SCHEDULE OF REQUIRED STABILISATION WORKS

Abbotsford Road, Picton Planning Proposal

	Item	Specification	$ Cost (est.)
1	**Retain relics**	Retain record and protect from disturbance historical relics and early building materials on site in a secure weather-tight building. This includes items such as the brick water tank, samples of the pressed metal ceiling, site of the old gaol and line of stones adjacent to the exiting timber barns and any remains of floorings and footings. Protect any loose relics found on the surface by cataloguing their location and storing them labelled in the smokehouse. This would include loose building materials, but need not include fallen masonry as this will be recovered as part of the mortar repairs. Fragile joiner including remnants of a door and windows should be either protected in place, or moved to a secure place on site. Although no excavation is proposed, this approach should be observed for any relics that are exposed by stabilisation works. An archaeologist will be involved. Photographically record the site. Provide one hard copy and one electronic copy on a CD of labelled photos to Council's Strategic Planning Team to be placed in the local library. Record to consist of complete photographic description of all pre-1950 structures, any relics found on the surface and any repairs or changes made to the site. Catalogue all photos. The photographic record should be provided to Council after the vegetation has been removed but before the masonry repairs are undertaken.	

<table>
<tr><td></td><td></td><td>This work is to be undertaken in accordance with the Stabilisation Works Specification prepared by NBRS + Partners (Issue B dated 19 March 2015) provided at Attachment 1 and the following plans prepared for Abbotsford, Picton Stabilisation:

<table>
<tr><th>Plan Name</th><th>Version</th><th>Plan No.</th><th>Prepared by</th><th>Attachment No.</th></tr>
<tr><td>Site Plan and Archaeological Advice</td><td>19.03.2015</td><td>n/a</td><td>NBRS + Partners</td><td>2</td></tr>
<tr><td>Homestead Plan</td><td>Issue A 09.03.2015</td><td>1</td><td>NBRS + Partners</td><td>3</td></tr>
<tr><td>Elevations 1</td><td>Issue A 09.03.15</td><td>2</td><td>NBRS + Partners</td><td>4</td></tr>
<tr><td>Elevations 2</td><td>Issue A 09.03.15</td><td>3</td><td>NBRS + Partners</td><td>5</td></tr>
<tr><td>Service Buildings Plan, Elevations 3</td><td>Issue A 09.03.2015</td><td>4</td><td>NBRS + Partners</td><td>6</td></tr>
</table>
</td><td></td></tr>
<tr><td>2</td><td>Tree Avenue (Driveway)</td><td>Complete the tree avenue with new tree plantings and maintain. This related to the main avenue of trees leading east from the Abbotsford ruins with period-appropriate selected species. This selection is to be based on trees known to have grown in the avenue and on the lists of plants available for sale in Sydney dating from the early Nineteenth Century.

The quantity and species of trees to be plants is to be in accordance with the letter by NBRS + Partners to Wollondilly Shire Council dated 19 March 2015 titled Abbotsford, Picton, Replanting of the Driveway's Formal Avenue provided at Attachment 7 and the following plan:

<table>
<tr><th>Plan Name</th><th>Version</th><th>Plan No.</th><th>Prepared by</th><th>Attachment No.</th></tr>
<tr><td>Avenue Planting Scheme for Driveway</td><td>19.03.2015</td><td>12280-LANDSCAPE-01</td><td>NBRS + Partners</td><td>8</td></tr>
</table>
</td><td></td></tr>
</table>

3	**Guiding pedestrians**	Rope off ruins (to guide pedestrians). Use a simple non-intrusive black painted steel rod with eyelet top for rope in a style consistent with the image provided on the following page.  The location of the rope fence should be in accordance with the following plan prepared for Abbotsford Picton Stabilisation:	

Plan Name	Version	Plan No.	Prepared by	Attachment No.
Site Plan and Archaeological Advice	19.03.2015	n/a	NBRS + Partners	

4	**Vegetation**	Remove trees and clear saplings/weeds within the ruins and the vicinity of the ruins. Cut and poison all vegetation within ruins (approximately 2m perimeter). Early plantings (e.g. wisteria) may be relocated to the outside the 2m perimeter.	
5	**Mortar repairs/ Re-pointing**	Re-point walls and chimneys with a soft lime mortar to help stabilise the walls. Use only lime mortar that is colour matched to mortar. Trial a prototype of 4 parts local sand to 1 part slaked lime. If too light, colour with local soil or mineral oxides to match masonry. Mortar joints will be filled where there is a gap in the mortar deeper than 30mm and where there is a considerable weight of wall above. Loose bricks lying on the ground around the site will be mortared into holes in the walls for the purpose of stabilising the existing walls. This will be undertaken where there is a section of missing brickwork with a considerable mass of brickwork above. The three instances of collapsed flat arches over window openings will be repaired by mortaring the bricks back in place. Reinstate collapsed brick walls where necessary for stabilisation, using loose original bricks on site. Repairs should be sufficient for the walls not to require additional propping using other materials such as timber. Walls should, preferably, be rebuilt rather than braced with metal or timber. Exposed wall tops to be capped with a lime mortar and terra cotta floor tiles (300 x 300) with a short overhang to drain water away from the wall. These works are to be undertaken in accordance with the following plans prepared for Abbotsford, Picton Stabilisation:	

<table>
<tr><td></td><td></td><td>
<table>
<tr><th>Plan Name</th><th>Version</th><th>Plan No.</th><th>Prepared by</th><th>Shown at Attachment No.</th></tr>
<tr><td>Homestead Plan</td><td>Issue A 09.03.2015</td><td>1</td><td>NBRS + Partners</td><td>3</td></tr>
<tr><td>Elevations 1</td><td>Issue A 09.03.15</td><td>2</td><td>NBRS + Partners</td><td>4</td></tr>
<tr><td>Elevations 2</td><td>Issue A 09.03.15</td><td>3</td><td>NBRS + Partners</td><td>5</td></tr>
<tr><td>Service Buildings Plan, Elevations 3</td><td>Issue A 09.03.2015</td><td>4</td><td>NBRS + Partners</td><td>6</td></tr>
<tr><td>Proposed south wing chimney stabilisation</td><td>S15-005-01</td><td>-</td><td>Heymans & Associates Pty Ltd</td><td>9</td></tr>
<tr><td>South Wing – Gable Wall Stabilisation Framing Arrangement</td><td>SK15-005-003</td><td>1</td><td>Heymans & Associates Pty Limited</td><td>10</td></tr>
</table>
</td><td></td></tr>
<tr><td>6</td><td>Servants Cottage & Brick Smokehouse</td><td>Council has no objection to reconstructing the Servant’s Cottage and Smokehouse. Reconstruction should be based on the measured drawings prepared by Borst & Jones in Abbotsford 1822….1981; a conservation report (1981, University of New South Wales) and be reconstructed to match existing, using as much as possible of the original building fabric (material).

Alternatively, provide detailed record of existing, brace walls, reroof or replace any failed steel roofing sheets to match, use corrugated sheet steel and timber framing to make the building secure and water tight.
The collapsed rear section of the servant’s cottage is to be sealed with contemporary timber-framed construction.</td><td></td></tr>
<tr><td>7</td><td>Contingency</td><td></td><td></td></tr>
</table>

Notes:

1. Changes to this Schedule must be agreed to in writing by Wollondilly Shire Council.
2. An electronic copy of the measured drawings referred to in Item 6 and the accompanying report can be obtained from Wollondilly Shire Council (TRIM 6497 #536 and #553).

List of Attachments

Attachment No.	What is the attachment?	Where is the attachment to in this document?	
		Item	Page No.
Attachment 1	Stabilisation Works Specification prepared by NBRS + Partners (Issue B dated 19 March 2015)	Retain Relics	2
Attachment 2	Site Plan and Archaeological Advice (19.03.2015)	Retain Relics	2
		Guiding Pedestrians	3
Attachment 3	Homestead Plan (Issue A 09.03.2015)	Retain Relics	2
		Mortar Repairs- Re-pointing	5
Attachment 4	Elevations 1 (Issue A 09.03.15)	Retain Relics	2
		Mortar Repairs- Re-pointing	5
Attachment 5	Elevations 2 (Issue A 09.03.15)	Retain Relics	2
		Mortar Repairs- Re-pointing	5
Attachment 6	Service Buildings Plan, Elevations 3 (Issue A 09.03.2015)	Retain Relics	2
		Mortar Repairs- Re-pointing	5
Attachment 7	Abbotsford, Picton, Replanting of the Driveways Formal Avenue	Tree Avenue (Driveway)	2
Attachment 8	Avenue Planting Scheme for Driveway (12280-LANDSCAPE-01)	Tree Avenue (Driveway)	2
Attachment 9	Proposed south wing chimney stabilisation (S15-005-01)	Mortar Repairs- Re-pointing	5
Attachment 10	South Wing – Gable Wall, Stabilisation Framing Arrangement (SK15-005-003)	Mortar Repairs- Re-pointing	5

ATTACHMENT 1

Stabilisation Works Specification

Prepared by NBRS + Partners

Issue B dated 19 March 2015

NBRS+PARTNERS
ARCHITECTURE-HERITAGE-INTERIORS-PLANNING

Abbotsford
Abbotsford Road, Picton

STABILISATION WORKS
Specification

Prepared for
The Abbotsford Group

Revision	Date	Approved by
Issue A – PRELIMINARY	5 March 2015	NBRS+PARTNERS
Issue B – SUBMISSION	19 March 2015	NBRS+PARTNERS

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ABN: 16 002 247 565

Nominated Architects
Graham Thorburn: Reg No.5706; Geoffrey Deane: Reg No.3766;
Garry Hoddinett: Reg No 5286; Andrew Duffin: Reg No 5602

Abbotsford
Abbotsford Road, Picton
STABILISATION WORKS SPECIFICATION

1.0 PRELIMINARIES

1 General

1.1 Precedence

Precedence

General: Requirements of subsequent worksections of the specification override conflicting requirements in this worksection.

1.2 Cross references

Common requirements

Associated worksections:

Conform to the following:

- Roofing.
- Brickwork.
- Stone repair.
- Jointing and pointing.

1.3 Referenced documents

Contractual relationships

General: Responsibilities and duties of the principal, contractor and contract administrator are not altered by requirements in the documents referenced in this specification.

Current editions

General: Use referenced documents which are the editions, with amendments, current 3 months before the closing date for tenders, except where other editions or amendments are required by statutory authorities.

1.4 Interpretation

Definitions

General: For the purposes of this worksection the definitions given below apply.

- Attendance: 'Attendance', 'provide attendance' and similar expressions mean 'give assistance for examination and testing'.
- Contract administrator: 'Contract administrator' has the same meaning as 'architect' or 'superintendent' and is the person appointed by the 'owner' or 'principal' under the contract.
- Design life: The period of time for which it as assumed, in the design, that an asset will be able to perform its intended purpose with only anticipated maintenance but no major repair or replacement being necessary.
- Geotechnical site investigation: The process of evaluating the geotechnical characteristics of the site in the context of existing or proposed construction.
- Give notice: 'Give notice', 'submit', 'advise', 'inform' and similar expressions mean 'give notice (submit, advise, inform) in writing to the contract administrator'.
- Hold point: The activity cannot proceed without the approval of the contract administrator.
- Maintenance period: Synonymous with 'Defects liability period'.
- Obtain: 'Obtain', 'seek' and similar expressions mean 'obtain (seek) in writing from the contract administrator'.
- Professional engineer: A person who is listed on the National Professional Engineers Register (NPER) in the relevant discipline at the relevant time.
- Metallic-coated steel: Includes zinc-coated steel, zinc/iron alloy-coated steel, and aluminium/zinc-coated steel.
- Principal: 'Principal' has the same meaning as 'owner', 'client' and 'proprietor' and is the party to whom the Contractor is legally bound to construct the works.

- Proprietary: 'Proprietary' mean identifiable by naming manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
- Provide: 'Provide' and similar expressions mean 'supply and install'. Installation shall include development of the design beyond that documented.

Production tests: Tests carried out on a purchased item, before delivery to the site.

- Tolerance: Difference between the upper limit of dimension and the lower limit of dimension.
- Required: Means required by the documents, the local council or statutory authorities.
- If required: A conditional specification term for work which may be shown in the documents or be a legislative requirement.
- Samples: Includes samples, prototypes and sample panels.
- Supply: 'Supply', 'furnish' and similar expressions mean 'supply only'.
- Verification: Provision of evidence or proof that a performance requirement has been met or a default exists.
- Witness points: Provides an opportunity to attend an activity but does not involve an obligation. The activity can proceed without approval from the contract administrator.

2 Products

2.1 Materials and components

Consistency

General: For each material or product use the same manufacturer or source and provide consistent type, size, quality and appearance.

Corrosion resistance

General: Conform to the following corrosivity category with regard to work section corrosion resistance tables.

Corrosivity category: Medium

2.2 Building the works

Surveys

Setting out: Existing work - verify the dimensions of the existing work before proceeding and notify discrepancies.

Levels - spot levels shall take precedence over contour lines and ground profile lines.

Clearing Work Site

The works site is an archaeological item listed on the State Heritage Register and the Wollondilly Local Environmental Plan. No excavation is permitted in the site.

All of the trees growing within the walls and footprint of the verandahs, and within 1m of the homestead are to be cut down. Cut down these trees branch by branch to prevent trees falling onto the remaining walls. Cut branches into small enough pieces so they can be carried out without damage to remaining building fabric. The final cut is to be horizontal across the trunk, shortly above ground. Within 30 seconds of making the final cut, pour several millilitres of glyphosate 450 onto the cut. Trees and branches growing within 1.5m of the Maid's Quarters and Smoke House may be pruned or removed as needed.

Fallen bricks are to be reused in these works. Move as many fallen bricks as are needed and leave the remaining bricks as found. Do not remove found built fabric in situ, or fabric fallen from the buildings and lying on the site as found when the builder takes possession of the site.

Do not remove any fallen timbers from the site, or remove timbers remaining in the brickwork of the homestead.

Safety

Accidents: Promptly notify the architect of the occurrence of the following:

- Accidents involving death or personal injury.
- Accidents involving loss of time.
- Incidents with accident potential such as equipment failure, slides and cave-ins.

Accident reports: Submit reports of accidents.

- Purpose of submission: Information only.

Contractor's representative

General: Must be accessible, and fluent in English and technical terminology.

Items supplied by owner

General: Materials and other items scheduled to be re-inserted into the buildings will be supplied free of charge to the contractor for installation in the execution of the works.

Scaffolding

General: The Contractor shall provide all scaffolding as required for the construction of the works and include the scaffolding specified in the structural drawings. All scaffolding etc shall be in accordance with the provisions of the relevant authority.

Stabilising Roof of Maid's Quarters

The rear (south) wall and east-facing wall return are to be rebuilt as contemporary timber stud wall, clad on the outside with fibre cement sheet as shown. The fibre cement is to be fixed drain water beyond the building footprint. A simple contemporary door for external use is to be placed within the south façade as shown. Use existing footings as far as possible. Make minimal interference with collapsed brick walls here.

Protect original windows from further damage.

Make best efforts to prop up collapsed rear skillion roof using existing roof timbers and roofing steel sheet. Where required, add new roofing timbers of minimum matching dimensions to similar design to support roof and make the building water tight.

Prop up east side of hip roof using additional timbers of minimum matching dimensions to similar design. Leave redundant existing timber on site under cover in the Maid's Quarters.

Fix new corrugated sheet steel of profile matching existing to ensure that the roof sheds rainwater beyond the footprint of the original dwelling. New guttering is not required.

2.3 Completion of the works

Final cleaning

General: clean down completed new brickwork. Leave surplus found materials on site. Builder's own rubbish of material brought to the site is to be removed from the site.

Detergents or solvent are not to be used without the prior approval.

2.0 BRICK RECONSTRUCTION

1 General

1.1 Cross references

General

Requirement: Conform to the following worksection(s):

- *General requirements*.
- *Schedule of repairs*

1.2 Standards

General

Materials and construction: To AS 3700.

2 Products

2.1 Durability

General

Exposure environment: Moderate

2.2 Materials

Brick units

Selections: reuse existing fallen bricks on site. Select existing half bricks in preference to cutting existing bricks.

Clean any remaining mortar and rinse each brick to be reused.

Mortar materials

Mortar class: To AS 3700 Table 5.1.

Lime: To AS 1672.1.

Sand: Fine aggregate with a low clay content and free from efflorescing salts, selected for colour and grading.

Water: Clean and free from any deleterious matter.

Admixtures: Do not provide admixtures.

2.3 Lime

To AS 1672. The lime shall be prepared for adding the mortar mix in the form of a putty and may be either,

Slaked fresh rock lime run and sieved or;

Hydrated lime from a reliable source.

Prepare lime for incorporation into the mix to AS A123, Clause 1.4. Store lime on site in accordance with requirements of AS 1672.

HYDRATED LIME PREPARATION: Purchase prepared mixture, OR:

Thoroughly mix with water by adding the lime to water contained in a clean container and stirring it to a thick creamy consistency. The contents are then allowed to stand undisturbed in a container for not less than 16 hours.

The container shall be properly sealed with an airtight lid in an approved manner. At the end of 16 hours the lime mixture should be achieved, through evaporation, a consistency of very thick cream. If excess water is present, it shall be siphoned or poured off in accordance with code requirements.

Consistency of lime: Particular attention shall be given to the proportion of lime in the mix of one part of lime and water to slaked lime mix. The proportion is critical at the time of mixing the lime into the bedding and pointing mortar mixes. This proportion will be known as the consistency of lime.

Storage: The Contractor shall store slaked lime on site in airtight containers suitable for this purpose.

Additives: Do not use additives unless specified or unless prior approval has been obtained from the Superintendent.

2.4 Mortar Mix

To AS 3700. Mix by weight or volume. Particular attention shall be paid to the exact measurement of mortar contents and the mixing procedure. Use suitable batching boxes for mixing of mortar by volume. Machine mix. Use the following mix in the first instance. Small quantities (less than 5% of total volume) of local earth may be added to achieve a near matching mortar colour.

Bedding and Jointing Mortar:
To be one part lime and four parts sand.

Pointing sand:
To be one part lime and four parts sand.

Grouting:
To be one part lime and four parts sand.

2.5 Built-in components

General
Durability class of built-in components: To AS 3700 Table 5.1.
Reinforcement
Standard: To AS/NZS 4671.
Corrosion protection: To AS 3700 clause 5.9.
Minimum cover: To AS 3700 Table 5.1.
Connectors and accessories
Standard: To AS/NZS 2699.2.
Corrosion protection: To AS/NZS 2699.2.
Design criteria for flexible masonry ties: To AS 3700.
Flashings
Use 300x300 terra cotta floor tiles of natural colour and flat shape to provide a gable-shaped wall capping able to shed rainwater away from the full height wall. Wall capping is not required on walls shown on the drawings to be less than full height at completion of brickwork.

3 Execution

3.1 General

Mortar mixing
General: Measure volumes accurately to the documented proportions. Machine mix for at least six minutes.
Bond
Building in
Embedded items: Build in accessories as the construction proceeds.
Mortar joints
Solid units: Lay on a full bed of lime mortar. Fill perpends solid. Cut mortar flush to match existing.
Finish: Conform to the following:
- Externally: Tool to give a dense water-shedding finish.
- Thickness: 10 mm or to match existing.

Cutting: Set out masonry with joints of uniform width.
Stabilisation of eroded masonry and Mortar Pointing
Fill eroded holes in brickworks with fallen brick units where a whole or half brick can be inserted to match the brick bond of the wall. Mortar in brick units with lime mortar: one part lime and three parts sand.

Fill eroded holes smaller than a half brick with lime mortar flush to match existing. Cut mortar so water drains out of the wall.

Protection

General: Cover the top surface of brickwork to prevent the entry of rainwater and contaminants during the works.

All walls of the homestead that are marked as being full-height currently, or are to be reconstructed to full height, are to be left protected by terra cotta floor tiles mortared onto the top of the walls. Apply a separation layer on top of the finished wall. Use mortar of 1 part lime to three parts sand over the separation layer to hold tiles. Arrange the terra cotta floor tiles in a gable form to shed rain water away from the walls.

Where brick flat arches are in any danger of collapse, prop the arch with hardwood or treated pine frame using timber sections of minimum 60x120 dimensions.

Re-pointing

General: repoint eroded gaps in brick walls and mortar deeper than 30mm with lime mortar. Cut mortar so water drains out of the wall.

Temporary support

General: If the final stability of the masonry is dependent on construction of (structural) elements after the brickwork is completed, provide proposals for temporary support or bracing.

3.2 Facework

Cleaning

General: Clean progressively as the work proceeds to remove mortar smears, stains and discolouration. Do not erode joints if using pressure spraying.

Acid solution: Do not use.

Colour mixing

Distribution: In facework, distribute the colour range of units evenly to prevent colour concentrations and banding.

Double face walls

Selection: Select face units for uniform width and double-face qualities.

Sills and thresholds

General: Solidly bed sills and thresholds and lay them with the top surfaces draining away from the building. Use found sandstone sills of appropriate width in preference. Where a sandstone sill of appropriate width is not found, do not cut other found sandstone, use full bricks arranged on edge.

3.3 Brickwork bed joint reinforcement

Location

General: Locate as follows:

- In 2 bed joints below and above head and sill flashings to openings.
- In 2 bed joints above openings.
- In third bed joint above bottom of wall.
- In second bed joint below top of wall.
- Maximum vertical intervals: 500 mm.
- In every sixth brick course at the junctions where a return wall is constructed to stabilise an existing wall.

Reinforcement

Material: Galvanized welded wire mesh.

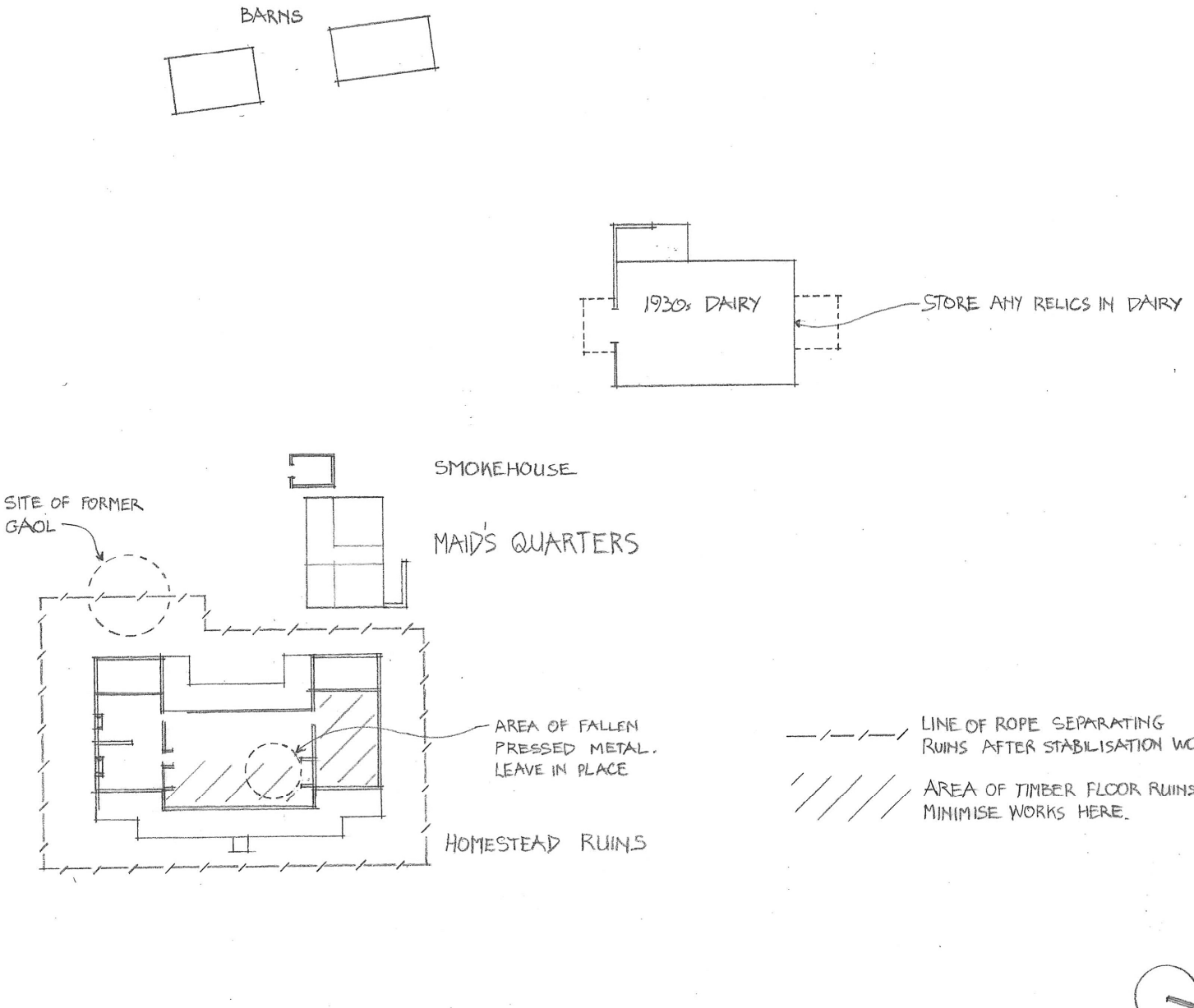
Width: Equal to the width of the brick wall, less 15 mm cover from each exposed surface of the mortar joint.

ATTACHMENT 2

Site Plan and Archaeological Advice

Prepared by NBRS + Partners

Dated 19.03.2015



19.03.2015

SITE PLAN AND ARCHAEOLOGICAL ADVICE

ABBOTSFORD, PICTON STABILISATION

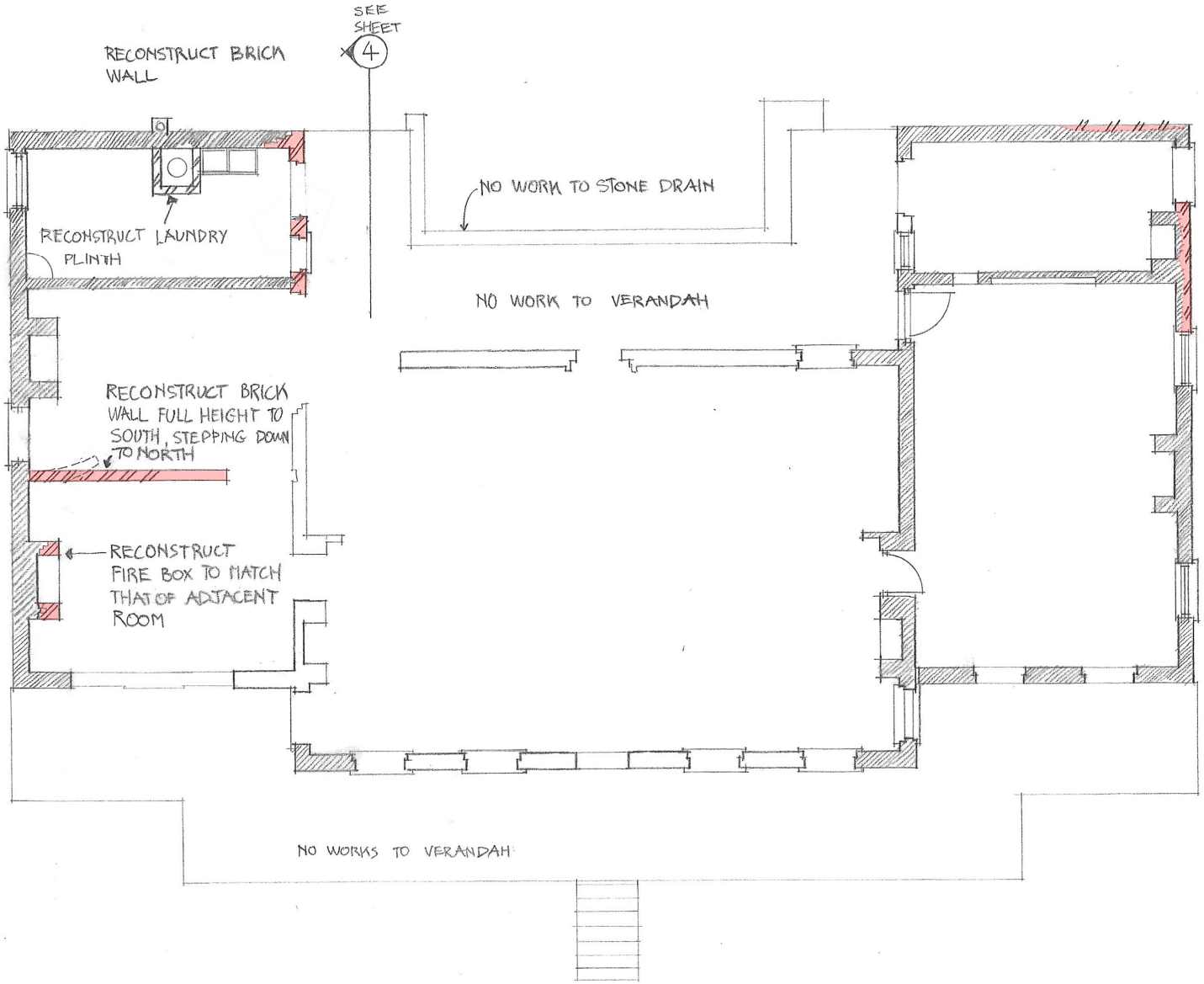
NBRSPARTNERS

ATTACHMENT 3

Homestead Plan

Prepared by NBRS + Partners

Issue A dated 19 09.03.2015



KEY

BRICK WALL - NOT FULL HEIGHT, NO WORKS REQUIRED.

RECONSTRUCT BRICK WALL

EXISTING FULL-HEIGHT WALL TO BE STABILISED AND CAPPED

N

ISSUE A 09.03.2015

HOMESTEAD PLAN

ABBOTSFORD, PICTON STABILISATION

NBRS+PARTNERS

1

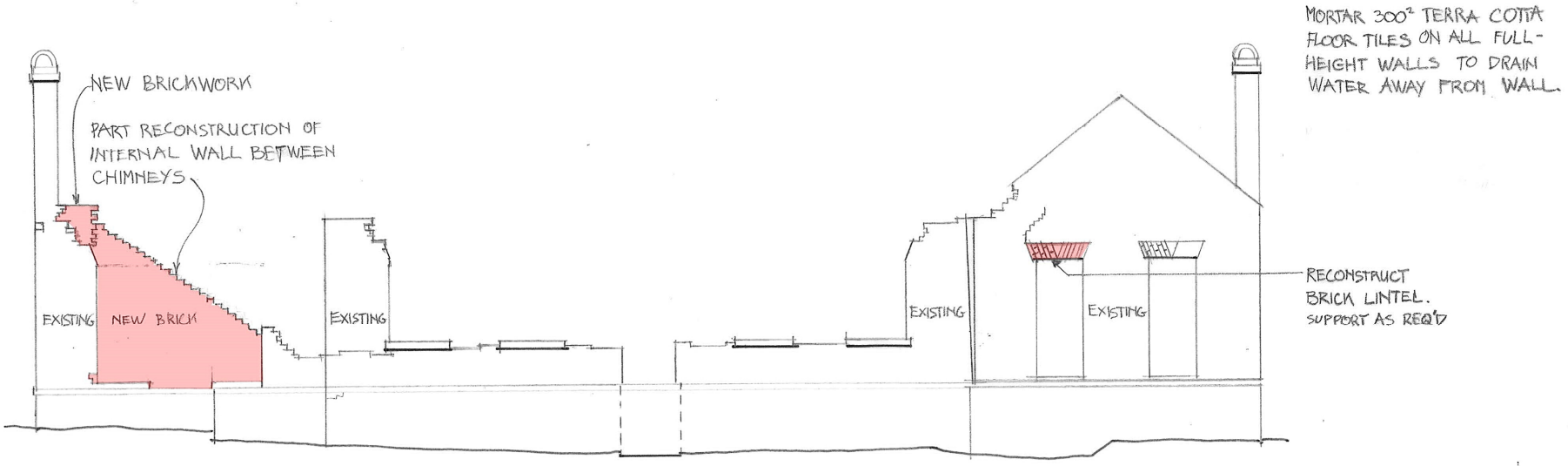
1:100

0 1 2 3 4

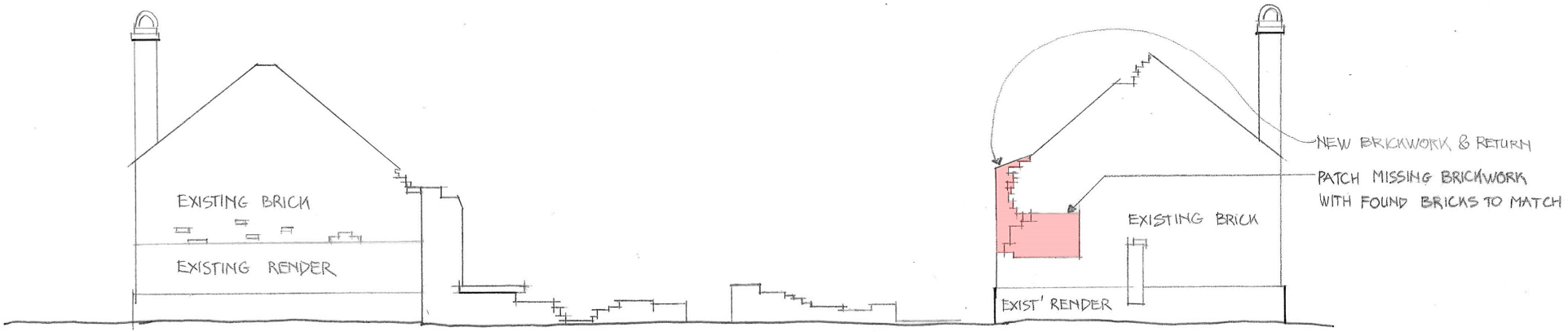
ATTACHMENT 4

Elevations 1

Prepared by NBRS + Partners
Issue A dated 19.03.15



EAST ELEVATION



WEST ELEVATION

ISSUE A 09.03.15

ELEVATIONS 1

ABBOTSFORD, PICTON
STABILISATION

NBRS+PARTNERS

2

0 1 2 3 4

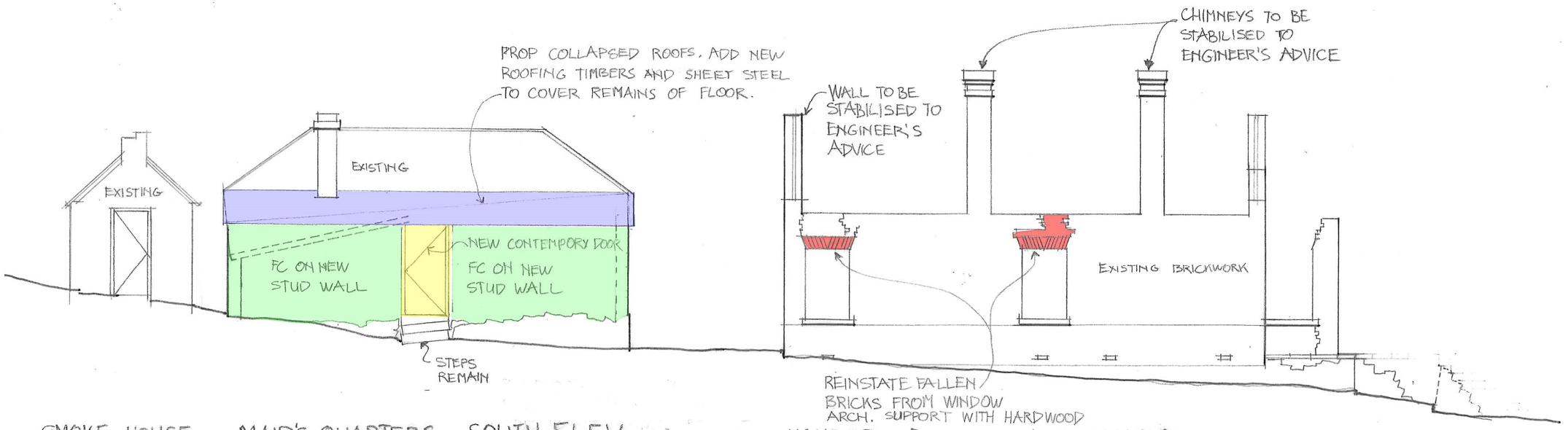
1:100

ATTACHMENT 5

Elevations 2

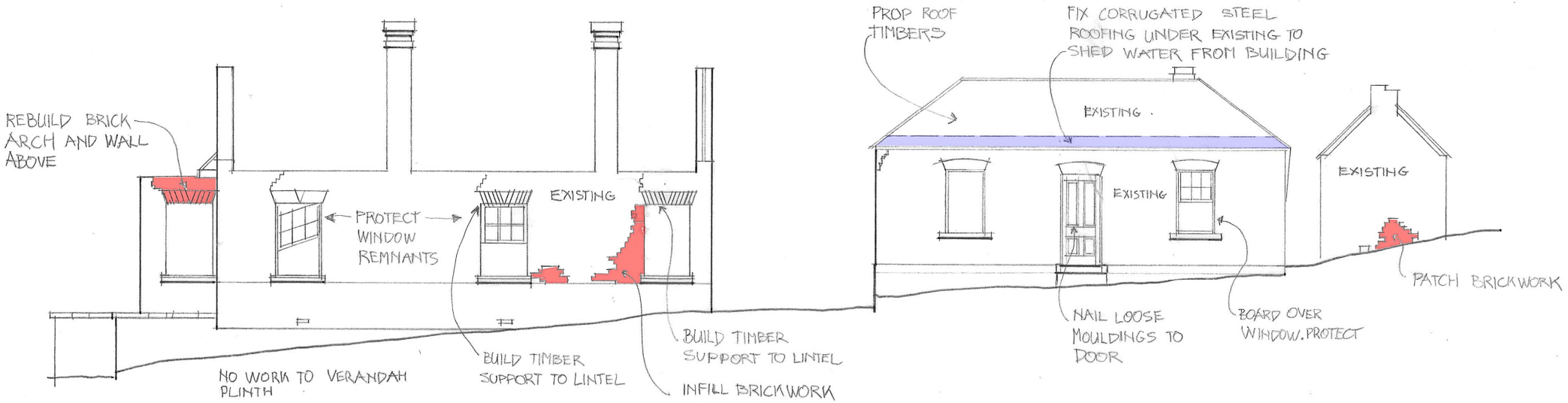
Prepared by NBRS + Partners

Issue A dated 19.03.15



SMOKE HOUSE MAID'S QUARTERS - SOUTH ELEV

HOMESTEAD - SOUTH ELEVATION



HOMESTEAD - NORTH ELEVATION

MAID'S QUARTERS - NORTH ELEVATION

ISSUE A 09.03.2015

ELEVATIONS - 2
1:100

ARBOTSFORD PICTON
STABILISATION

NBRS+PARTNERS
3

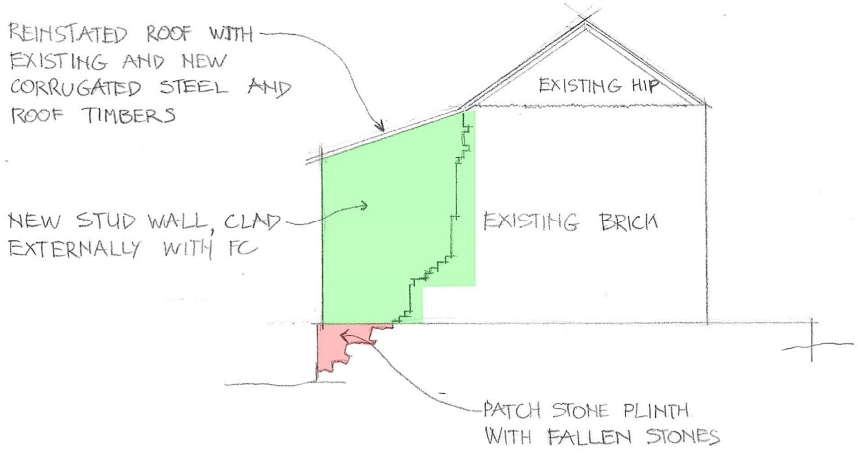
1:100
0 1 2 3 4

ATTACHMENT 6

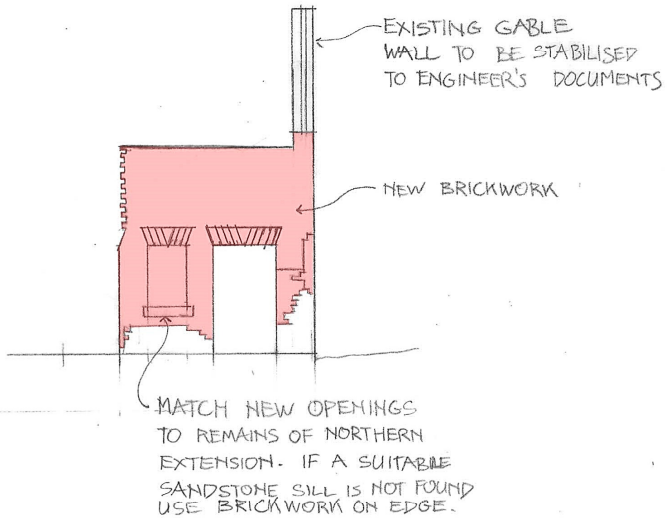
Service Buildings Plan, Elevations 3

Prepared by NBRS + Partners

Issue A dated 19.03.2015

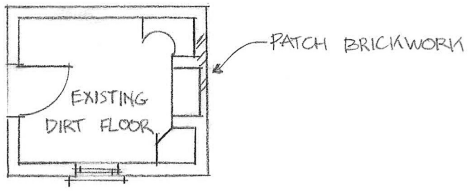


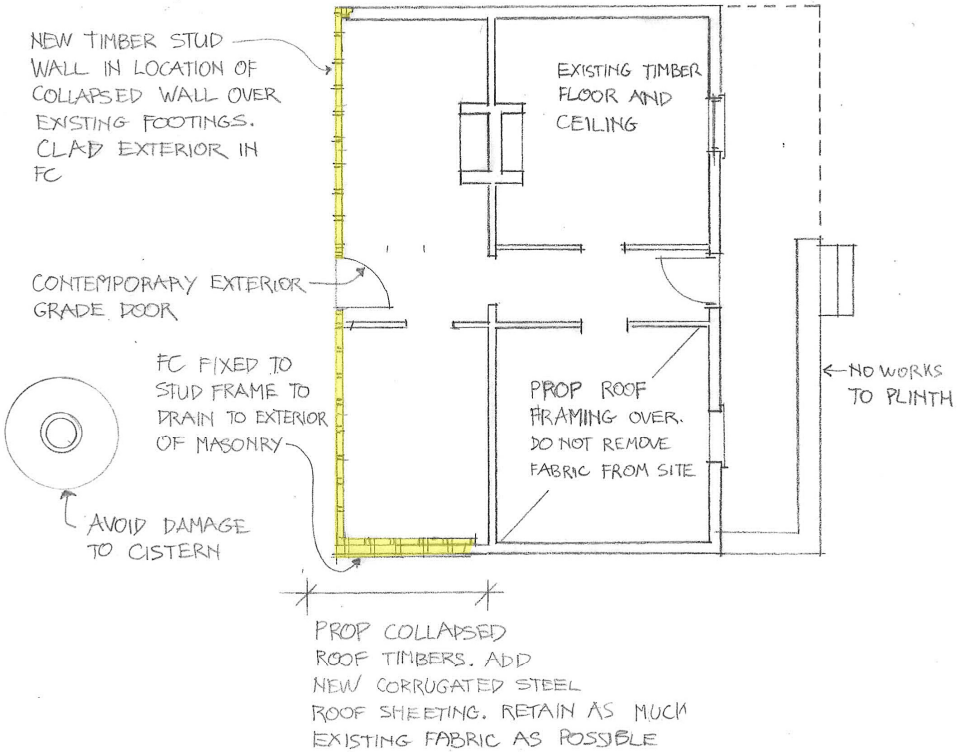
MAID'S QUARTERS - EAST ELEVATION



HOMESTEAD: SOUTHERN EXTENSION - NORTH ELEVATION

PLAN - SMOKEHOUSE





PLAN - MAID'S QUARTERS

ISSUE A 09.03.2015	SERVICE BUILDINGS PLAN ELEVATIONS 3	ABBOTSFORD, PICTON STABILISATION	NBRSYPARTNERS 4

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ATTACHMENT 7

Abbotsford, Picton, Replanting of the Driveways Formal Avenue

Letter by NBRS + Partners

Dated 19 March 2015

NBRS+PARTNERS
ARCHITECTURE
HERITAGE
LANDSCAPE
INTERIORS
URBAN DESIGN
ENVIRONMENTAL
COMPLIANCE
RESEARCH

19 March 2015

Ms Carolyn Whitten
Senior Strategic Planner
Wollondilly Shire Council
PO Box 21
Picton NSW 2571

Dear Carolyn,

RE: Abbotsford, Picton, Replanting of the Driveway's Formal Avenue

I write to explain the proposed additional planting of the formal avenue of trees on the east side of the ruins of the former homestead of Abbotsford. The ruins of Abbotsford are listed on the State Heritage Register (SHR00073), but the avenue of trees is located outside of the SHR curtilage. An application for an exemption from further approval for stabilisation works to the ruins is being made, and the replanting of the avenue will form part of this program of works, illustrated herein.

Description
The avenue of trees stretches discontinuously for 600m from the front gate adjacent to Abbotsford Road near Stonequarry Creek, westwards to the summit of the hill containing the ruins of Abbotsford about half-way up the hill. There are seven trees remaining that could be said to be part of this avenue, as listed below.

Documentary Evidence
George Harper was a noted natural history collector who built Abbotsford c1828 and lived there with his family until his death in 1841. He seems a likely character to have planted the avenue of trees, although the documentary evidence does not prove this. After Harper's death, Abbotsford was leased to various farmers until its sale by Harper's heirs in December 1865 to William Redfern Antill. The documentary evidence known provides no indicators that occupants after Harper had the interests likely to have led to them planting a botanical avenue.

The documentary evidence available to date can only identify one additional species in the avenue, the hoop pine seen in the c1996 photograph published by the Department of Urban Affairs and Planning in 'Heritage Curtilages'. The stump and long dead parts of this tree's trunk are piled where it stood. The 1949 aerial photograph of Abbotsford shows approximately 16 trees, and the shadows give an indication of each tree's profile.

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NBRS & PARTNERS PTY LTD ABN 16 002 247 565

Design Approach

In its twentieth-century state, the avenue made a formal statement due to its long length and possible geometric themes. The intention is to replant the avenue using a regular distribution of trees exotic to Picton. A grid of pairs of different araucarias separated by five pairs of other trees is a sub-theme of this scheme.

The concept of a house on a midrise, looking along a vista to a peak through an avenue of trees was a culturally familiar to Europeans since the construction of the Villa Lante in the late Sixteenth Century. To an Englishman in NSW in the early Nineteenth Century, there would have been a familiarity with the formalised parklands of 1650s–1720s. Aristocratic landscapes in England from period often had formal elements added to the deer hunting park around the new country house. Ornamental landscape ideas from the Continent would have a strong degree of formality and geometry, often featuring the following elements:

• Avenues of trees, often aligned on a focal point (Abbotsford looks east to another settled hill);

• Main approach drive of hard-surfaced hoggin or local gravel (Abbotsford's drive is grassed over and not distinct)

• Formal gardens around the principal building with geometry often linked to the parkland planting (Abbotsford had a circular garden at the top of the driveway in front of the house in the late Nineteenth century);

• Plantations, usually geometrical in outline and sometimes laid out in quasi-military formations (Abbotsford had planting of thorn trees along grazing lines and English oaks near the croquet lawn);

• Dominant linear views down the avenues plus lateral views over the estate (whether parkland or farmland, grazed or arable) which would also have been an important part of their enjoyment.

Methodology

If the avenue of trees was planted by George Harper, then it was planted by 1841 using species available in the Colony at the time. The Historic Houses Trust Colonial Plants database unites many documentary sources listing plants species available in Sydney at particular times. While early lists of exotic plants arriving on ships suggests that such species might not have been available before such dates, early lists of plants available at specified nurseries do not prove that such plants had not been available for years before. Some of the Australian plant species in the avenue that are not indigenous to the area, appear not to be mentioned in lists of available plants until long after Harper died. Australian plants such as the araucarias and the kurrajong are likely to have been available in earlier years than those listed here.

Tree Name	Notes	Available in Sydney:
Aleurites triloba	15-20m, tropical, flower	1827
Araucaria cunninghamii Hoop pine,	Tall, Australian	1843
Araucaria araucana Monkey Puzzle tree	Tall, South American	1843
Araucaria heterophylla	Tall, Australasian	1828

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Norfolk Island pine *Araucaria Bidwilliana* Bunya pine	Tall, Australian	1851
Callitris macleayana	20-39m pine indigenous Hunter Valley to Qld	1843
Arbutus unedo	5-10m flowers fruit	1823
Casuarina indica	Unknown casuarina	1827
Corynocarpus laevigatus Karaka, New Zealand Laurel	15m, orange fruit	1827
Cupressus juniperoides *Juniperus communis*	10m	1827
Cupressus lusitanica Mexican White cypress	40m, oval shape	1827
Cupressus sempervirens Italian cypress	35m,	1827
Cupressus sempervirens cv. Stricta Italian cypress	pencil shaped	1827
Fraxinus excelsior Common Ash, European Ash	20-35m deciduous, rounded	1827
Gleditsia triacanthos Honey Locut, Sweet Locust,	Considered a weed now	1827
Leucadendron argenteum Silver tree	5-7m silver evergreen, oval shape	1827
Larix decidua European larch	10-20m deciduous, artic origin, cone shaped tree	1827
Pinus taeda Loblolly pine, Frankincense pine, Old-field pine	30-35m cone shaped tree	1827
Quercus cerris Turkey oak	25-40m deciduous, broad shape	1827
Quercus ilex Holm oak, Holly oak, Evergreen oak	20-27m evergreen	1827
Quercus robur English oak, Common oak,	20m deciduous	1827
Quercus suber cork	20m evergreen	1817
Tectona grandis Teak.	40m, tropical	1827
Toona Australis substitute		1828
Tilia x europaea [Tilia x vulgaris] Lime, Common lime, European linden	30-50m deciduous	1827
Ulmus minor Field Elm	30m deciduous	
Ulmus laevis European White Elm	30m deciduous, buttress elms	1828
Magnolia figo Port Wine Magnolia	3-4m scent, flowers	1839
Magnolia denudata	9m, flowers	1840
Magnolia acuminata	15-20m Insignif flowers	1828
Acer pseudoplatanus	20-35m deciduous	1843

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Sycamore, Great maple		
Magnolia liliiflora	5m flowers	1840
Taxodium distichum bald cyress	25-40m swampy preferences	1836
Catalpa bignonioides Indian bean tree	15-18m, 12m wide flowers, sub-tropical appearance from east USA	1823
Ulmus sp	List of plants remaining alive on board the *Lord Eldon*	1817

Trees on site in the avenue:	**Notes**	**Available in Sydney:**
Araucaria heterophylla Norfolk Island pine	Sickly specimen located further west on crown of hill	1828
Camphor laurel	used in commerce, weed sp	1827
Cupressus sempervirens Italian cypress	pencil shaped	1827
bunya pine		
Brachychiton populneus Kurrajong		1851
Ulmus minor Field Elm		Likely 1820s
Cupressus funebris Chinese funeral cypress		Not known
Hoop pine stump		1843
Populus alba silver poplar	16-27m, Morocco	1836

Yours faithfully,
NBRS+PARTNERS

Brad Vale
Heritage Consultant

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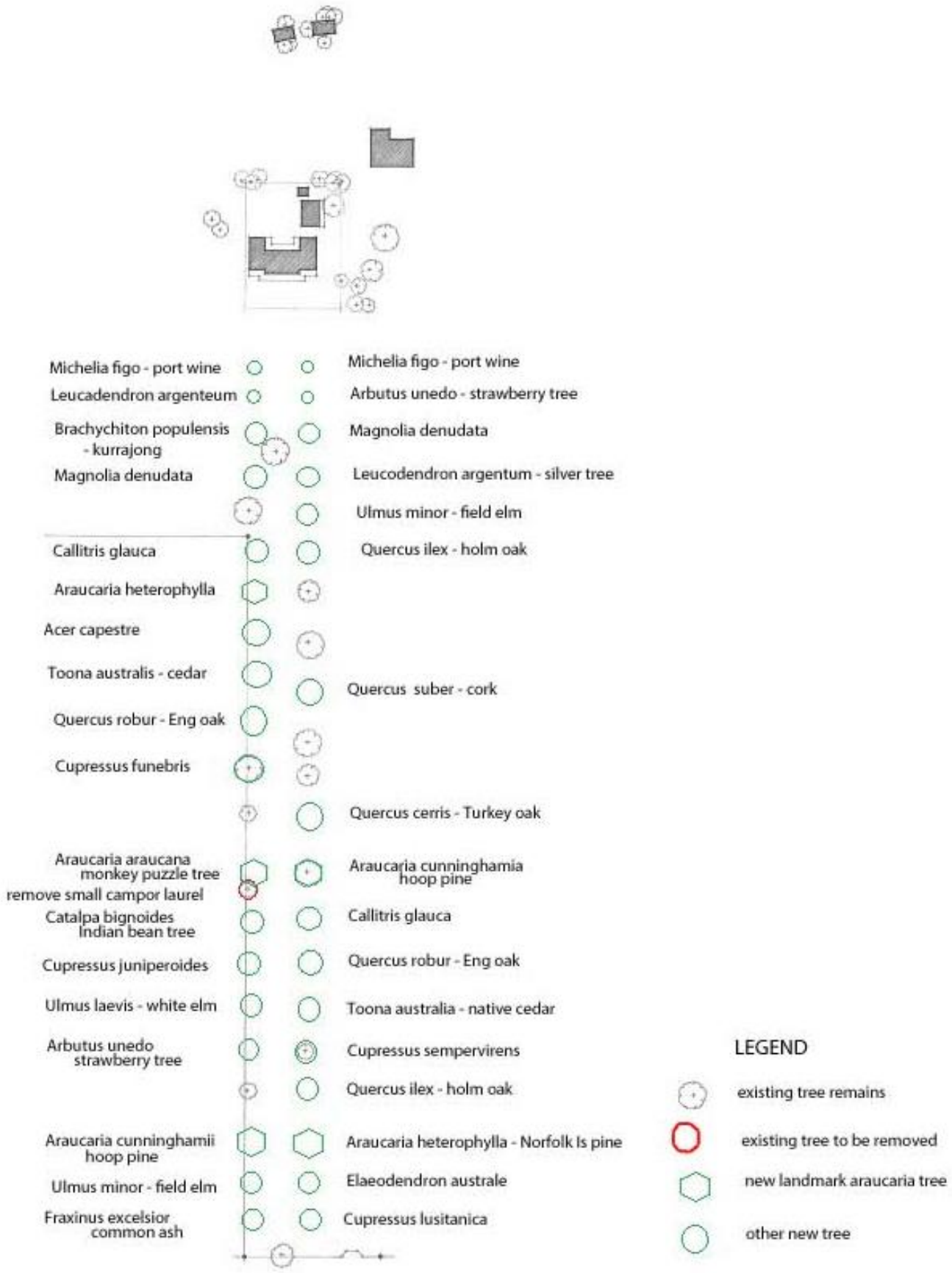

Figure 1 — Plan of new trees infilling the entry driveway avenue at Abbotsford. North is to the right.

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Planting Schedule of Trees

Tree Name	Common Name	Quantity
Araucaria cunninghamii	Hoop pine	2
Araucaria araucana	Monkey Puzzle tree	1
Araucaria heterophylla	Norfolk Island pine	2
Arbutus unedo	Strawberry tree	2
Acer capestre	Field maple	1
Brachychiton populensis	Kurrajong	1
Catalpa bignonioides	Indian bean tree	1
Callitris glauca	White Cypress	2
Cassine australis OR *Elaeodendron australe*	Red Olive Berry or Cassine	1
Cupressus juniperoides aka *Widdringtonia nodiflora*	Mountain Cypress	1
Cupressus funebris	Chinese Weeping Cypress	1
Cupressus sempervirens	Italian cypress	1
Cupressus lusitanica	Mexican White cypress	1
Fraxinus excelsior	Common ash	1
Leucadendron argenteum	Silver tree	2
Magnolia denudata	Magnolia	2
Michelia figo	Port Wine Magnolia	2
Quercus cerris	Turkey oak	1
Quercus ilex	Holm oak, Holly oak, Evergreen oak	2
Quercus robur	English oak, Common oak	2
Quercus suber	cork	1
Toona Australis	Native cedar	2
Ulmus minor	Field Elm	2
Ulmus laevis	White elm	1

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ATTACHMENT 8

Avenue Planting Scheme for Driveway

Prepared by NBRS + Partners

Plan Reference: 12280-LANDSCAPE-01 dated 19 March 2015

Michelia figo - port wine
Leucadendron argenteum
Brachychiton populensis - kurrajong
Magnolia denudata
Callitris glauca
Araucaria heterophylla
Acer capestre
Toona australis - cedar
Quercus robur - Eng oak
Cupressus funebris
Araucaria araucana monkey puzzle tree
remove small campor laurel
Catalpa bignoides Indian bean tree
Cupressus juniperoides
Ulmus laevis - white elm
Arbutus unedo strawberry tree
Araucaria cunninghamii hoop pine
Ulmus minor - field elm
Fraxinus excelsior common ash

Michelia figo - port wine
Arbutus unedo - strawberry tree
Magnolia denudata
Leucodendron argentum - silver tree
Ulmus minor - field elm
Quercus ilex - holm oak
Quercus suber - cork
Quercus cerris - Turkey oak
Araucaria cunninghamia hoop pine
Callitris glauca
Quercus robur - Eng oak
Toona australia - native cedar
Cupressus sempervirens
Quercus ilex - holm oak
Araucaria heterophylla - Norfolk Is pine
Elaeodendron australe
Cupressus lusitanica

LEGEND

existing tree remains

existing tree to be removed

new landmark araucaria tree

other new tree

AVENUE PLANTING SCHEME FOR DRIVEWAY AT ABBOTSFORD, PICTON

NBRS+PARTNERS

NOT TO SCALE
SEE 'PLANTING SCHEDULE OF TREES'
19 MARCH 2015
DRAWING: 12280-LANDSCAPE-01

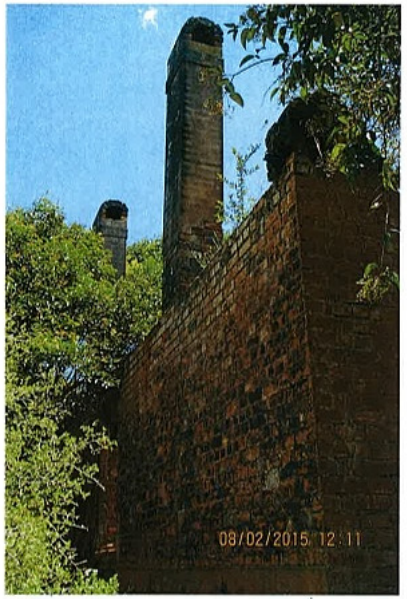
ATTACHMENT 9

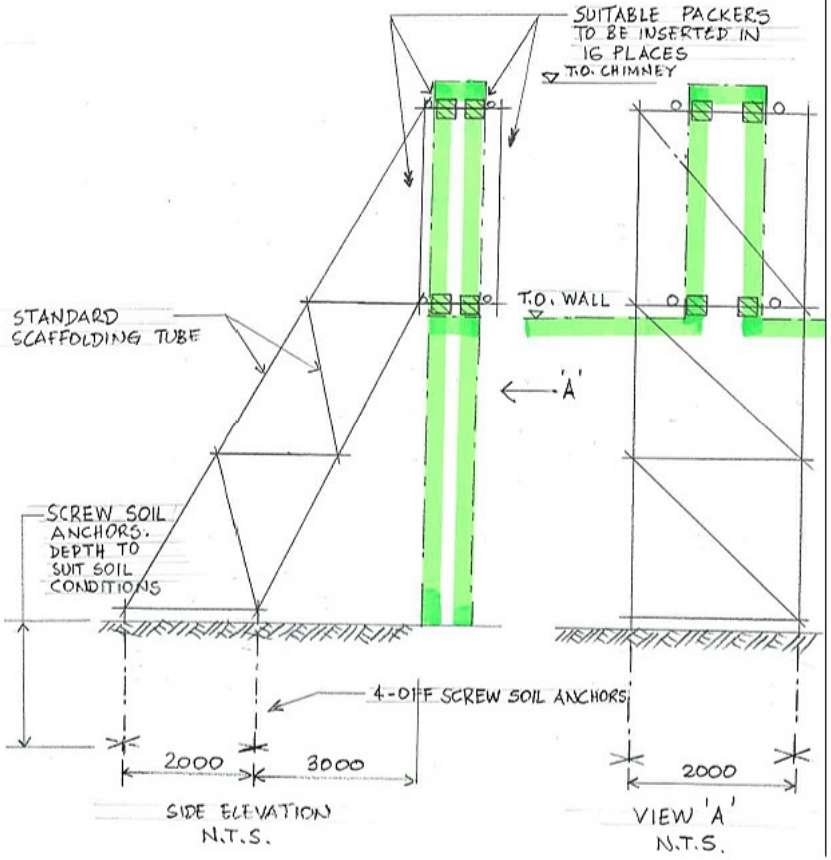
Proposed South wing chimney stabilisation

Prepared by Heymans & Associate Pty Ltd
Plan Reference: S15-005-01

Heymans & Associates Pty Ltd
Engineering Consultants
195-197 Wentworth St, Port Kembla 2505
P: 02-4274 7001 F: 02-4274 7006
e: florian@heymans.com.au
Client: Berten Pty Ltd
Project: Abbotsford Estate
Title: Proposed south wing chimney stabilisation
Sketch No. : S15-005-01

Notes.
1. This sketch is preliminary and must not be used for construction.
2. Scaffolding including tube to be to AS/NZS 1576.
3. Packers shall be fitted such so as not to impart vertical loads on scaffolding.
4. Scaffolding designed to resist horizontal loads only.





ATTACHMENT 10

South Wing – Gable Wall Stabilisation Framing Arrangement

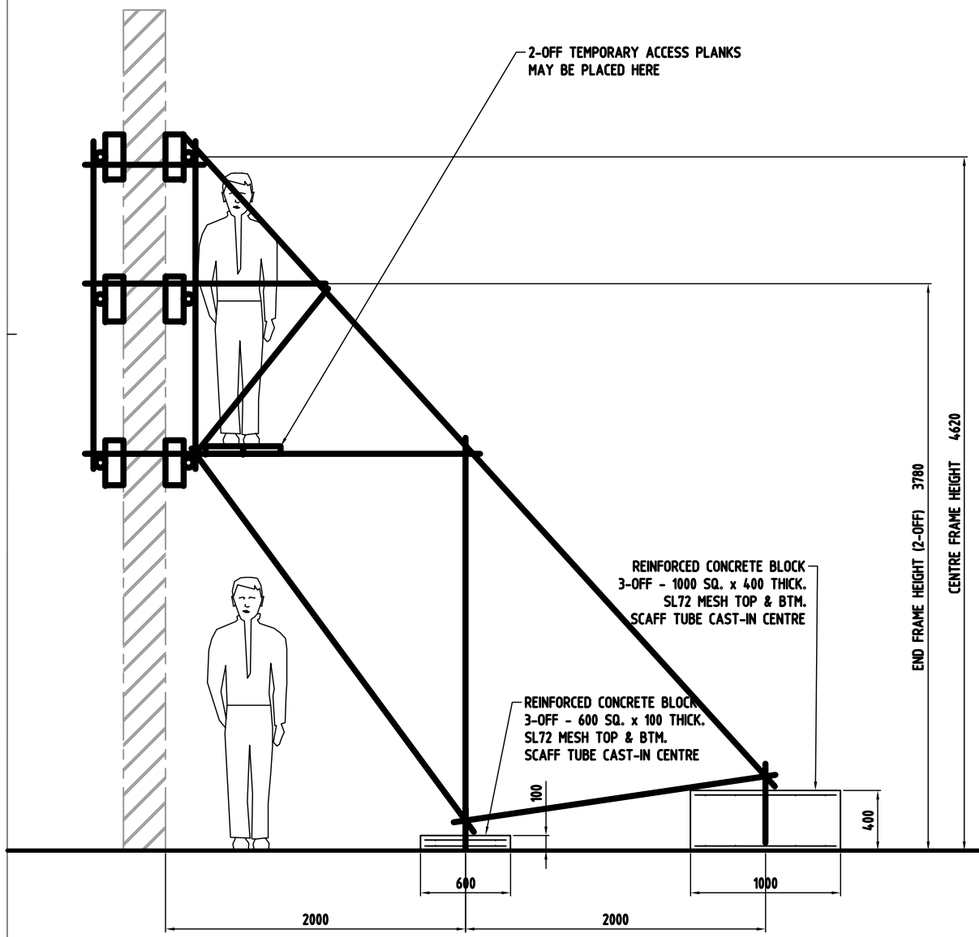
Prepared by Heymans & Associates Pty Limited
Plan Reference: SK15-005-03 Rev. 1 dated 19/03/15

A1

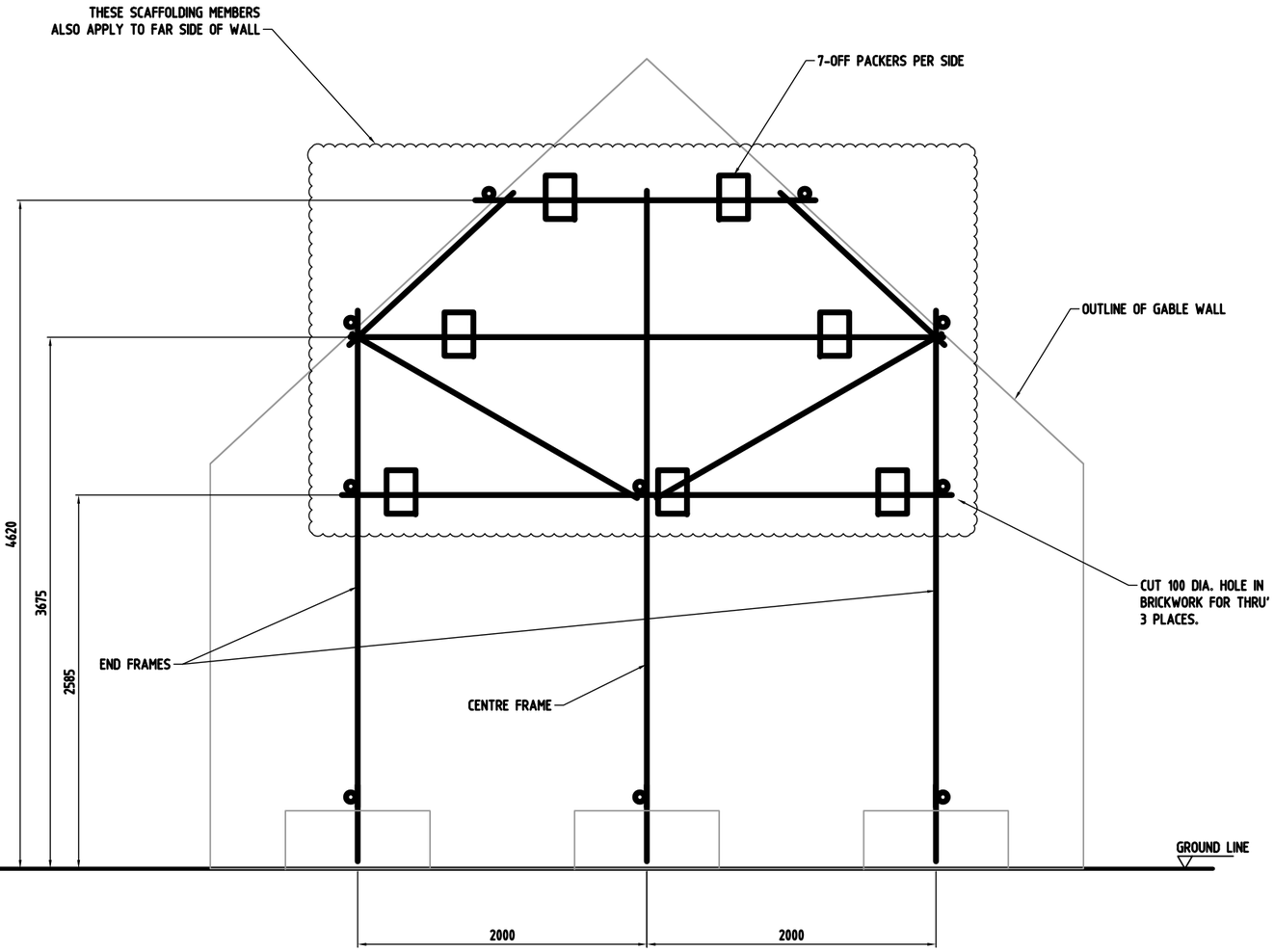
S
E W
N

NOTES

1. THIS SKETCH DRAWING MAY BE USED FOR CONSTRUCTION.
2. SCAFFOLDING INCLUDING TUBE AND FITTINGS TO COMPLY WITH AS/NZS 1576.
3. MAX. LIVE LOAD IN ONE BAY TO BE 2.2 kN.
4. PACKERS SHALL BE FITTED SUCH SO AS NOT TO IMPART VERTICAL LOADS ON SCAFFOLDING.
5. SCAFFOLDING TO BE SUPPLIED AND ERECTED BY AN EXPERIENCED SCAFFOLDING CONTRACTOR.
6. ONCE THE SCAFFOLDING HAS BEEN FULLY ERECTED AND THE PACKERS HAVE BEEN PLACED IT WILL BE PERMISSIBLE TO ATTACH OR LEAN LADDERS AGAINST THE SCAFFOLDING ONLY TO ACCESS THE EAST FACE OF THE WALL.



WESTERN GABLE WALL - LOOKING SOUTH



ELEVATION ON WESTERN GABLE WALL - LOOKING EAST

REFERENCE DRAWINGS

MAIN HOUSE - STRUCTURAL INTEGRITY AND STABILITY REPORT No. 15/005

	NAME	DATE
1 ISSUED FOR CONSTRUCTION.	FH	9/03/15

DRAWING AMENDMENT

CLIENT
BERTEN PTY LTD

PROJECT
ABBOTSFORD ESTATE
PICTON NSW 2571

TITLE
SOUTH WING - GABLE WALL
STABILISATION FRAMING
ARRANGEMENT

DRN	DATE	CH'D.	DATE	DESIGN	DATE	CH'D.	SCALE
P.B.	9/03/15	F.H.	9/03/15				1:20

HEYMANS & ASSOCIATES PTY LIMITED
A.B.N. 35 068 017 685
ENGINEERING CONSULTANTS
195-197 Wentworth Street, Pt.Kembla NSW 2505
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JOB NO. 15-005 | DWG. NO. SK15-005-03 | REVISIONS 1

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