

Monterey Equity Pty Ltd
C/- Centurion Group

Remedial Action Plan: 119 Barton Road, Monterey, NSW



ENVIRONMENTAL



WATER



WASTEWATER



GEOTECHNICAL



CIVIL



PROJECT
MANAGEMENT



P1706332JR02V01
December 2020

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Document and Distribution Status								
Author(s)			Reviewer(s)		Project Manager		Signature	
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Revision No.	Status	Release Date	Document Location					
			File Copy	Centurion Group				
1	Draft Report	18.12.2020	1P	1P				
1	Final Report	21.12.2020	1P	1P				

Distribution Types: F = Fax, H = Hard copy, P = PDF document, E = Other electronic format. Digits indicate number of document copies.

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General Abbreviations

AASS	Actual acid sulfate soil
ABC	Ambient background concentrations
ACM	Asbestos containing material
AEC	Area of environmental concern
AF	Asbestos fines
AMP	Asbestos Management Plan
ANZECC	Australia and New Zealand Environment Conservation Council
ANZG	Australian and New Zealand Governments
ASC NEPM	National Environmental Protection (Assessment of Site Contamination) Measure (2013)
ASS	Acid sulfate soil
ASSMAC	Acid Sulfate Soils Management Advisory Committee
AST	Above ground storage tank
BGL	Below ground level
BH	Borehole
BTEXN	Benzene, toluene, ethylbenzene, xylene, naphthalene
CEMP	Construction Environmental Management Plan
COC	Chain of custody
COPC	Contaminants of potential concern
DA	Development application
DBT	Dibutyltin
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DNAPL	Dense non aqueous phase liquid
DP	Deposited Plan
DPI	NSW Department of Primary Industry
DPIW	NSW Department of Primary Industry – Water
DQI	Data quality indicators
DQO	Data quality objectives
DSI	Detailed Site Investigation
EAC	Ecological assessment criteria
EIL	Ecological investigation level
EMP	Environmental Management Plan
EPA	NSW Environmental Protection Authority
EQL	Estimated quantitation limit (Interchangeable with PQL and LOR)
ESA	Environmental Site Assessment
ESL	Ecological screening level
FA	Fibrous asbestos
GIL	Groundwater investigation level
HIL	Health investigation level
HM	Heavy metals
HSL	Health screening level
IA	Investigation area
ISQG	Interim Sediment Quality Guideline
ITP	Inspection Testing Plan
LGA	Local government area
LNAPL	Light non aqueous phase liquid
LOR	Limit of reporting (Interchangeable with EQL and PQL)
MA	Martens & Associates Pty Ltd
mAHD	Metres, Australian Height Datum
mbgl	Metres below ground level

MBT	Monobutyltin
MNA	Monitored natural attenuation
MPE	Multi phase extraction
NAPL	Non aqueous phase liquid
NATA	National Association of Testing Authorities
ND	No data
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCP	Organochloride pesticides
OEH	NSW Office of Environment and Heritage
OPP	Organophosphorus pesticides
PACM	Potential asbestos containing material
PAH	Polycyclic aromatic hydrocarbons
PASS	Potential acid sulfate soil
PCB	Polychlorinated biphenyl
PCEMP	Post Construction Environmental Management Plan
PESA	Preliminary Environmental Site Assessment
PFAS	Per- and polyfluoroalkyl substances
PID	Photoionisation detector
ppb	Parts per billion
ppm	Parts per million
PQL	Practical quantitative limit (Interchangeable with EQL and LOR)
PSI	Preliminary Site Investigation
QA/QC	Quality assurance / quality control
RAC	Remediation acceptance criteria
RAP	Remedial Action Plan
HHRA	Human Health Risk Assessment
RPD	Relative percentage difference
SAC	Site assessment criteria
SAQP	Sampling and Analysis Quality Plan
SEPP	State Environmental Planning Policy
SIL	Soil investigation level
SOP	Standard operating procedure
SWL	Standing water level
SWMS	Safe Work Method Statement
TB	Trip blank
TBT	Tributyl tin
TCLP	Toxicity characteristics leaching procedure
TEQ	Toxic equivalency factor
TP	Test pit
TPH	Total petroleum hydrocarbons
TRH	Total recoverable hydrocarbons
TS	Trip spike
UCL	Upper confidence limit
UPSS	Underground petroleum storage system
UST	Underground storage tank
VHC	Volatile halogenated compounds
VOC	Volatile organic compounds
WHS	Work health and safety
WHSP	Work Health and Safety Plan

1 Introduction

1.1 Overview

This remedial action plan (RAP) has been prepared by Martens and Associates Pty Ltd (MA) for Monterey Equity Pty Ltd C/- Centurion Group (the Client) as part of a development application (DA) to Bayside Council (Council) for a proposed aged care facility at 119 Barton Road, Monterey, NSW (the site).

This RAP has been prepared to address fill material impacted by elevated heavy metals (lead, copper and zinc), and PAHs (benzo(a)pyrene and carcinogenic PAHs) which was identified as part of a contamination assessment undertaken by MA for the site (MA, 2018).

This RAP outlines the remediation methodology and management practices required to remediate the identified heavy metal and PAH contaminated fill material.

1.2 Proposed Development

The proposed development will include:

1. Demolition of the existing bowling greens and structures at the site.
2. Construction of a three-story aged care facility with basement level carpark.
3. Landscaped areas with deep soil planting around the perimeter of the proposed structure.

While it is noted that the proposed development will require bulk excavations up to approximately 4.5 m below ground level (mbgl) for the construction of a basement level carpark, additional fill material has previously been observed to the north of the proposed basement area.

Proposed development plans are provided in Attachment B.

1.3 Objectives and Scope of the RAP

This report has been prepared in general accordance with ASC NEPM (2013), NSW EPA (2017) and NSW EPA (2020).

The objectives for this RAP are:

- Setting remediation goals and criteria.
- Defining the extent of areas requiring remediation.

- Reviewing possible remediation options.
- Providing rationale for the preferred remedial option.
- Providing a remediation plan to implement and validate the preferred remediation option.
- Providing a site management plan for the remediation.
- Outlining contingency plans to protect the surrounding environment and community during remediation.
- Outlining regulatory compliance requirements.

2 Site Background Information

2.1 Location and Setting

Site information is summarised in Table 1. The site and surrounds are shown in Attachment A.

Table 1: Site background information.

Item	Description / Detail
Site address	119 Barton Street, Monterey, NSW
Legal identifier	Lot 2, DP 857520
Approximate area	7,200 m ² (NSW SIX Maps, 2020)
Local Government Area	Bayside Council
Current land use	The site is currently occupied by a clubhouse and bowling greens which are unused.
Surrounding land uses	The site is bordered by Barton Street to the north and residential properties to the east, south and west.
Topography	Site is generally flat. Site elevations range from approximately 6 mAHD in the northeast corner of the site to approximately 5 mAHD along the western border of the site.
Geology and soil mapping	<p>The Sydney 1:100,000 Geological Series Sheet 9130 (1983) indicates that the site is underlain by quaternary deposits comprised of quartz sand, minor shell content, interdune (swale) silt and fine sand.</p> <p>The NSW Environment and Heritage eSPADE website identifies the site as having soils of the Tuggerah soil landscape, consisting of deep (>200 cm) podzols on dunes and podzols/humus podzol intergrades on swales.</p>
Surface hydrology	A stormwater planning assessment completed by ADG Engineers Australia Pty Ltd (2016) concluded that all stormwater runoff generated at the site is contained within the site boundaries and is discharged via infiltration into sandy soils.

3 Previous Site Investigations

Site contamination has previously been assessed in the following document:

- Martens and Associates (2018) *Contamination Assessment: Lot 2, DP857520, 119 Barton Street, Monterey NSW* (Ref: P1706332JR01V01).

3.1 Contamination Assessment

The contamination assessment (MA, 2018) provided a review of historic land use and current activities that had potential to cause contamination.

Areas of environmental concern (AEC) were identified and assessed for contaminants of potential concern (COPC) through subsurface investigation and laboratory analysis of soil samples. A summary of key findings is provided in Table 2.

Table 2: Contamination assessment summary (MA, 2018).

Investigation Details	Investigation Task and Findings
Scope of works	<ul style="list-style-type: none">○ Walkover inspection to review current land use, potential contaminating activities and neighbouring land uses.○ Site history review using available aerial photographs and historic records.○ Review of NSW EPA notices under the Contaminated Land Management Act (1997).○ Identification of AEC and associated COPC.○ Subsurface investigation and sampling.○ Laboratory analysis of soil samples for COPC.○ Preparation of a report in general accordance with the relevant sections of ASC NEPM (2013), NSW EPA (2017) and NSW EPA (2020).
Historic site review and site walkover findings	<p>Historical aerials indicated that the site was used as a recreational bowling club with greens and a clubhouse since some time between 1943 and 1961, and did not indicate any other site use.</p> <p>The initial site inspection completed on 5 February 2020 noted the following:</p> <ul style="list-style-type: none">○ The site was occupied by a timber and brick clad bowling club in the southern portion of the site.○ Two artificial turf bowling greens were located in the central portion of the site.○ An asphalt driveway and carpark were located in the north and eastern portions of the site.○ Brick and galvanised metal sheds for storage were noted in the northern portion of the site, adjacent to the bowling greens.○ Potential filling was noted beneath the bowling greens and carpark, likely for site levelling purposes.

Investigation Details	Investigation Task and Findings
Identified AEC and associated COPC	<p>MA (2018) identified the following AEC:</p> <ul style="list-style-type: none"> ○ AEC A – The existing bowling green with COPC consisting of heavy metals, pesticides, and asbestos. ○ AEC B – Filled former pond with COPC consisting of heavy metals, hydrocarbons, pesticides and asbestos. ○ AEC C – Potential filling (entire site), with COPC consisting of heavy metals, hydrocarbons, pesticides and asbestos. ○ AEC D – Bowling greens, with COPC consisting of heavy metals and pesticides.
Subsurface investigation findings	<p>Subsurface investigations were completed on 14 February 2018, and involved the excavation of 10 boreholes in AECs B, C and D.</p> <p>Soil samples were tested against site assessment criteria (SAC) for residential land use with access to soil, derived from NEPM (2013).</p> <p>Laboratory analytical results identified SAC exceedances for heavy metals (EIL and HIL) and PAHs (EIL AND HIL) within fill material at one sample location (6332/BH101/1.5), which required remediation.</p>
Data gaps	<p>Due to access restrictions, soils underlying the existing bowling club at the site (AEC A) were not tested during the investigation.</p> <p>It was recommended that the investigation of this AEC be undertaken following demolition of site structures, at the remediation stage.</p>
Conclusions	<p>The contamination assessment recommended that a RAP be prepared for the site to close out data gaps, and to manage heavy metal and PAH impacted fill material.</p>

In summary, contaminants exceeding site acceptance criteria (SAC) were identified in one location beneath the asphalt covered carpark in the northeast of the site (BH101/1.5). This material was considered to pose a risk to future receptors at the site, and remediation was recommended.

Additionally, the footprint of the existing clubhouse and site sheds (AEC A) was not assessed as part of the MA (2018) investigations, and data gap closure is required to determine if any further remediation and or management is required in this area.

4 Data Gap Closure

4.1 Data Gap Extents

The following data gaps were identified in the contamination assessment (MA, 2018) as requiring additional assessment:

1. Data Gap Area A – Footprint of the existing clubhouse which was inaccessible at the time of inspection.
2. Data Gap Area B – Footprint of the existing storage sheds which were inaccessible at the time of inspection.

Data gap locations and proposed sampling locations are shown in the site plan in Attachment C.

4.2 Data Gap Closure

Following demolition of structures, the following works are required to address the data gaps noted above.

4.2.1 Data Gap Area A - Clubhouse

1. Walkover and inspection of the data gap area.
2. Collection of six near surface soil samples from within the clubhouse footprint.
3. Laboratory analysis for heavy metals, OC and OP pesticides and asbestos.
4. Laboratory results are to be compared to site assessment criteria (SAC) outlined in Section 4.3.

4.2.2 Data Gap Area B - Sheds

1. Walkover and inspection of the data gap area.
2. Collection of three near surface soil samples from within the shed footprints.
3. Laboratory analysis for heavy metals, TRH, BTEXN, PAH, OC and OP pesticides and asbestos.
4. Laboratory results are to be compared to site assessment criteria (SAC) outlined in Section 4.3.

4.3 Data Gap SAC

The SAC for data gap investigation (Table 3) are adopted from the DSI (MA, 2020).

Table 3: Site acceptance criteria (SAC) for data gaps.

Media	Adopted Guidelines	Applicability
Soil	ASC NEPM (2013)	<u>Health investigation levels (HIL)</u> HIL A – Residential was adopted based on the proposed development. <u>Health screening levels (HSL)</u> HSL A and B – Residential land use for sand was adopted based on granular natural material as a conservative measure. <u>Ecological Investigation Levels (EIL)¹</u> Site EILs have been adopted from the contamination assessment (MA, 2018). <u>Ecological Screening Levels (ESL)¹</u> Urban residential and public open spaces. <u>Management Limits</u> Residential land use adopted based on the proposed development. <u>Asbestos</u> NEPM (2013) health Screening Levels for asbestos in soil for residential land use.

Notes:

¹ EIL and ESL only apply to landscaped areas with deep soil planting, as shown in the development plans in Attachment B.

4.4 Data Gap Findings

Subject to data gap closure findings, this RAP is to be amended, or an addendum prepared outlining any additional remediation or management as required.

5 Remediation Areas

5.1 Conceptual Site Model

The conceptual site model (CSM) developed in the contamination assessment was assessed and refined based on the identified contamination for the site, and shown in Table 4.

Table 4: Contamination sources and potential receptors.

COPC	Pathway	Exposure Route	Receptor
Heavy metals and PAH	Transport of contaminants via air (dust).	Direct contact with contaminants.	<u>Possible Human Receptors</u> Current or future site users such as residents, visitors and workers.
	Transport of contaminants by mechanical disturbance (e.g. earthworks).	Ingestion of contaminated media.	On and off-site construction or maintenance workers.
		Inhalation of contaminated media (e.g. vapour, dust).	Current or future users of surrounding residences, reserves, and commercial or industrial premises.
			<u>Possible Environmental Receptors</u> Flora and fauna that may inhabit or migrate through the site. Contaminant pathway / sink areas.

5.2 Extent of Remediation Required

Based on the findings of the contamination assessment (MA, 2018) and subject to data gap closure findings, remediation is required for the following area:

1. 'Remediation Area A' – Fill material in the vicinity of BH101.

'Remediation Area A' is mostly outside of the proposed basement footprint and subsequent bulk excavation extent. It is noted that fill material in this location was observed to a maximum depth of 1.9 mbgl. Natural sand material beneath the fill profile (at 2.0 mbgl) was sent for laboratory analysis and reported all contaminants as non-detect (TRH, BTEXN, PAH and pesticides) or indicative of background levels (heavy metals).

The estimated maximum lateral extent of 'Remediation Area A' is shown on the site plan in Attachment C, and is approximately 580 m². It is possible that this area may be reduced, subject to additional testing around former BH101. This is further discussed in Section 7.6.

6 Remediation Goals and Options

6.1 Remediation Goal

The remediation goal is to remediate areas where future site receptors may come in contact with soils currently contaminated by heavy metals and PAHs. The remediation plan will provide context for further site investigation work to assess identified data gaps and to waste classify material being removed from site as part of remediation and construction works.

6.2 Assessment of Remedial Options

6.2.1 Assessment of Remedial Options for Soil Remediation

A review of soil remedial technologies has been undertaken to establish which technology or combination of technologies is most suitable to meet the site remediation objectives. Soil remediation options were considered, with reference to NSW EPA (2017) and ASC NEPM (2013), for the preferred hierarchy of options for site clean-up and / or management, as follows:

- On-site treatment of the contamination so that it is destroyed and the associated risk is reduced to an acceptable level.
- Off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which the soil is returned to the site.
- Removal of contaminated material to an approved facility, followed, where necessary, by replacement with appropriate material, if required.
- Cap and contain material onsite with an appropriately designed barrier.
- Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy would be required.

Review of available soil remediation strategies and technologies is considered on the basis of:

- Effectiveness at achieving remediation objectives.
- Suitability in light of the proposed development.

- Anticipated costs.
- Ongoing environmental and public health adequacy.

A review of remediation options considered possible for the site is presented in Table 5.

Table 5: Review of soil remediation options.

Remediation Options	Advantages	Disadvantages	Comments
Capping and containment	<ul style="list-style-type: none"> Excavation and removal of contaminated soils not required, reducing tipping costs. 	<ul style="list-style-type: none"> Risk is mitigated by burying, but contamination remains onsite. A long term Environmental Management Plan (EMP) required to manage remaining contamination. Note on title indicating presence of contamination. Likely to require additional earthworks and over excavation to facilitate capping layer beneath design levels. Potential impacts on groundwater, which could require further assessment. 	<p>Containment and capping would be a suitable remediation technique to address contaminated soil.</p> <p>In consideration of the proposed development, construction of a containment cell and capping layer would require additional earthworks to either relocate impacted fill to beneath hardstand or to provide an adequate depth of cover. Additional excavation would likely be required to construct a containment cell at the site, which likely does not fit well with development plans.</p> <p>Burial of contaminated fill onsite places future land use restrictions on the site with the requirement of an EMP and note on title.</p> <p>While technically feasible, the option of onsite burial is likely to be more expensive than alternatives and places unacceptable future restrictions on site use.</p>
Offsite disposal	<ul style="list-style-type: none"> Provides the shortest timeframe for remediation. Removes human and ecological risks and long term management requirements. May be undertaken in conjunction with bulk earthworks. Suitable to remove heavy metal and PAH contamination. 	<ul style="list-style-type: none"> Cost for material transport and disposal charges. Cost associated with classifying wastes prior to offsite disposal. 	<p>This proven and reliable technique for managing onsite contamination is suitable as it removes identified contamination and associated risk to humans and environment.</p> <p>Additionally, as bulk excavation is required at the site for the construction of a basement level carpark, excavation of impacted material may be undertaken in conjunction with these works.</p>

6.2.2 Preferred Soil Remediation Option

In consideration of the soil remediation options presented in Table 5 and the proposed development plans, the excavation and offsite disposal of impacted soil is considered the most suitable remediation option.

Details of remediation and validation methodology are provided in Section 7.

7 Remediation Plan

7.1 Introduction

The following sections outline the works required to remediate identified heavy metal and PAH contamination such that the site is fit for the proposed development. The remediation works are expected to be Category 2 works (works not requiring consent but requiring notification to Council) under *SEPP 55 – Remediation of Land (1998)*, however this should be confirmed by the project planner and / or Council prior to the commencement of remedial works.

Unless otherwise identified, activities discussed below will be the responsibility of the contractor or its representative.

7.2 Stage 1 – Notifications

Assuming works are Category 2, the following notifications would be required (unless approved by consent conditions):

- Council to be notified 30 days before commencement of works.
- A notice of completion of remedial works must be given to Council within 30 days after completion of remedial works

7.3 Stage 2 – Appointment of Remediation Contractor / Environmental Consultant

For remediation works to be successfully completed the appointment of a suitability qualified environmental consultant and an earthworks contractor is required. The environmental consultant should be engaged to:

- Supervise all remediation and validation works.
- Monitor the excavation and stockpiling of impacted material.
- Provide waste classification of material to be disposed of offsite.
- Document all stages of the excavation and stockpiling of contaminated soil.
- Monitor and document the offsite disposal of material to an appropriately licenced landfill.
- Perform validation inspections and testing of remediation areas.

- Prepare a validation report documenting remediation and validation reports, and confirming final site status.

7.4 Stage 3 – Site Establishment

Prior to any remediation / construction works, the site shall be prepared for the works. This will include:

- Establishment of site offices, work sheds and amenities for site workers.
- Appropriate decontamination facilities for personnel and plant / equipment.
- Appropriate physical barriers and site signage is to be erected surrounding site areas requiring remediation and site signage.
- Installation of appropriate dust control measures (i.e. dust screens and water sprays).
- Establishment of site holding areas for contaminated material. Site areas nominated to store material are to have appropriate environmental controls in place including storm water diversion, erosion and sedimentation controls and dust suppression.

7.5 Stage 4 - Waste Classification

7.5.1 Waste Classification

Prior to any soil being removed from site, a formal waste classification is to be prepared for the material in accordance with the NSW EPA (2014) Waste Classification Guidelines. The following outlines the requirements for different areas of the site:

1. 'Remediation Area A': Fill material from 'Remediation Area A' is to be sampled at a rate of approximately 1 sample per 100 m³, with a minimum of 3 samples collected for any waste classification event.
2. Other site fill: Fill material across the remainder of the site to be removed may either be assessed at the rates noted above, or if material contains < 2% anthropogenic inclusions, it may be assessed against the NSW EPA (2014) *Excavated Natural Material (ENM) Order*.
3. Natural Soil: Natural soil at the site may be assessed to determine if material may be classified as virgin excavated natural material (VENM). VENM should be assessed visually to ascertain whether material meets the definition of VENM as outlined by NSW EPA.

Additional testing of the excavated material may be required to confirm that the material has not been impacted by fill material at the site. Samples are to be analysed for TRH, BTEXN, PAH, OC and OP pesticides, heavy metals and asbestos.

7.5.2 Waste Disposal, Materials Tracking and Management

Relocation or movement of contaminated spoil onsite shall be recorded on daily site logs by the remediation contractor. These documents shall be updated daily and kept in the site office.

Offsite disposal of material will require materials tracking for site validation. This shall entail recording of vehicle registration numbers, number of truck movements and approximate volumes of material transported. Materials tracking documentation is to be supplied to the environmental consultant upon disposal, along with tipping documents supplied by the receiving landfill.

Transportation of waste shall be, where applicable, undertaken by appropriately qualified and licensed contractor.

7.6 Stage 5 – Remediation Work

Subject to data gap closure findings and completion of waste classification works per Stage 4, the proposed works sequence for remediation shall be as follows:

1. Hardstand in 'Remediation Area A' is to be removed.
2. Fill material in 'Remediation Area A' is to be excavated until natural underlying soils are exposed. The lateral extent of the remediation area is shown on the site plan in Attachment C.

We note that the extent of remediation may be reduced by undertaking additional testing locations in this area. This could be undertaken concurrently with any *insitu* waste classification assessment works.

3. Excavated material is to be placed in a designated contaminated material stockpiling area, or immediately into trucks for offsite disposal (if waste classified *insitu*).
4. Excavated material is to be waste classified in accordance with Section 7.5.1. Alternatively, fill material can be waste classified *insitu*.
5. The appointed environmental consultant shall validate the remedial excavation, as outlined in Section 7.7.

7.7 Stage 6 – Site Validation

Prior to the site being declared fit for the proposed land use, a validation report documenting the completed remediation works and results of site validation testing must be prepared by the appointed site environmental consultant. The following sections outline the site validation requirements.

7.7.1 Data Quality Objectives

The data quality objective (DQO) process is required to define the type, quantity and quality of data needed to support decisions relating to the environmental condition of the site. Table 6 outlines the process used to develop the DQO for the site post remediation and were developed with reference to NSW EPA (2017) and ASC NEPM (2013).

Table 6: Data quality objectives for the assessment of soil.

Step 1 Stating the Problem	Previous site investigations have identified heavy metal and PAH contamination in fill material at the site, which requires appropriate remediation before the site can be deemed suitable for the intended residential land use.
Step 2 Identifying the Decision(s)	<p>To assess the suitability of the site for future land use, decisions are to be made based on the remediation removing the identified risk to future site users.</p> <ul style="list-style-type: none">o Has the completed remediation works removed the identified risk to future site users?o Is the soil quality suitable for the intended land use?o Are future management of site soils required?
Step 3 Identification of Inputs to the Decision	<p>The inputs to the validation of the site will include:</p> <ul style="list-style-type: none">o Existing assessment data.o Results of data gap closure investigations / works and any <i>insitu</i> waste classification testing.o Observations during remedial activities.o Soil sampling results from remediation and validation works.o Assessment of analytical results against site remediation acceptance criteria (RAC).
Step 4 Study Boundary Definitions	<p>Study boundaries are as follows:</p> <ul style="list-style-type: none">o Lateral – Lateral boundary of the assessment is defined by the remediation area extents and site boundary.o Vertical – Vertical boundary will be governed by the maximum depth of fill (expected to be 1.9 mbgl).o Temporal – Date of site inspections, remediation and validation works.

Step 5 Development of Decision Rules	<p>The decision rules for this remediation area are as follows:</p> <ul style="list-style-type: none"> ○ If the concentration of contaminants in the soil data collected from a remediation area do not exceed the RAC, then the area can be confirmed as validated. ○ If the concentration of contaminants in the soil data collected from a remediation area exceeds the RAC, then additional remediation or management strategies will be required for that remediation area. ○ If the concentration of contaminants in the soil data collected from a remediation area exceeds the RAC and the site boundary has been reached, further management is required in the area. ○ All material nominated for offsite disposal shall be classified in accordance with NSW EPA (2014) Waste Classification Guidelines. ○ Material tracking is to be appropriately documented and waste disposal dockets validated.
Step 6 Specification of Limits on Decision Errors	<p>For interpretation of data, guidance found in ASC NEPM (2013) Schedule B2 regarding 95% upper confidence limit (UCL) may be applied. Schedule B2 states that the 95% UCL of the arithmetic mean provides a 95% confidence level that the true population mean will be less than or equal to this value. Therefore, a decision can be made based on a probability that 95% of the data collected will satisfy the site acceptance criteria. A limit on decision error will be 5% that a conclusive statement may be incorrect.</p> <p>In applying the statistical analysis of the data:</p> <ul style="list-style-type: none"> ○ No individual sample results have a concentration that exceeds 250% of the SAC. ○ The standard deviation of the sampled population should not exceed 50% of the SAC.
Step 7 Optimisation of Sampling Design	<p>Validation based on the remediation option, to ensure that all the necessary data is collected to confirm site suitability the proposed land use.</p>

7.7.2 Validation Criteria

To ensure that site remediation works have rendered the site fit for the proposed land use, validation testing must confirm that heavy metal and PAH concentrations in soil are below adopted remediation acceptance criteria (RAC).

Based on the proposed residential care facility land use and provided development plans, RAC have been adopted based on residential land use with no ready access to soil.

A summary of RAC has been provided in Table 7.

Table 7: Remediation acceptance criteria

Media	Adopted Guidelines	Applicability
Soil	ASC NEPM (2013)	Heavy Metals < HIL A (NEPM, 2013) Heavy Metals < site specific EIL (NEPM, 2013) Benzo(a)pyrene (TEQ) < 3 mg/kg Total PAH < 300 mg/kg
	CRCCare (2017)	Benzo(a)pyrene < 33 mg/kg

7.7.3 Validation Sampling Program

Table 8 outlines the soil validation sampling frequency and analytical program.

Table 8: Proposed validation sampling program

Remediation Area	Remediation Process	Required Testing
Remediation Area A	Excavation and offsite disposal	<p>Following remediation excavation, visual inspection and sampling of the excavation is required to confirm natural underlying soils have been exposed at the base of the excavation.</p> <p>Sampling rate of the remedial excavation base is to be undertaken at a rate of one sample per 50 m² of floor.</p> <p>Remedial excavation walls are to be sampled at a rate of 1 sample per 10 linear m of wall face for the first metre of excavation, with an extra sample collected for each extra metre (or part thereof).</p> <p>Collected samples are to be tested for heavy metals and PAHs, and be assessed against the adopted RAC as outlined in Section 7.7.2.</p> <p>Validation samples collected for laboratory analysis will be preferably taken directly from the surface being sampled.</p>

7.7.4 Validation Test Failure

The following steps shall be taken should the remediation area fail validation:

- If visual inspection of the fill mound footprint fails, or if laboratory results indicate an RAC exceedance in a collected validation sample, the area is to be further excavated by a minimum of 200 mm, or as per guidance of the environmental consultant, and the area is to be resampled. Additional spoil generated due to further excavations is to be waste classified and removed from site in accordance with Section 7.5.1. This process is to be repeated until validation is successful.

7.7.5 Imported Fill Protocol

Where any fill is imported to the site during remediation or for further earthworks, the fill is to be documented and verified as ENM or VENM. Waste classification documentation is to be provided and reviewed by the appointed environmental consultant prior to material importation.

All imported material is to be tracked and inspected by the environmental consultant at initial importation.

7.7.6 Quality Control/Quality Assurance

Samples will be collected in accordance with industry standard procedures.

All samples will be analysed by a NATA accredited testing laboratory.

7.7.7 Data Assessment

Laboratory data will be reviewed by the environmental consultant and assessed by applying data validation guidelines. The data will be compared to the adopted RAC. Adequacy of remediation shall be assessed on a strict compliance or noncompliance basis for each sample.

7.7.8 Validation Reporting

A site validation report is to be prepared by the environmental consultant at the completion of remediation works. This report shall document the remediation and validation sequence, detail all sampling and results of the assessment, provide material tracking data for material taken from the site and document any imported material (and testing or supporting documentation).

The document shall include details regarding any remaining site contamination, and identify residual risks posed by remaining contaminants, and provide comment on whether remediation has been successful and suitability of the site for the proposed land use.

8 Site Management Plan for Remediation

8.1 Overview

A site specific Construction Environmental Management Plan (CEMP) and Worker Health and Safety Plan (WHSP) are to be prepared by the appointed Contractor prior to the commencement of site works. The following sections are intended as a guide to the information that should be included in these plans.

8.2 Construction Environmental Management Plan

A site specific CEMP shall be prepared to ensure the works do not negatively impact on potential receptors (humans and environment) and comply with applicable environmental legislation.

Based on the site condition and proposed remediation method, primary environmental hazards requiring management during remedial works may include:

- Soil management.
- Noise and odour controls.
- Air quality / dust control.
- Erosion and sediment control measures.

Additional onsite management issues that may be included in the CEMP include:

- Site access and security.
- Signage and contact Information.
- Traffic control.
- Hours of operation.
- Imported material.

Suggested requirements for these management points are discussed in the following subsections.

8.2.1 Soil Management

The following should be addressed regarding soil and stockpile management in accordance with Landcom (2004) *Managing Urban Stormwater: Soils and Construction*:

- All stockpiles containing soil or material identified as contaminated shall be stored in clearly marked areas with appropriate signage.

8.2.2 Noise Control

To mitigate noise impacts which may arise as a result of remedial works, the contractor will undertake works in accordance with state and local noise regulations. The contractor's machinery, including machinery hired by the contractor, should be in good working order so that abnormal machine noise is avoided.

All works are to be undertaken with the designated working hours in Section 8.2.9.

8.2.3 Odour Control

Based on the identified site contaminants and site location relative to surrounding receptors, odour is not considered to be major environmental concern. Should odours be encountered contingency measures including the covering of temporary stockpiles should be implemented.

8.2.4 Air Quality / Dust Control

Dust control procedures are to include:

- Cover of all soil loads entering or exiting the site.
- Use of water sprays across disturbed areas.

8.2.5 Erosion and Sediment Control Measures

Erosion and sediment control measures will be required at the site in accordance with Landcom (2004). Measures are to be:

- Suitable for the proposed remediation works;
- Assessed, maintained and where necessary repaired throughout the duration of works;
- Appropriate for mitigating topsoil erosion, containing sediment within the site after works have been completed; and

- Maintained onsite until all topsoil has been stabilised at the premises.

8.2.6 Site Access and Security

Prior to works commencing, barricades shall be erected to control access to the designated work area, along the proposed remediation area boundary. Site security and access controls must remain in place during all onsite construction works.

8.2.7 Signage and Contact Information

Security fencing and appropriate signage around all open excavations must be installed and maintained by the contractor.

A sign displaying the contact details of the contractor (including the onsite foreman or manager) shall be displayed for the duration of onsite works.

8.2.8 Traffic Control

Prior to exiting the site, vehicles shall have wheels washed at a designated exit point to remove potentially contaminated soil that may have accumulated while onsite. Prior to leaving the site, during the decontamination phase, earthworks machinery are required to decontaminate upon plastic sheeting laid beneath vehicles, with all accumulated potentially contaminated soil removed. Plastic sheeting and contaminated soils collected should be disposed of with classified waste for subsequent offsite disposal.

8.2.9 Hours of Operation

Onsite works are only permitted during the following hours as outlined in NSW Government (NSW, 2020) noise restriction specifications:

- Monday – Friday: 7:00 am – 6:00 pm.
- Saturday: 8:00 am – 1:00 pm.
- Sunday and public holidays: No work permitted.

In certain instances, these hours may be modified when the contractor has the approval of Council.

8.3 Worker Health and Safety Plan (WHSP)

Worker health and safety of all onsite workers or visitors is the responsibility of the contractor. The purpose of a WHSP is to provide relevant health and safety information for all personnel working on or visiting the site.

The WHSP should include (but not necessarily be limited to):

- WHS legislative requirements.
- Hazardous materials identification (including fuel and chemical management).
- Induction requirements. All onsite personnel and visitors must be suitably inducted prior to entering the site.
- Location of worker facilities.
- Designation, delineation and control of access to various work zones.
- Community notification.
- Roles and responsibilities.
- Training and competency.
- Hazard identification and risk assessment.
- Control measures including personal protective equipment (PPE).
- Incident and emergency response.
- Safe work method statement(s).
- Toolbox meetings.
- Audits and inspections.

8.3.1 WHS Legislation and Standards

All onsite works should comply with the WHS act, regulations, codes of practice, and with relevant Australian Standards. As a minimum all work must comply with:

- Workplace Health and Safety Act (2011).
- Workplace Health and Safety Regulation (2017).
- AS 1940 (2017) – The Storage and Handling of Flammable and Combustible Liquids.
- AS 2436 (2010 R2016) – Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites.

- Managing the Work Environment and Facilities Code of Practice (December 2018).
- Managing Noise and Preventing Hearing Loss at Work Code of Practice (October 2018).
- Hazardous Manual Tasks Code of Practice (October 2018).
- Work Health and Safety Consultation, Co-operation and Co-ordination Code of Practice (May 2018).
- SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2019).

8.3.2 Hazard Assessment

A WHS hazards assessment is to be completed by the contractor and incorporated into the WHSP. Key hazards include:

- Onsite chemical hazards (storage of fuels, contaminated soils).
- Heat exposure for workers.
- Buried services.
- Noise.
- Dust.
- Operation of heavy equipment.

8.3.3 Site Inductions

Prior to starting works, site workers and subcontractors involved in the project shall attend a site specific safety induction.

Documented evidence of the safety induction must be available onsite. The contractor must supply site workers and subcontractors with appropriate PPE as outlined in Section 8.3.4.

8.3.4 Personal Protective Equipment

Table 9 below lists the personal protective equipment (PPE) required to prevent exposure to contaminants, in designated remediation areas.

Table 9: Personal protective equipment

Type	Description	When Required
Head protection	Hard hat	All site activities
Eye protection	Safety glasses	All site activities
Hand protection	Disposable nitrile gloves	All site activities
	Cut resistant gloves	Manual handling activities
Body protection	High visibility clothing	All site activities
	Sunhat, sunscreen	All site activities
Foot protection	Steel toed boots	All site activities
Hearing protection	Ear plugs or ear muffs	Site activities likely to generate potentially harmful noise levels
Respiratory protection	P2 dust masks	During dusty conditions

Site personnel should be aware that personal protective equipment required to be worn may limit manual dexterity, hearing, visibility and may increase the difficulty of performing tasks. PPE places an additional strain on the user when performing work that requires physical activity.

Eating, drinking, chewing gum or tobacco, smoking or any practice that involves hand to mouth transfer increases the probability of ingestion of foreign matter into the body. Hands must be thoroughly washed before eating, drinking or smoking. Clothing which becomes dirty from onsite work should be washed separately from other clothing.

9 Environmental Regulatory Requirements

In accordance with State Environmental Planning Policy 55 - Remediation of Land (SEPP 55), it is considered that proposed remediation works would likely be classified as Category 2 (subject to confirmation from the project planner / Council).

In accordance with SEPP 55 - Remediation of Land (1998), Council are to be notified 30 days prior and post completion of remedial works for Category 2 works.

9.1 Waste Disposal Requirements

All waste soil must be classified in accordance with EPA (2014) waste classification guidelines or other appropriate NSW EPA exemption (e.g. ENM or VENM orders) prior to offsite disposal to a suitably licenced waste receiving facility.

Waste classification documentation must be kept for validation of the remediation works.

9.2 Asbestos Licences

If any asbestos is detected during remedial works, it shall be assessed by the appointed environmental consultant. Any removal shall be undertaken in accordance with relevant work health and safety regulation including but not limited to:

- Safework NSW – Applicant Guide for Asbestos Licences and Notifications (2019).
- Safe Work Australia – How to Safely Remove Asbestos: Code of Practice (2019).

10 Remediation Contacts

Names and phone numbers of appropriate personnel for contact during the remediation will be provided prior to commencement of remediation work.

11 Contingency Plan for Remediation and Redevelopment

11.1 Overview

It is considered possible that unexpected situations may occur during remediation and site redevelopment works including the possibility to uncover unidentified contamination. A site contingency plan for managing unexpected situations should be prepared by the Contractor. Unexpected situations that may arise include:

1. Uncovering types of contamination that are not presently identified.
2. Generation of unacceptable levels of dust.
3. Generation of unacceptable asbestos fibres.
4. Generation of an unacceptable level of noise.
5. Excessive rainfall, and collection of excessive water in excavations.

The following sections outline contingency procedures for the events listed above.

11.2 Unexpected Finds

All site personnel are to be aware of their responsibilities under the unexpected finds protocol and are to report any potential signs of contamination (e.g. observed PACM, petroleum and / or oil spills, chemical odours or staining) to the site manager immediately.

In the event of uncovering unexpected finds during remedial works, the following steps are to be undertaken by the contractor:

- Cease all work in the area and notify site foreman / manager and environmental consultant.
- Notify any relevant authorities (e.g. fire brigade) if an emergency response is required.
- Construct temporary barricading to prevent worker / public access to any unexpected and / or unknown substances.
- Install appropriate stormwater diversion and sediment controls as required.

- Notify relevant authorities that the contractor is legally required to notify (e.g. NSW EPA and / or Council).
- Site foreman / manager is to arrange site inspection by the environmental consultant to assess the unexpected find and determine if any further investigation, management or remedial action is required in the area.

The environmental consultant is to prepare an assessment and, if required, validation of each unexpected find to the contractor prior to the recommencing of works ceased as a result of the unexpected find.

All unexpected finds are to be documented in the site Validation Report prepared by the environmental consultant at the end of remediation works.

11.3 Unacceptable Level of Dust

Contingency measures must be prepared to control unacceptable dust levels. Excessive dust may be identified by workers, dust monitoring equipment or community complaints. Actions to control excessive dust can include:

- Increased use of water sprays.
- Covering soil stockpiles.
- Changing work protocols (e.g. avoiding work on windy days).

11.4 Unacceptable Level of Noise

Contingency measures must be prepared to control unacceptable noise levels. Excessive noise may be identified by workers, noise monitoring equipment or community complaints. Actions to control excessive noise can include:

- Identification and isolation of the source of noise.
- Modification of the action of the source to reduce the noise.
- Erection of temporary noise barriers.

11.5 Excessive Rainfall

Contingency measures must be prepared to control the effects of excessive rainfall. Actions to control the effects of excessive rainfall can include:

- Construction of sediment and surface water controls.

- Diversion of surface water away from excavations, soil stockpiles and active work areas.
- Appropriate stockpile covers.

12 Conclusion

This RAP has outlined additional investigation, remediation and validation requirements to address data gaps and identified heavy metal and PAH contamination at 115 Barton Road, Monterey, NSW.

From review of DSI (MA, 2020) findings and the proposed development objectives, excavation and offsite disposal of heavy metal and PAH contaminated soil was considered the most appropriate remediation technique.

This RAP provides data gap closure, remediation and validation methodology to manage risk posed by contamination and render the site suitable for the proposed development.

It is likely that, following successful remediation and validation of the site, the site can be made suitable for the proposed residential redevelopment.

13 References

- CRCCare (2017) *Technical Report No. 39: Risk-based Management and Remediation Guidance for Benzo(a)pyrene*.
- Landcom (2004) 4th Ed. *Managing Urban Stormwater: Soils and Construction*.
- Martens and Associates (2018) *Contamination Assessment: Lot 2, DP857520, 119 Barton Street, Monterey NSW* (Ref: P1706332JR01V01).
- NEPC (1999, amended 2013) *National Environmental Protection (Assessment of Site Contamination) Measure*. Referred to as NEPM (1999, amended 2013).
- NSW Department of Environment & Heritage eSPADE, NSW soil and land information (www.environment.nsw.gov.au).
- NSW Department of Mineral Resources (1983) *Sydney 1:100,000 Geological Sheet 9130*.
- NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines*.
- NSW EPA (2009) *Interim Construction Noise Guideline*.
- NSW EPA (2017) 3rd Ed. *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme*.
- NSW EPA (2014) *Waste Classification Guidelines Part 1: Classifying Waste*.
- NSW EPA (2020) *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*.
- NSW Government (2020) What regulations apply to noisy construction?
<https://www.environment.nsw.gov.au/questions/regulations-for-noisy-construction>
- State Environmental Planning Policy No. 55 (1998) – *Remediation of Contaminated Land*.

14 Attachment A – Site Plan



Legend

— Site boundary

Map	Title
Map 01	Site Locality Plan
Map 02	Data Gap Areas
Map 03	Remediation Areas

0 30 60 90 120 150 m

1:2500 @ A3



Map Title / Figure:

Site Locality Plan

15 **Attachment B – Proposed Development Plans**

BARTON STREET

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LEGEND	
	PROPOSED RCF
	BOUNDARY
	SOFT LANDSCAPE
	HARD LANDSCAPE
	FENCE TYPE 1
	FENCE TYPE 2
	+ ex RL 16.00 EXISTING LEVEL RL.
	+ [RL 16.00] NEW FINISHED LEVEL RL.
	+ [TOW RL] PROPOSED TOP OF WALL LEVEL
	BASEMENT FLOOR
	FIRST FLOOR
	SECOND FLOOR
	PROPOSED ROADS AND DRIVEWAYS
	EXISTING TREES TO REMAIN
	EXISTING TREES TO BE REMOVED
F1	1800H POWDER COATED STEEL BLADE SECURITY FENCE ON MASONRY WALL RENDERED AND PAINTED WITH 400 X400 X1950H MASONRY COLUMN POST RENDERED AND PAINTED FINISH + EXISTING FENCE
F2	1800H COLORBOND STEEL FENCING & RETAINING WALL + EXISTING FENCE
F3	1800H COLORBOND STEEL FENCING + EXISTING FENCE

NOTE:
- ALL EXISTING FENCING EXCEPT FOR BARTON STREET BOUNDARY TO REMAIN.
NEW FENCING TO BE BUILT INSIDE THE BOUNDARY ADJACENT

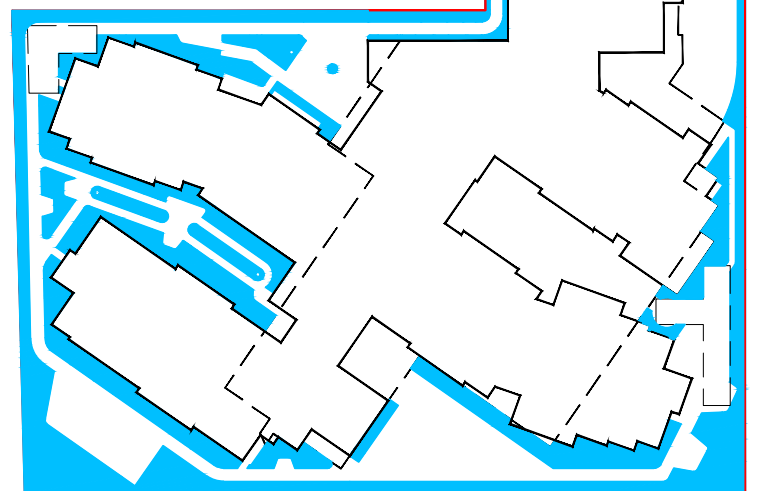
SOCIAL IMPACT RECOMMENDATION

Recommendation 1: Provide complying ramps at the signalised crossing of The Grand Parade at the south side of Barton Street.

Recommendation 2: Provide a complying ramp at the Queens Road entrance to the medical practice at 279 Bay Street.

Recommendation 3: Provide a complying ramp at the entrance to the Post Office.

DEEP SOIL AREA: 1,456.2 m²



LANDSCAPE DEEP SOIL CALCULATION

0m 2 5 10 15m
SCALE: 1:200

A	Development Application Issue	09.12.2020
No.	Amendment	Date

Project
SUMMITCARE - MONTEREY
119 Barton Street, Monterey, N.S.W 2217

Drawing
Site Plan

CENTURIUM GROUP

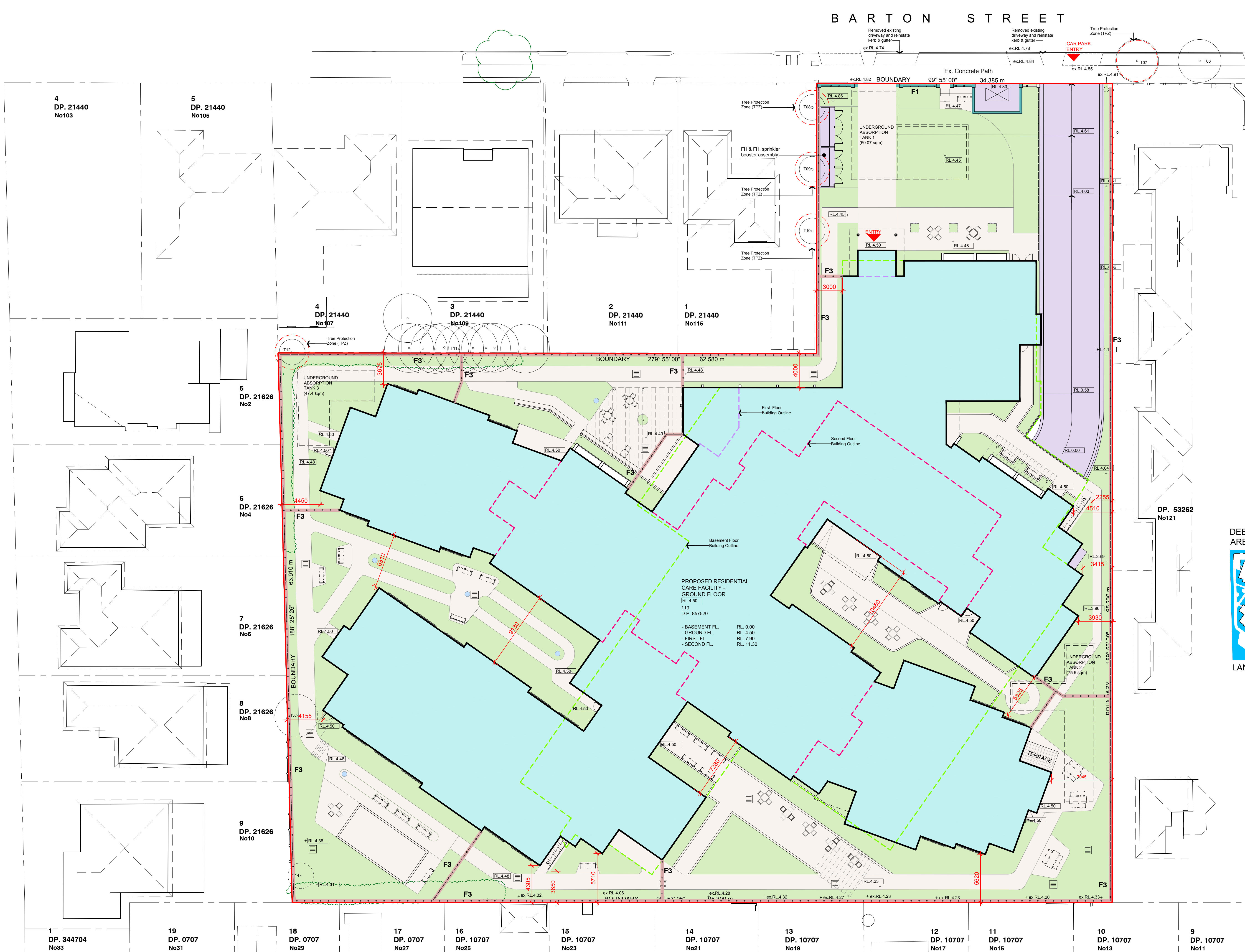
YOUR TRUSTED ADVISOR



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Date	SEPT 2020	Job No.	Drawing
Scale	1:200 @ A1		
Drawn	SS		
Amendment	A		



BARTON STREET

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LEGEND

-----	BOUNDARY
=====	MASONRY WALL
=====	STUD WALL
-----	OUTLINE OF WALL ABOVE / BELOW
-----	ROOF OUTLINE
-----	NEW FENCE
+ ex RL 00.00	EXISTING LEVELS
RL 00.00	PROPOSED LEVELS
U	PROPOSED DOOR
W	PROPOSED WINDOW
E	ELEVATION TAG
S	SECTION / ELEVATION TAG

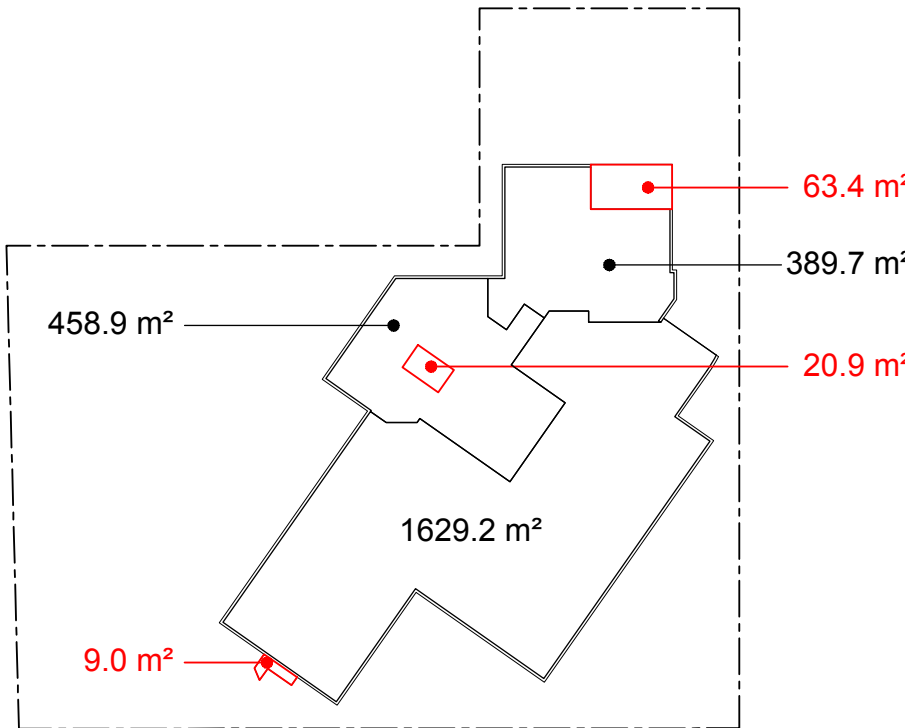
NCC 2019 - SECTION J REQUIREMENTS

Envelope Construction	Total System R-Value (m²K/W)
J1.3 Roof and ceiling construction (Roof absorbance)	≥ 3.20
J1.4 Roof lights	Compliant
J1.5a Total System external wall construction	≥ 2.00
J1.5b Total System internal wall construction (between conditioned & unconditioned areas)	≥ 1.40
J1.6a Floor construction (above an unconditioned zone)	≥ 2.00
J1.6b Floor construction (concrete slab on ground)	≥ 2.00

Glazing - Frame Construction (Uniform solution)	Orientation	Total System U-Value (m²K/W)	Total System SHGC
Total window frame construction	All facades	≤ 2.10	≤ 0.18

ACOUSTIC REQUIREMENTS

Space / Activity Type	Recommended Design Sound Levels
Common Areas (e.g. foyer, lobby)	45 - 50 dB (A) Leq
Living Areas (e.g. common, lounges)	35 - 45 dB (A) Leq
Sleeping Areas (night time)	35 - 40 dB (A) Leq
Work areas (e.g. concierge, administration)	35 - 45 dB (A) Leq



SMOKE COMPARTMENTATION

PRELIMINARY

0m	2	5	10	15m
SCALE: 1:200				
7	MSB changed to Store			04.12.2020
6	Preliminary Issue For Review			27.11.2020
5	Services ducts added, stairs modified			23.10.2020
4	Minor changes. Laundry and storage changes			06.10.2020
No.	Amendment			Date

Project
SUMMITCARE - MONTEREY
119 Barton Street, Monterey, N.S.W 2217

Drawing
BASEMENT FLOOR PLAN

CENTURION GROUP

YOUR TRUSTED ADVISOR



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Date	AUG 2020	Job No.	: Drawing
Scale	1:200 @ A1		
Drawn	SS		2014 / DA04
Amendment	7		

BARTON STREET

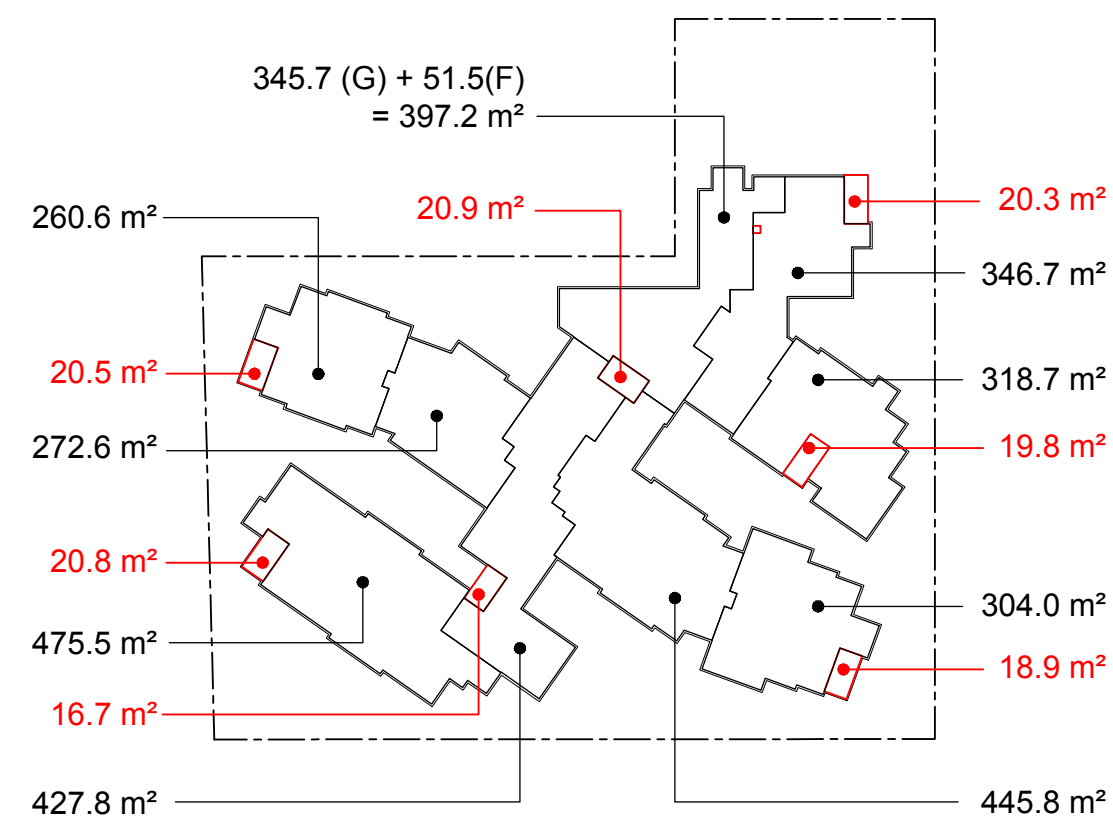
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DEVELOPMENT STATISTICS			
SITE AREA		7,218.7 m²	
	BCA FLOOR AREA	SEPP 2004 GROSS FLOOR AREA	
BASEMENT FL.	2,644.5 m²	-	
GROUND FL.	3,468.4 m²	3,468.4 m²	
FIRST FL.	3,412.4 m²	3,412.4 m²	
SECOND FL.	1,116.4 m²	1,116.4 m²	
TOTAL	10,641.7 m²	7,997.2 m²	
FSR	1.11 : 1		
CARPARKING / AMBULANCE		42+1+ 43 spaces	
LANDSCAPE AREA		3,368.3 m²	
LANDSCAPE AREA PER BED		22.0 m²	
RESIDENT ACCOMMODATION			
	1 BED	2 BED	TOTAL
GROUND FL.	52	8 x 2B	68
FIRST FL.	53	8 x 2B	69
SECOND FL.	16	0 x 2B	16
TOTAL No of BEDS	121	32	153
TOTAL No of ROOMS	121	16	137
<div></div>	PRIVATE ACTIVITIES		681.6 m²
<div></div>	COMMON ACTIVITIES		328.9 m²
<div></div>	STORAGE		272.6 m²

LEGEND	
-----	BOUNDARY
=====	MASONRY WALL
=====	STUD WALL
-----	OUTLINE OF WALL ABOVE / BELOW
-----	ROOF OUTLINE
-----	NEW FENCE
+ ex RL 00.00	EXISTING LEVELS
RL 00.00	PROPOSED LEVELS
=====	PROPOSED DOOR
=====	PROPOSED WINDOW
=====	ELEVATION TAG
=====	SECTION / ELEVATION TAG

NCC 2019 - SECTION J REQUIREMENTS			
Envelope Construction		Total System R-Value (m ² K/W)	
J1.3	Roof and ceiling construction (Roof absorbance)	≥ 3.20	
J1.4	Roof lights	Compliant	
J1.5a	Total System external wall construction	≥ 2.00	
J1.5b	Total System internal wall construction (between conditioned & unconditioned areas)	≥ 1.40	
J1.6a	Floor construction (above an unconditioned zone)	≥ 2.00	
J1.6b	Floor construction (concrete slab on ground)	≥ 2.00	
Glazing - Frame Construction (Uniform solution)	Orientation	Total System U-Value (m ² K/W)	Total System SHGC
Total window frame construction	All facades	≤ 2.10	≤ 0.18

ACOUSTIC REQUIREMENTS	
Space / Activity Type	Recommended Design Sound Levels
Common Areas (e.g. foyer, lobby)	45 - 50 dB (A) Leq
Living Areas (e.g. common, lounges)	35 - 45 dB (A) Leq
Sleeping Areas (night time)	35 - 40 dB (A) Leq
Work areas (e.g. concierge, administration)	35 - 45 dB (A) Leq



SMOKE COMPARTMENTATION

PRELIMINARY

0m 2 5 10 15m
SCALE: 1:200

7	Inground fire tank, Water meter, Gas regulator & Fire indicator panel shown Window amended to Quiet rooms	04.12.2020
6	Preliminary Issue For Review	27.11.2020
No.	Amendment	Date

Project
SUMMITCARE - MONTEREY
119 Barton Street, Monterey, N.S.W. 2217

Drawing
GROUND FLOOR PLAN

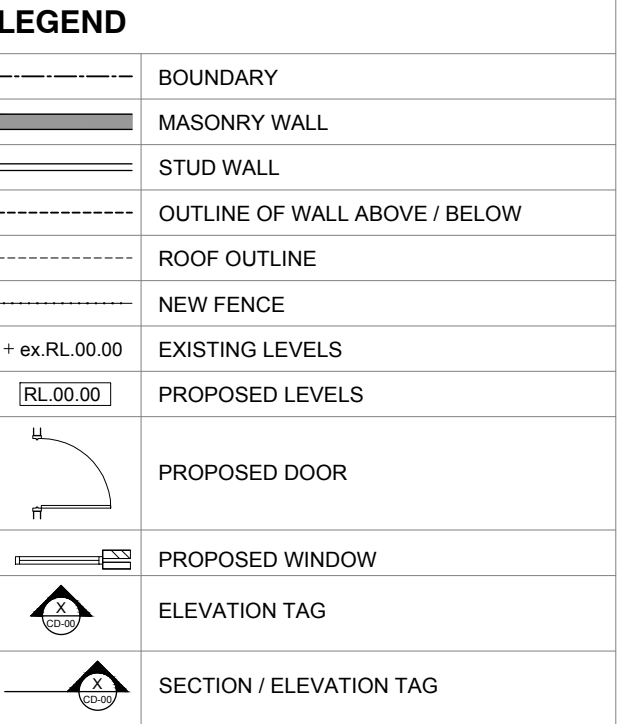
CENTURION GROUP
YOUR TRUSTED ADVISOR

SUMMITCARE
BETWEEN NORTH WELLBEING

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Date	AUG 2020	Job No.	-	Drawing
Scale	1:200 @ A1			
Drawn	SS			2014 / DA05
Amendment	7			

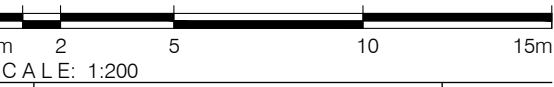




Envelope Construction	Total System R-Value (m ² K/W)
J1.3 Roof and ceiling construction (Roof absorbance)	≥ 3.20
J1.4 Roof lights	Compliant
J1.5a Total System external wall construction	≥ 2.00
J1.5b Total System internal wall construction (between conditioned & unconditioned areas)	≥ 1.40
J1.6a Floor construction (above an unconditioned zone)	≥ 2.00
J1.6b Floor construction (concrete slab on ground)	≥ 2.00

Glazing - Frame Construction (Uniform solution)	Orientation	Total System U-Value (m²K/W)	Total System SHGC
Total window frame construction	All facades	≤ 2.10	≤ 0.18

Space / Activity Type	Recommended Design Sound Levels
Common Areas (e.g. foyer, lobby)	45 - 50 dB (A) Leq
Living Areas (e.g. common, lounges)	35 - 45 dB (A) Leq
Sleeping Areas (night time)	35 - 40 dB (A) Leq
Work areas (e.g. concierge, administration)	35 - 45 dB (A) Leq



Inground fire tank, Water meter, Gas regulator & Fire indicator panel shown. Window amended to Quiet rooms and north Lounge. Front Pergola updated	04.12.2020
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No.	Amendment	Date
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project
SUMMITCARE - MONTEREY
19 Barton Street, Monterey, N.S.W 2217

drawing
FIRST FLOOR PLAN

CENTURION GROUP

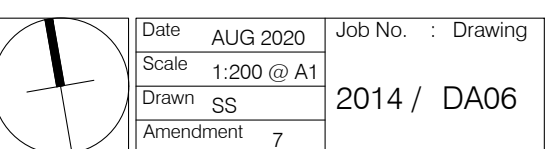
TRUSTED ADVISOR



SummitCare
WARMTH. WORTH. WELLBEING.

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BARTON STREET

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LEGEND	
	BOUNDARY
	MASONRY WALL
	STUD WALL
	OUTLINE OF WALL ABOVE / BELOW
	ROOF OUTLINE
	NEW FENCE
	EXISTING LEVELS
	PROPOSED LEVELS
	PROPOSED DOOR
	PROPOSED WINDOW
	ELEVATION TAG
	SECTION / ELEVATION TAG

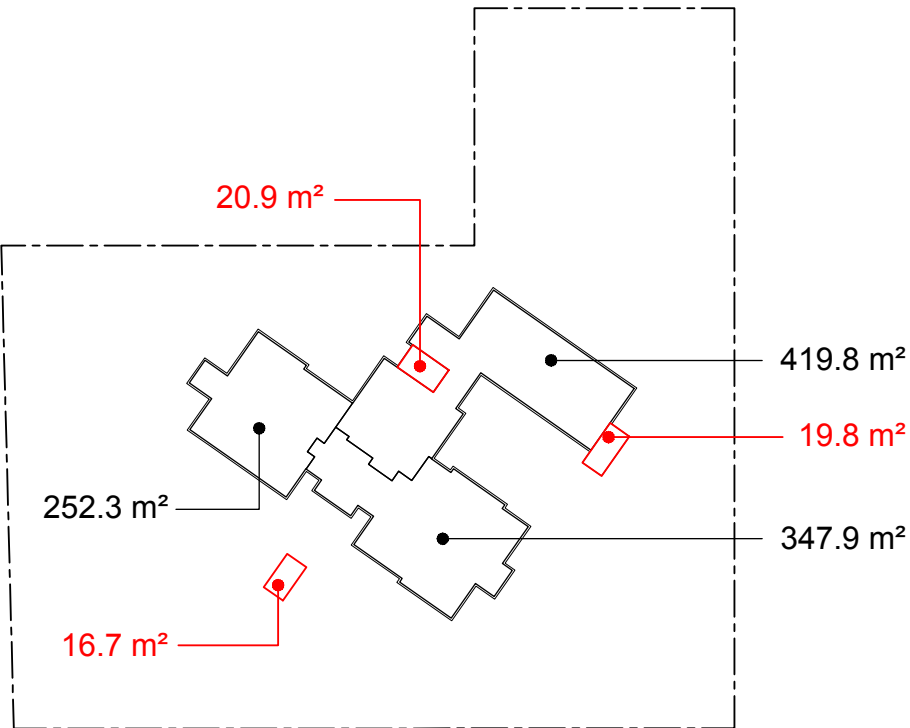
NCC 2019 - SECTION J REQUIREMENTS

Envelope Construction	Total System R-Value (m²K/W)
J1.3 Roof and ceiling construction (Roof absorbance)	≥ 3.20
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Glazing - Frame Construction (Uniform solution)	Orientation	Total System U-Value (m²K/W)	Total System SHGC
Total window frame construction	All facades	≤ 2.10	≤ 0.18

ACOUSTIC REQUIREMENTS

Space / Activity Type	Recommended Design Sound Levels
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Living Areas (e.g. common, lounges)	35 - 45 dB (A) Leq
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SMOKE COMPARTMENTATION

PRELIMINARY

0m	2	5	10	15m
SCALE: 1:200				
6	Fire Hydrant shown in Stair 5 Window amended to Quiet Room and Sitting Room	04.12.2020		
5	Services ducts added, stairs modified	23.10.2020		
4	Balconies and storage added	19.10.2020		
3	Minor changes, Palliative Rooms Shown, Storage Changes	06.10.2020		
No.	Amendment	Date		

Project
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Drawing
SECOND FLOOR PLAN

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Date	AUG 2020	Job No.	Drawing
Scale	1:200 @ A1		
Drawn	SS		2014 / DA07
Amendment	6		

LEGEND

	PROPOSED ROOF PITCH AND FALL DIRECTION
	OUTLINE OF BUILDING BELOW
	NEW ROOF
RL.00.00	PROPOSED LEVELS
DPO	DOWNPIPE
	ROOF COWL

NOTE:

NCC 2019 - SECTION J REQUIREMENTS

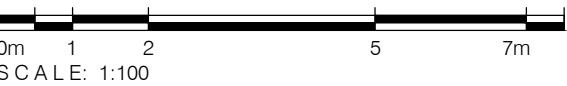
Envelope Construction	Total System R-Value (m²K/W)
J1.3 Roof and ceiling construction (Roof absorptance)	≥ 3.20
J1.4 Roof lights	Compliant
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Glazing - Frame Construction (Uniform solution)	Orientation	Total System U-Value (m²K/W)	Total System SHGC
Total window frame construction	All facades	≤ 2.10	≤ 0.18

ACOUSTIC REQUIREMENTS

Space / Activity Type	Recommended Design Sound Levels
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Work areas (e.g. concierge, administration)	35 - 45 dB (A) Leq

PRELIMINARY



2	Preliminary Issue For Review	27.11.2020
1	Services ducts added, stairs modified	23.10.2020
No.	Amendment	Date

Project
SUMMITCARE - MONTEREY
119 Barton Street, Monterey, N.S.W 2217

Drawing
ROOF PLAN

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Date	SEPT 2020	Job No.	: Drawing
Scale	1:200 @ A1		
Drawn			2014 / DA08
Amendment	2		

16 **Attachment C – Data Gap and Remediation Plans**

Legend

Site boundary

Borehole locations (MA, 2018)

Identified contamination

Approximate extent of 'Remediation Area A'



0 6 12 18 24 30 m

1:500 @ A3

Map Title / Figure:

Remediation Areas