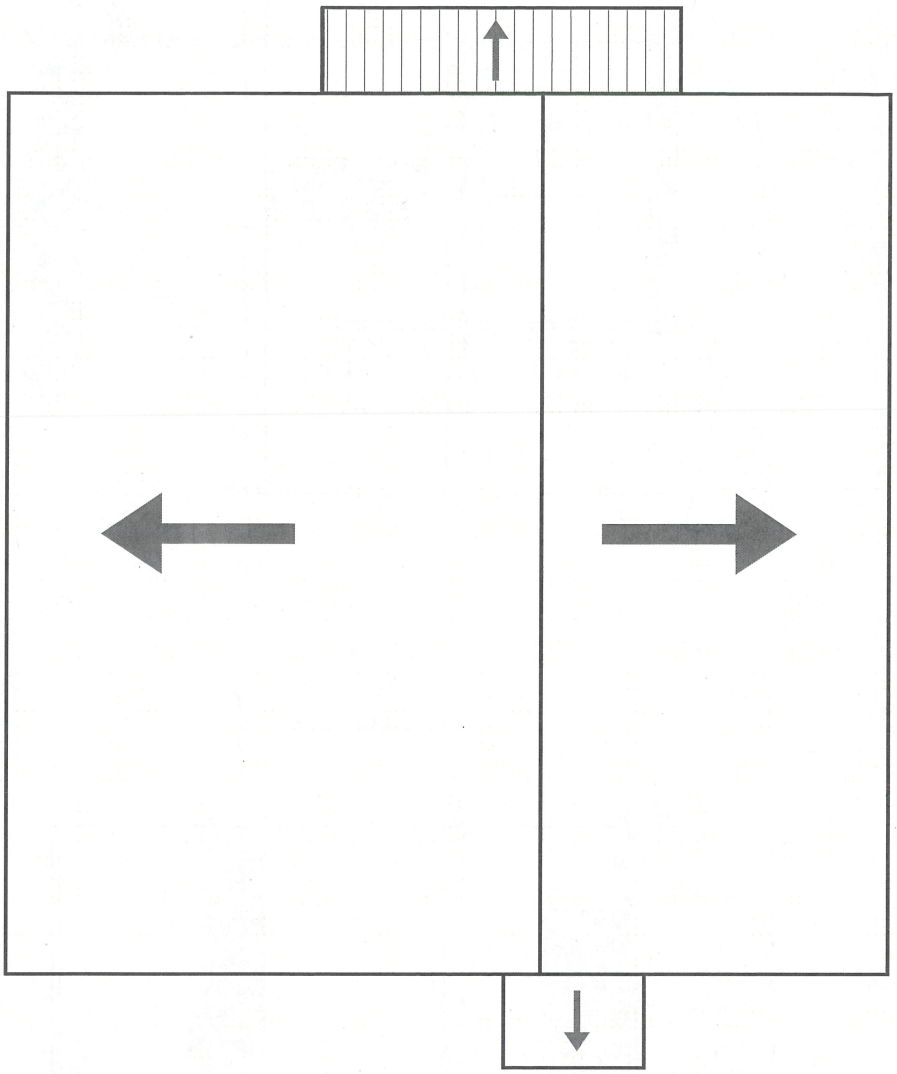
1 / A102 Level 1

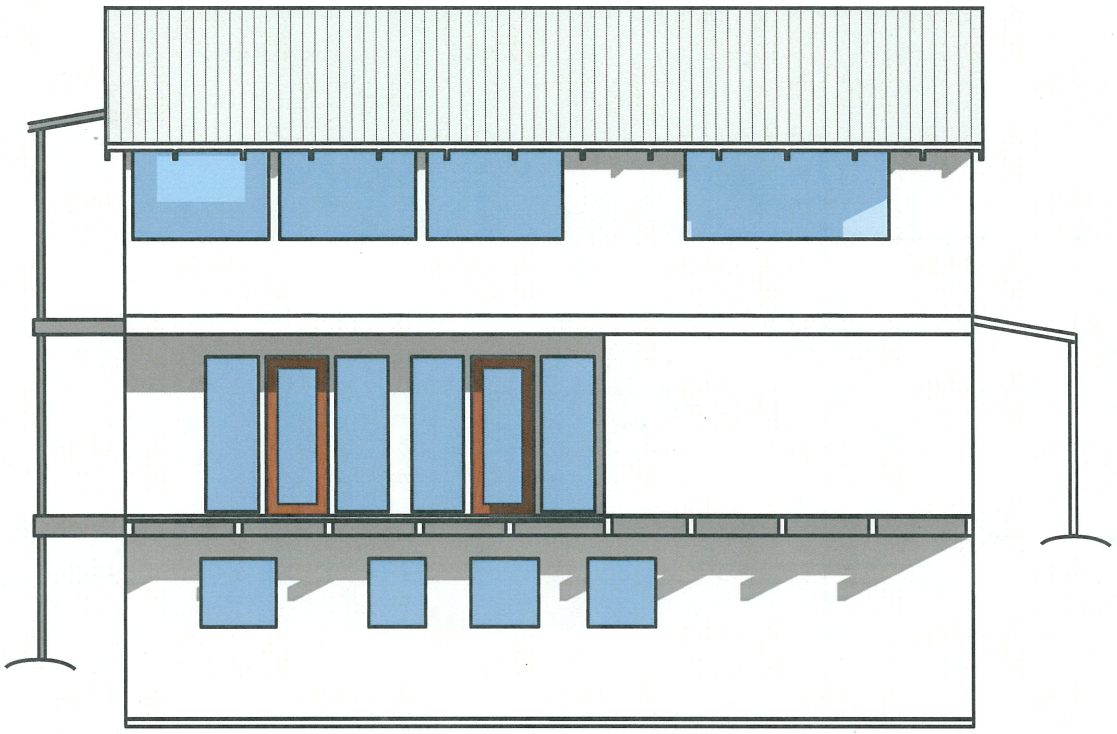
Scale: 1 : 100

Decking to be replaced and Balustrade to comply with NCC, Vol.2, 3.9.2.3 and AS 3959—2009 "Construction Of Buildings in Bushfire Prone areas"









EN / A201 North Elevation
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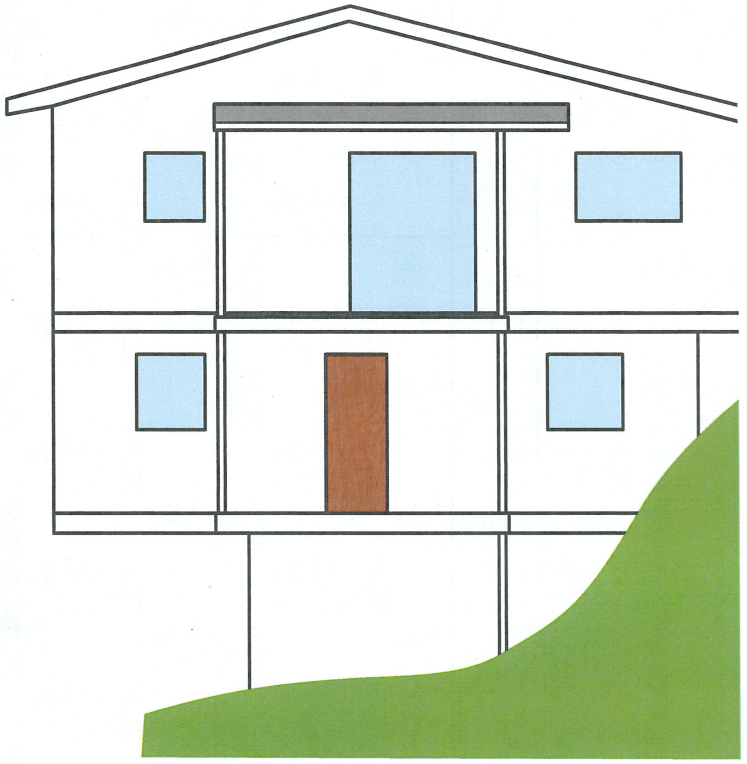

EN / A201 East Elevation
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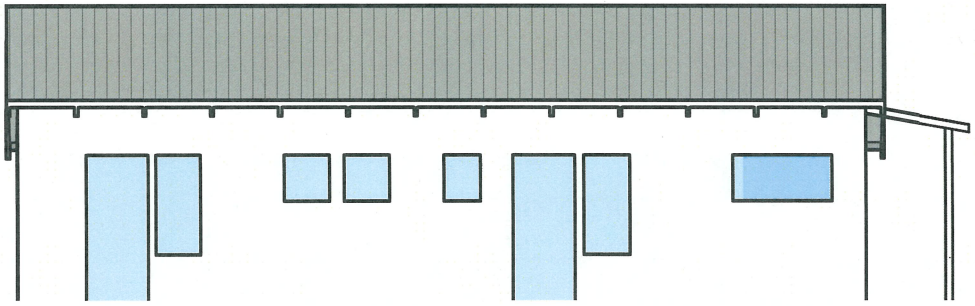
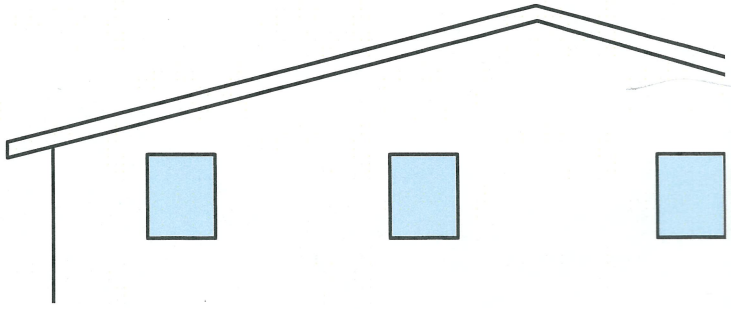
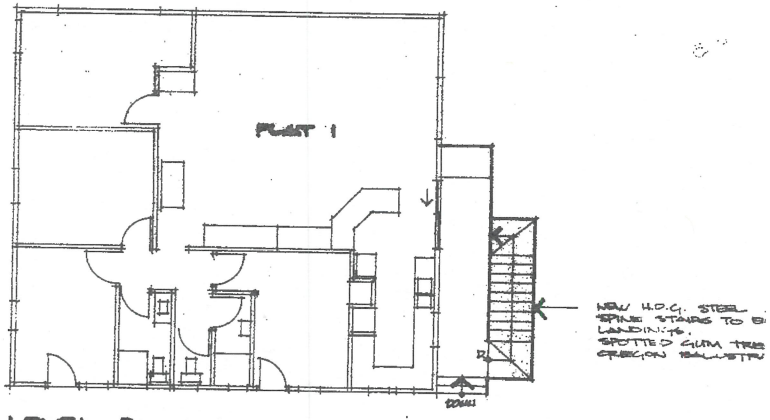
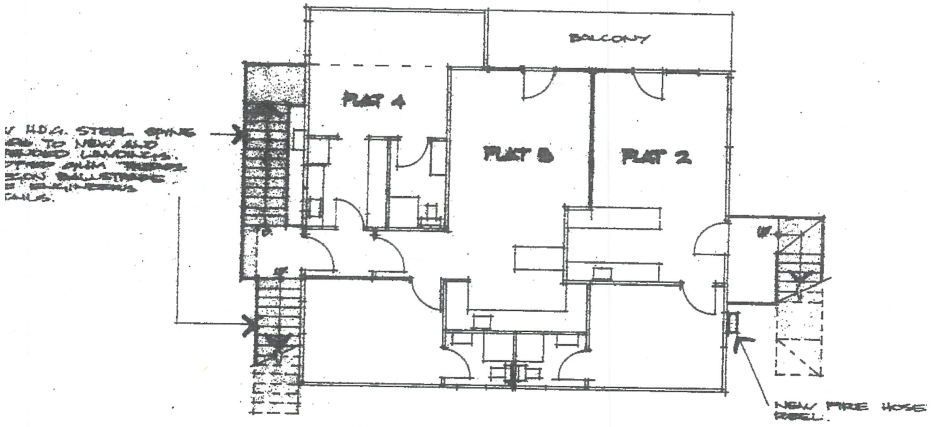


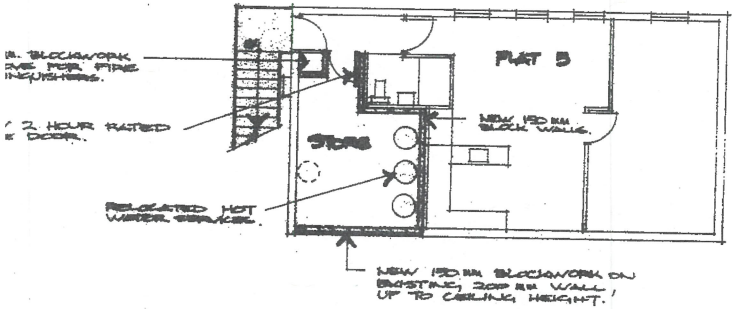




LEVEL 3 1:100



LEVEL 2 1:100



LEVEL 1 1:100

NOTES:

- PROVIDE FIRE ALARM SYSTEM IN ACCORDANCE WITH AS 1670 TO FLATS 1,2,3,4,5, PLANT ROOM AND STORE.
'AS EXECUTED' DWG. WILL BE SUBMITTED.
PROVISION HAS BEEN MADE FOR CONNECTION TO FIRE'S STATION.