Member of the Fire Protection Association of Australia

Friday, 13 June 2025

Purpose:
To provide advice to the Principal Certifying Authority regarding compliance with bushfire risk requirements.

Property Address:
72 Cooyong Road Terrey Hills.

Lot and DP Number:
Lot 233, DP752017.

Referenced Documents:

- Previous Bushfire Risk Assessment dated Wednesday, 6 March 2024
- Revised plans (attached)

Proposed Works: construction of a new pool and pool building.

The General Manager Northern Beaches Council.

Dear Sir/Madam,

Re: Bushfire Assessment Review – 72 Cooyong Road Terrey Hills.

This letter is to provide an update on the bushfire risk assessment for the proposed construction of a new pool and pool building to the existing dwelling at the address mentioned above. Revised plans have been submitted, prompting a review of the original Bushfire Risk Assessment completed on 06/03/2024.

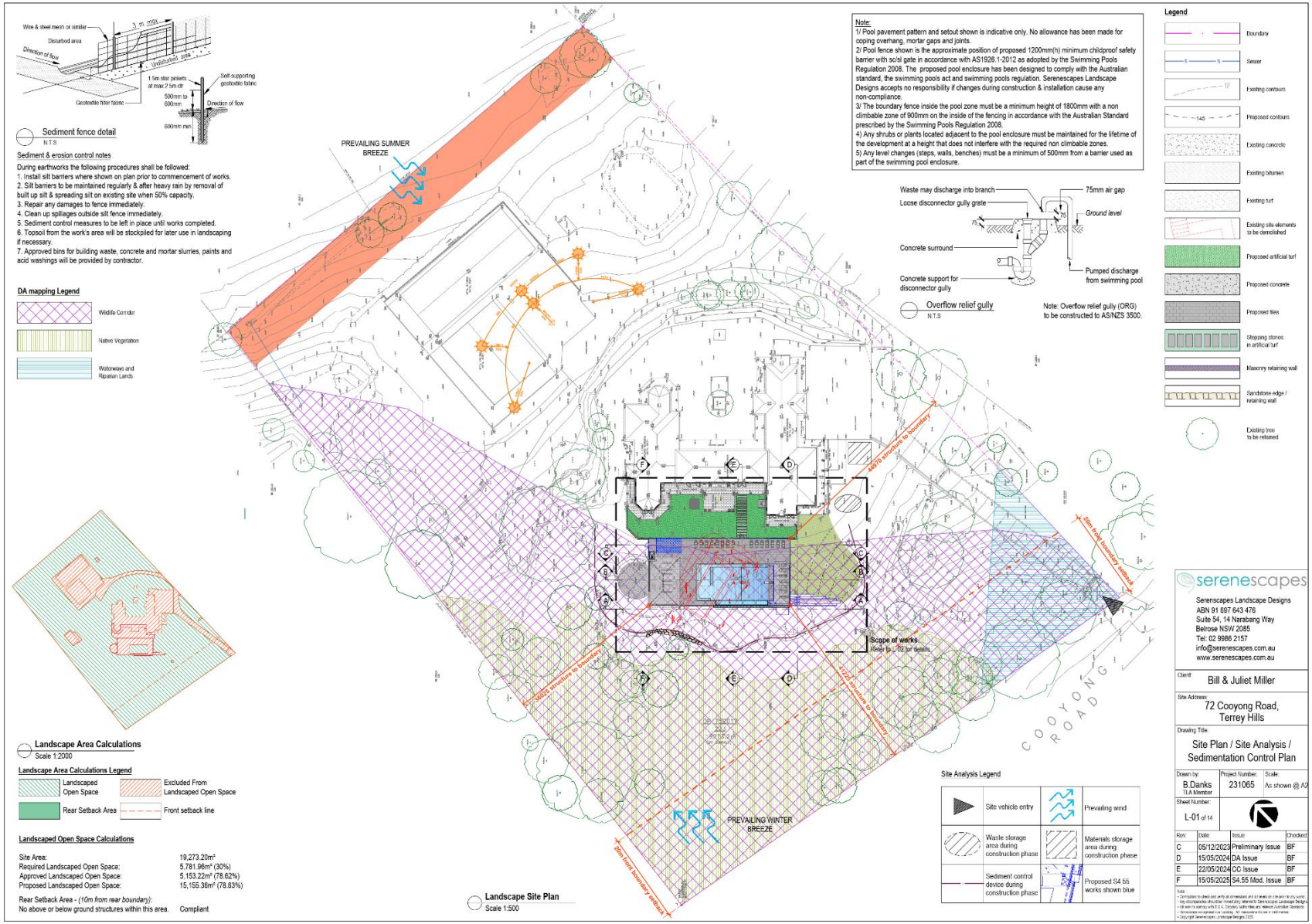
The revised plans have been assessed against the recommendations and findings of the original report. No new variables introduced by the proposed changes are found to alter the compliance outcomes or recommendations of the previous assessment.

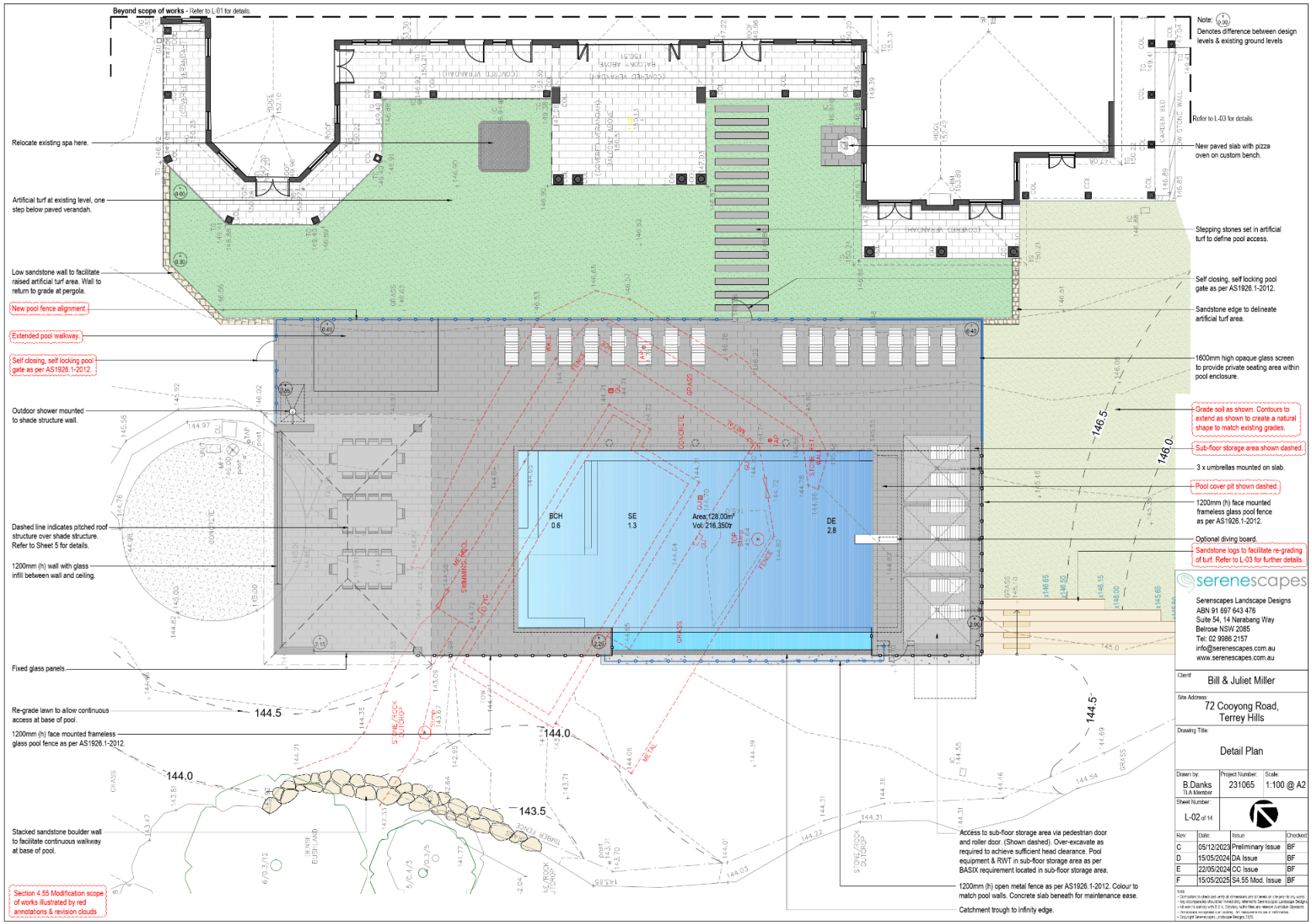
Based on this review, the revised proposal remains consistent with the previous bushfire protection requirements and does not compromise the outcomes of the original assessment.

If further clarification or additional information is required, please feel free to make contact.

Yours faithfully,

Matthew Willis
Graduate Diploma in Planning for Bushfire Prone Areas
FPAA BPAD Level 3 (BPD-PA 09337)


Sediment fence detail
N.T.S
Sediment & erosion control notes
During earthworks the following procedures shall be followed:
1. Install silt barriers where shown on plan prior to commencement of works.
2. Silt barriers to be maintained regularly & after heavy rain by removal of built up silt & spreading silt on existing site when 50% capacity.
3. Repair any damages to fence immediately.
4. Clean up spillages outside silt fence immediately.
5. Sediment control measures to be left in place until works completed.
6. Topsoil from the work's area will be stockpiled for later use in landscaping if necessary.
7. Approved bins for building waste, concrete and mortar slurries, paints and acid washings will be provided by contractor.
DA mapping Legend
Wildlife Corridor
Native Vegetation
Waterways and Riparian Lands
Landscape Area Calculations
Scale 1:2000
Landscape Area Calculations Legend
Landscaped Open Space
Excluded From Landscaped Open Space
Rear Setback Area
Front setback line
Landscaped Open Space Calculations
Site Area: 19,273.20m²
Required Landscaped Open Space: 5,781.96m² (30%)
Approved Landscaped Open Space: 5,153.22m² (78.62%)
Proposed Landscaped Open Space: 15,155.36m² (78.83%)
Rear Setback Area - (10m from rear boundary):
No above or below ground structures within this area. Compliant
PREVAILING SUMMER BREEZE
PREVAILING WINTER BREEZE
Scope of works:
Refer to L.02 for details
Landscape Site Plan
Scale 1:500
Note:
1/ Pool pavement pattern and setout shown is indicative only. No allowance has been made for coping overhang, mortar gaps and joints.
2/ Pool fence shown is the approximate position of proposed 1200mm(h) minimum childproof safety barrier with sc/sl gate in accordance with AS1926.1-2012 as adopted by the Swimming Pools Regulation 2008. The proposed pool enclosure has been designed to comply with the Australian standard, the swimming pools act and swimming pools regulation. Serenescapes Landscape Designs accepts no responsibility if changes during construction & installation cause any non-compliance.
3/ The boundary fence inside the pool zone must be a minimum height of 1800mm with a non climbable zone of 900mm on the inside of the fencing in accordance with the Australian Standard prescribed by the Swimming Pools Regulation 2008.
4) Any shrubs or plants located adjacent to the pool enclosure must be maintained for the lifetime of the development at a height that does not interfere with the required non climbable zones.
5) Any level changes (steps, walls, benches) must be a minimum of 500mm from a barrier used as part of the swimming pool enclosure.
Overflow relief gully
N.T.S
Note: Overflow relief gully (ORG) to be constructed to AS/NZS 3500.
Site Analysis Legend
Site vehicle entry
Prevailing wind
Waste storage area during construction phase
Materials storage area during construction phase
Sediment control device during construction phase
Proposed S4.55 works shown blue
Legend
Boundary
Sewer
Existing contours
Proposed contours
Existing concrete
Existing bitumen
Existing turf
Existing site elements to be demolished
Proposed artificial turf
Proposed concrete
Proposed tiles
Stepping stones in artificial turf
Masonry retaining wall
Sandstone edge / retaining wall
Existing tree to be retained
COOYONG ROAD
serenescapes
Serenscapes Landscape Designs
ABN 91 697 643 476
Suite 54, 14 Narabang Way
Belrose NSW 2085
Tel: 02 9986 2157
info@serenescapes.com.au
www.serenescapes.com.au
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Site Plan / Site Analysis / Sedimentation Control Plan
Drawn by: B.Danks TLA Member
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-01 of 14
Rev: C Date: 05/12/2023 Issue: Preliminary Issue Checked: BF
D 15/05/2024 DA Issue BF
E 22/05/2024 CC Issue BF
F 15/05/2025 S4.55 Mod. Issue BF


Beyond scope of works - Refer to L-01 for details.
Note: (+0.00) Denotes difference between design levels & existing ground levels
Refer to L-03 for details.
Relocate existing spa here.
New paved slab with pizza oven on custom bench.
Artificial turf at existing level, one step below paved verandah.
Stepping stones set in artificial turf to define pool access.
Low sandstone wall to facilitate raised artificial turf area. Wall to return to grade at pergola.
Self closing, self locking pool gate as per AS1926.1-2012.
New pool fence alignment.
Sandstone edge to delineate artificial turf area.
Extended pool walkway.
Self closing, self locking pool gate as per AS1926.1-2012.
1600mm high opaque glass screen to provide private seating area within pool enclosure.
Outdoor shower mounted to shade structure wall.
Grade soil as shown. Contours to extend as shown to create a natural shape to match existing grades.
Sub-floor storage area shown dashed.
3 x umbrellas mounted on slab.
Pool cover pit shown dashed.
1200mm (h) face mounted frameless glass pool fence as per AS1926.1-2012.
Dashed line indicates pitched roof structure over shade structure. Refer to Sheet 5 for details.
Optional diving board.
Sandstone logs to facilitate re-grading of turf. Refer to L-03 for further details.
1200mm (h) wall with glass infill between wall and ceiling.
BCH 0.6
SE 1.3
Area:128.00m²
Vol: 216.350ℓ
DE 2.8
Fixed glass panels.
Re-grade lawn to allow continuous access at base of pool.
1200mm (h) face mounted frameless glass pool fence as per AS1926.1-2012.
Stacked sandstone boulder wall to facilitate continuous walkway at base of pool.
Access to sub-floor storage area via pedestrian door and roller door. (Shown dashed). Over-excavate as required to achieve sufficient head clearance. Pool equipment & RWT in sub-floor storage area as per BASIX requirement located in sub-floor storage area.
1200mm (h) open metal fence as per AS1926.1-2012. Colour to match pool walls. Concrete slab beneath for maintenance ease.
Catchment trough to infinity edge.
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds
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Tel: 02 9986 2157
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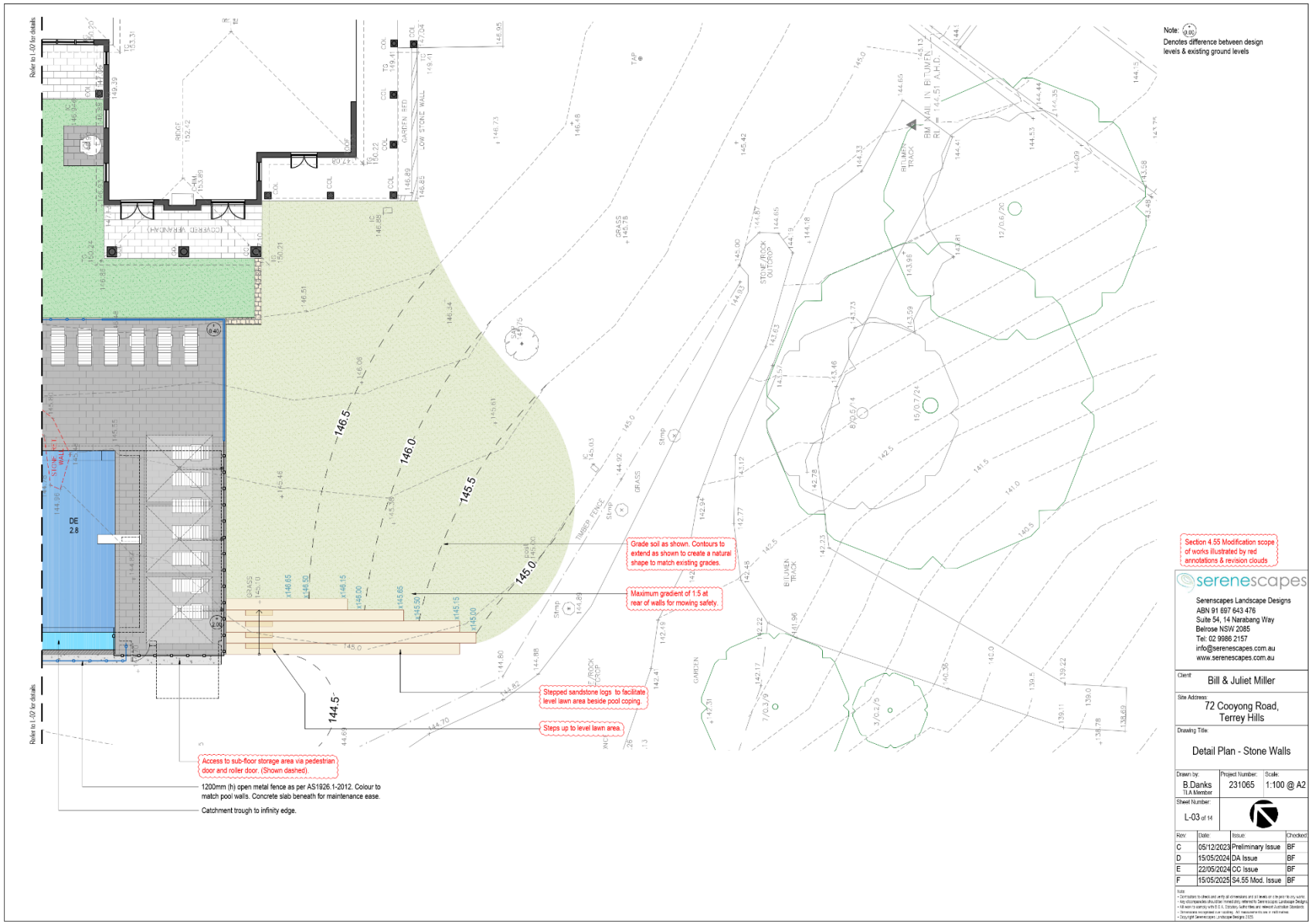
www.serenescapes.com.au
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Detail Plan
Drawn by: B.Danks TLA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-02 of 14
Rev | Date | Issue | Checked
C | 05/12/2023 | Preliminary Issue | BF
D | 15/05/2024 | DA Issue | BF
E | 22/05/2024 | CC Issue | BF
F | 15/05/2025 | S4.55 Mod. Issue | BF


Note: (9.00) Denotes difference between design levels & existing ground levels
Refer to L-00 for details
Refer to L-00 for details
Grade soil as shown. Contours to extend as shown to create a natural shape to match existing grades.
Maximum gradient of 1:5 at rear of walls for mowing safety.
Stepped sandstone logs to facilitate level lawn area beside pool coping.
Steps up to level lawn area.
Access to sub-floor storage area via pedestrian door and roller door. (Shown dashed).
1200mm (h) open metal fence as per AS1926.1-2012. Colour to match pool walls. Concrete slab beneath for maintenance ease.
Catchment trough to infinity edge.
146.5
146.0
145.5
145.0
144.5
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Detail Plan - Stone Walls
Drawn by: B.Danks TLA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-03 of 14
Rev | Date | Issue | Checked
C | 05/12/2023 | Preliminary Issue | BF
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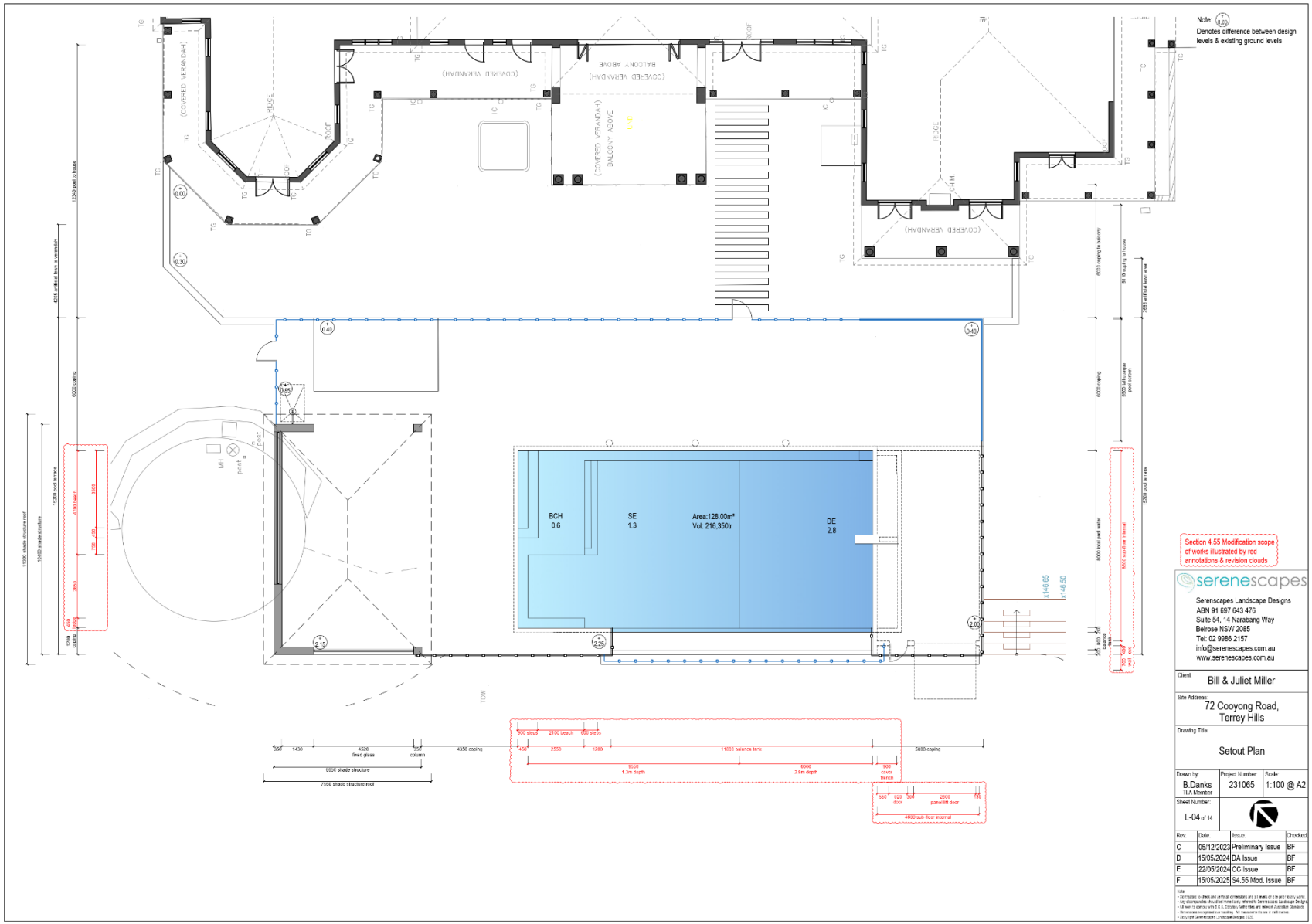
Note: (+0.00) Denotes difference between design levels & existing ground levels
BCH 0.6
SE 1.3
Area:128.00m²
Vol: 216,350ℓ
DE 2.8
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds
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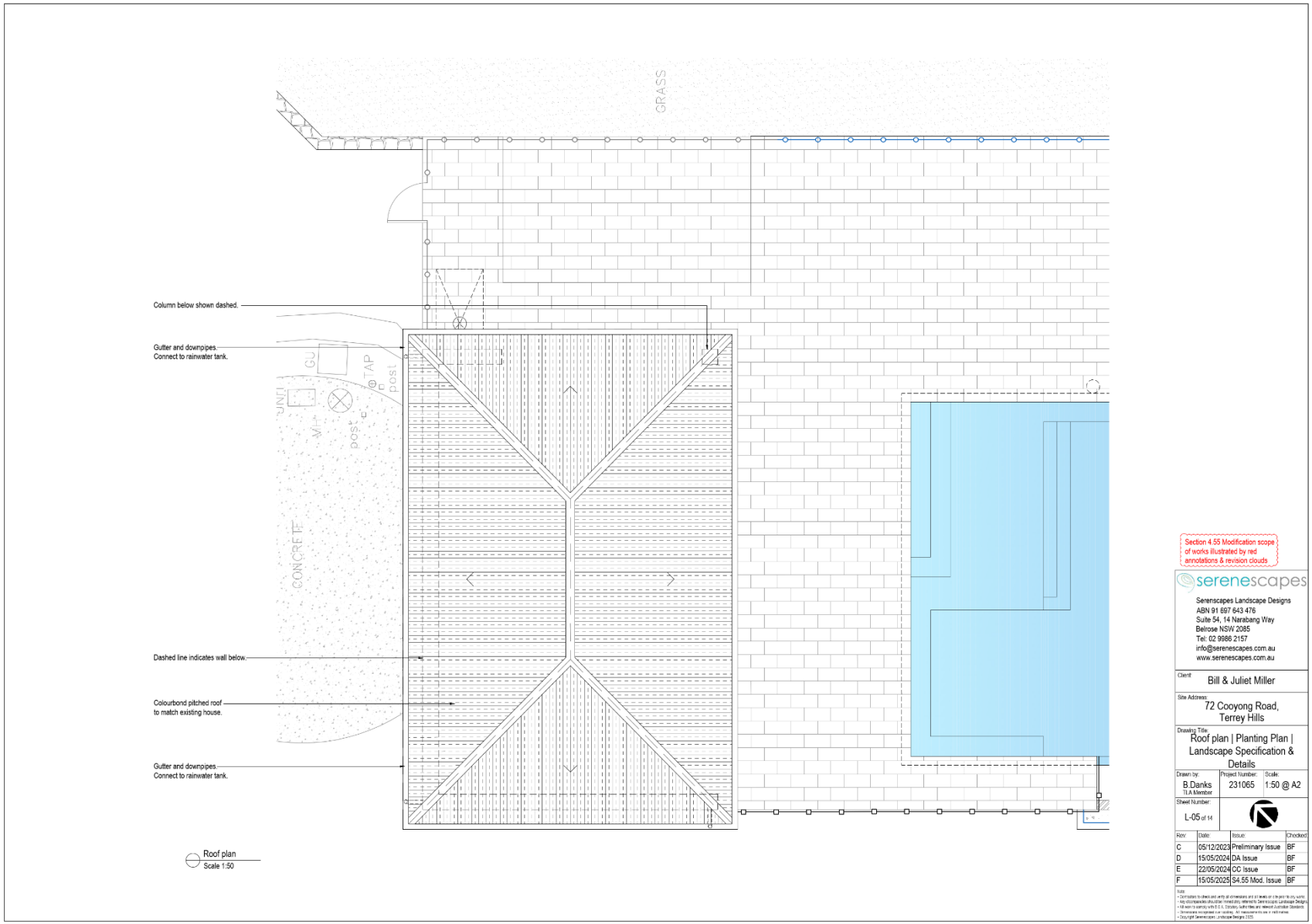
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Setout Plan
Drawn by: B.Danks TLA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-04 of 14
Rev | Date | Issue | Checked
C | 05/12/2023 | Preliminary Issue | BF
D | 15/05/2024 | DA Issue | BF
E | 22/05/2024 | CC Issue | BF
F | 15/05/2025 | S4.55 Mod. Issue | BF


GRASS
Column below shown dashed.
Gutter and downpipes.
Connect to rainwater tank.
GU
TAP
P
post
UNIT
WI
post
CONCRETE
Dashed line indicates wall below.
Colourbond pitched roof
to match existing house.
Gutter and downpipes.
Connect to rainwater tank.
Roof plan
Scale 1:50
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds
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www.serenescapes.com.au
Client:
Bill & Juliet Miller
Site Address:
72 Cooyong Road,
Terrey Hills
Drawing Title:
Roof plan | Planting Plan | Landscape Specification & Details
Drawn by:
B.Danks
TLA Member
Project Number:
231065
Scale:
1:50 @ A2
Sheet Number:
L-05 of 14
Rev
Date
Issue
Checked
C
05/12/2023
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S4.55 Mod. Issue
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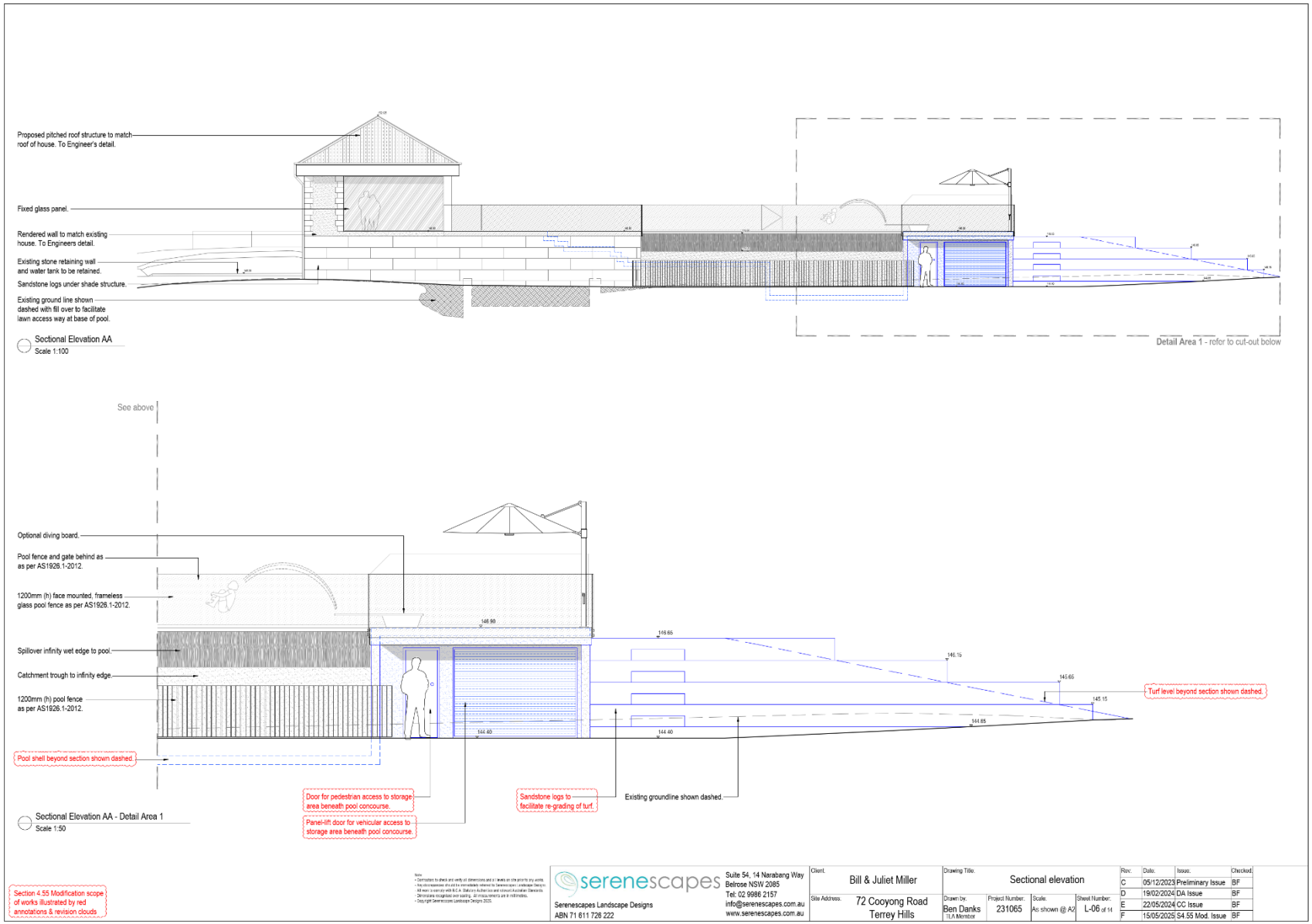
Proposed pitched roof structure to match roof of house. To Engineer's detail.
Fixed glass panel.
Rendered wall to match existing house. To Engineers detail.
Existing stone retaining wall and water tank to be retained.
Sandstone logs under shade structure.
Existing ground line shown dashed with fill over to facilitate lawn access way at base of pool.
Detail Area 1 - refer to cut-out below
Sectional Elevation AA
Scale 1:100
See above
Optional diving board.
Pool fence and gate behind as as per AS1926.1-2012.
1200mm (h) face mounted, frameless glass pool fence as per AS1926.1-2012.
Spillover infinity wet edge to pool.
Catchment trough to infinity edge.
1200mm (h) pool fence as per AS1926.1-2012.
Pool shell beyond section shown dashed.
Turf level beyond section shown dashed.
Door for pedestrian access to storage area beneath pool concourse.
Panel-lift door for vehicular access to storage area beneath pool concourse.
Sandstone logs to facilitate re-grading of turf.
Existing groundline shown dashed.
Sectional Elevation AA - Detail Area 1
Scale 1:50
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-06 of 14
Rev. | Date. | Issue. | Checked.
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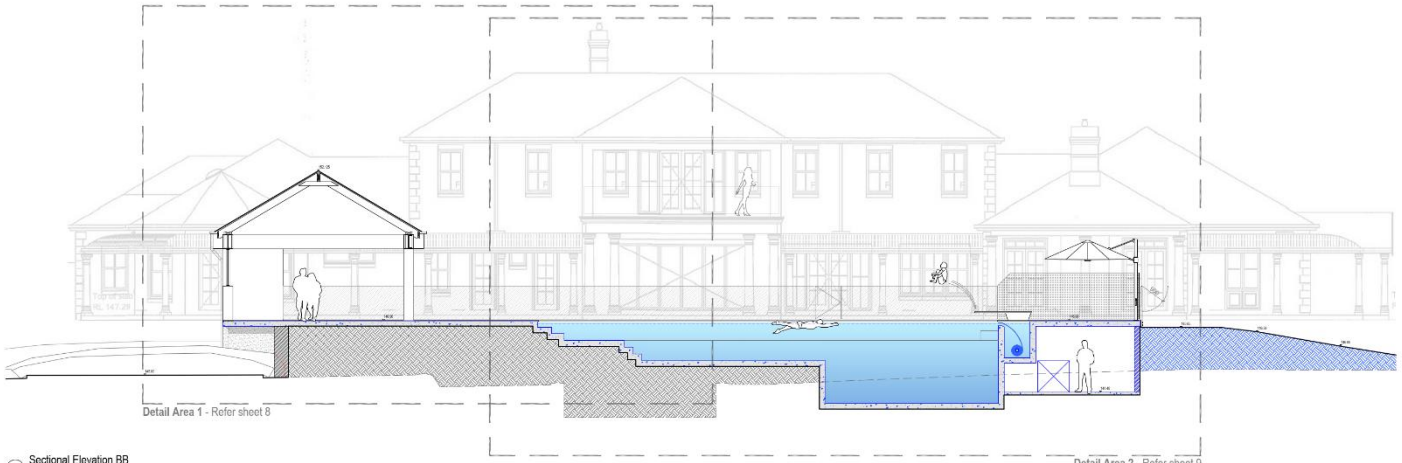

Sectional Elevation BB
Scale 1:100

Section 4.55 Modification scope of works illustrated by red annotations & revision clouds

Note:
- Contractor to check and verify all dimensions and all levels on site prior to any works.
- Any discrepancies shall be brought to the immediate attention to Serenescapes Landscape Designs.
- All work is to comply with B.C.A. Statutory Authorities and relevant Australian Standards.
- Dimensions in millimeters and scaling - All measurements are in millimetres.
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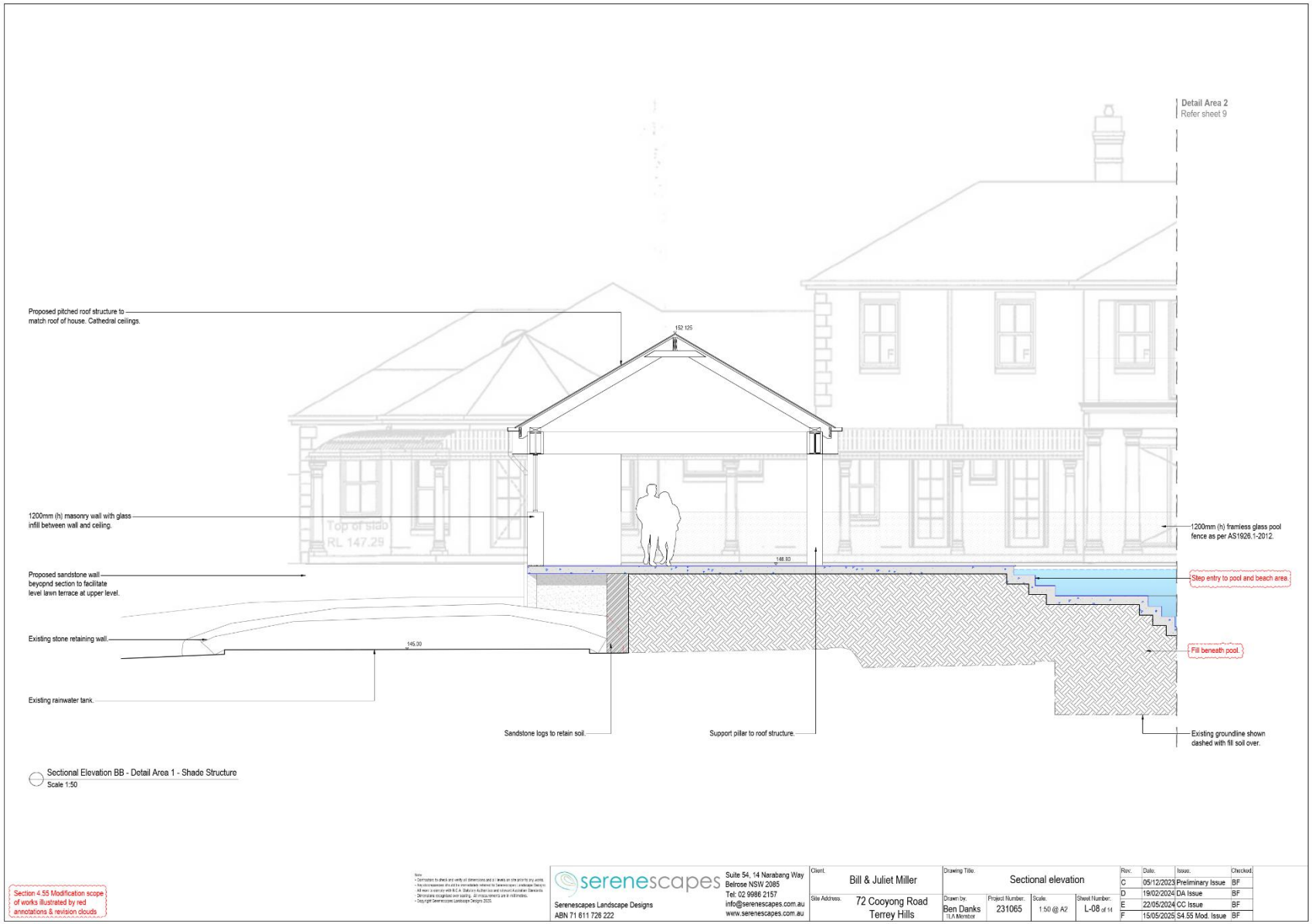
Client:	Bill & Juliet Miller	Drawing Title:	Sectional elevation			
Site Address:	72 Cooyong Road Terrey Hills	Drawn by: Ben Danks *TLA Member*	Project Number: 231065	Scale: 1:100 @ A2	Sheet Number: L-07 of 14	

Rev.	Date.	Issue.	Checked.
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF
E	22/05/2024	CC Issue	BF
F	15/05/2025	S4.55 Mod. Issue	BF



Sectional Elevation BB - Detail Area 1 - Shade Structure
Scale 1:50

Section 4.55 Modification scope of works illustrated by red annotations & revision clouds

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Client:	Bill & Juliet Miller	Drawing Title:	Sectional elevation		
Site Address:	72 Cooyong Road Terrey Hills	Drawn by: Ben Danks *ILA Member*	Project Number: 231065	Scale: 1:50 @ A2	Sheet Number: L-08 of 14

Rev.	Date.	Issue.	Checked.
C	05/12/2023	Preliminary Issue	BF
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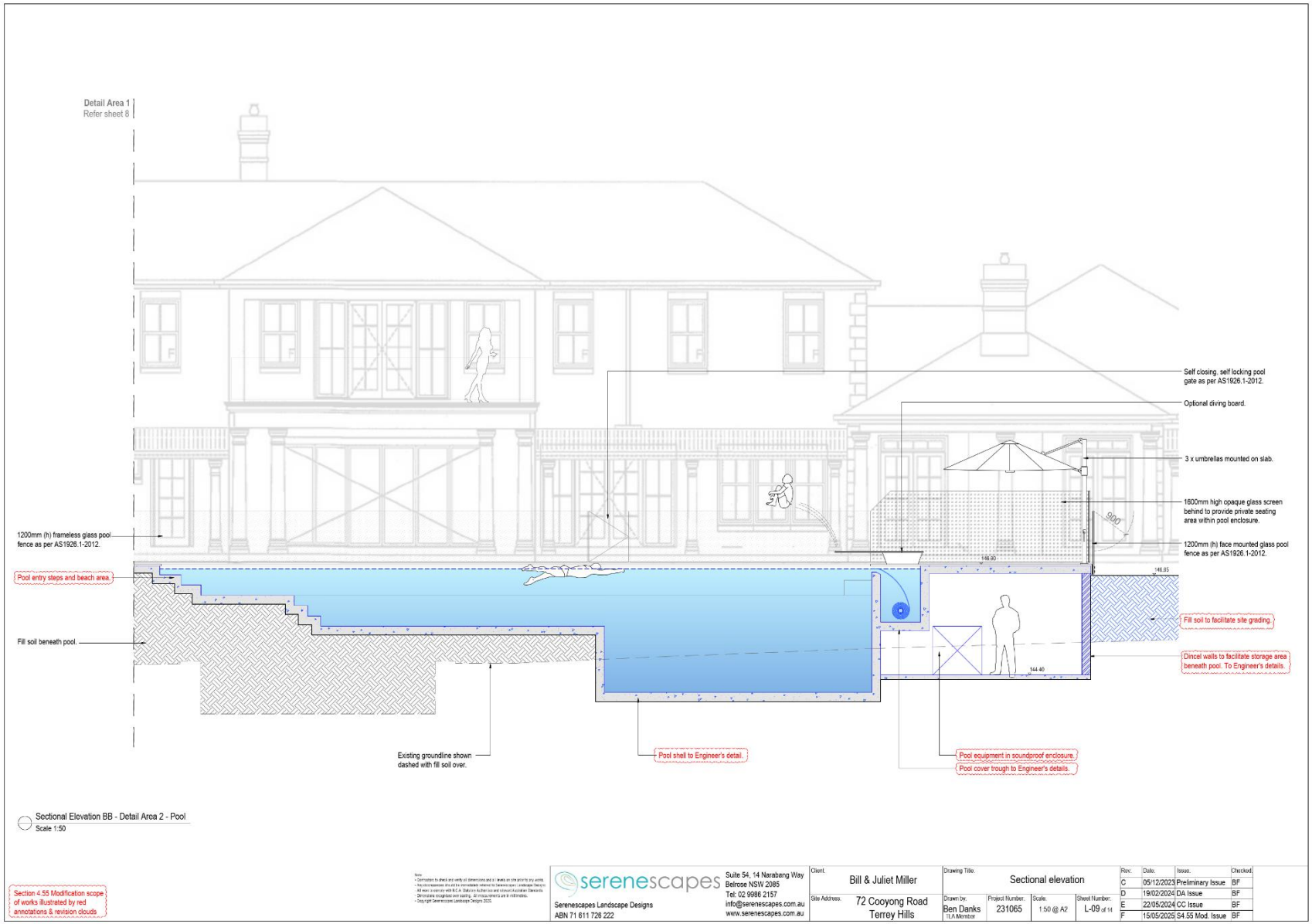
F	15/05/2025	S4.55 Mod. Issue	BF



Sectional Elevation BB - Detail Area 2 - Pool
Scale 1:50

Section 4.55 Modification scope of works illustrated by red annotations & revision clouds

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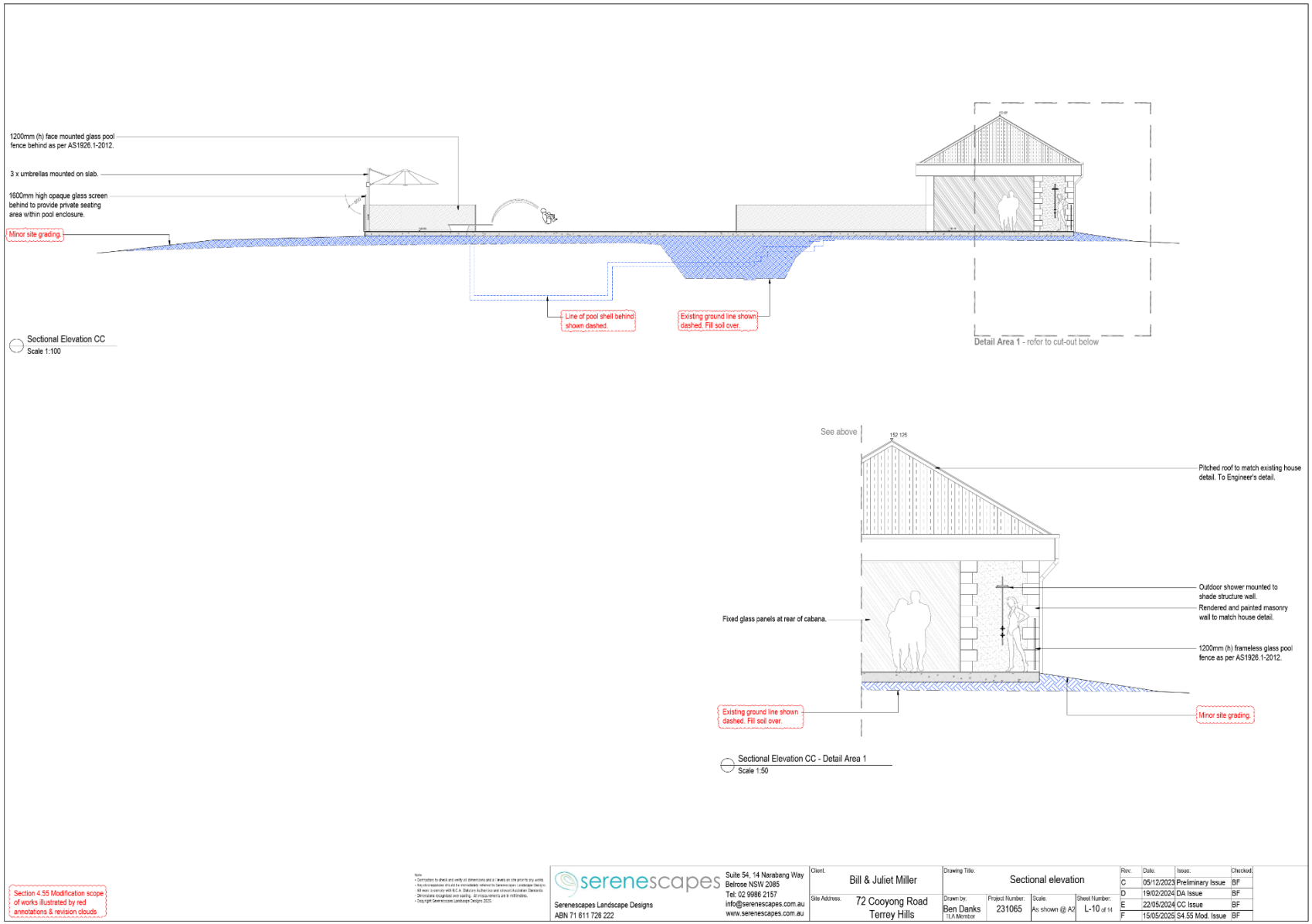
Client:	Bill & Juliet Miller	Drawing Title:	Sectional elevation
Site Address:	72 Cooyong Road Terrey Hills	Drawn by:	Ben Danks (LA Member)
Project Number:	231065	Scale:	1:50 @ A2
Sheet Number:	L-09 of 14		

Rev.	Date.	Issue.	Checked.
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF
E	22/05/2024	CC Issue	BF
F	15/05/2025	S4.55 Mod. Issue	BF


1200mm (h) face mounted glass pool fence behind as per AS1926.1-2012.
3 x umbrellas mounted on slab.
1600mm high opaque glass screen behind to provide private seating area within pool enclosure.
Minor site grading.
Line of pool shell behind shown dashed.
Existing ground line shown dashed. Fill soil over.
Detail Area 1 - refer to cut-out below
Sectional Elevation CC
Scale 1:100
See above
Pitched roof to match existing house detail. To Engineer's detail.
Outdoor shower mounted to shade structure wall.
Rendered and painted masonry wall to match house detail.
Fixed glass panels at rear of cabana.
1200mm (h) frameless glass pool fence as per AS1926.1-2012.
Existing ground line shown dashed. Fill soil over.
Minor site grading.
Sectional Elevation CC - Detail Area 1
Scale 1:50
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds
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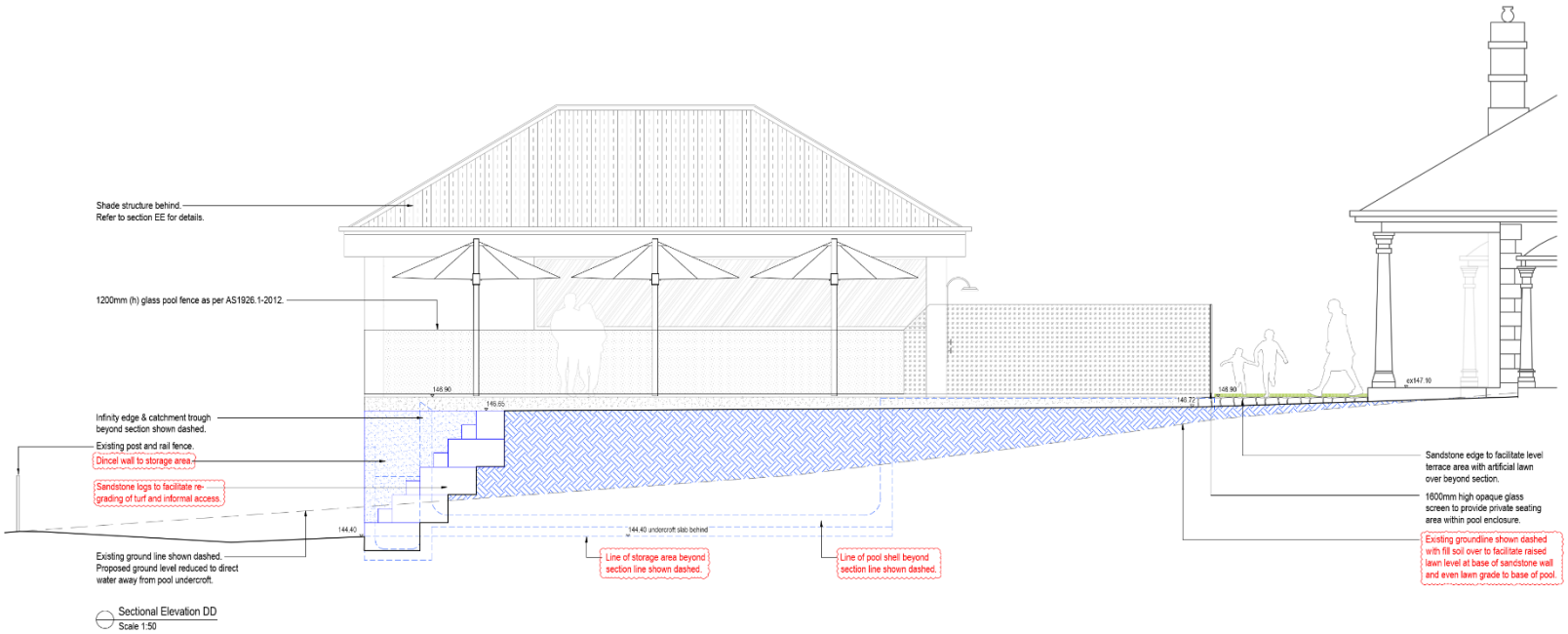
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-10 of 14
Rev. | Date. | Issue. | Checked.
C | 05/12/2023 | Preliminary Issue | BF
D | 19/02/2024 | DA Issue | BF
E | 22/05/2024 | CC Issue | BF
F | 15/05/2025 | S4.55 Mod. Issue | BF



Sectional Elevation DD
Scale 1:50

Section 4.55 Modification scope of works illustrated by red annotations & revision clouds

Note:
- Contractors to check and verify all dimensions and all levels on site prior to any works.
- Any discrepancies shall be immediately referred to Serenescapes Landscape Designs.
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- Dimensions in millimeters unless stated otherwise. All measurements are in millimetres.
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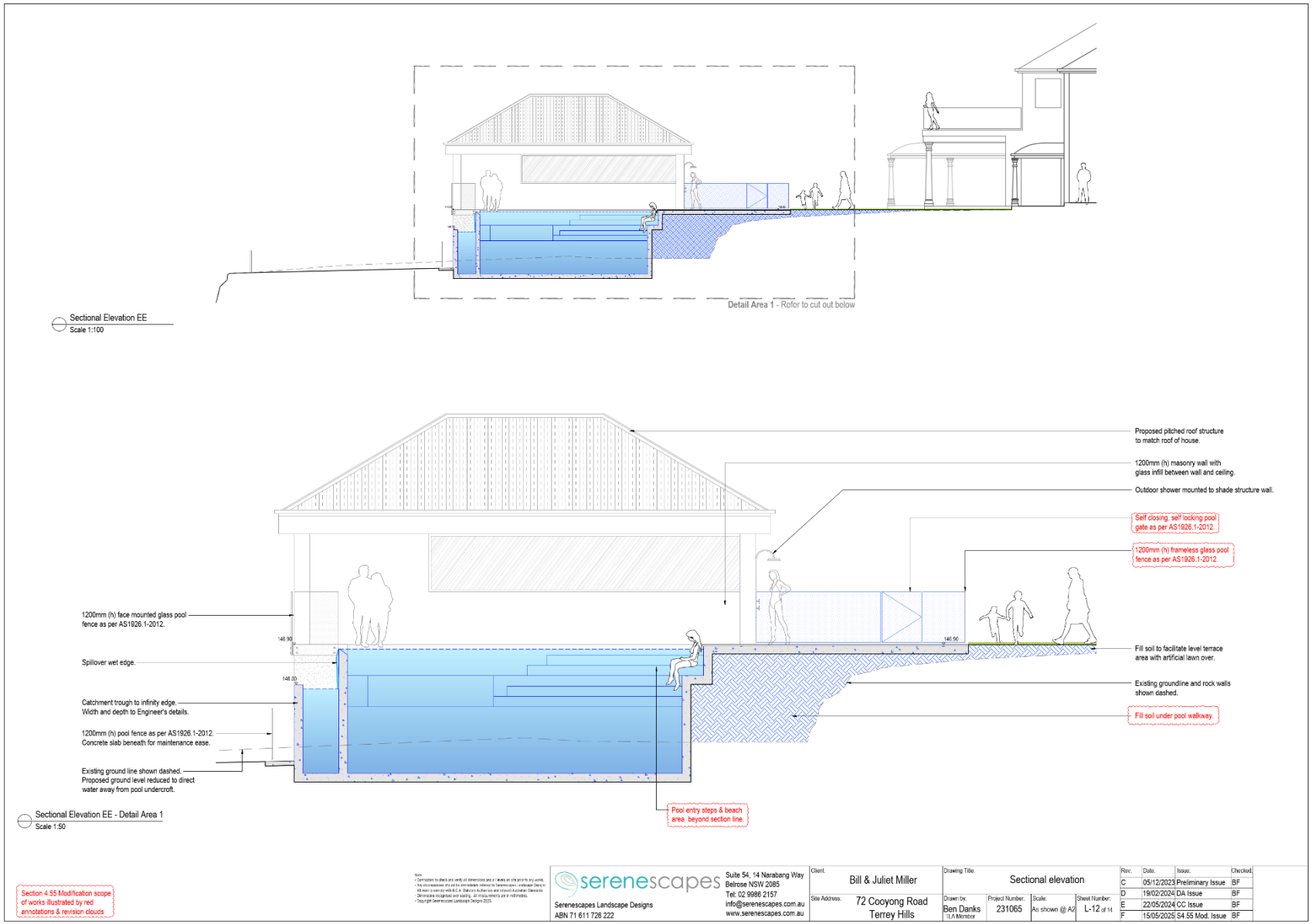
Client:	Bill & Juliet Miller	Drawing Title:	Sectional elevation		
Site Address:	72 Cooyong Road Terrey Hills	Drawn by: Ben Danks (LA Member)	Project Number: 231065	Scale: 1:50 @ A2	Sheet Number: L-11 of 14

Rev.	Date.	Issue.	Checked.
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF
E	22/05/2024	CC Issue	BF
F	15/05/2025	S4.55 Mod. Issue	BF


Detail Area 1 - Refer to cut out below
Sectional Elevation EE
Scale 1:100
Proposed pitched roof structure to match roof of house.
1200mm (h) masonry wall with glass infill between wall and ceiling.
Outdoor shower mounted to shade structure wall.
Self closing, self locking pool gate as per AS1926.1-2012.
1200mm (h) frameless glass pool fence as per AS1926.1-2012.
1200mm (h) face mounted glass pool fence as per AS1926.1-2012.
Spillover wet edge.
Catchment trough to infinity edge. Width and depth to Engineer's details.
1200mm (h) pool fence as per AS1926.1-2012. Concrete slab beneath for maintenance ease.
Existing ground line shown dashed. Proposed ground level reduced to direct water away from pool undercroft.
Fill soil to facilitate level terrace area with artificial lawn over.
Existing groundline and rock walls shown dashed.
Fill soil under pool walkway.
Pool entry steps & beach area beyond section line.
Sectional Elevation EE - Detail Area 1
Scale 1:50
Section 4.55 Modification scope of works illustrated by red annotations & revision clouds.
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-12 of 14
Rev. | Date. | Issue. | Checked.
C | 05/12/2023 | Preliminary Issue | BF
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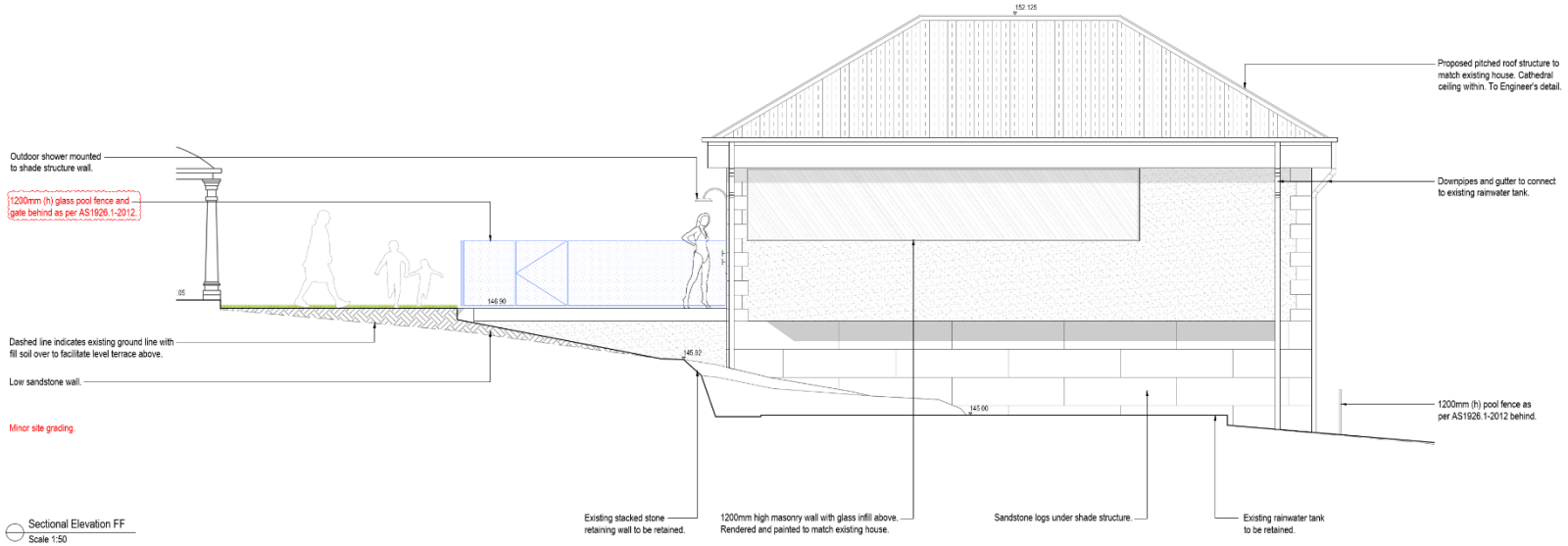

Sectional Elevation FF
Scale 1:50

Section 4.55 Modification scope of works illustrated by red annotations & revision clouds

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Client:	Bill & Juliet Miller
Site Address:	72 Cooyong Road Terrey Hills
Drawing Title:	Sectional elevation
Drawn by:	Ben Danks AILA Member
Project Number:	231065
Scale:	1:50 @ A2
Sheet Number:	L-13 of 14

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BASIX REQUIREMENTS

RAINWATER TANK
THE APPLICANT MUST INSTALL A RAINWATER TANK OF AT LEAST 9,012.5 LITRES ON THE SITE. THIS RAINWATER TANK MUST MEET, AND BE INSTALLED IN ACCORDANCE WITH, THE REQUIREMENTS OF ALL APPLICABLE REGULATORY AUTHORITIES.
THE APPLICANT MUST CONFIGURE THE RAINWATER TANK TO COLLECT RAINWATER RUNOFF FROM AT LEAST 1,135 SQUARE METRES OF ROOF AREA.
THE APPLICANT MUST CONNECT THE RAINWATER TANK TO A TAP LOCATED WITHIN 10 METRES OF THE EDGE OF THE POOL.

OUTDOOR SWIMMING POOL
THE SWIMMING POOL MUST BE OUTDOORS.
THE SWIMMING POOL MUST NOT HAVE A CAPACITY GREATER THAN 216.35 KILOLITRES.
THE SWIMMING POOL MUST HAVE A POOL COVER.
THE APPLICANT MUST INSTALL A POOL PUMP TIMER FOR THE SWIMMING POOL.

FIXTURES AND SYSTEMS
LIGHTING -
THE APPLICANT MUST ENSURE A MINIMUM OF 40% OF NEW OR ALTERED LIGHT FIXTURES ARE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT OR LIGHT-EMITTING-DIODE (LED) LAMPS.

CONSTRUCTION
INSULATION REQUIREMENTS -
THE APPLICANT MUST CONSTRUCT THE NEW OR ALTERED (FLOOR(S), WALLS AND CEALINGS/ROOFS) IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN THE TABLE BELOW, EXCEPT THAT A) ADDITIONAL INSULATION IS NOT REQUIRED WHERE THE AREA OF NEW CONSTRUCTION IS LESS THAN $2M^2$. B) INSULATION SPECIFIED IS NOT REQUIRED FOR PARTS OF ALTERED CONSTRUCTION WHERE INSULATION ALREADY EXISTS.

CONSTRUCTION - CONCRETE SLAB ON GROUND FLOOR. ADDITIONAL INSULATION REQUIRED - NIL

CONSTRUCTION - SUSPENDED FLOOR WITH ENCLOSED SUBFLOOR: CONCRETE (R0.6). ADDITIONAL INSULATION REQUIRED - R0.70 (DOWN) (OR R1.30 INCLUDING CONSTRUCTION)

CONSTRUCTION - EXTERNAL WALL: CONCRETE BLOCK/PLASTERBOARD (R1.8). (OR R1.70 INCLUDING CONSTRUCTION)

CONSTRUCTION - RAKED CEILING, PITCHED/SKILLION ROOF: FRAMED
ADDITIONAL INSULATION REQUIRED - CEILING: R3.00 (UP), ROOF: FOIL/SARKING
OTHER SPECIFICATIONS - MEDIUM (SOLAR ABSORPTANCE 0.475 - 0.70)

GLAZING REQUIREMENTS
WINDOWS & GLAZED DOORS

THE APPLICANT MUST INSTALL THE WINDOWS, GLAZED DOORS AND SHADING DEVICES, IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN THE TABLE BELOW. RELEVENT OVERSHADOWING SPECIFICATIONS MUST BE SATISFIED FOR EACH WINDOW AND GLAZED DOOR.

THE FOLLOWING REQUIREMENTS MUST ALSO BE SATISFIED IN RELATION TO EACH WINDOW AND GLAZED DOOR:

EACH WINDOW OR GLAZED DOOR WITH STANDARD ALUMINIUM OR TIMBER FRAMES AND SINGLE CLEAR OR TONED GLASS MAY EITHER MATCH THE DESCRIPTION, OR, HAVE A U-VALUE AND A SOLAR HEAT GAIN COEFFICIENT (SHGC) NO GREATER THAN THAT LISTED IN THE TABLE BELOW. TOTAL SYSTEM U-VALUES AND SHGC'S MUST BE CALCULATED IN ACCORDANCE WITH NATIONAL FENESTRATION RATING COUNCIL (NFRC) CONDITIONS.

EACH WINDOW OR GLAZED DOOR WITH IMPROVED FRAMES OR PYROLTIC LOW-E GLASS, OR CLEAR/AIR GAP/CLEAR GLAZING, OR TONED/AIR GAP/CLEAR GLAZING MUST HAVE A U-VALUE AND A SOLAR HEAT GAIN COEFFICIENT (SHGC) NO GREATER THAN THAT LISTED IN THE TABLE BELOW. TOTAL SYSTEM U-VALUES AND SHGC'S MUST BE CALCULATED IN ACCORDANCE WITH NATIONAL FENESTRATION RATING COUNCIL (NFRC) CONDITIONS. THE DESCRIPTION IS PROVIDED FOR INFORMATION ONLY. ALTERNATIVE SYSTEMS WITH COMPLYING U-VALUE AND SHGC MAY BE SUBSTITUTED.

FOR PROJECTIONS DESCRIBED IN MILLIMETRES, THE LEADING EDGE OF EACH EAVE, PERGOLA, VERANDAH, BALCONY OR AWNING MUST BE NO MORE THAN 500mm ABOVE THE HEAD OF THE WINDOW OR GLAZED DOOR AND NO MORE THAN 2400mm ABOVE THE SILL.

PERGOLAS WITH FIXED BATTENS MUST HAVE BATTENS PARALLEL TO THE WINDOW OR GLAZED DOOR ABOVE WHICH THEY ARE SITUATED, UNLESS THE PERGOLA ALSO SHADES A PERPENDICULAR WINDOW. THE SPACING BETWEEN BATTENS MUST NOT BE MORE THAN 50mm.

PERGOLAS WITH ADJUSTABLE SHADING MAY HAVE ADJUSTABLE BLADES OR REMOVABLE SHADE CLOTH (NOT LESS THAN 80% SHADING RATIO). ADJUSTABLE BLADES MUST OVERLAP IN PLAN VIEW.

OVERSHADOWING BUILDINGS OR VEGETATION MUST BE OF THE HEIGHT & DISTANCE FROM THE CENTRE AND THE BASE OF THE WINDOW AND GLAZED DOORS, AS SPECIFIED IN THE 'OVERSHADOWING COLUMN IN THE ADJACENT TABLE.

WINDOW AND GLAZED DOORS GLAZING REQUIREMENTS

Window/door number	Orientation	Area of glass including frame (m2)	Overshadowing height (m)	Overshadowing distance (m)	Shading device	Frame and glass type
W1	S	11	0	0	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single clear, (or value: 7.63, SHGC: 0.75)
W2	N	9	0	0	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)

LANDSCAPE SPECIFICATION NOTES

SITE PREPARATION
Locate any underground and overground services & ensure no damage occurs. Levels on plan are nominal only & all dimensions to be checked on site prior to commencement. Final structural integrity of all items shall be the sole responsibility of landscape contractor.
PROTECTION OF EXISTING TREES:
All tree protection is to be undertaken in accordance with the guidelines provided in AS4970-2009 Protection of trees on development sites.
Prior to construction, the builder shall erect tree protection fencing for each protected tree. Tree protection fencing setbacks are to be determined by multiplying the diameter at breast height by twelve (12).
Fencing is to consist of Chain wire mesh panels at least 1.8m in height, anchored with concrete feet.
Signage stating "Tree Protection Zone – No Access" is to be displayed on the fencing.
According to AS 4970-2009, activities excluded from the TPZ include but are not limited to;
- machine excavation including trenching
- excavation for silt fencing
- cultivation
- storage
- preparation of chemicals, including preparation of cement products
- parking of vehicles and plant and/or refuelling
- dumping of waste and/or wash down and cleaning of equipment
- soil level changes and/or placement of fill
- lighting of fires
- temporary or permanent installation of utilities and signs
- physical damage to the tree.

REMOVAL OF EXISTING TREES
All trees to be removed shall be carried out by a qualified arborist and work shall conform to the provisions of AS4373-2007 Australian Standards for The Pruning of Amenity Trees.
ELIMINATE WEEDS
Remove all existing weeds by hand, wiping or spraying with a glyphosate based herbicide. Weed control shall never be performed by mechanical cultivation or by scraping. Herbicide spraying is to be used to eliminate all existing weeds 30 days prior to planting.
EXCAVATION & SUB SOIL PREPARATION
Excavate garden beds to the depth required and rip or scarify base & sides of pit to a minimum depth of 150mm.
SUB SOIL DRAINAGE
Install drainage layer where there is surface water runoff draining into garden bed areas & where the existing sub-soil has more than 50% clay composition & there is a risk of subsurface water ponding.
Install perforated corrugated ag. line 75-100mm Dia. with geotextile filter sock & backfill to a minimum 200mm using free draining material, reclaimed/recycled where available. Direct flows at a minimum 0.5% fall to sw system. In areas isolated from stormwater system excavate & backfill an appropriate water dispersion pit.
REUSE EXISTING TOPSOIL
Existing site topsoil should be salvaged & appropriately stockpiled where possible.
IMPORTED TOPSOIL
Quality System: AS 4419 or as specified below.
Turf Areas: 'Turf Underlay' as supplied by, ANL p: 02 9450 1444 or approved alternative.
Tree Pit and Shrub Planting: 'Premium Garden Mix' as supplied by, ANL p: 02 9450 1444 or approved alternative.

IRRIGATION SYSTEM
New dripline irrigation system to be installed with backflow preventer and with timers. Irrigation system to be designed and installed to local codes.
The entire irrigation system shall be fully automated and provide drip irrigation to all tree, shrub and ground cover zones. It is the Contractor's responsibility to verify water pressure available and determine all design-built parameters prior to any installation and sizing of irrigation components. Irrigation system to be connected to water tank to supplement water from mains.
MULCHING
Quality system: AS 4454
All planting area impacted by building works to receive 50-75mm of garden Mulch, Hort-Bark, ANL p: 02 9450 1444 or approved alternative. Keep mulch 100mm away from plant stem & form a well to stop excessive water runoff. Finish flush with adjacent surfaces.
WATERING
Water in immediately after plant installation & allow for soil settlement. For the first 2 to 4 weeks after planting, the root zone & immediate surrounds must be kept moist. Continue watering until plants have established.
STEPPING STONES
Install each stepping stone on a 75mm thick mortar bed and space according to plan. Stones to finish flush with adjoining levels. Fill gaps with artificial turf as specified.
RETAINING WALLS & PLANTER BOXES
All retaining walls & planter boxes to be constructed to Engineer's details. Ensure all internal surfaces are waterproofed. Geotextile wrapped ag. drainage line backfilled with aggregate is to be installed behind all retaining walls & connected to stormwater in accordance with Sydney Water regulations. All planter boxes are to have Atlantis drainage cell (or approved alternative) installed & connected to stormwater in accordance with Sydney Water regulations.

Note:
- Contractors to check and verify all dimensions and all levels on site prior to any works.
- Any discrepancies should be immediately referred to Serenescapes Landscape Designs.
- All work to comply with B.C.A. Statutory Authorities and relevant Australian Standards.
- Dimensions recognised over scaling. All measurements are in millimetres.
- Copyright Serenescapes Landscape Designs 2025.

serenescapes
Serenescapes Landscape Designs
ABN 71 611 726 222
Suite 54, 14 Narabang Way
Belrose NSW 2085
Tel: 02 9986 2157
info@serenescapes.com.au
www.serenescapes.com.au

Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: BASIX Requirements, Landscape Specification & Details
Drawn by: Ben Danks, TLA Member
Project Number: 231065
Scale: ntsc @ A2
Sheet Number: L-14 of 14

Rev.	Date.	Issue.	Checked.
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF
E	22/05/2024	CC Issue	BF
F	15/05/2025	S4.55 Mod. Issue	BF

Reference number 4621

Member of the Fire Protection Association of Australia

Lot 233, DP 752017, 72 Cooyong Road, Terrey Hills, NSW 2084.

Wednesday, 6 March 2024

Prepared by:	Matthew Willis *BPAD – Level 3 Certified Practitioner* Certification No: BPD-PA 09337		06/03/2024
Can this proposal comply with AS3959-2018 (inc section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019)?		Yes	
What is the recommended AS 3959-2018 level of compliance?		BAL-FZ	
Is referral to the RFS required?		At the discretion of Council	
Can this development comply with the requirements of PBP?		Yes	
Plans by "Serenescapes" (Appendix 1) dated.		19/2/24	

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Bushfire Planning Services

15 Parkcrest Place

Kenthurst NSW 2156

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Bushfire Risk Assessment

Wednesday, 6 March 2024

Contact

Ben Danks

Serenescapes

Level 3, Suite 54, Narabang Way

Belrose NSW 2085

9986 2157

Subject Property

Lot 233, DP 752017

72 Cooyong Road

Terrey Hills NSW 2084

Document tracking.

Date	*Reason for change*	*Author*

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT.

Property Address	Lot 233, DP 752017, number 72 Cooyong Road Terrey Hills
Description of the Proposal	Construction of a new pool and pool building
Plan Reference	19/2/24
BAL Rating	BAL-FZ
Does the Proposal Rely on Alternate Solutions?	**Yes**

I, Matthew Willis of Bushfire Planning Services Pty Ltd have carried out a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Planning for Bushfire Protection 2019 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby advise, in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203:

1. That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and

2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements*

*The relevant specifications and requirements being specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire Assessment Report, prepared for the above-mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection 2019.

REPORT REFERENCE	*Wednesday, 6 March 2024*
REPORT DATE	*Wednesday, 6 March 2024*
CERTIFICATION NO/ACCREDITED SCHEME	*FPAA BPAD A BPD-PA 09337*

Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: *---*  *------* ***DATE:*** *-----Wednesday, 6 March 2024*

Contents.

1 Executive Summary.

Bushfire Planning Services has been requested by Ben Danks from Serenescapes to supply a bushfire compliance report on lot 233, DP 752017, 72 Cooyong Road, Terrey Hills.

The works proposed for the subject lot are for the construction of a new pool and pool building, see attached plans for details.

The subject lot is on the northern side of Cooyong Road and at its closest point to the hazard the proposed new work has a separation distance to the south-west of approximately 6m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes down slope away from the property at an angle of approximately 12.78°.

For the purposes of this assessment this vegetation is considered to be Forest.

The remaining vegetation within the study area is contained within the boundaries of established allotments and is managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development will be required to comply with the construction requirements of AS 3959-2018 BAL-FZ[1] and any additional construction requirements contained within section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

The following table is a summary of the pertinent findings of this assessment.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land/forest	Managed land
Slope	N/A	N/A	10-15 degrees downslope	N/A
Setback within lot 233	N/A	N/A	6m	N/A
Setback outside lot 233	N/A	N/A	N/A	N/A
Total setback	N/A	N/A	6m	N/A
Bal level	N/A	N/A	BAL-FZ	N/A

Note: The above table is a summary of the significant variables used to determine the highest BAL for this proposal. THIS TABLE IS NOT INTENDED FOR CONSTRUCTION! Only the highest BAL level is shown, aspects marked as N/A will still have a BAL. Refer to section 11 for construction requirements for these other aspects.

[1] *See section 11 for details.*

2 General.

This proposal relates to the construction of a new pool and pool building on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2019 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2019. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

3 Block Description.

The subject block is situated on the northern side of Cooyong Road in an established area of Terrey Hills.

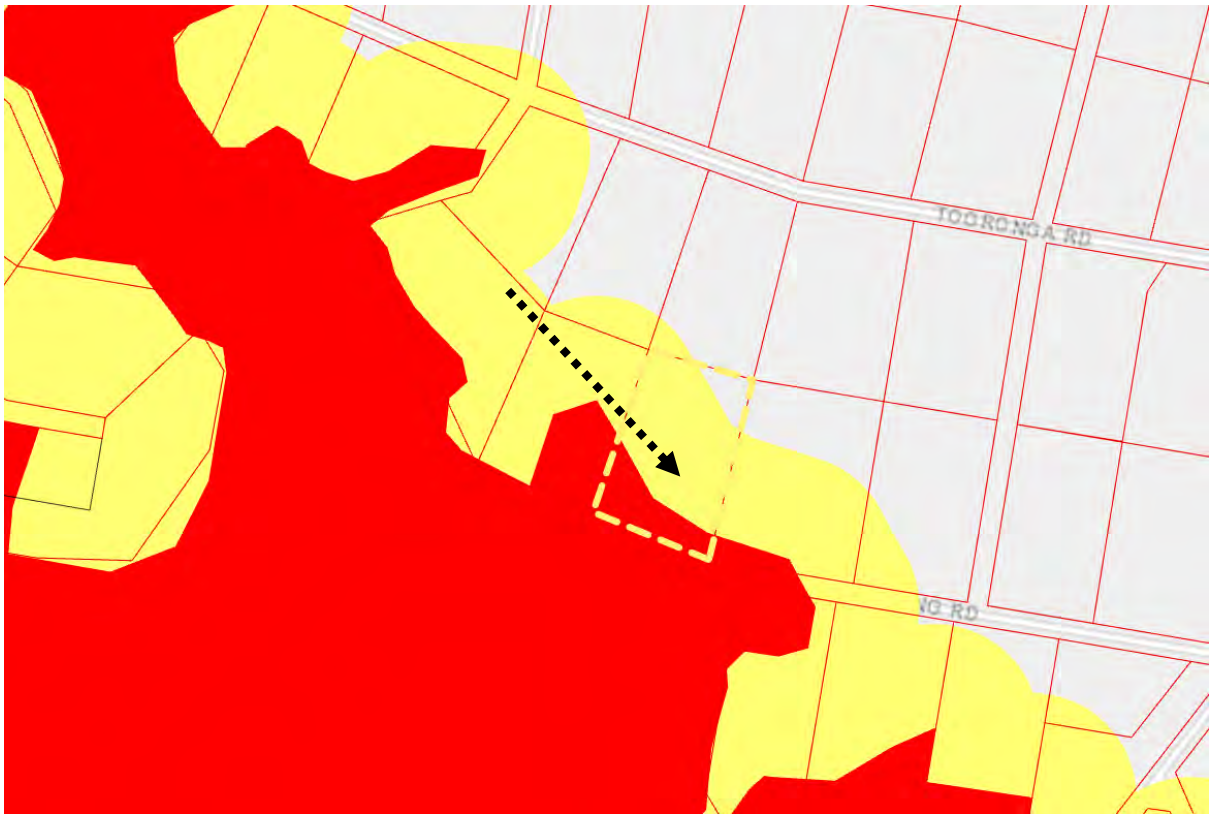
The lot currently contains a single-level class 1 dwelling.

The lands surrounding the proposed site on the subject lot to a distance of at least 6m contain existing development or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 233
- DP; 752017.
- LGA; Northern Beaches.
- Area; 19221.88.
- Address; 72 Cooyong Road, Terrey Hills.

This section has been left blank.

Map 1 shows the cadastral layout around the subject lot.



Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 233 to both contain and to be within the buffer zone of category 1 bushfire vegetation.

4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be largely managed land.

The major potential hazard to this development is the vegetation within an area of undeveloped land to the south-west.

For the purpose of this assessment and compliance with Planning for Bushfire Protection this area of undeveloped land is considered to be Forest and is the hazard to this proposal.

Photo 1 - An overview of the vegetation within the general area.

This area has been left intentionally blank.

Photo 2 is a closer view of the vegetation in the area.

Table 1 outlines the vegetation orientation and distance from the development area.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land/forest	Managed land
Setback within lot 233	N/A	N/A	6m	N/A
Off-site setback	N/A	N/A	N/A	N/A
Total setback	N/A	N/A	6m	N/A

Table 1 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.

This area has been left intentionally blank.

5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block. Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

6 Slope.

The slope of the land beneath the hazard that is most likely to influence bushfire behaviour has been calculated by topographical map analysis to a distance of 100m from the subject lot.

An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 2.

Table 2 shows the slope beneath the hazard.

Aspect	North	East	South	West
Slope	N/A	N/A	10-15 degrees downslope	N/A

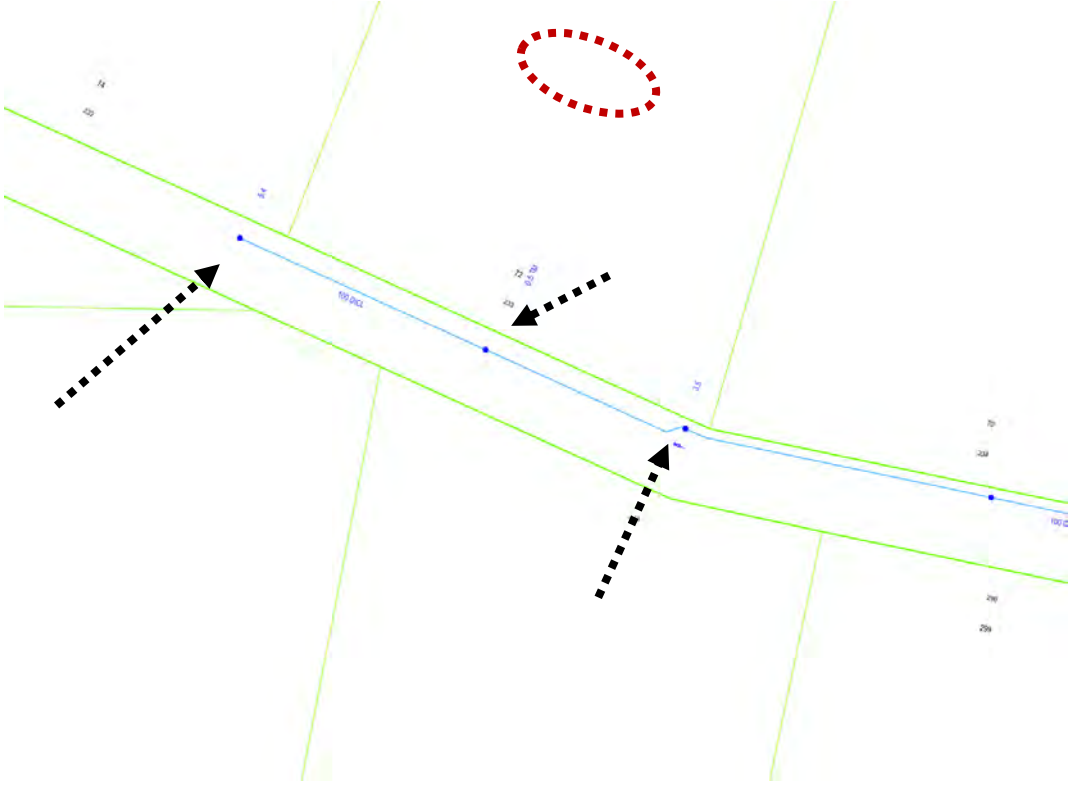
Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.

7 Utilities.

7.1 Water.

The subject block will be serviced by a reticulated water supply.

The following map is an extract from Sydney waters hydrant map. Hydrants are indicated by a blue dot on a blue line. As can be seen there is at least one hydrant point indicated within close proximity of the property.



7.2 Electricity

Main's electricity is available to the block.

7.3 Gas

It is unknown if gas is to be altered or installed in this proposal.

8 Access/Egress.

Access to the development site will be via a short private driveway from Cooyong Road.

All roads in the vicinity are considered to be capable of carrying emergency services vehicles and pedestrian access onto the lot is also considered to be adequate.

9 Compliance with Planning for Bushfire Protection setbacks.

Based on the development design, vegetation classification, effective slope estimates and setback distance already outlined in this report the subject development will be required to comply with the deemed to satisfy construction requirements of AS 3959-2018 BAL-FZ and the RFS requirements on all fire prone aspects.

The following table is an extract from table A1.12.5 of Planning for Bushfire Protection 2019. This table is used to calculate the BAL for a proposal in an area with an FDI of 100.

The variables that have already been outlined in this assessment are highlighted in red with the highest BAL highlighted in yellow.

	Keith Vegetation Formation	BUSHFIRE ATACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
10-15 DEGREES DOWNSLOPE	Arid-Shrublands (acacia and chenopod)	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 36	36 -< 45	45 -< 60	60 -< 77	77 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 15	15 -< 20	20 -< 29	29 -< 41	41 -< 100
	Freshwater Wetlands	< 5	5 -< 7	7 -< 11	11 -< 16	16 -< 100
	Grassland	< 11	11 -< 15	15 -< 23	23 -< 32	32 -< 50
	Grassy and Semi-Arid Woodland (including Mallee)	< 19	19 -< 25	25 -< 36	36 -< 49	49 -< 100
	Rainforest	< 17	17 -< 23	23 -< 34	34 -< 46	46 -< 100
	Short Heath	< 10	10 -< 13	13 -< 20	20 -< 29	29 -< 100
	Tall Heath	< 17	17 -< 22	22 -< 32	32 -< 44	44 -< 100

For the purpose of this assessment the south-western aspect has been chosen as the most potentially hazardous aspect due to the effective slope, potential run of fire and the prevailing fire weather of the area.

10 Siting.

Recommendation;

Nil.

11 Construction and design.

All new work is to be undertaken in accordance with the relevant requirements of the NCC and AS3959 2018. The following recommendations are a minimum level of construction. Constructing the proposal to a higher level than that recommended is allowable under AS3959.

Planning for Bushfire Protection 2019 makes reference to Class 10A buildings stating; "*There are no bushfire protection requirements for Class 10A buildings located more than 6m from a dwelling in bushfire prone areas. Where a class 10A building is located within 6m from a dwelling it must be constructed in accordance with the NCC."*

Parts of the paved area are within 6m of the existing dwelling, both the pool and paved area are class 10B structures. AS3959 and Planning for Bushfire Protection 2019 are moot on any requirements for class 10B structures within 6m of the existing building, however, a previous version of Planning for Bushfire Protection, Planning for Bushfire Protection 2006 states "At the planning level, class 10b buildings in bushfire prone areas (eg fencing) should be non-combustible…..". Given this the class 10A section of this proposal is considered appropriate.

There are 2 Class 10A structures, the Cabana, and the under-croft storage area, both these are greater than 6m from the dwelling.

Given the above the following recommendations are made.

Recommendation; all new work.

1. New construction shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
2. New construction shall also comply with the requirements of BAL-FZ Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard "National Standard Steel Framed Construction in Bushfire Areas" and any additional construction requirements contained within section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.
3. New roofing valleys and guttering should be fitted with a non-combustible leaf protection to stop the accumulation of debris.

And/or,

Recommendation;

4. All proposed Class 10 buildings attached to or within 6 metres of the habitable building shall be constructed from non-combustible materials.
5. There are no requirements for Class 10 buildings greater than 6m from a habitable building.

Note; Although AS3959 considers that no specific construction requirements need to be applied to this proposal some risk from bushfire still exists. The subject lot is in an area that may be affected by a fire in the larger, surrounding area.

It would be prudent to consider constructing the parts of the proposal to at least an AS3959 2018 BAL-12.5 construction standard which will give an enhanced level of protection from Ember attack. The additional cost of BAL-12.5 construction is not significantly onerous and is recommended however not strictly required.

The application of this additional construction level should be at the discretion of the owner.

AS-3959 2018 is available as PDF from;

https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

12 Utilities.

12.1 Water.

The proposed development will have access to a reticulated water supply. There is at least one hydrant indicated within the required distance from the dwelling.

Recommendation;

Nil.

12.2 Electricity and Gas.

Recommendation;

6. Any new electricity or gas connections are to comply with the requirements of table 7.4a of Planning for Bushfire Protection.

13 Asset Protection Zone (APZ).

The Asset Protection Zone is *"An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level".*

Recommendation;

7. At the commencement of building works and in perpetuity the area surrounding the new works is to be managed as defendable space[2] for a distance of at least 5m or, if 5m is not achievable due to the proximity of a property boundary, to the property boundary.

[2] *See section 3.2.4 of Planning for Bushfire Protection 2019,*

14 Landscaping.

Recommendation;

8. Any new fencing is to be constructed in accordance with section 7.6 of Planning for Bushfire Protection 2019.
9. Any new landscaping to the site is to comply with the principles of Appendix 4 and section 3.7 of Planning for Bush Fire Protection 2019. In this regard the following landscaping principles are, where applicable, to be incorporated into the development[3]:
    - Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths and driveways;
    - Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;
    - Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
    - Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
    - Planting should not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters);
    - When considering landscape species consideration needs to be given to estimated size of the plant at maturity;
    - Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
    - Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
    - Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
    - Avoid climbing species to walls and pergolas;
    - Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
    - Locate combustible structures such as garden sheds, pergolas and materials such timber garden furniture way from the building; and
    - Use of low flammability vegetation species.

15 Constraints on the subject block.

None known.

[3] *Refer to referenced documents for a complete description.*

Recommendation;

Nil

16 Access/Egress.

All roads in the area are considered to be capable of handling emergency service vehicles. Access from the roadway onto the property is also considered to be adequate for firefighting purposes.

Recommendation

Nil

17 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

APZ A defendable space is provided onsite. An APZ is provided and maintained for the life of the development.	Achievable with the implementation of the recommendations in section 13
SITING AND DESIGN: Buildings are sited and designed to minimise the risk of bush fire attack.	Achievable with the implementation of the recommendations in section 10
CONSTRUCTION STANDARDS: It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.	Achievable with the implementation of the recommendations in section 11
ACCESS Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7).	Achievable with the implementation of the recommendations in section 16
WATER AND UTILITY SERVICES: • adequate water and electricity services are provided for firefighting operations • Gas and electricity services are located so as not to contribute to the risk of fire to a building.	Achievable with the implementation of the recommendations in section 12
LANDSCAPING:	Achievable with the implementation of the recommendations in section 14

• it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions.	

18 Conclusions.

Based on the above report and with the implementation of the recommendation contained within this report the consent authority should determine that this development can comply with the requirements of AS 3959-2018 and 'Planning for Bushfire Protection' guidelines.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers' experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

If any further clarification is required for this report, please do not hesitate to contact me using the details above.

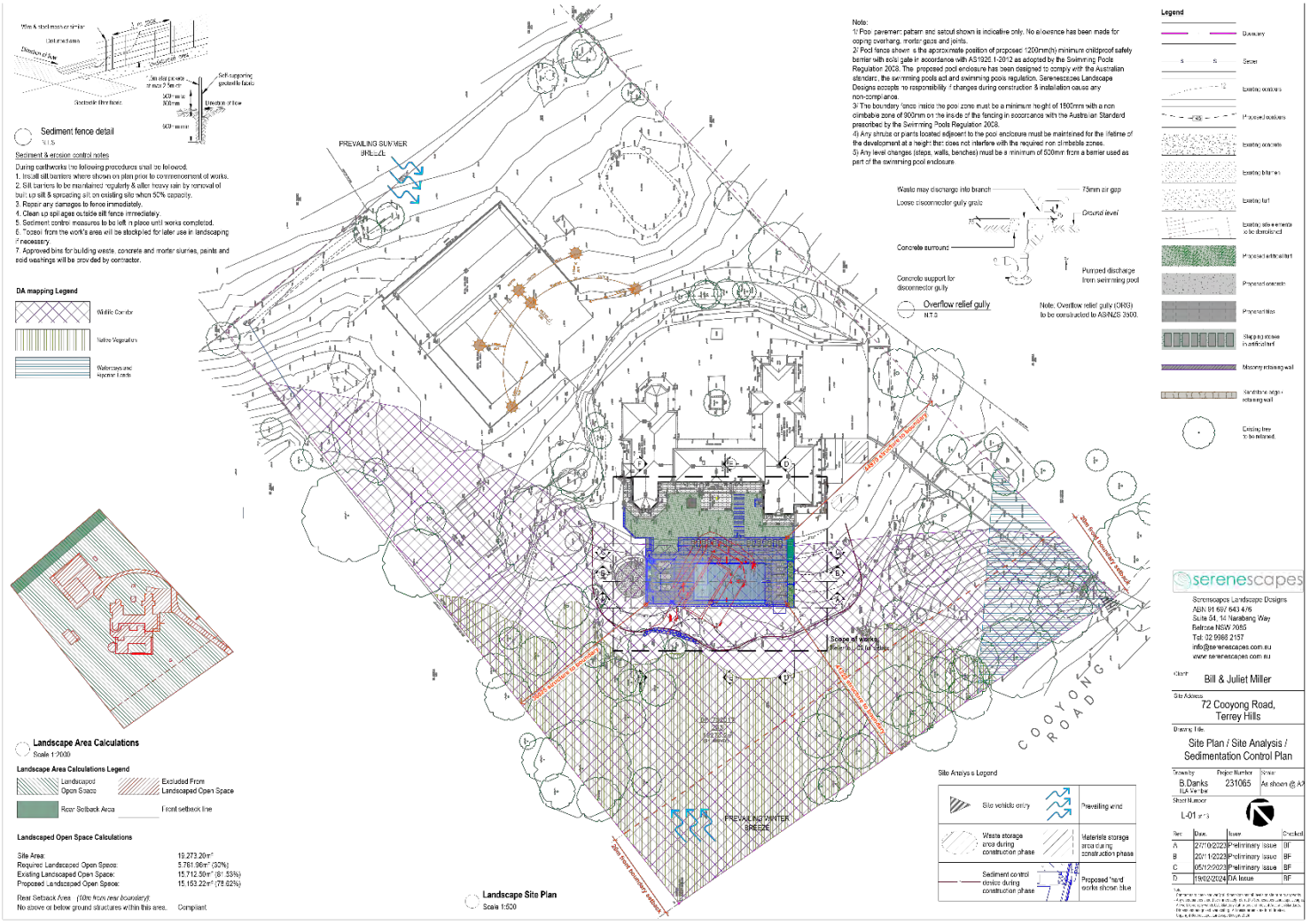
Yours Sincerely

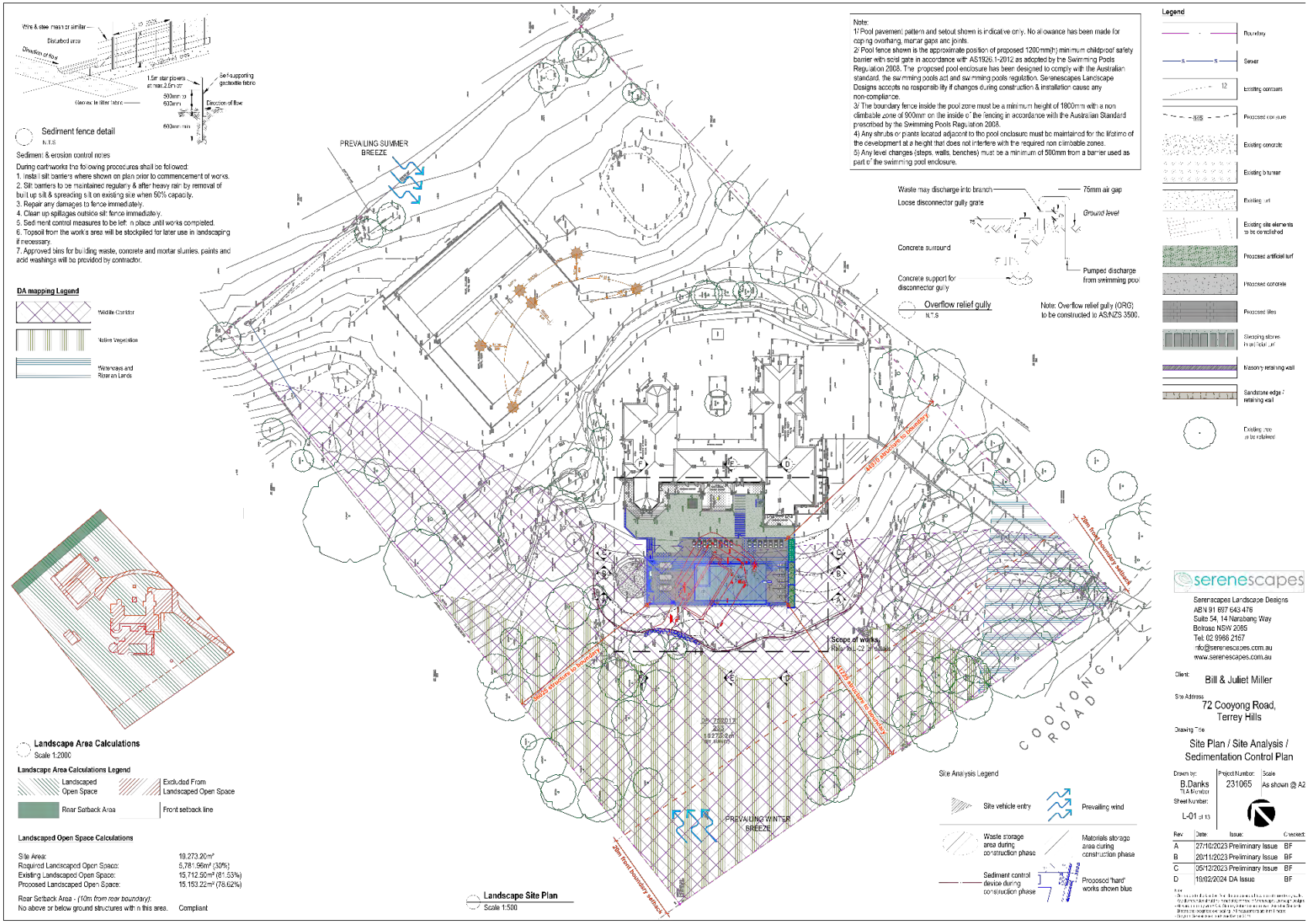
Matthew Willis
Grad Dip Planning for Bushfire Prone Areas
Bushfire Planning Services Pty Limited

19 References.

- *Australian Building Codes Board (2019). National Construction Code Volume One - Building Code of Australia. ABCB*
- *Australian Building Codes Board (2019). National Construction Code Volume two - Building Code of Australia. ABCB.*
- *Keith, D.A. (2004). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation.*
- *National Association of Steel Framed Housing (2014). "Steel Framed Construction in Bush Fire Areas. NASH*
- *Ramsay, C and Rudolph, L (2003) "Landscape and Building Design for Bush fire Areas". CSIRO Publishing, Collingwood.*
- *Resources and Energy NSW (2016). ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets. NSW Government*
- *Rural Fire Service NSW (2005) "Standards for Asset Protection Zones"*
- *Standards Australia (2018). "AS 3959, Construction of buildings in bush fire prone areas".*
- *Standards Australia (2018). "AS/NZS 1530.8.1 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Radiant heat and small flaming sources".*
- *Standards Australia (2018). "AS/NZS 1530.8.2 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Large flaming sources".*
- *Standards Australia (2014). "AS/NZS 1596 The storage and handling of LP Gas".*

20 Appendix 1 - Plans .




Sediment fence detail
N.T.S
Sediment & erosion control notes
During earthworks the following procedures shall be followed:
1. Install silt barriers where shown on plan prior to commencement of works.
2. Silt barriers to be maintained regularly & after heavy rain by removal of built up silt & spreading silt on existing site when 50% capacity.
3. Repair any damages to fence immediately.
4. Clean up spillages outside silt fence immediately.
5. Sediment control measures to be left in place until works completed.
6. Topsoil from the works area will be stockpiled for later use in landscaping if necessary.
7. Approved bins for building waste, concrete and mortar slurries, paints and acid washings will be provided by contractor.
DA mapping Legend
Wildlife Corridor
Native Vegetation
Waterways and Riparian Lands
PREVAILING SUMMER BREEZE
PREVAILING WINTER BREEZE
Scope of works
Landscape Site Plan
Scale 1:500
Note:
1/ Pool pavement pattern and setout shown is indicative only. No allowance has been made for coping overhang, mortar gaps and joints.
2/ Pool fence shown is the approximate position of proposed 1200mm(h) minimum childproof safety barrier with self gate in accordance with AS1926.1-2012 as adopted by the Swimming Pools Regulation 2008. The proposed pool enclosure has been designed to comply with the Australian standard, the swimming pools act and swimming pools regulation. Serenescapes Landscape Designs accepts no responsibility if changes during construction & installation cause any non-compliance.
3/ The boundary fence inside the pool zone must be a minimum height of 1800mm with a non climbable zone of 900mm on the inside of the fencing in accordance with the Australian Standard prescribed by the Swimming Pools Regulation 2008.
4) Any shrubs or plants located adjacent to the pool enclosure must be maintained for the lifetime of the development at a height that does not interfere with the required non climbable zones.
5) Any level changes (steps, walls, benches) must be a minimum of 500mm from a barrier used as part of the swimming pool enclosure.
Waste may discharge into branch
Loose disconnector gully grate
75mm air gap
Ground level
Concrete surround
Concrete support for disconnector gully
Pumped discharge from swimming pool
Overflow relief gully
N.T.S
Note: Overflow relief gully (ORG) to be constructed to AS/NZS 3500.
Legend
Boundary
Sewer
Existing contours
Proposed contours
Existing concrete
Existing turf
Existing site elements to be demolished
Proposed artificial turf
Proposed concrete
Proposed tiles
Stacking stones
Masonry retaining wall
Sandstone edge / retaining wall
Landscape Area Calculations
Scale 1:2000
Landscape Area Calculations Legend
Landscaped Open Space
Excluded From Landscaped Open Space
Rear Setback Area
Front setback line
Landscaped Open Space Calculations
Site Area: 10,273.20m²
Required Landscaped Open Space: 5,781.96m² (30%)
Existing Landscaped Open Space: 15,712.50m² (81.53%)
Proposed Landscaped Open Space: 15,153.22m² (78.62%)
Rear Setback Area - (10m from rear boundary):
No above or below ground structures with in this area. Compliant
Site Analysis Legend
Site vehicle entry
Prevailing wind
Waste storage area during construction phase
Materials storage area during construction phase
Sediment control device during construction phase
Proposed 'hard' works shown blue
COOYONG ROAD
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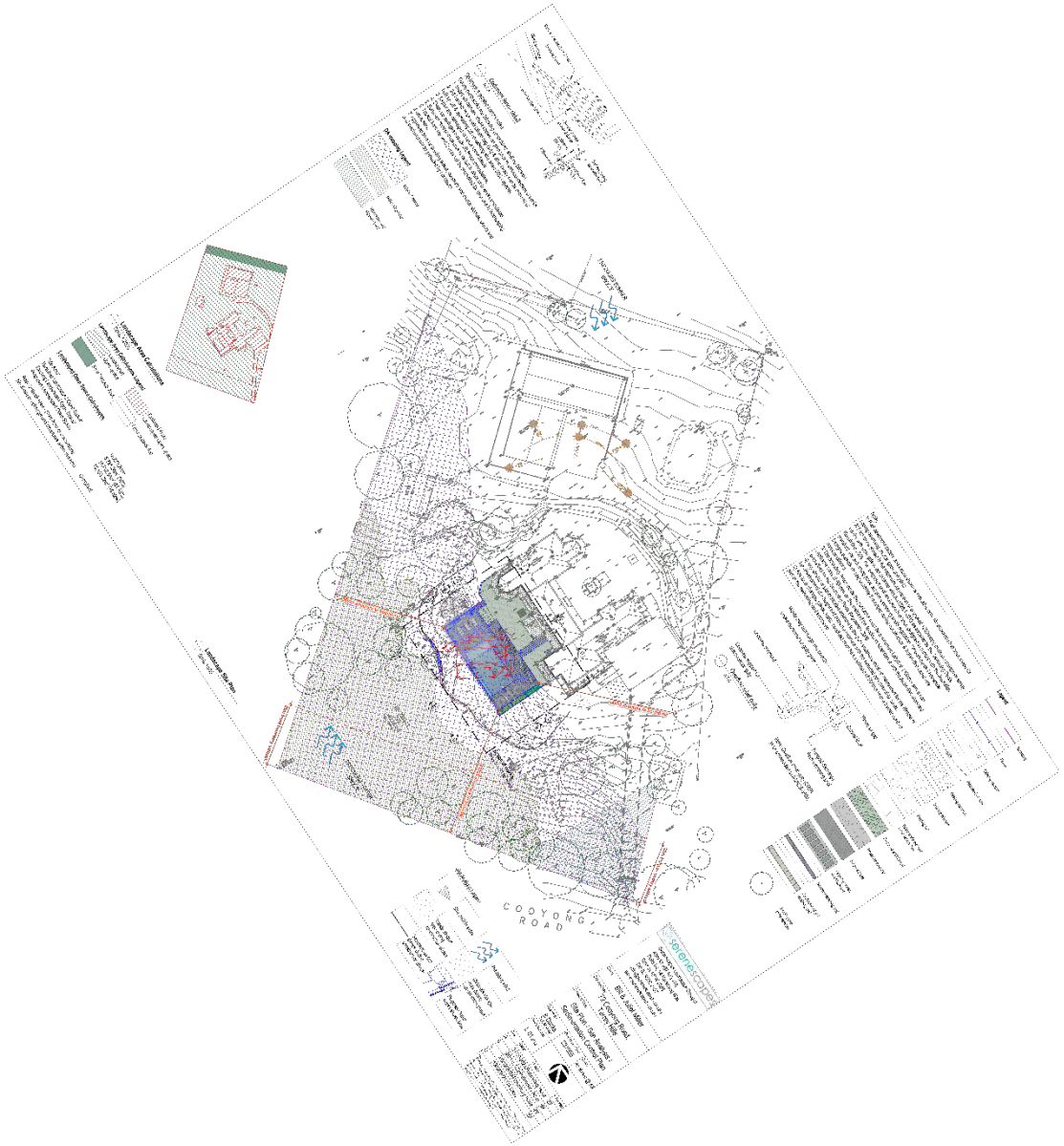
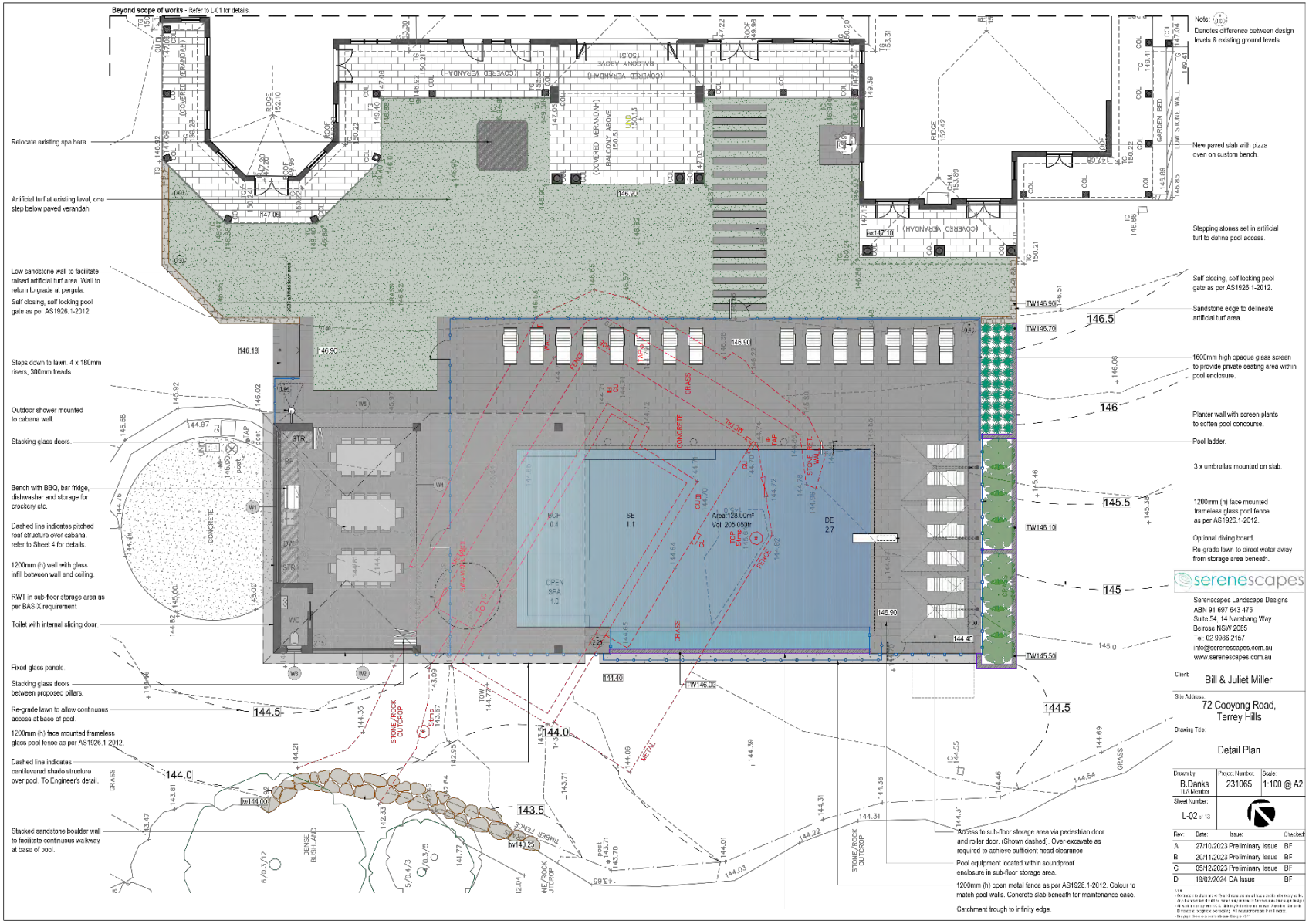
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Site Plan / Site Analysis / Sedimentation Control Plan
Drawn by: B.Danks NLA Member
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-01 of 13
Rev | Date | Issue: | Checked:
A | 27/10/2023 | Preliminary Issue | BF
B | 20/11/2023 | Preliminary Issue | BF
C | 05/12/2023 | Preliminary Issue | BF
D | 19/02/2024 | DA Issue | BF


COOYONG ROAD


Beyond scope of works - Refer to L-01 for details.
Relocate existing spa here.
Artificial turf at existing level, one step below paved verandah.
Low sandstone wall to facilitate raised artificial turf area. Wall to return to grade at pergola.
Self closing, self locking pool gate as per AS1926.1-2012.
Steps down to lawn. 4 x 180mm risers, 300mm treads.
Outdoor shower mounted to cabana wall.
Stacking glass doors.
Bench with BBQ, bar fridge, dishwasher and storage for crockery etc.
Dashed line indicates pitched roof structure over cabana. refer to Sheet 4 for details.
1200mm (h) wall with glass infill between wall and ceiling.
RWT in sub-floor storage area as per BASIX requirement
Toilet with internal sliding door
Fixed glass panels
Stacking glass doors between proposed pillars.
Re-grade lawn to allow continuous access at base of pool.
1200mm (h) face mounted frameless glass pool fence as per AS1926.1-2012.
Dashed line indicates cantilevered shade structure over pool. To Engineer's detail.
Stacked sandstone boulder wall to facilitate continuous walkway at base of pool.
Note: (0.00) Denotes difference between design levels & existing ground levels
New paved slab with pizza oven on custom bench.
Stepping stones set in artificial turf to define pool access.
Self closing, self locking pool gate as per AS1926.1-2012.
Sandstone edge to delineate artificial turf area.
1600mm high opaque glass screen to provide private seating area within pool enclosure.
Planter wall with screen plants to soften pool concourse.
Pool ladder.
3 x umbrellas mounted on slab.
1200mm (h) face mounted frameless glass pool fence as per AS1926.1-2012.
Optional diving board.
Re-grade lawn to direct water away from storage area beneath.
Access to sub-floor storage area via pedestrian door and roller door. (Shown dashed). Over excavate as required to achieve sufficient head clearance.
Pool equipment located within soundproof enclosure in sub-floor storage area.
1200mm (h) open metal fence as per AS1926.1-2012. Colour to match pool walls. Concrete slab beneath for maintenance ease.
Catchment trough to infinity edge.
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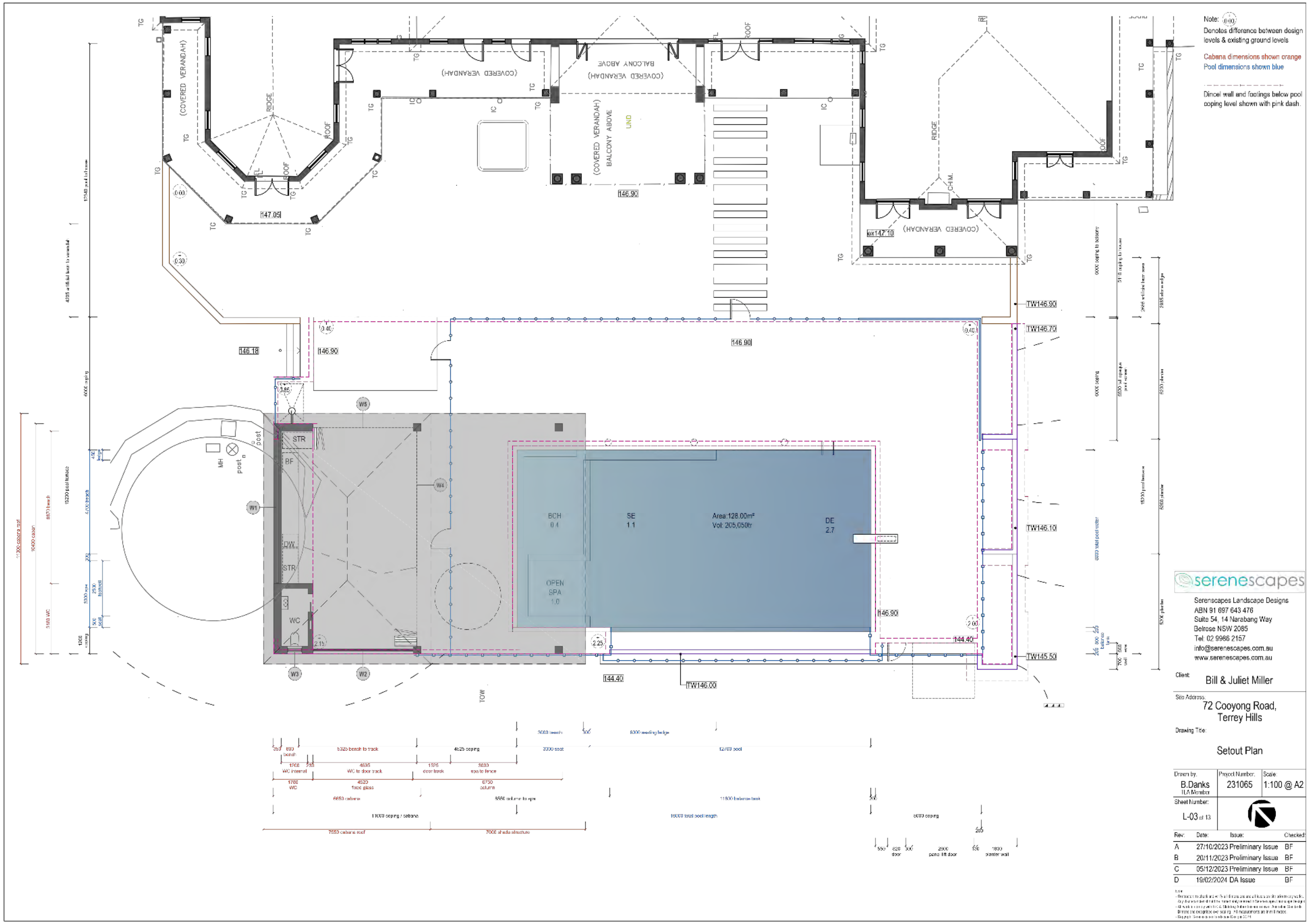
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Detail Plan
Drawn by: B.Danks ILA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-02 of 13
Rev | Date | Issue | Checked
A | 27/10/2023 | Preliminary Issue | BF
B | 20/11/2023 | Preliminary Issue | BF
C | 05/12/2023 | Preliminary Issue | BF
D | 19/02/2024 | DA Issue | BF


Note:
Denotes difference between design levels & existing ground levels
Cabana dimensions shown orange
Pool dimensions shown blue
Dincel wall and footings below pool coping level shown with pink dash
(COVERED VERANDAH)
BALCONY ABOVE
RIDGE
ROOF
CHIM.
147.05
146.90
146.18
ex147.10
TW146.90
TW146.70
TW146.10
TW145.50
TW146.00
144.40
STR
BF
DW
WC
W1
W2
W3
W4
W5
MH
BCH
0.4
SE
1.1
Area:128.00m²
Vol: 205,050ltr
DE
2.7
OPEN
SPA
1.0
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Client:
Bill & Juliet Miller
Site Address:
72 Cooyong Road,
Terrey Hills
Drawing Title:
Setout Plan
Drawn by:
B.Danks
Project Number:
231065
Scale:
1:100 @ A2
Sheet Number:
L-03
Rev: Date: Issue: Checked:
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B 20/11/2023 Preliminary Issue BF
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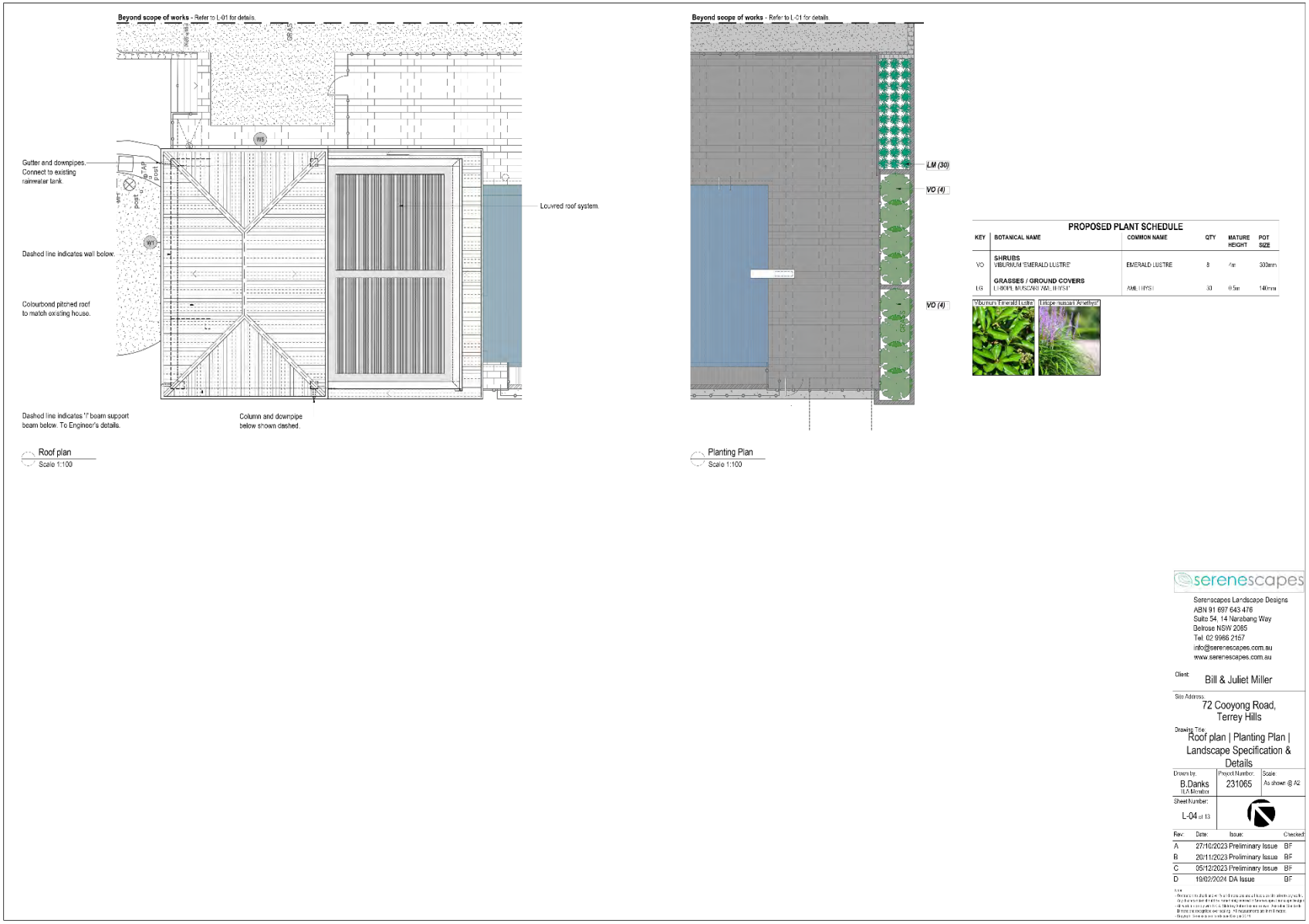
D 19/02/2024 DA Issue BF


Beyond scope of works - Refer to L-01 for details.
Gutter and downpipes. Connect to existing rainwater tank.
Dashed line indicates wall below.
Colourbond pitched roof to match existing house.
Louvred roof system.
Dashed line indicates 'I' beam support beam below. To Engineer's details.
Column and downpipe below shown dashed.
Roof plan
Scale 1:100
Beyond scope of works - Refer to L-01 for details.
LM (30)
VO (4)
VO (4)
Planting Plan
Scale 1:100
PROPOSED PLANT SCHEDULE
KEY | BOTANICAL NAME | COMMON NAME | QTY | MATURE HEIGHT | POT SIZE
VO | SHRUBS VIBURNUM 'EMERALD LUSTRE' | EMERALD LUSTRE | 8 | 4m | 300mm
LG | GRASSES / GROUND COVERS LIRIOPE MUSCARI 'ARIL HYST' | ARIL HYST | 30 | 0.5m | 140mm
Viburnum 'Emerald Lustre'
Liriope muscari 'Amethyst'
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road, Terrey Hills
Drawing Title: Roof plan | Planting Plan | Landscape Specification & Details
Drawn by: B.Danks ILA Member
Project Number: 231065
Scale: As shown @ A2
Sheet Number: L-04 of 13
Rev | Date | Issue | Checked
A | 27/10/2023 | Preliminary Issue | BF
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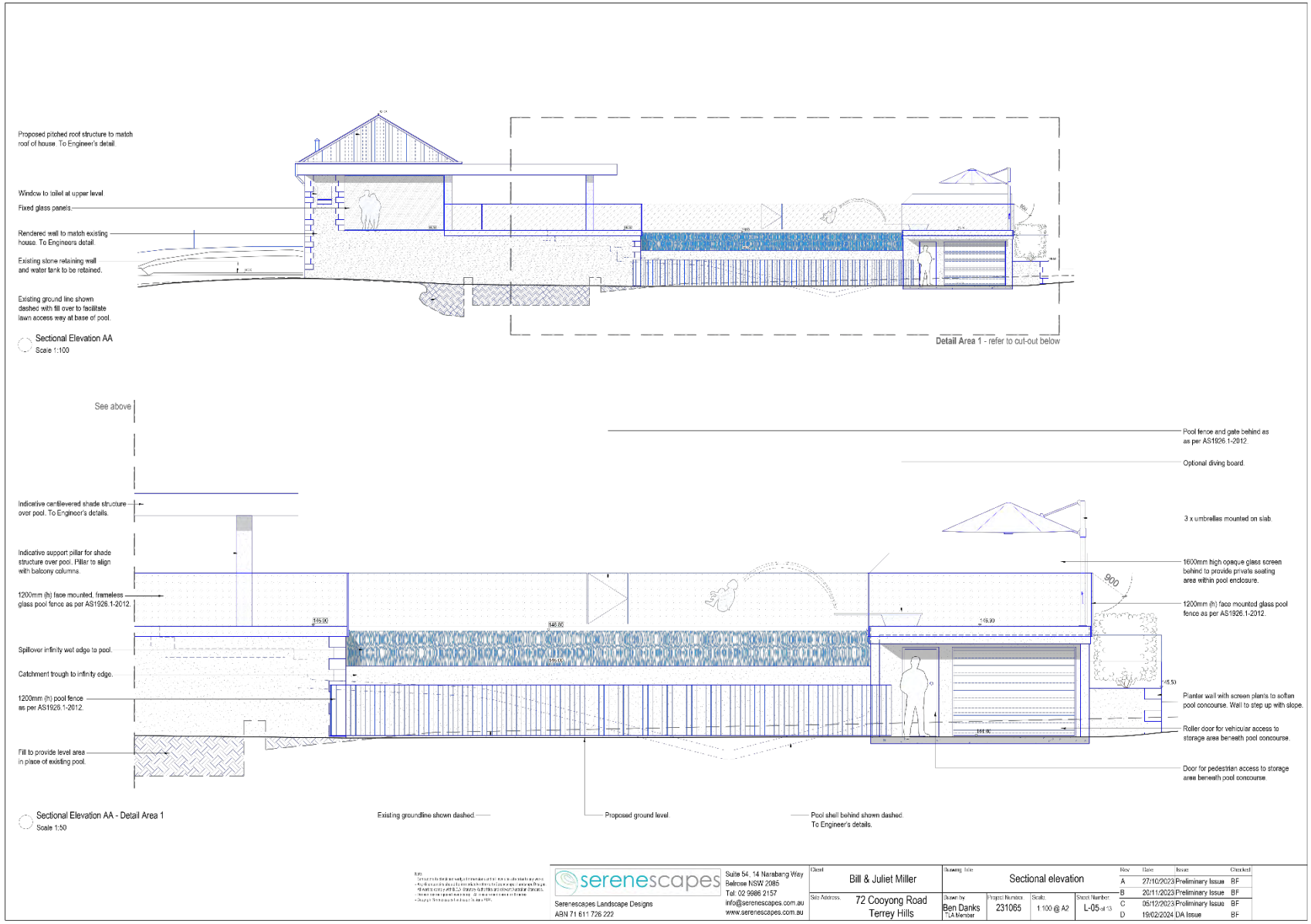
Proposed pitched roof structure to match roof of house. To Engineer's detail.
Window to toilet at upper level.
Fixed glass panels.
Rendered wall to match existing house. To Engineers detail.
Existing stone retaining wall and water tank to be retained.
Existing ground line shown dashed with fill over to facilitate lawn access way at base of pool.
Sectional Elevation AA
Scale 1:100
Detail Area 1 - refer to cut-out below
See above
Indicative cantilevered shade structure over pool. To Engineer's details.
Indicative support pillar for shade structure over pool. Pillar to align with balcony columns.
1200mm (h) face mounted, frameless glass pool fence as per AS1926.1-2012.
Spillover infinity wet edge to pool.
Catchment trough to infinity edge.
1200mm (h) pool fence as per AS1926.1-2012.
Fill to provide level area in place of existing pool.
Pool fence and gate behind as as per AS1926.1-2012.
Optional diving board.
3 x umbrellas mounted on slab.
1600mm high opaque glass screen behind to provide private seating area within pool enclosure.
1200mm (h) face mounted glass pool fence as per AS1926.1-2012.
Planter wall with screen plants to soften pool concourse. Wall to step up with slope.
Roller door for vehicular access to storage area beneath pool concourse.
Door for pedestrian access to storage area beneath pool concourse.
Sectional Elevation AA - Detail Area 1
Scale 1:50
Existing groundline shown dashed.
Proposed ground level.
Pool shell behind shown dashed. To Engineer's details.
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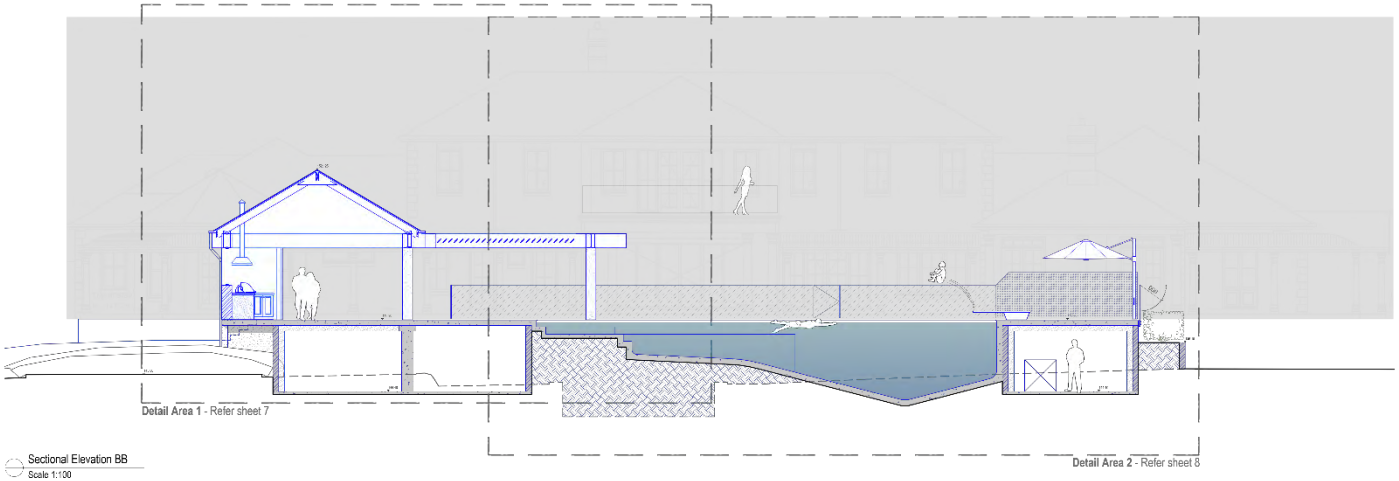
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-05
Rev A 27/10/2023 Preliminary Issue BF
Rev B 20/11/2023 Preliminary Issue BF
Rev C 05/12/2023 Preliminary Issue BF
Rev D 19/02/2024 DA Issue BF



Sectional Elevation BB
Scale 1:100

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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-06 of 13

Rev	Date	Issue	Checked
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C	05/12/2023	Preliminary Issue	BF
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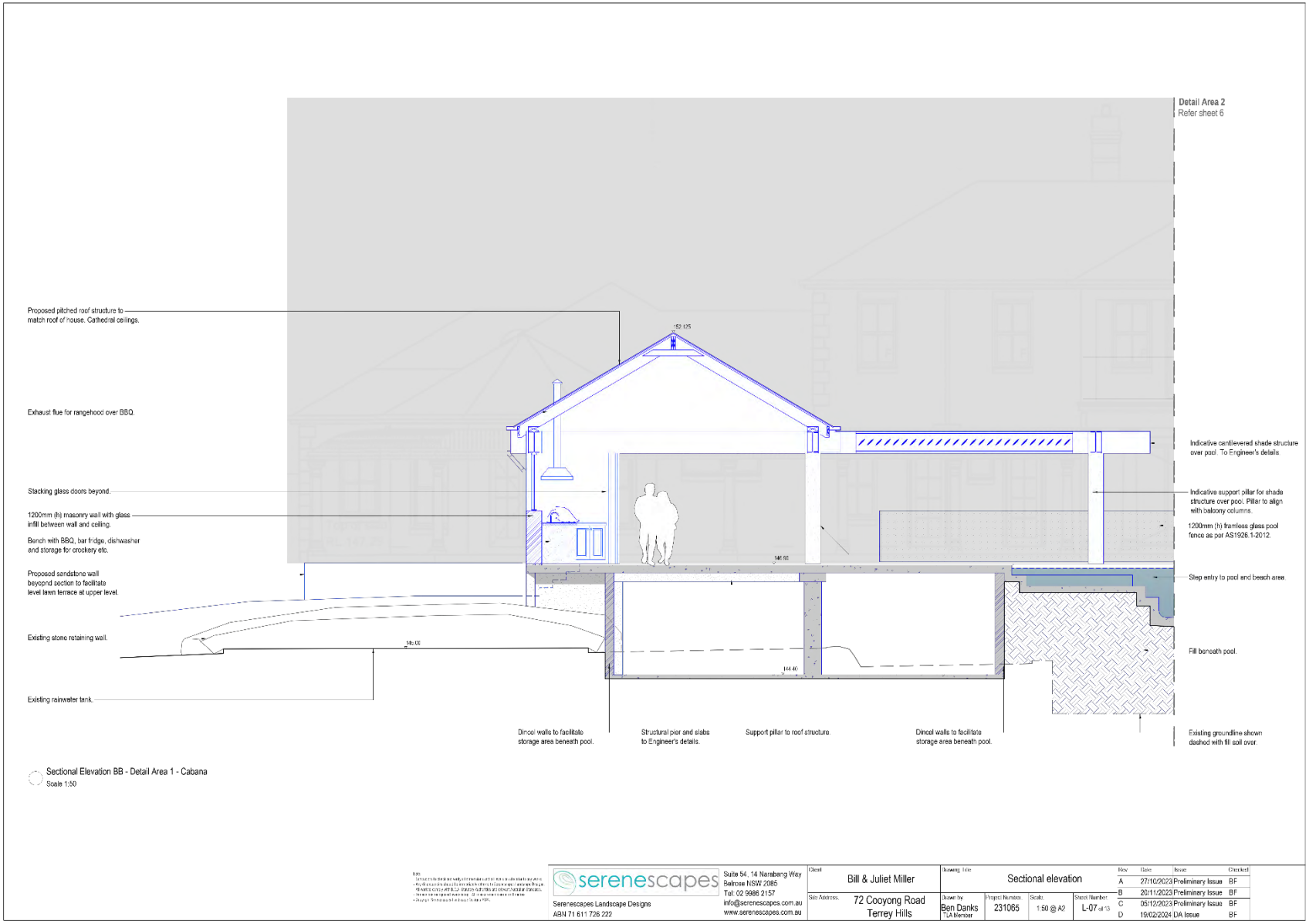
Detail Area 2
Refer sheet 6
Proposed pitched roof structure to match roof of house. Cathedral ceilings.
Exhaust flue for rangehood over BBQ.
Stacking glass doors beyond.
1200mm (h) masonry wall with glass infill between wall and ceiling.
Bench with BBQ, bar fridge, dishwasher and storage for crockery etc.
Proposed sandstone wall beyopnd section to facilitate level lawn terrace at upper level.
Existing stone retaining wall.
Existing rainwater tank.
Indicative cantilevered shade structure over pool. To Engineer's details.
Indicative support pillar for shade structure over pool. Pillar to align with balcony columns.
1200mm (h) frameless glass pool fence as per AS1926.1-2012.
Step entry to pool and beach area.
Fill beneath pool.
Existing groundline shown dashed with fill soil over.
Dincel walls to facilitate storage area beneath pool.
Structural pier and slabs to Engineer's details.
Support pillar to roof structure.
Dincel walls to facilitate storage area beneath pool.
Sectional Elevation BB - Detail Area 1 - Cabana
Scale 1:50
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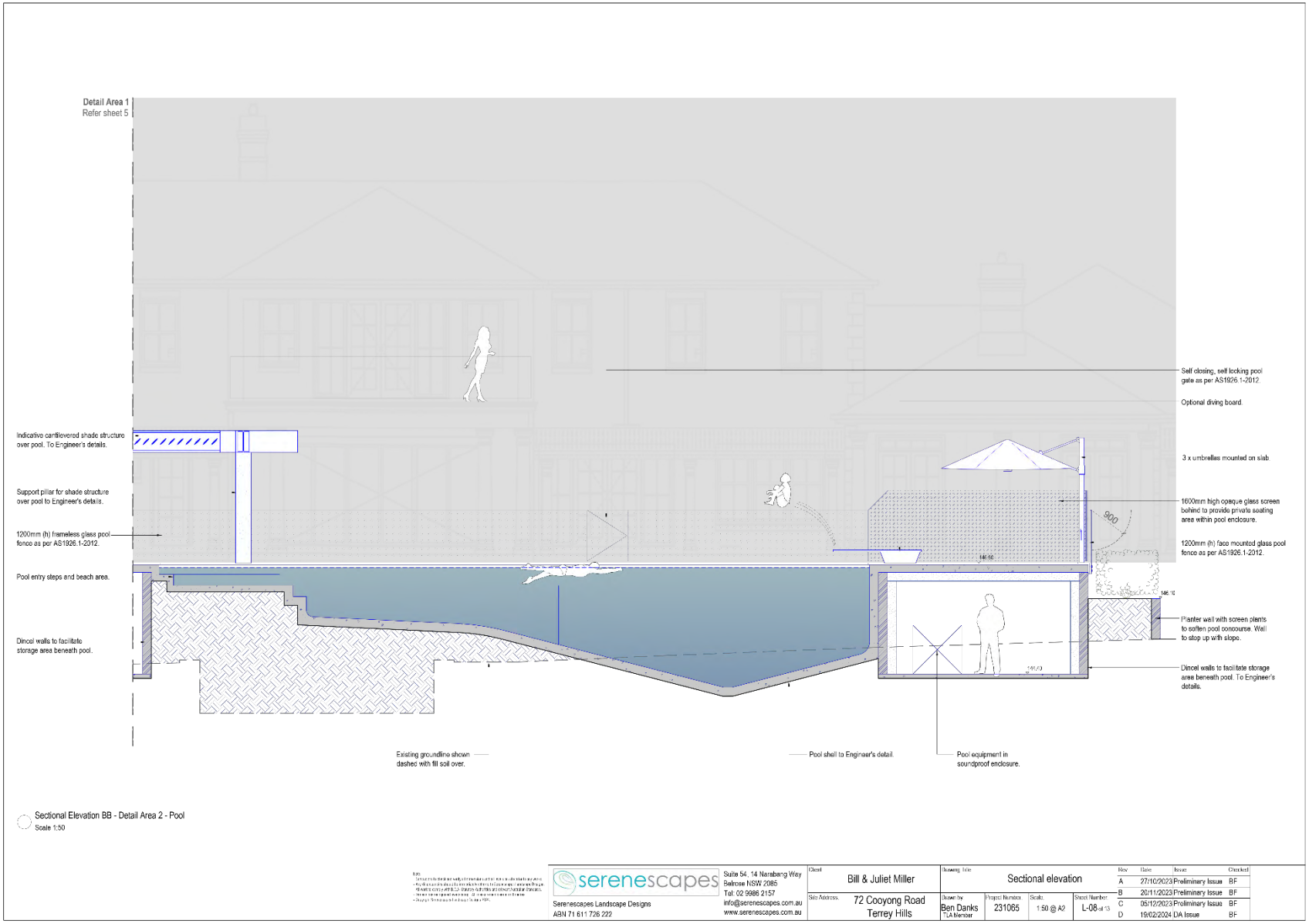
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: 1:50 @ A2
Sheet Number: L-07 of 13
Rev A 27/10/2023 Preliminary Issue BF
Rev B 20/11/2023 Preliminary Issue BF
Rev C 05/12/2023 Preliminary Issue BF
Rev D 19/02/2024 DA Issue BF



Sectional Elevation BB - Detail Area 2 - Pool
Scale 1:50

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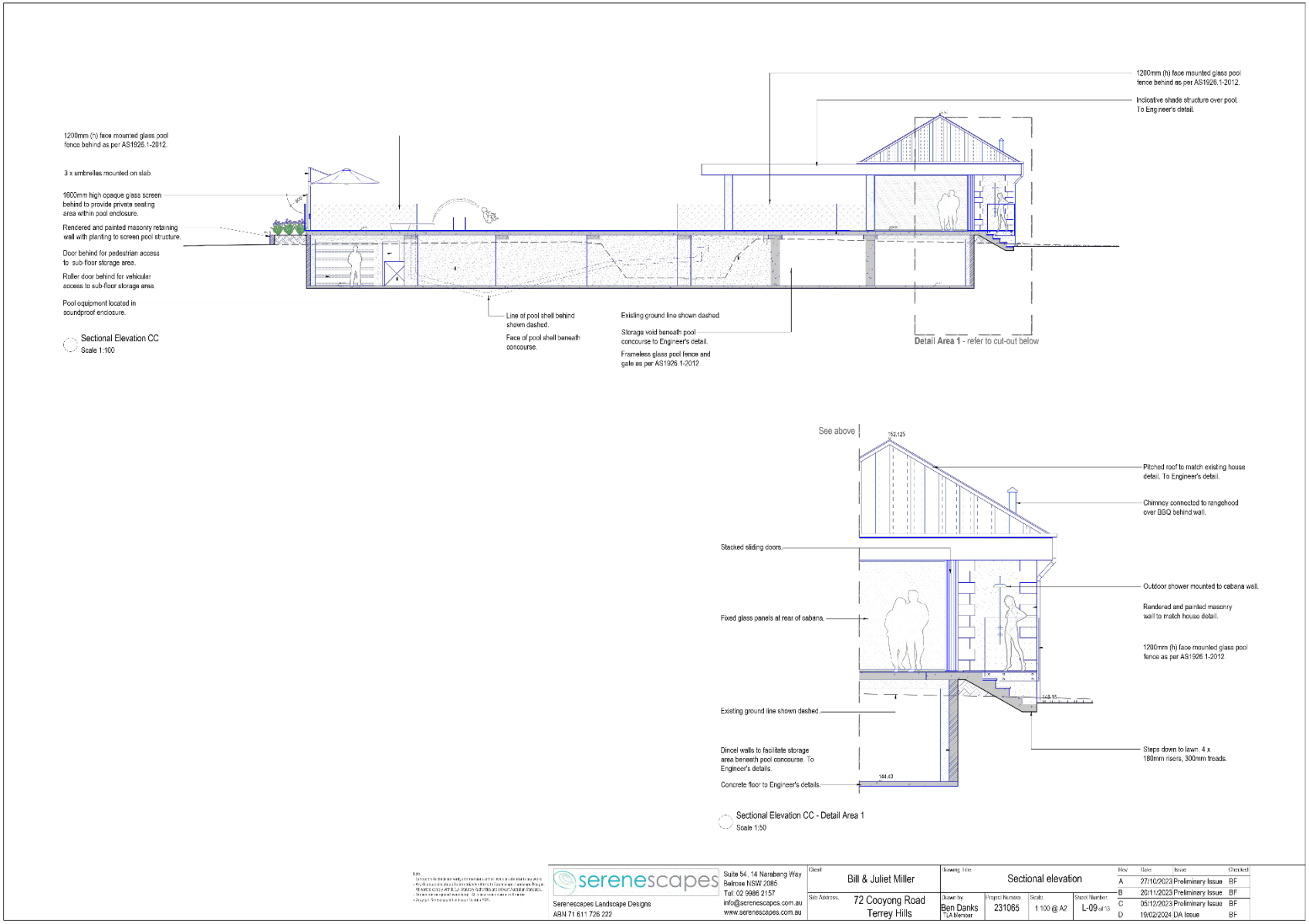
Client	Bill & Juliet Miller
Site Address	72 Cooyong Road Terrey Hills
Drawing Title	Sectional elevation
Drawn by	Ben Danks TLA Member
Project Number	231065
Scale	1:50 @ A2
Sheet Number	L-08 of 13

Rev	Date	Issue	Checked
A	27/10/2023	Preliminary Issue	BF
B	20/11/2023	Preliminary Issue	BF
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF


1200mm (h) face mounted glass pool fence behind as per AS1926.1-2012.
3 x umbrellas mounted on slab
1800mm high opaque glass screen behind to provide private seating area within pool enclosure.
Rendered and painted masonry retaining wall with planting to screen pool structure.
Door behind for pedestrian access to sub-floor storage area.
Roller door behind for vehicular access to sub-floor storage area.
Pool equipment located in soundproof enclosure.
Sectional Elevation CC
Scale 1:100
1200mm (h) face mounted glass pool fence behind as per AS1926.1-2012.
Indicative shade structure over pool. To Engineer's detail.
Line of pool shell behind shown dashed.
Face of pool shell beneath concourse.
Existing ground line shown dashed.
Storage void beneath pool concourse to Engineer's detail.
Frameless glass pool fence and gate as per AS1926.1-2012
Detail Area 1 - refer to cut-out below
See above
152.125
Pitched roof to match existing house detail. To Engineer's detail.
Chimney connected to rangehood over BBQ behind wall.
Stacked sliding doors.
Outdoor shower mounted to cabana wall.
Fixed glass panels at rear of cabana.
Rendered and painted masonry wall to match house detail.
1200mm (h) face mounted glass pool fence as per AS1926.1-2012.
Existing ground line shown dashed.
Dincel walls to facilitate storage area beneath pool concourse. To Engineer's details.
Concrete floor to Engineer's details.
144.43
Steps down to lawn. 4 x 180mm risers, 300mm treads.
Sectional Elevation CC - Detail Area 1
Scale 1:50
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: 1:100 @ A2
Sheet Number: L-09 of 13
Rev | Date | Issue | Checked
A | 27/10/2023 | Preliminary Issue | BF
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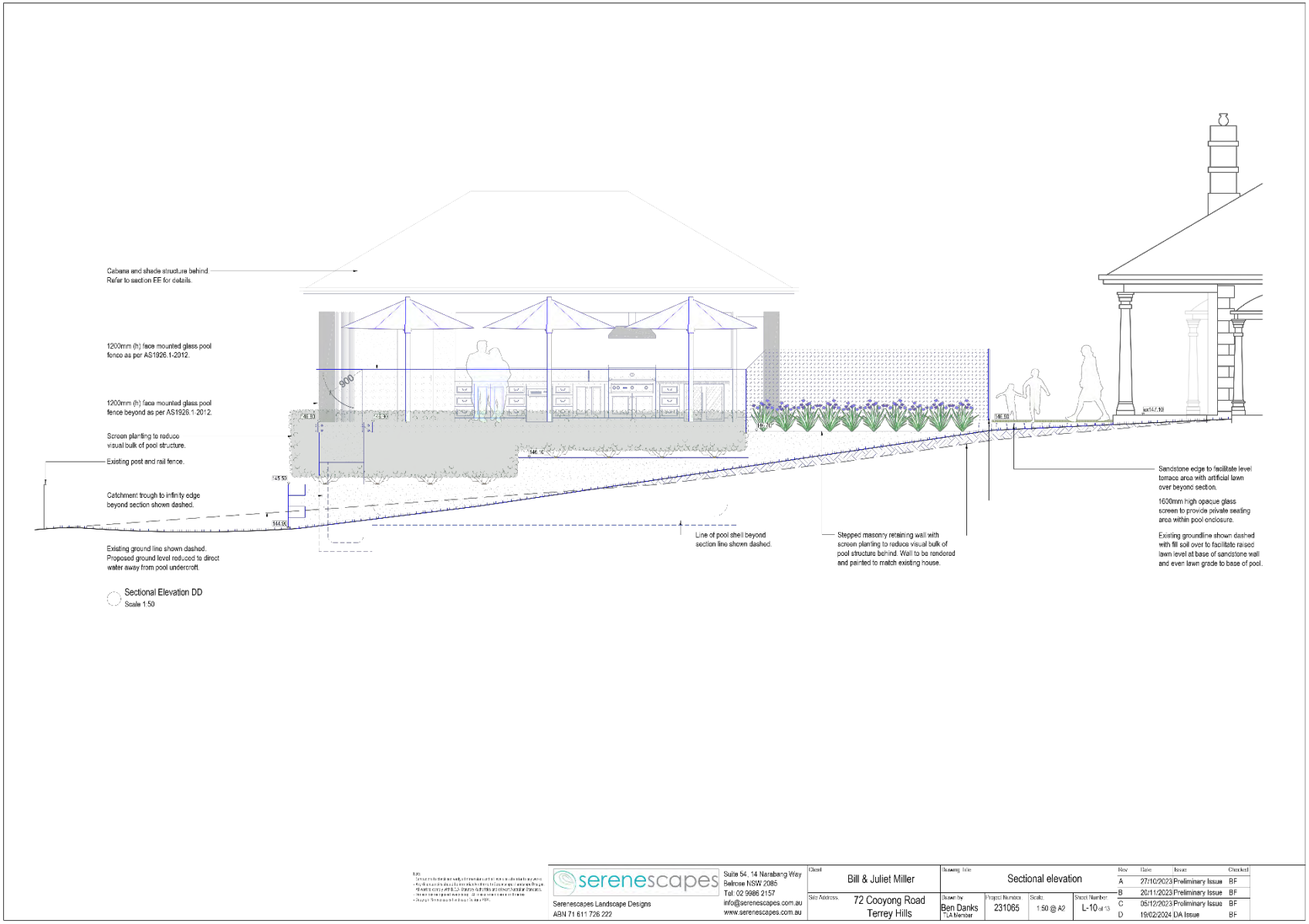
C | 05/12/2023 | Preliminary Issue | BF
D | 19/02/2024 | DA Issue | BF



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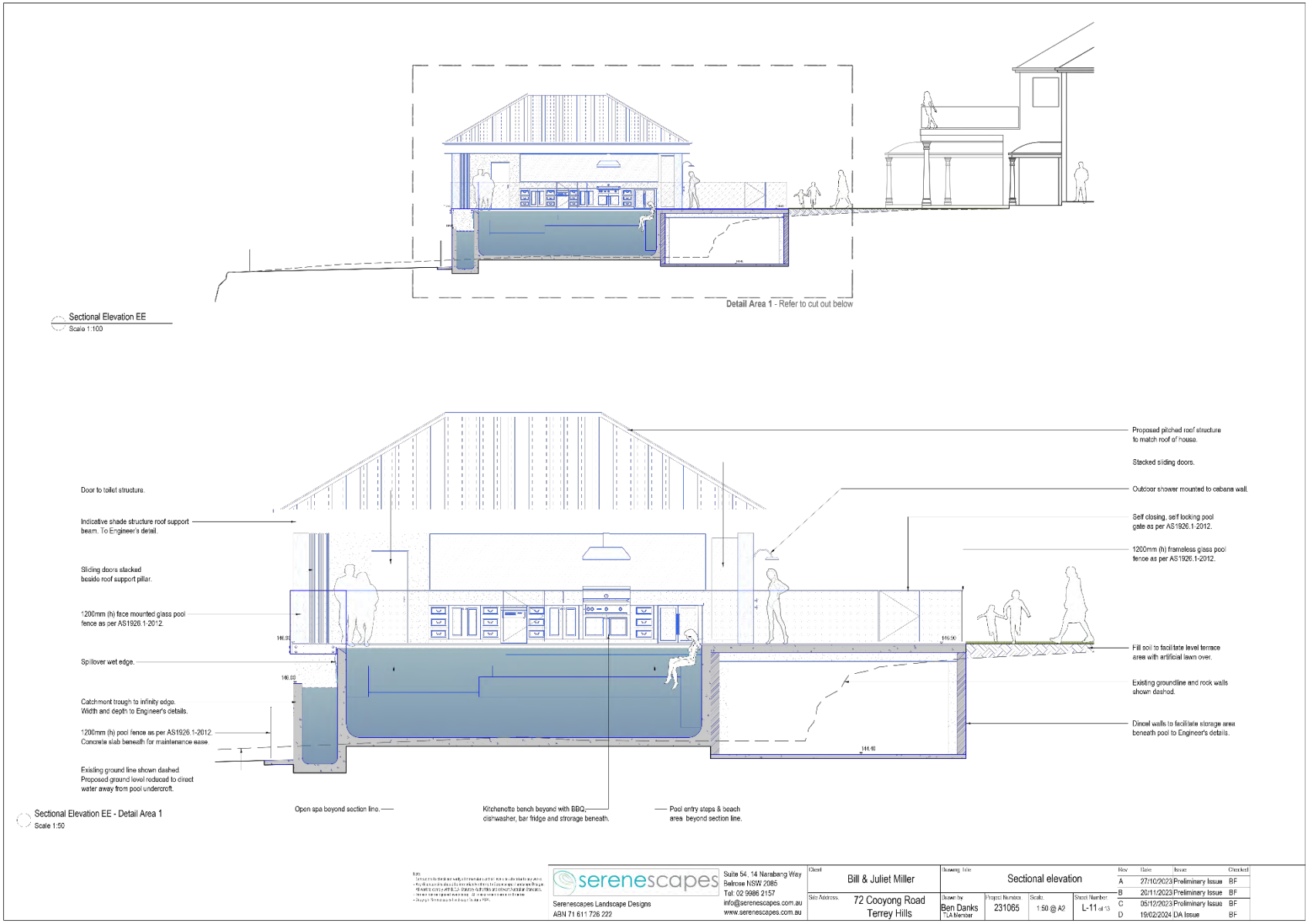
Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: 1:50 @ A2
Sheet Number: L-10 of 13

Rev	Date	Issue	Checked
A	27/10/2023	Preliminary Issue	BF
B	20/11/2023	Preliminary Issue	BF
C	05/12/2023	Preliminary Issue	BF
D	19/02/2024	DA Issue	BF


Detail Area 1 - Refer to cut out below
Sectional Elevation EE
Scale 1:100
Door to toilet structure.
Indicative shade structure roof support beam. To Engineer's detail.
Sliding doors stacked beside roof support pillar.
1200mm (h) face mounted glass pool fence as per AS1926.1-2012.
Spillover wet edge.
Catchment trough to infinity edge. Width and depth to Engineer's details.
1200mm (h) pool fence as per AS1926.1-2012. Concrete slab beneath for maintenance ease.
Existing ground line shown dashed. Proposed ground level reduced to direct water away from pool undercroft.
Proposed pitched roof structure to match roof of house.
Stacked sliding doors.
Outdoor shower mounted to cabana wall.
Self closing, self locking pool gate as per AS1926.1-2012.
1200mm (h) frameless glass pool fence as per AS1926.1-2012.
Fill soil to facilitate level terrace area with artificial lawn over.
Existing groundline and rock walls shown dashed.
Dincel walls to facilitate storage area beneath pool to Engineer's details.
Open spa beyond section line.
Kitchenette bench beyond with BBQ, dishwasher, bar fridge and storage beneath.
Pool entry steps & beach area beyond section line.
Sectional Elevation EE - Detail Area 1
Scale 1:50
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Client: Bill & Juliet Miller
Site Address: 72 Cooyong Road Terrey Hills
Drawing Title: Sectional elevation
Drawn by: Ben Danks TLA Member
Project Number: 231065
Scale: 1:50 @ A2
Sheet Number: L-11 of 13
Rev | Date | Issue | Checked
A | 27/10/2023 | Preliminary Issue | BF
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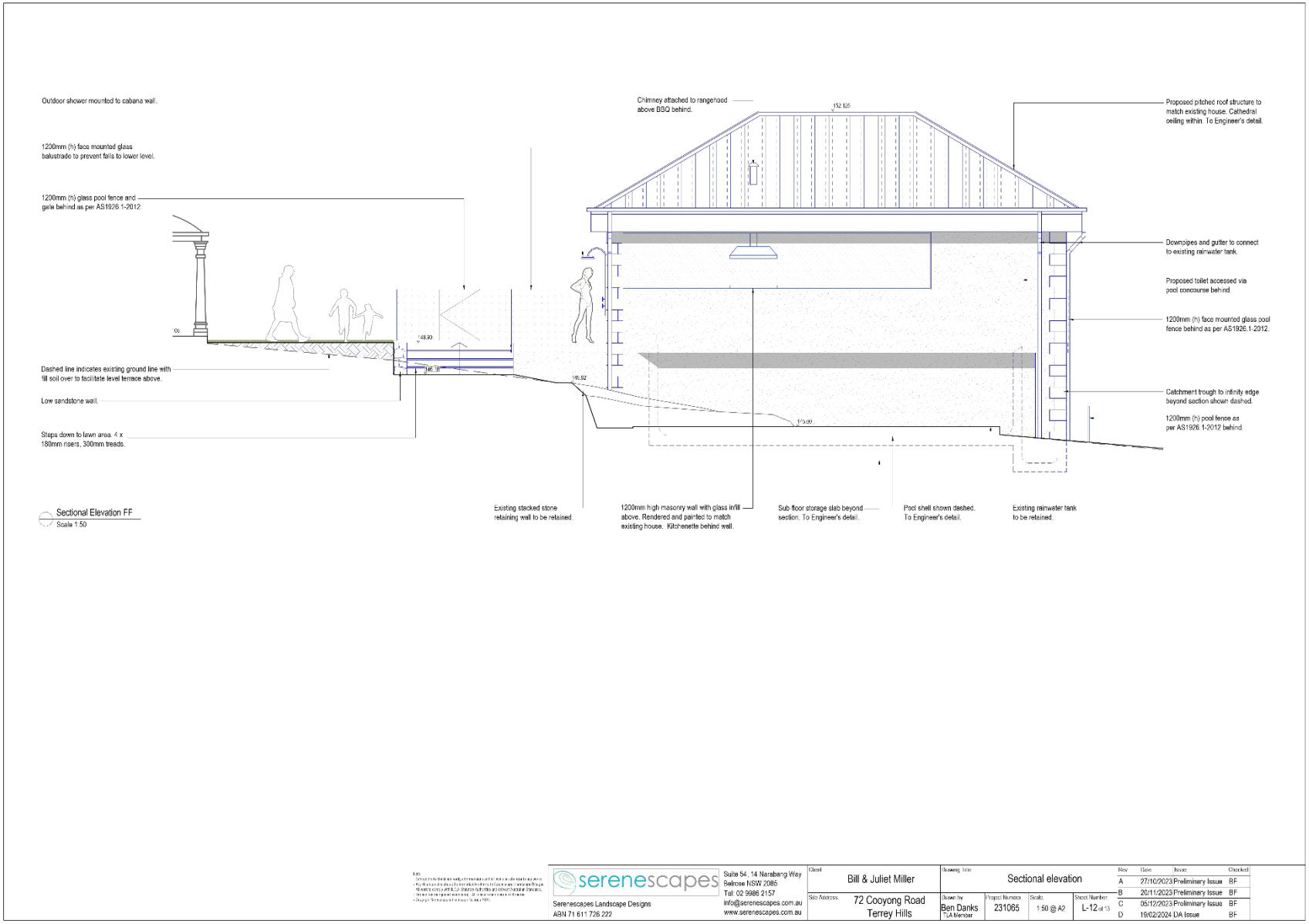

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BASIX REQUIREMENTS

RAINWATER TANK
THE APPLICANT MUST INSTALL A RAINWATER TANK OF AT LEAST 13,846.88 LITRES ON THE SITE. THIS RAINWATER TANK MUST MEET, AND BE INSTALLED IN ACCORDANCE WITH, THE REQUIREMENTS OF ALL APPLICABLE REGULATORY AUTHORITIES.
THE APPLICANT MUST CONFIGURE THE RAINWATER TANK TO COLLECT RAINWATER RUNOFF FROM AT LEAST 1,135 SQUARE METRES OF ROOF AREA.
THE APPLICANT MUST CONNECT THE RAINWATER TANK TO A TAP LOCATED WITHIN 10 METRES OF THE EDGE OF THE POOL.

OUTDOOR SWIMMING POOL
THE SWIMMING POOL MUST BE OUTDOORS.
THE SWIMMING POOL MUST NOT HAVE A CAPACITY GREATER THAN 205.05 KILOLITRES.
THE SWIMMING POOL MUST HAVE A POOL COVER.
THE APPLICANT MUST INSTALL A POOL PUMP TIMER FOR THE SWIMMING POOL.

FIXTURES AND SYSTEMS
HOT WATER
THE APPLICANT MUST INSTALL THE FOLLOWING HOT WATER SYSTEM IN THE DEVELOPMENT: GAS STORAGE.
LIGHTING -
THE APPLICANT MUST ENSURE A MINIMUM OF 40% OF NEW OR ALTERED LIGHT FIXTURES ARE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT OR LIGHT-EMITTING-DIODE (LED) LAMPS.
FIXTURES -
THE APPLICANT MUST ENSURE NEW OR ALTERED SHOWERHEADS HAVE A FLOW RATE OF NO GREATER THAN 9 LITRES PER MINUTE OR A 3 STAR WATER RATING.
THE APPLICANT MUST ENSURE NEW OR ALTERED TOILETS HAVE A FLOW RATE NO GREATER THAN 4 LITRES PER AVERAGE FLUSH OR A MINIMUM 3 STAR WATER RATING.
THE APPLICANT MUST ENSURE NEW OR ALTERED TAPS HAVE A FLOW RATE NO GREATER THAN 9 LITRES PER MINUTE OR MINIMUM 3 STAR WATER RATING.

CONSTRUCTION
INSULATION REQUIREMENTS -
THE APPLICANT MUST CONSTRUCT THE NEW OR ALTERED (FLOOR(S), WALLS AND CEALINGS/ROOFS) IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN THE TABLE BELOW, EXCEPT THAT A) ADDITIONAL INSULATION IS NOT REQUIRED WHERE THE AREA OF NEW CONSTRUCTION IS LESS THAN 2M², B) INSULATION SPECIFIED IS NOT REQUIRED FOR PARTS OF ALTERED CONSTRUCTION WHERE INSULATION ALREADY EXISTS.

CONSTRUCTION - SUSPENDED FLOOR WITH ENCLOSED SUBFLOOR: CONCRETE (R0.6).
ADDITIONAL INSULATION REQUIRED - R0.70 (DOWN) (OR R1.30 INCLUDING CONSTRUCTION)

CONSTRUCTION - RAKED CEILING, PITCHED/SKILLION ROOF: FRAMED
ADDITIONAL INSULATION REQUIRED - CEILING: R3.00 (UP), ROOF: FOIL/SARKING
OTHER SPECIFICATIONS - MEDIUM (SOLAR ABSORPTANCE 0.475 - 0.70)

GLAZING REQUIREMENTS
WINDOWS & GLAZED DOORS

THE APPLICANT MUST INSTALL THE WINDOWS, GLAZED DOORS AND SHADING DEVICES, IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN THE TABLE BELOW. RELEVENT OVERSHADOWING SPECIFICATIONS MUST BE SATISFIED FOR EACH WINDOW AND GLAZED DOOR.

THE FOLLOWING REQUIREMENTS MUST ALSO BE SATISFIED IN RELATION TO EACH WINDOW AND GLAZED DOOR:

EACH WINDOW OR GLAZED DOOR WITH STANDARD ALUMINIUM OR TIMBER FRAMES AND SINGLE CLEAR OR TONED GLASS MAY EITHER MATCH THE DESCRIPTION, OR, HAVE A U-VALUE AND A SOLAR HEAT GAIN COEFFICIENT (SHGC) NO GREATER THAN THAT LISTED IN THE TABLE BELOW. TOTAL SYSTEM U-VALUES AND SHGC'S MUST BE CALCULATED IN ACCORDANCE WITH NATIONAL FENESTRATION RATING COUNCIL (NFRC) CONDITIONS.

EACH WINDOW OR GLAZED DOOR WITH IMPROVED FRAMES OR PYROLTIC LOW-E GLASS, OR CLEAR/AIR GAP/CLEAR GLAZING, OR TONED/AIR GAP/CLEAR GLAZING MUST HAVE A U-VALUE AND A SOLAR HEAT GAIN COEFFICIENT (SHGC) NO GREATER THAN THAT LISTED IN THE TABLE BELOW. TOTAL SYSTEM U-VALUES AND SHGC'S MUST BE CALCULATED IN ACCORDANCE WITH NATIONAL FENESTRATION RATING COUNCIL (NFRC) CONDITIONS. THE DESCRIPTION IS PROVIDED FOR INFORMATION ONLY. ALTERNATIVE SYSTEMS WITH COMPLYING U-VALUE AND SHGC MAY BE SUBSTITUTED.

FOR PROJECTIONS DESCRIBED IN MILLIMETRES, THE LEADING EDGE OF EACH EAVE, PERGOLA, VERANDAH, BALCONY OR AWNING MUST BE NO MORE THAN 500mm ABOVE THE HEAD OF THE WINDOW OR GLAZED DOOR AND NO MORE THAN 2400mm ABOVE THE SILL.

PERGOLAS WITH FIXED BATTENS MUST HAVE BATTENS PARALLEL TO THE WINDOW OR GLAZED DOOR ABOVE WHICH THEY ARE SITUATED, UNLESS THE PERGOLA ALSO SHADES A PERPENDICULAR WINDOW. THE SPACING BETWEEN BATTENS MUST NOT BE MORE THAN 50mm.

PERGOLAS WITH ADJUSTABLE SHADING MAY HAVE ADJUSTABLE BLADES OR REMOVABLE SHADE CLOTH (NOT LESS THAN 80% SHADING RATIO). ADJUSTABLE BLADES MUST OVERLAP IN PLAN VIEW.

OVERSHADOWING BUILDINGS OR VEGETATION MUST BE OF THE HEIGHT & DISTANCE FROM THE CENTRE AND THE BASE OF THE WINDOW AND GLAZED DOORS, AS SPECIFIED IN THE 'OVERSHADOWING COLUMN IN THE ADJACENT TABLE.

WINDOW AND GLAZED DOORS GLAZING REQUIREMENTS

Window/door number	Orientation	Area of glass including frame (m2)	Overshadowing height (m)	Overshadowing distance (m)	Shading device	Frame and glass type
W1	N	9	6	11	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single pyrolytic low e, (U value: 5.7, SHGC: 0.47)
W2	W	11.3	12	9	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)
W3	W	0.4	12	9	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)
W4	S	24.25	0	0	pergola (adjustable shade) >=900 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)
W5	E	11	6	14	eave/ verandah/ pergola/balcony >=450 mm	standard aluminium, single pyrolytic low-e, (U-value: 5.7, SHGC: 0.47)

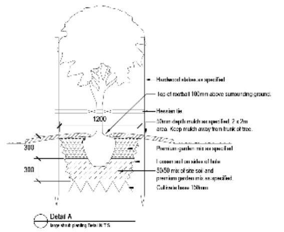
LANDSCAPE SPECIFICATION NOTES

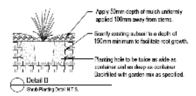
SITE PREPARATION
Locate any underground and overground services & ensure no damage occurs. Levels on plan are nominal only & all dimensions to be checked on site prior to commencement. Final structural integrity of all items shall be the sole responsibility of landscape contractor.
PROTECTION OF EXISTING TREES:
All tree protection is to be undertaken in accordance with the guidelines provided in AS4970-2009 Protection of trees on development sites.
Prior to construction, the builder shall erect tree protection fencing for each protected tree. Tree protection fencing setbacks are to be determined by multiplying the diameter at breast height by twelve (12).
Fencing is to consist of Chain wire mesh panels at least 1.8m in height, anchored with concrete feet.
Signage stating "Tree Protection Zone – No Access" is to be displayed on the fencing.
According to AS 4970-2009, activities excluded from the TPZ include but are not limited to;
- machine excavation including trenching
- excavation for silt fencing
- cultivation
- storage
- preparation of chemicals, including preparation of cement products
- parking of vehicles and plant and/or refuelling
- dumping of waste and/or wash down and cleaning of equipment
- soil level changes and/or placement of fill
- lighting of fires
- temporary or permanent installation of utilities and signs
- physical damage to the tree.

REMOVAL OF EXISTING TREES
All trees to be removed shall be carried out by a qualified arborist and work shall conform to the provisions of AS4373-2007 Australian Standards for The Pruning of Amenity Trees.
ELIMINATE WEEDS
Remove all existing weeds by hand, wiping or spraying with a glyphosate based herbicide. Weed control shall never be performed by mechanical cultivation or by scraping. Herbicide spraying is to be used to eliminate all existing weeds 30 days prior to planting.

EXCAVATION & SUB SOIL PREPARATION
Excavate garden beds to the depth required and rip or scarify base & sides of pit to a minimum depth of 150mm.
SUB SOIL DRAINAGE
Install drainage layer where there is surface water runoff draining into garden bed areas & where the existing sub-soil has more than 50% clay composition & there is a risk of subsurface water ponding.
Install perforated corrugated ag. line 75-100mm Dia. with geotextile filter sock & backfill to a minimum 200mm using free draining material, reclaimed/recycled where available. Direct flows at a minimum 0.5% fall to sw system. In areas isolated from stormwater system excavate & backfill an appropriate water dispersion pit.
REUSE EXISTING TOPSOIL
Existing site topsoil should be salvaged & appropriately stockpiled where possible.
IMPORTED TOPSOIL
Quality System: AS 4419 or as specified below.
Turf Areas: 'Turf Underlay' as supplied by, ANL p: 02 9450 1444 or approved alternative.
Tree Pit and Shrub Planting: 'Premium Garden Mix' as supplied by, ANL p: 02 9450 1444 or approved alternative.
Planting in Planter Boxes: Soil mix A - 'Planter Box Mix', Soil mix B - Washed River Sand as supplied by, ANL p: 02 9450 1444 or approved alternative.
PLANTING
Health & Vigour: Supply plants with foliage size, texture & colour consistent with that shown in healthy specimens of the species. Crowns must contain no epicormic shoots or dieback.
Balance of Crown: Supply plants with max. variation in crown bulk on opposite sides of stem axis, +/- 20%
All plants supplied should be consistent with the guidelines provided in AS2303-2015 Tree stock for landscape use.
STAKING
Install 2 x 1800mm 40x40 hardwood timber stakes with hessian ties to all trees. Provide appropriate support considering exposure to prevailing winds. Stakes and hessian ties to be removed as soon as the tree is self supporting.

IRRIGATION SYSTEM
New dripline irrigation system to be installed with backflow preventer and with timers. Irrigation system to be designed and installed to local codes.
The entire irrigation system shall be fully automated and provide drip irrigation to all tree, shrub and ground cover zones. It is the Contractor's responsibility to verify water pressure available and determine all design-built parameters prior to any installation and sizing of irrigation components. Irrigation system to be connected to water tank to supplement water from mains.
MULCHING
Quality system: AS 4454
All planting area impacted by building works to receive 50-75mm of garden Mulch, Hort-Bark, ANL p: 02 9450 1444 or approved alternative. Keep mulch 100mm away from plant stem & form a well to stop excessive water runoff. Finish flush with adjacent surfaces.
WATERING
Water in immediately after plant installation & allow for soil settlement. For the first 2 to 4 weeks after planting, the root zone & immediate surrounds must be kept moist. Continue watering until plants have established.
STEPPING STONES
Install each stepping stone on a 75mm thick mortar bed and space according to plan. Stones to finish flush with adjoining levels. Fill gaps with artificial turf as specified.
RETAINING WALLS & PLANTER BOXES
All retaining walls & planter boxes to be constructed to Engineer's details. Ensure all internal surfaces are waterproofed. Geotextile wrapped ag. drainage line backfilled with aggregate is to be installed behind all retaining walls & connected to stormwater in accordance with Sydney Water regulations. All planter boxes are to have Atlantis drainage cell (or approved alternative) installed & connected to stormwater in accordance with Sydney Water regulations.





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