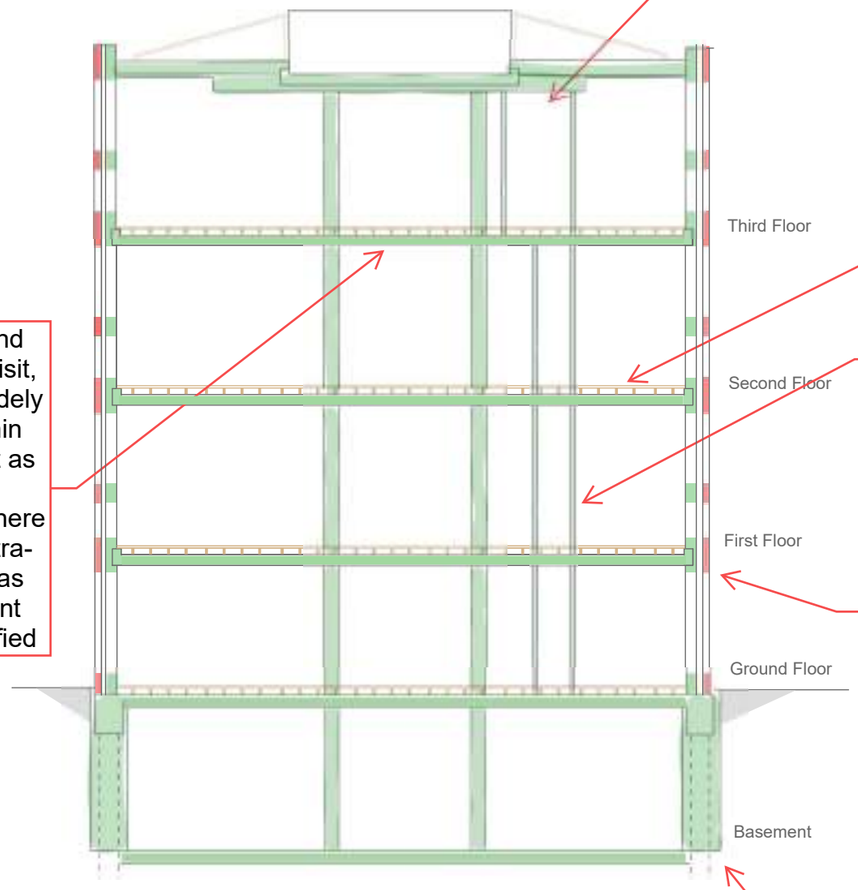
Staircase to plant area

Slabs span from concrete beams and columns on external walls and internal columns

Raised timber floors on top of flat 300mm thk concrete slabs

Lift shaft from ground to second floor.

No signs of downstand beams seen in site visit, meaning it's likely widely reinforced areas within the concrete slab act as beams.
This is significant if there is any planned penetration of the concrete, as areas of reinforcement will have to be identified

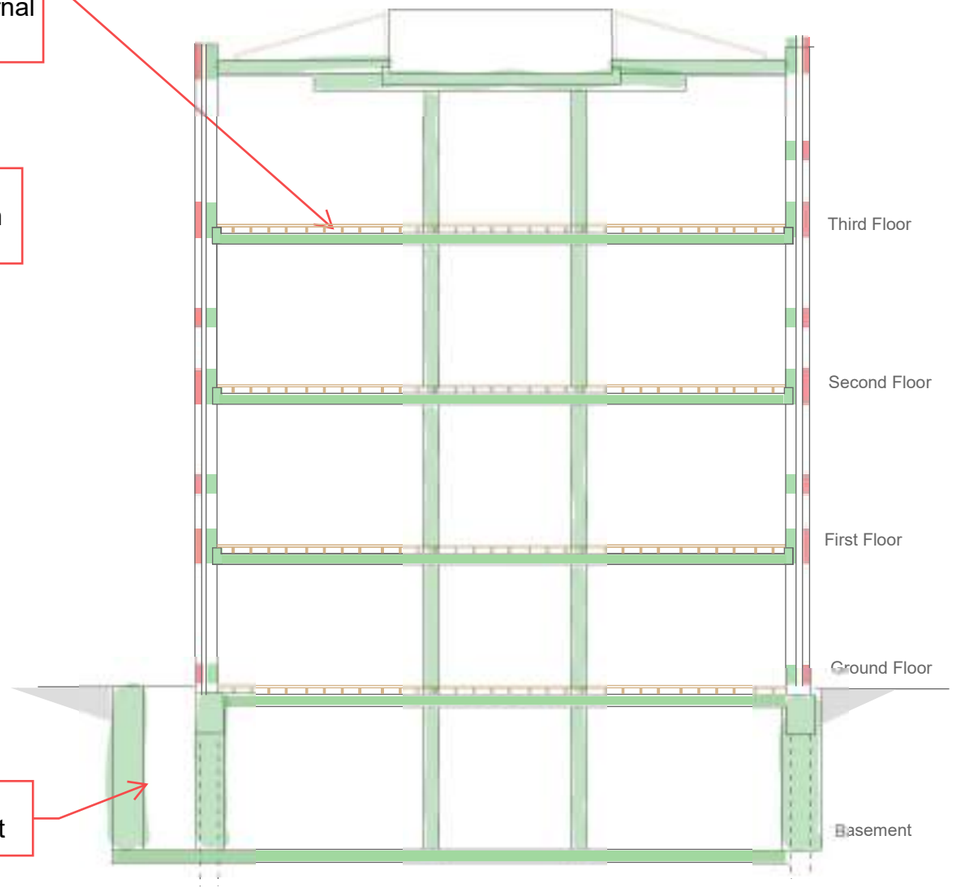


Upstand beams shown in architectural sections and details

External staircase leading to basement

What looks like piled retaining walls in the basement

Section A-A



Section B-B

1399 SK14	Richmond Hill Campus
Library Existing Sections Structure Highlighted	Date 04/09/2023
integral engineering design	Integral Engineering Design 84 Walcot Street Bath BA1 5BD

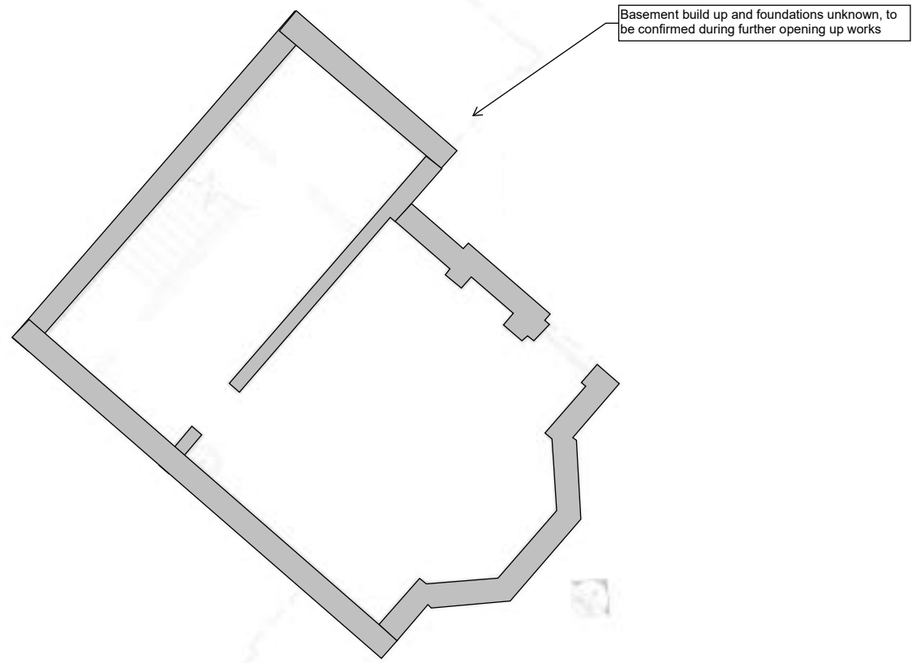
Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed



1399 SK90

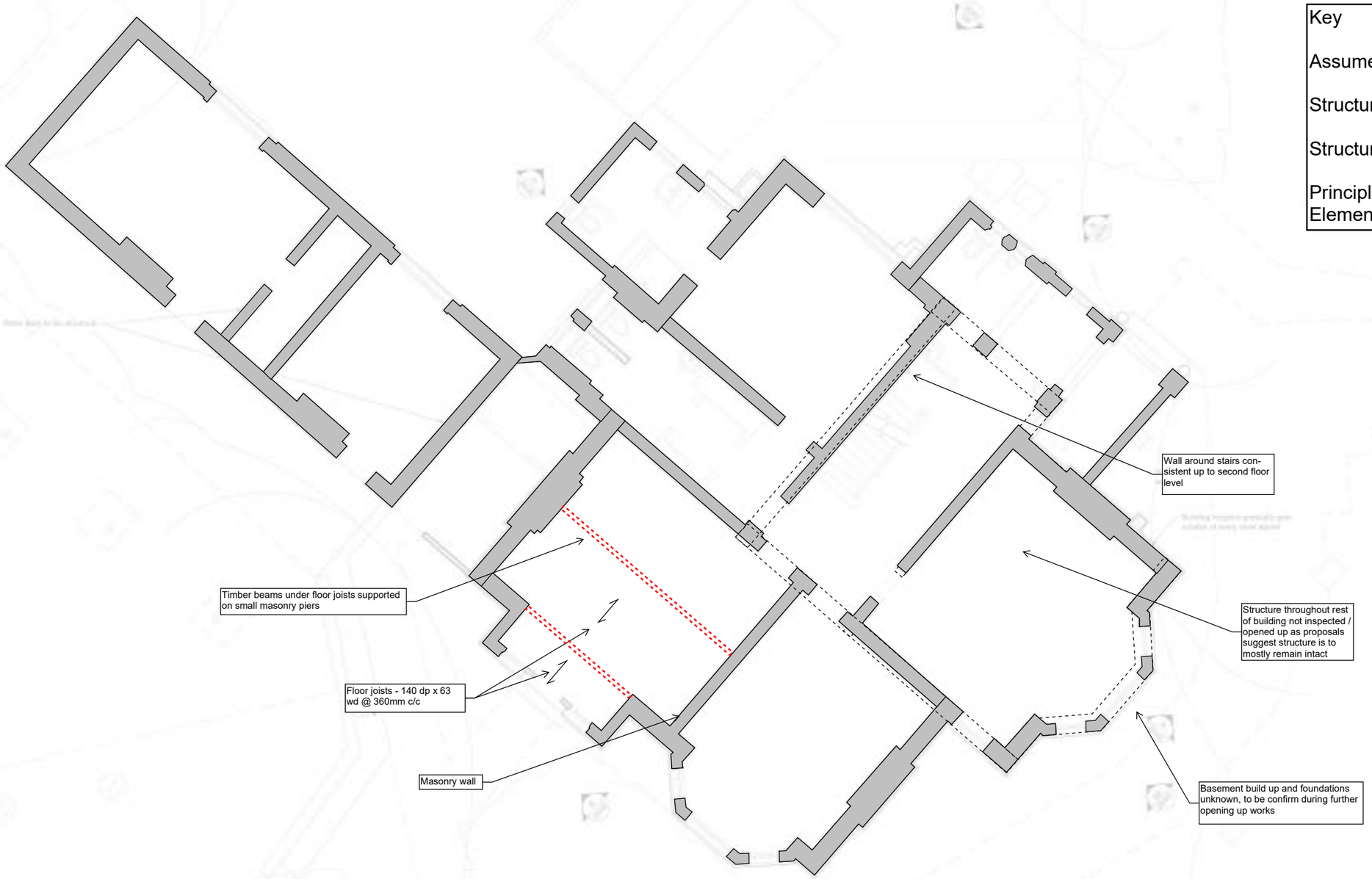
Richmond Hill Campus

Red House Basement Existing Structure

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

1399 SK91

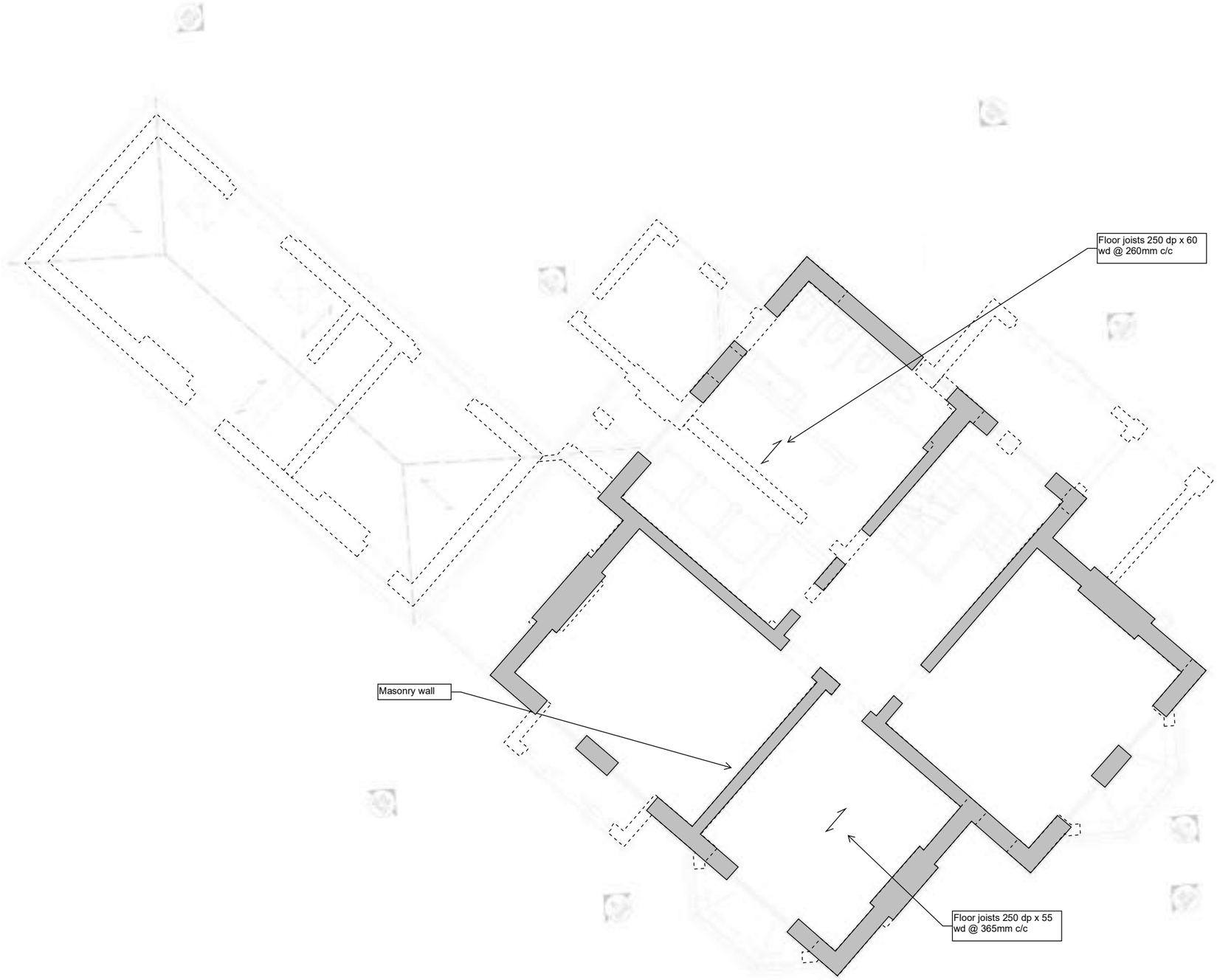
Red House Ground Floor Existing Structure

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

1399 SK92

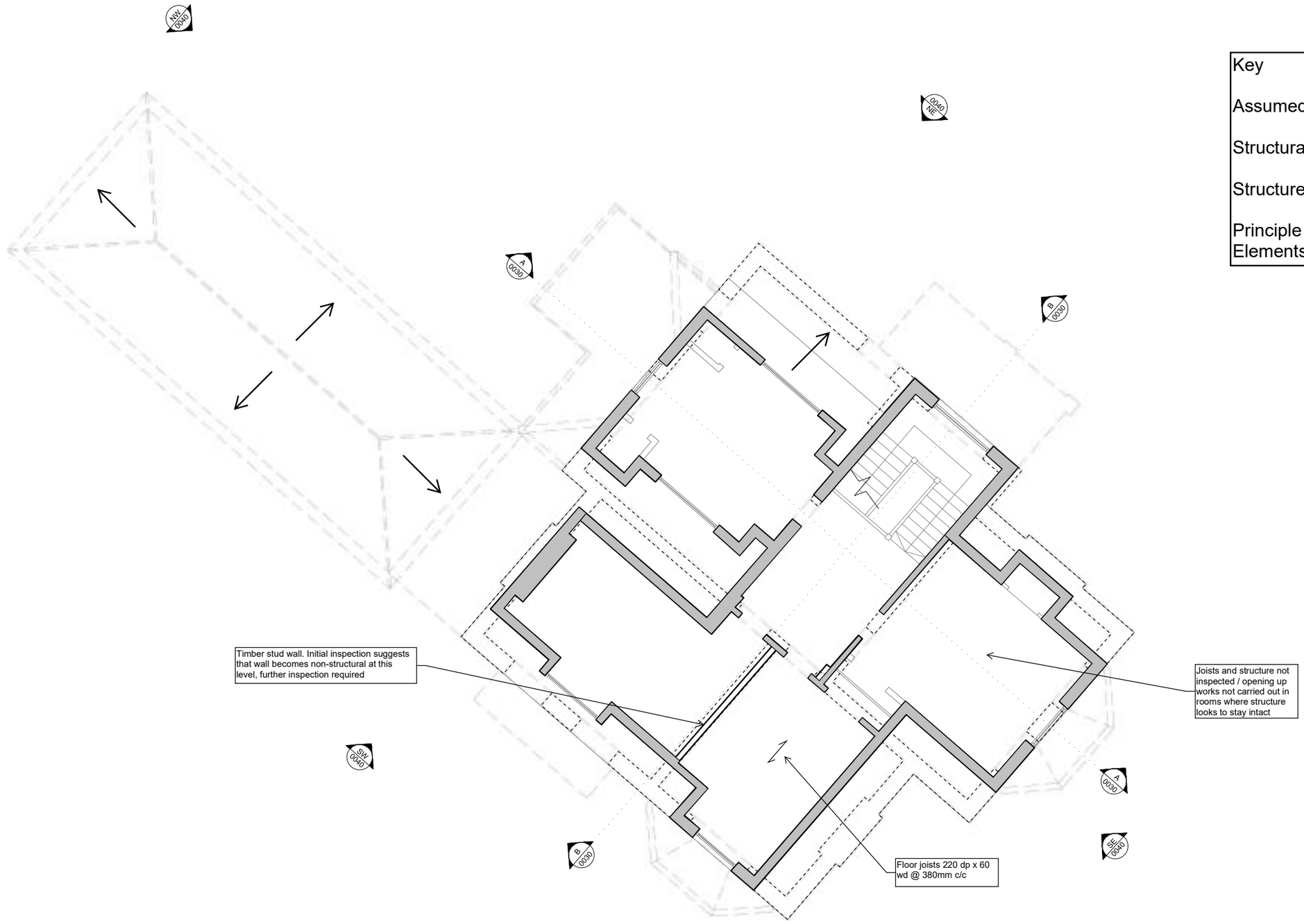
Red House First Floor Existing Structure

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

1399 SK93

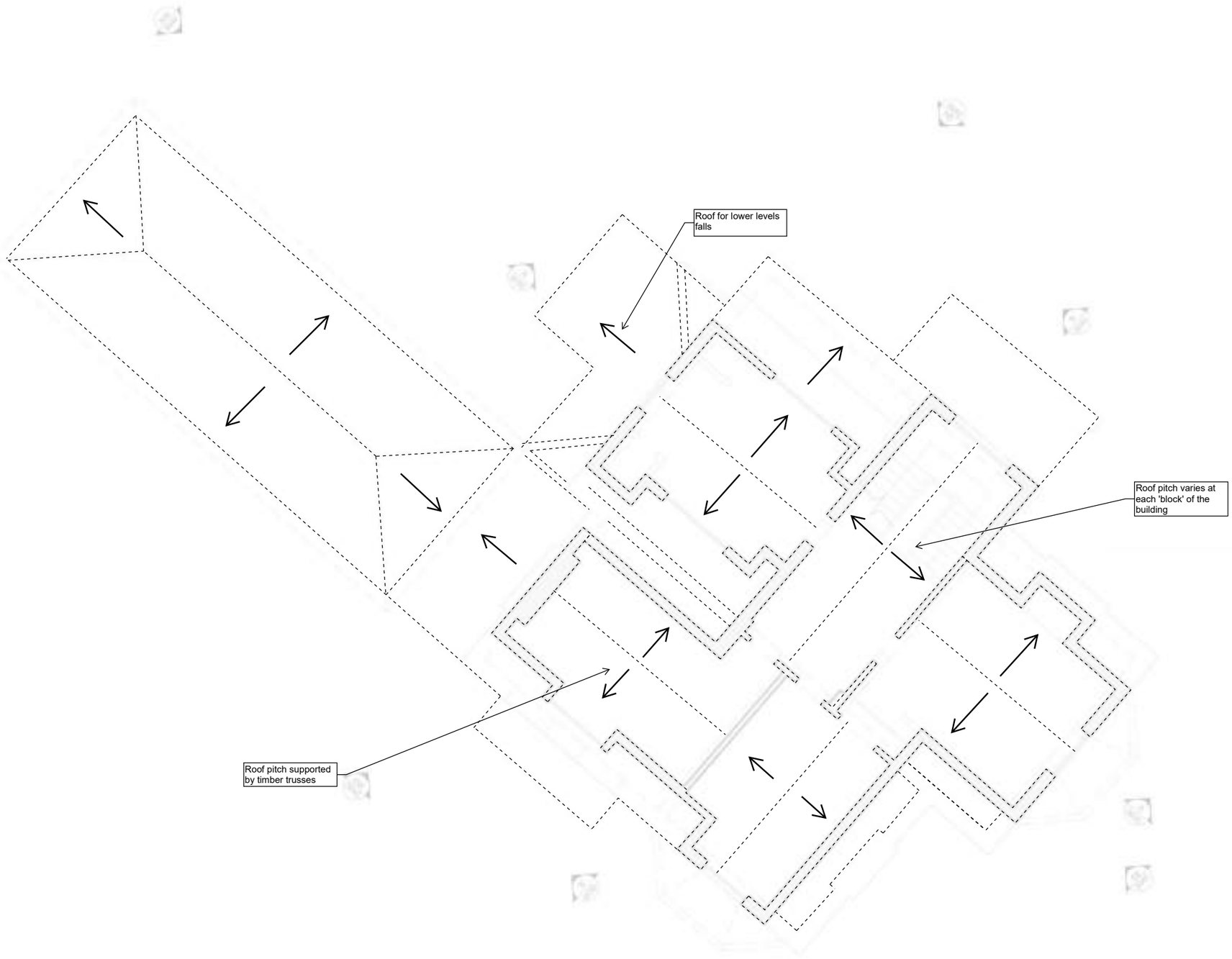
Red House Second Floor Existing Structure

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

1399 SK94

Richmond Hill Campus

Red House Roof Existing Structure

Date 12/01/2024

integral engineering design

Integral Engineering Design
54 Walcot Street
Bath
BA1 5BD

Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

Foundations unknown, to be confirmed during further opening up works

No sign of tying between masonry wall and internal timber stud wall. Therefore stud walls assumed not to be acting structurally

Further investigation required to determine if walls in this area are structural

1399 SK95

Longley House Ground Floor Existing Structure

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

Key

Assumed Beam Below

Structural Wall

Structure Below

Principle Structural Elements to be Removed

1399 SK96

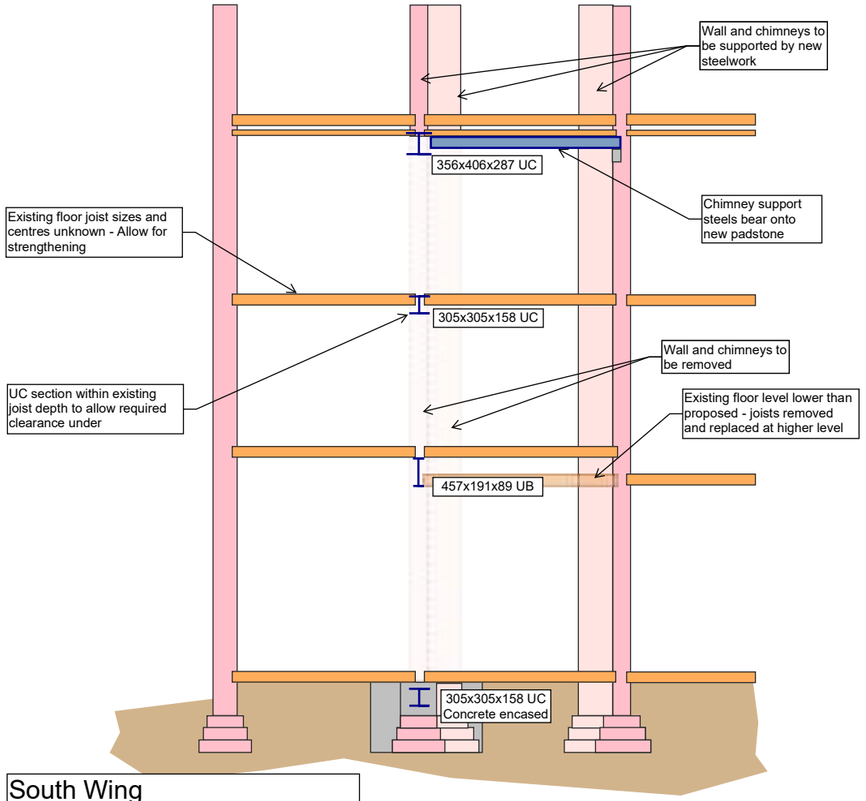
Richmond Hill Campus

Longley House Roof Existing Structure

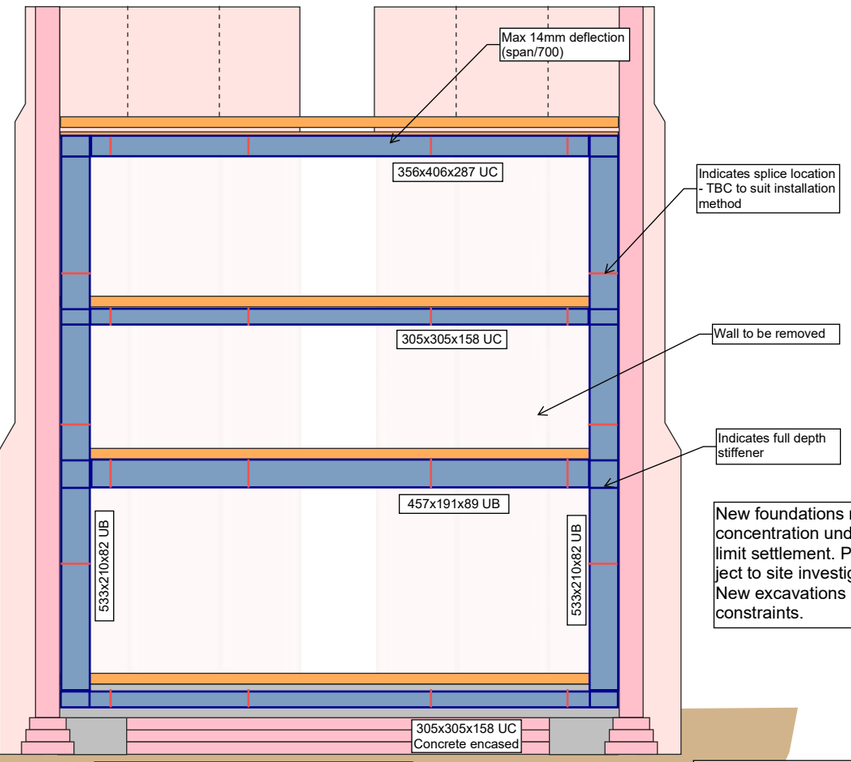
Date 12/01/2024

integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

Appendix B – Proposed Structure Sketches

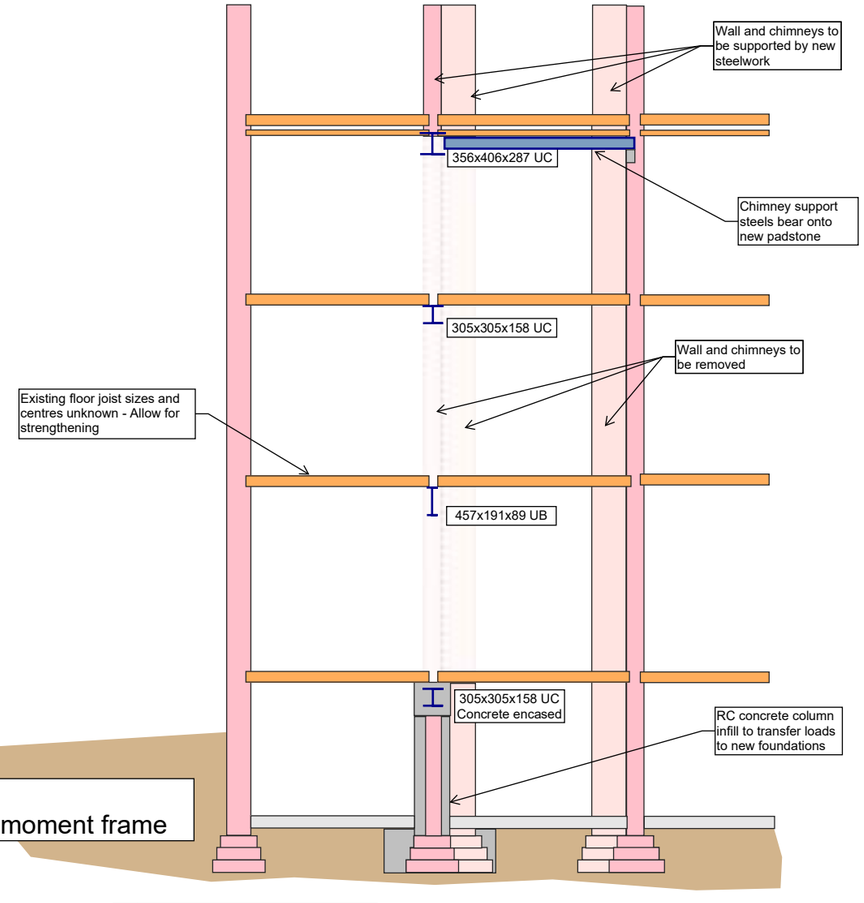


South Wing
Wall removal moment frame

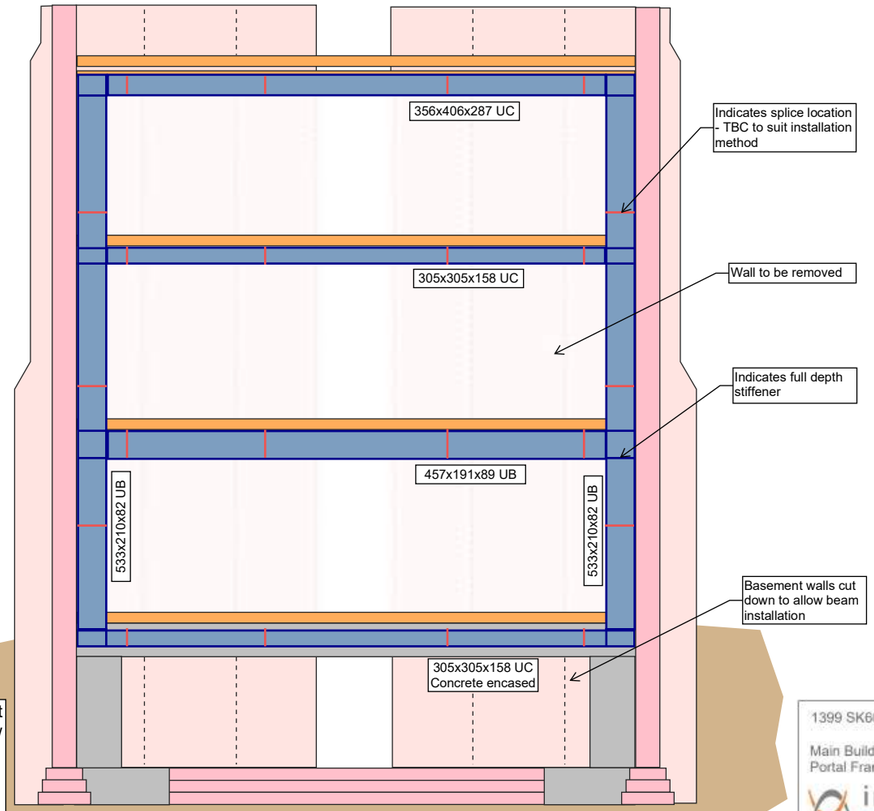


Concrete pad/pile cap foundation to saddle over existing brick footings
Plan size 2.5m x 2.5m
Assumed bearing pressure 75kN/m^2

New foundations required to support load concentration under columns. Design to limit settlement. Piles may be required subject to site investigation findings.
New excavations subject to archaeological constraints.



North Wing
Wall removal moment frame

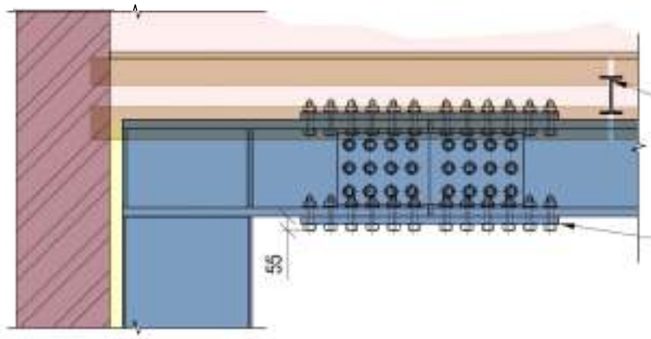


250wide concrete column to either side of basement brick wall to infill to chimney breast and bear on new pad footing
Concrete pad foundation to saddle over existing brick footings
Plan size 2.5m x 2.5m
Assumed bearing pressure 75kN/m^2

1399 SK60
Main Building
Portal Frames UCs

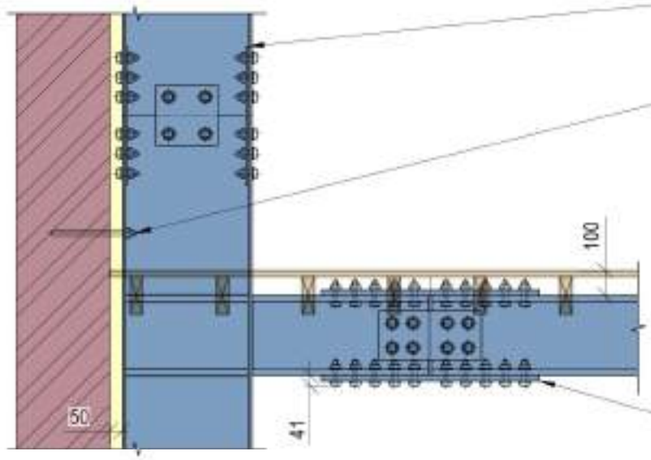
Richmond Hill Campus
Date 18/12/2023

integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Existing 6½" x 3¼" RSJ to be supported off new steel moment frame

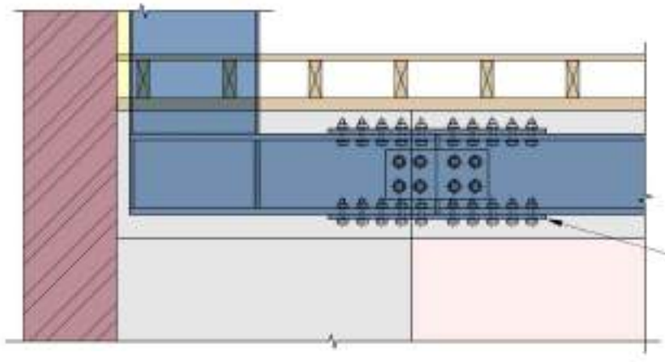
Indicative top beam splice - 30mm thk plates with M24 bolts



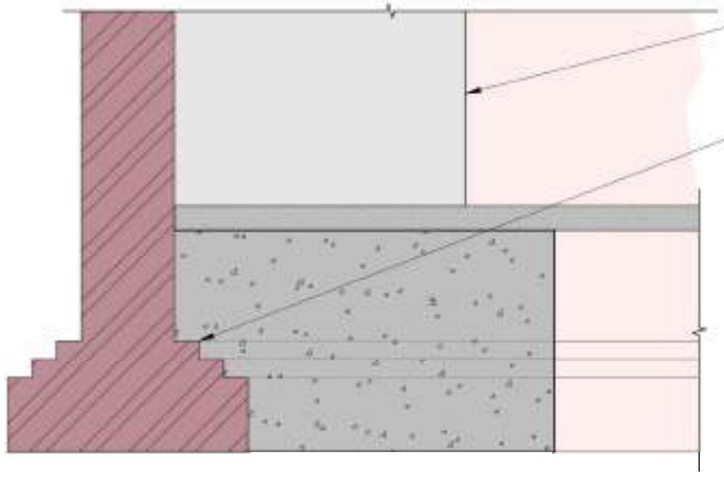
Indicative column splice - 10mm thk plates with M20 bolts

Columns bolted to existing wall at max 500mm c/c and grouted in place to ensure load transfer
Grout zone to allow for column splice detail and wall tolerances.

Indicative beam splice - 20mm thk plates with M20 bolts

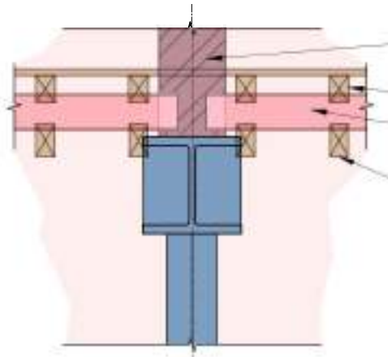


Indicative beam splice - 20mm thk plates with M20 bolts



250 wide RC column either side of existing masonry basement wall to extend to chimney breast

Existing masonry wall footings unknown

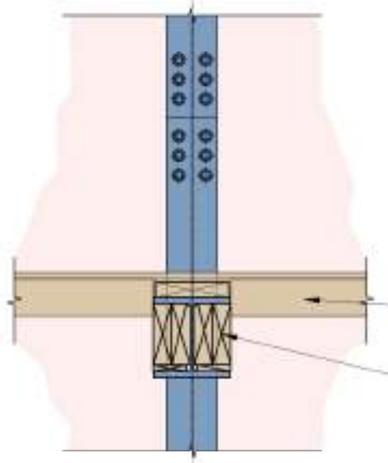


Brick wall supported off new moment frame

Existing 78x110dp floor joists @ 380c/c

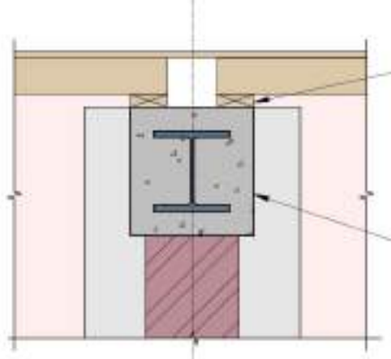
Existing 6½" x 3¼" RSJ to be supported off new steel moment frame

Existing 75x130dp ceiling joists @ 380c/c



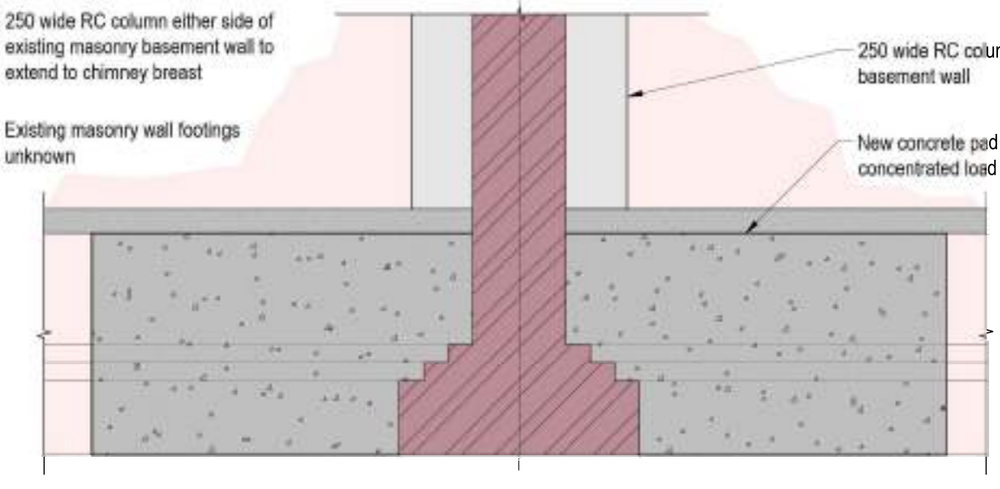
Existing joist sizes TBC

Timber packing to allow joists to fix within depth



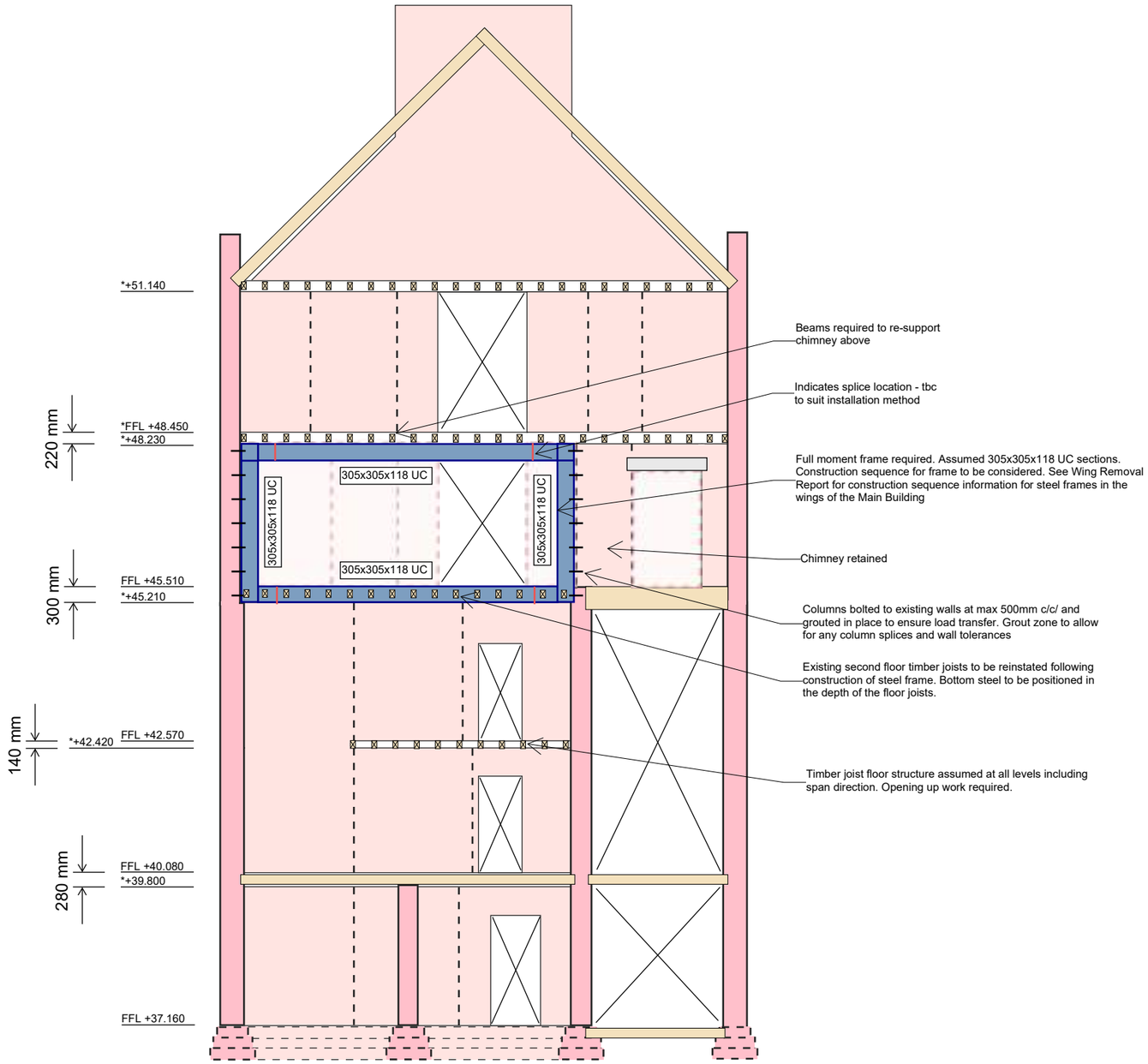
New timber sole plates fixed to concrete encasement to support floor joists

525x500mm RC encasement to steel beam to bear onto existing basement masonry wall



250 wide RC column either side of existing masonry basement wall

New concrete pad footing or pile cap to support concentrated load from moment frame



*Level determined from Faro Sphere point cloud survey

Main Building
Second Floor Steel Frame Section

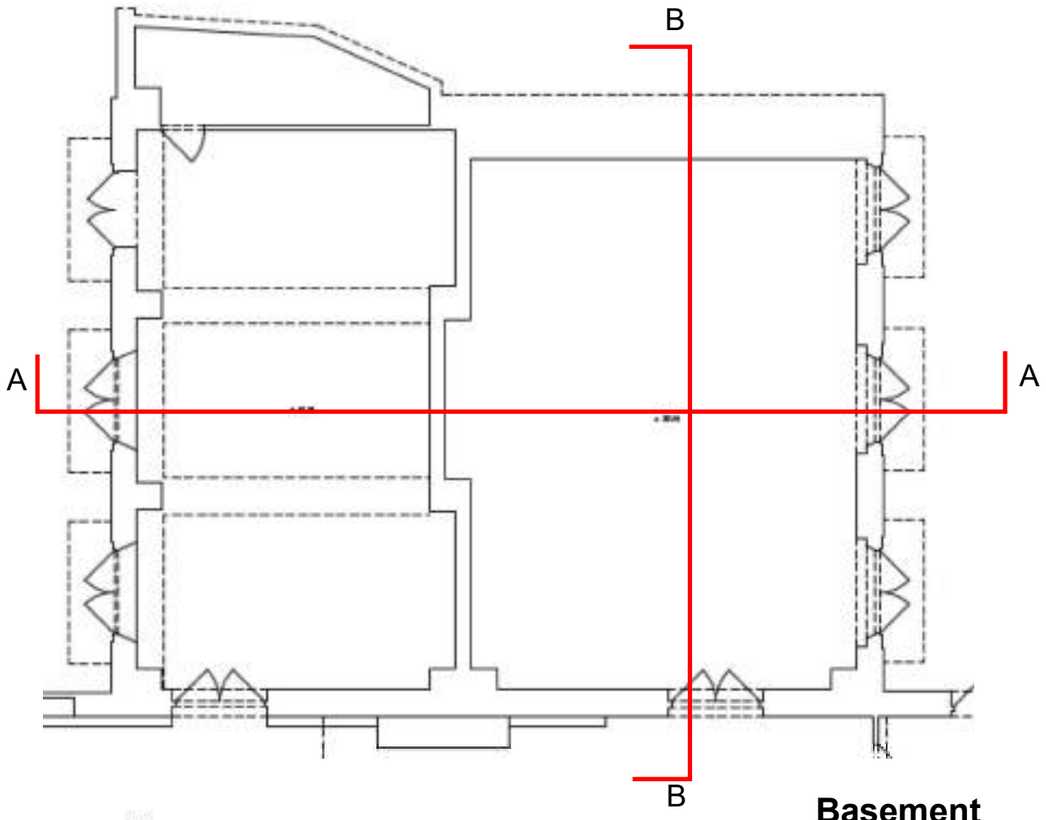
1399 SK62 Rev A

Richmond Hill Campus

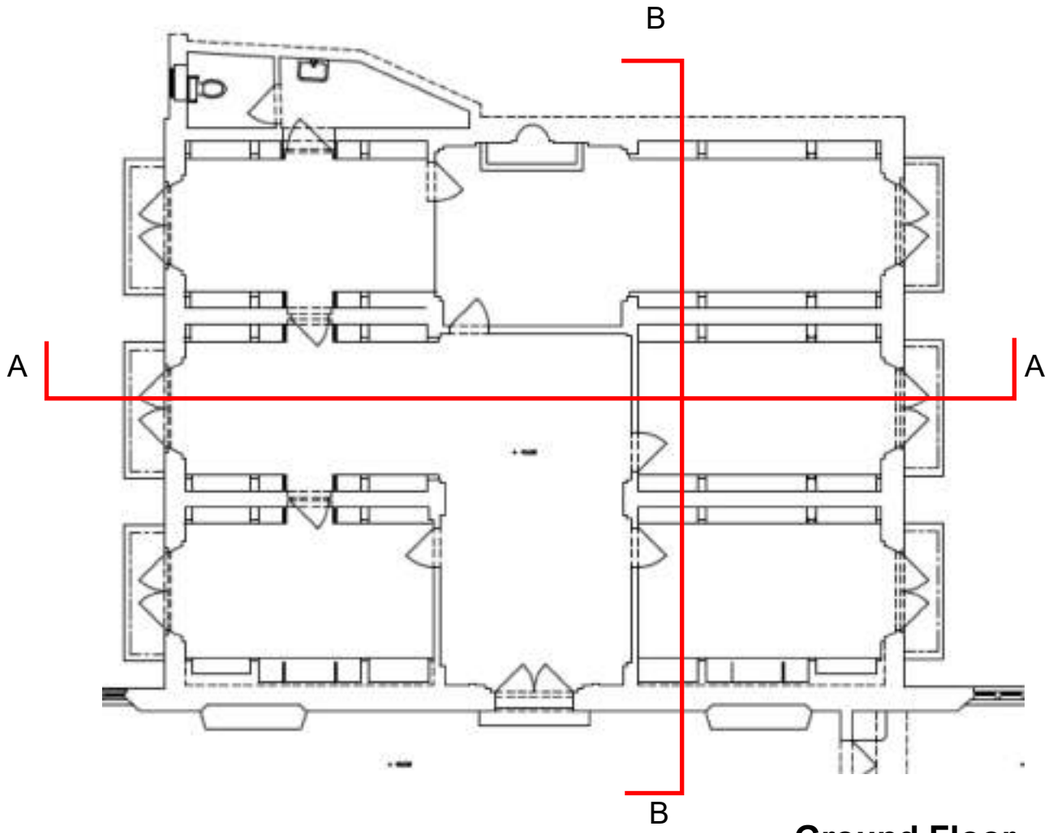
Main Building
Second Floor Portal Frames

Date 12/01/2024

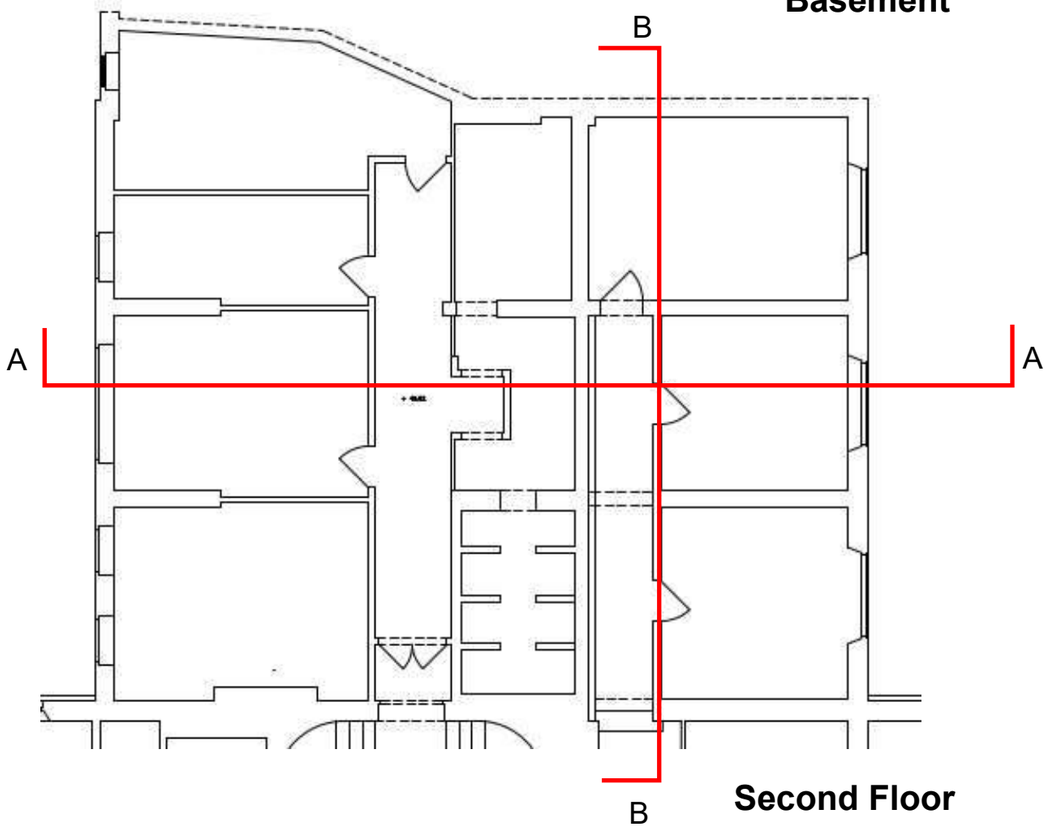
integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD



Basement



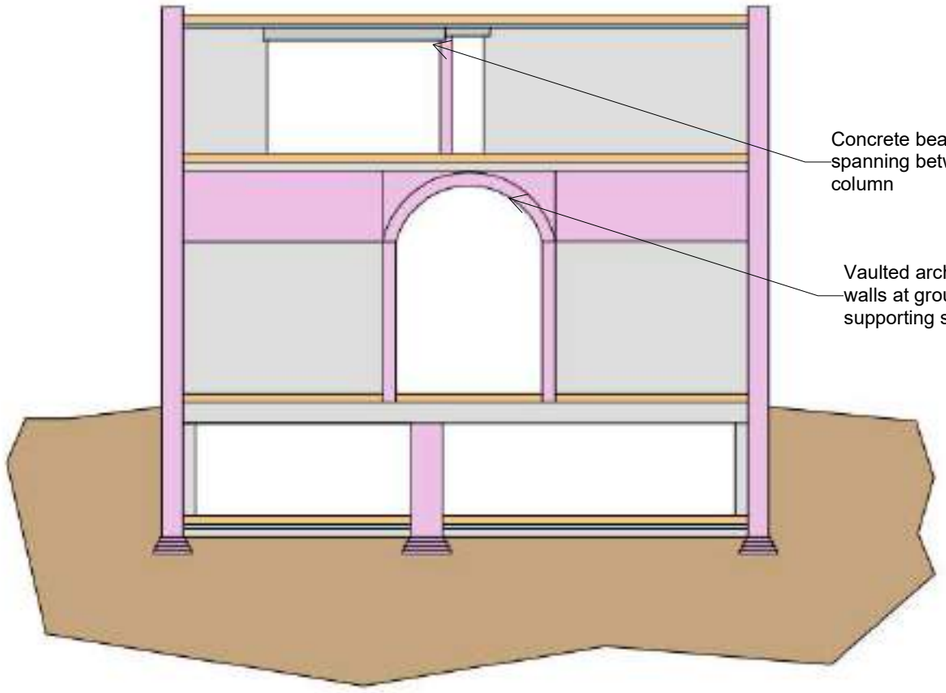
Ground Floor



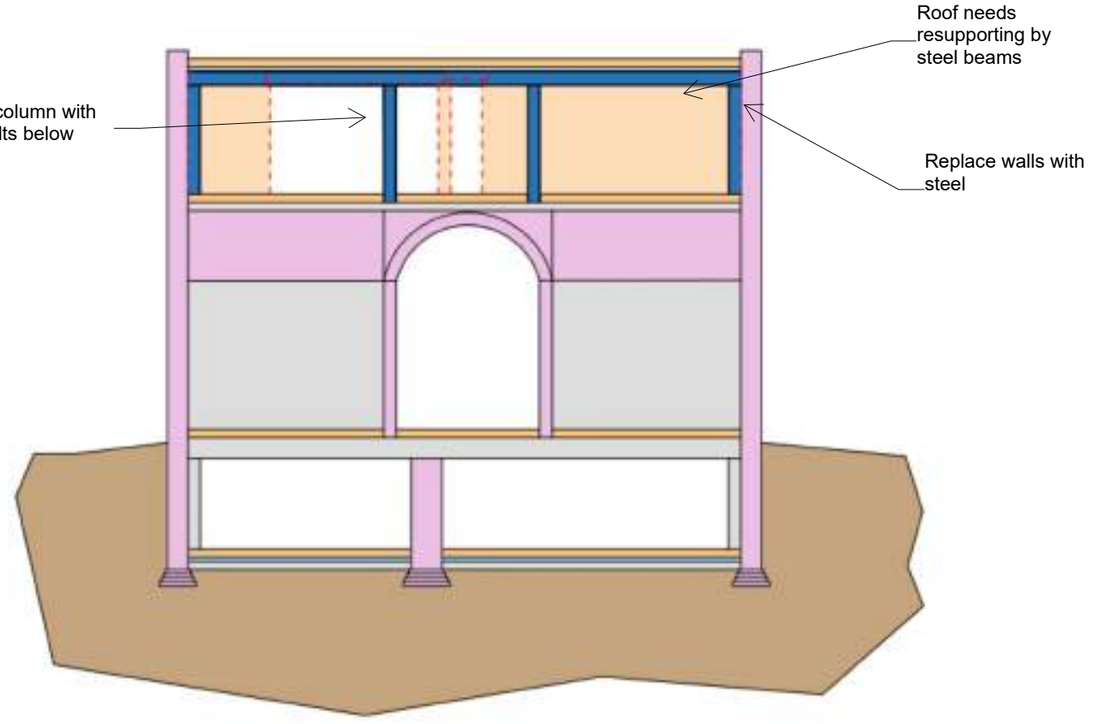
Second Floor

1399 SK63 Rev A	Richmond Hill Campus
Maufe Block Existing and Proposed Sections	Date 12/01/2024

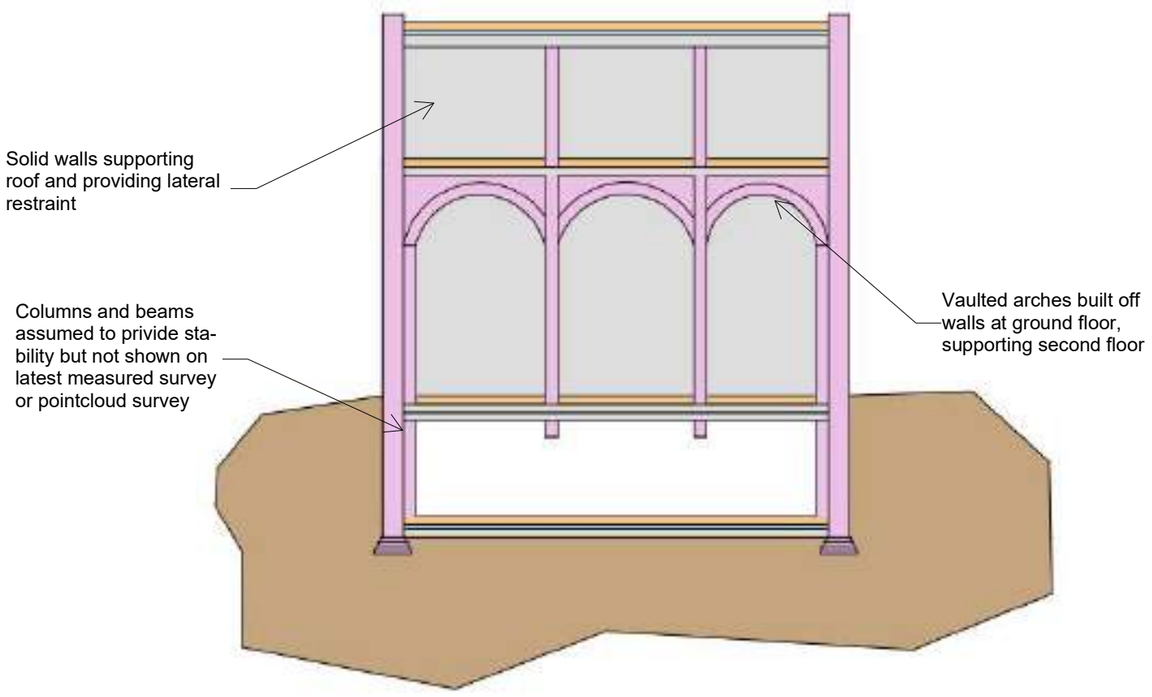
integral engineering design
Integral Engineering Design
64 Walcot Street
Bath
BA1 5BD



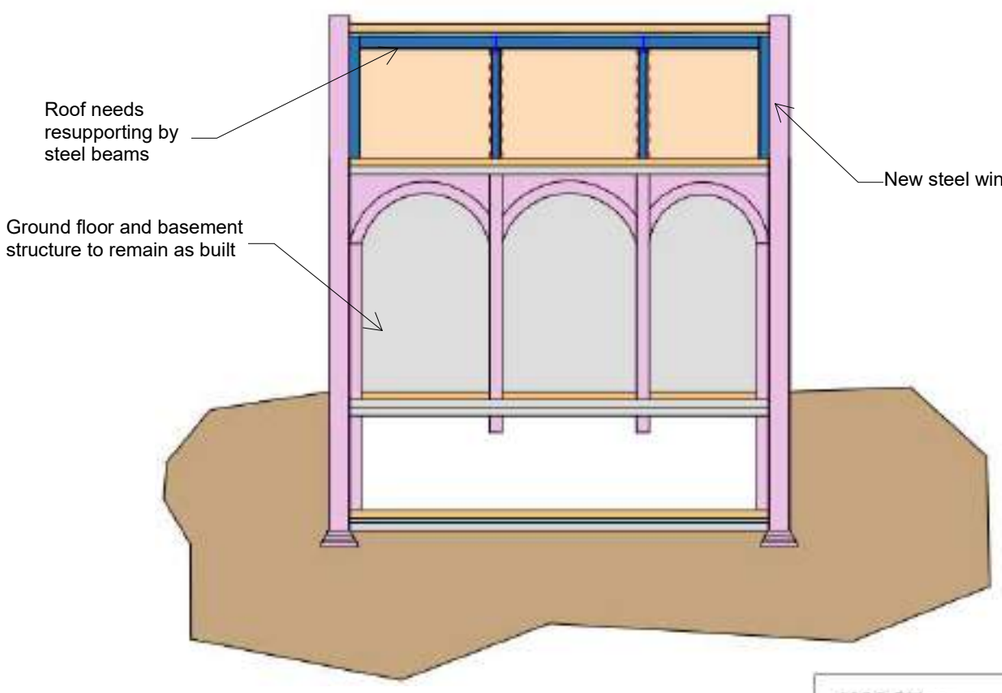
Existing Section A-A



Proposed Section A-A



Existing Section B-B



Proposed Section B-B

1399 SK63 Rev A

Richmond Hill Campus

Maufe Block Existing and Proposed Sections

Date 12/01/2024

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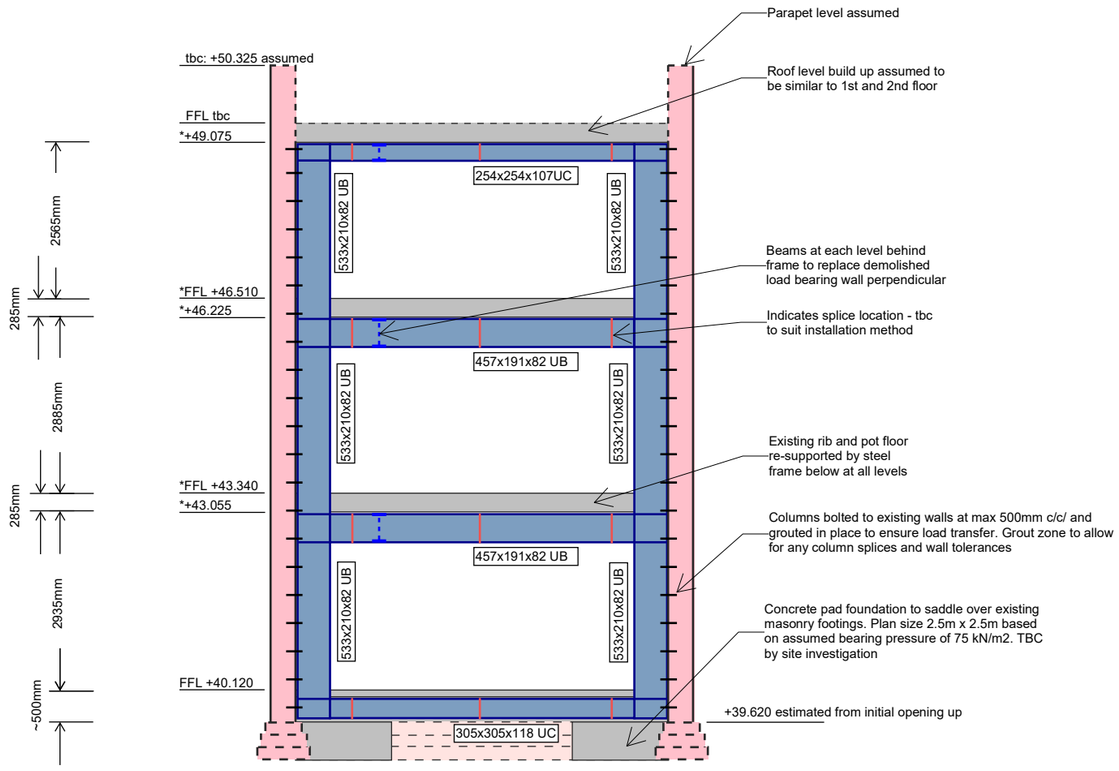
Integral Engineering Design
64 Walcot Street
Bath
BA1 5BD



*Level determined from Faro Sphere point cloud survey

George House Steel Frame Section

1399 SK64 Rev A

Richmond Hill Campus

Main Building
Second Floor Portal Frames

Date 12/01/2024

integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

Thomas's College

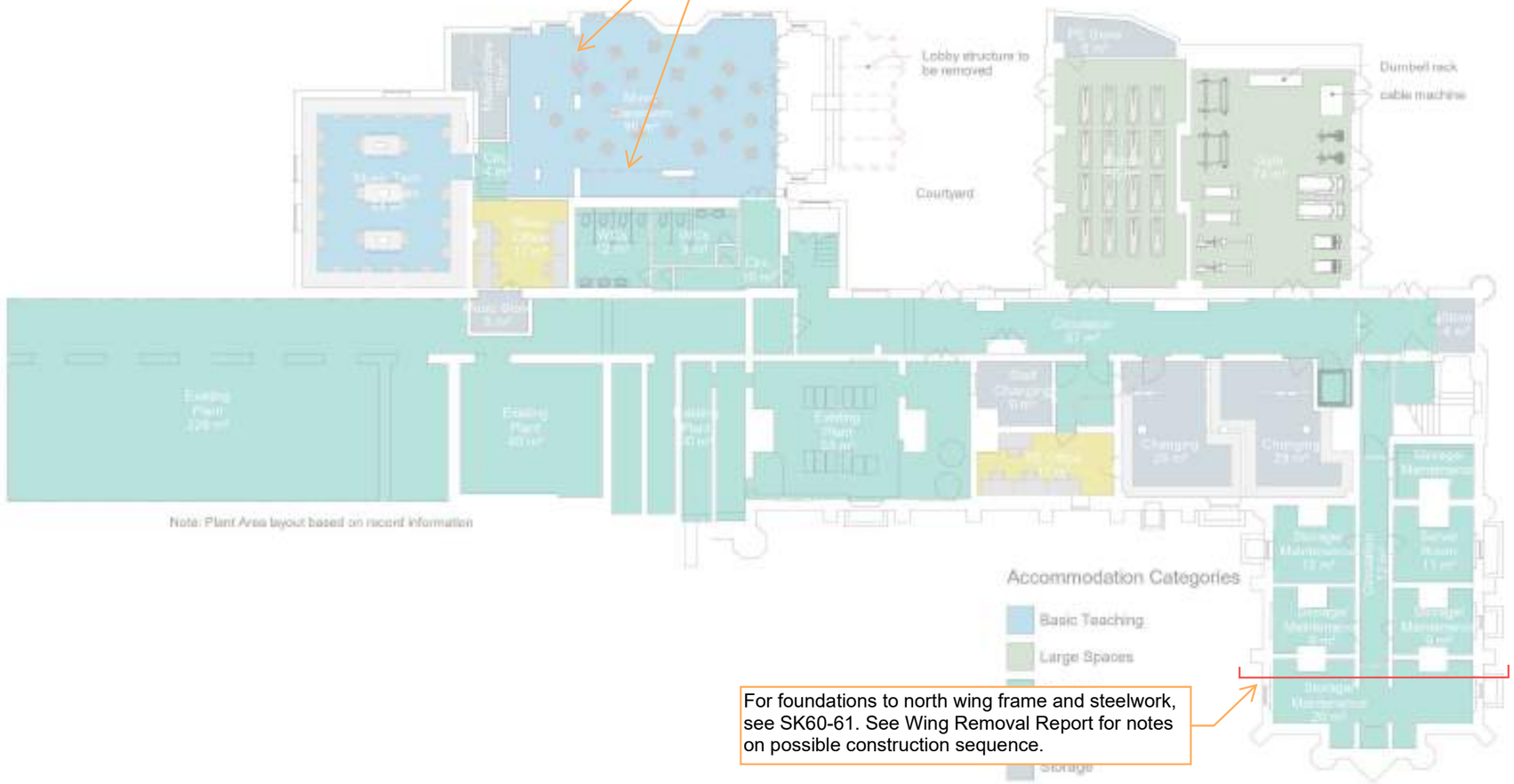
Proposed Lower Ground Floor Main Building

1714 IID XX XX DR A-0107 P10

Scale: 1 : 250 at A3

27.11.23

Further opening up required to confirm walls are non-structural



Note: Plant Area layout based on recent information

For foundations to north wing frame and steelwork, see SK60-61. See Wing Removal Report for notes on possible construction sequence.

1399 SK70

Main Building
Proposed Basement

Richmond Hill Campus

Date 18/12/2023

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

IID

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

Thomas's College

Proposed Ground Floor Main Building

1714 IID XX XX DR A-0108 P10

Scale: 1 : 250 at A3

27.11.23

2 Proposed Ground Floor Plan - LHS

1 : 250

The removal of the draught lobby from the main entrance hall is beneficial in restoring the proportions of the original space.

Through the removal of the security office and associated partitions, the area below the central staircase would be opened up and restored to its earlier condition.

The proposals to accommodate the school's Senior Leadership Team in the Edward Maufe extension retains much from the original Maufe design and layout

Assumed non-structural

Walls assumed non-structural

84 pupils

84 pupils

Low level walls, steps and surfacing amended to form to accessible entrance

Existing wall nib to remain, supports existing beam over

Moment frame to replace wall, see SK64 for section

Remove stair to accommodate new lift

South wing frame and steelwork, see SK60-61 for sections and details. See Wing Removal Report for notes on possible construction sequence

58 pupils

Total dining = 250 seats

24 seats

Assumed non-structural

These columns can be removed if they are only supporting the mezzanine which is being removed

Assumed non-structural

Through the provision of Hybrid Dining in the Lycett Room and adjacent extension, the proposal allows for the removal the existing 1st floor Dining Mezzanine thereby returning the Ground Floor Dining Area to its original double height grandeur following removal of the more unfortunate late 20th Century mezzanine and connecting stair interventions.

Assumed non-structural

North wing frame and steelwork, see SK60-61 for sections and details. See Wing Removal Report for notes on possible construction sequence

Assumed non-structural

Accommodation Categories

- Basic Teaching
- Large Spaces
- Learning Resource
- Storage

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

1399 SK71

Richmond Hill Campus

Main Building
Proposed Ground Floor

Date 18/12/2023

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

IID

Thomas's College

Proposed First Floor Main Building

1714 IID XX XX DR A-0109 P09

Scale: 1 : 250 at A3

27.11.23

2 Proposed First Floor Plan - LHS

1 : 250

Allow for windposts to replace partitions

Lintel over proposed opening

New infill floor to replace staircase void. Location of existing beams shown in black. Assume timber joists for new floor

Lintel over proposed opening

Assumed non-structural

Lintel over proposed opening

Wall to remain in original position

Allow for windposts to replace paritions

Moment frame to replace wall, see SK64 for section

New lift in stairwell

South wing frame and steelwork, see SK60-61 for sections and details. See Wing Removal Report for notes on possible construction sequence

New opening in floor for lift

Assumed non-structural

North wing frame and steelwork, see SK60-61 for sections and details. See Wing Removal Report for notes on possible construction sequence

Through the provision of Hybrid Dining in the Lycett Room and adjacent extension, the proposal allows for the removal the existing 1st floor Dining Mezzanine thereby returning the Ground Floor Dining Area to its original double height grandeur following removal of the more unfortunate late 20th Century mezzanine and connecting stair interventions.

Accommodation Categories

- Basic Teaching
- Non-net
- Staff & Admin
- Storage

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

1399 SK72

Main Building
Proposed First Floor

Richmond Hill Campus

Date 18/12/2023

integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

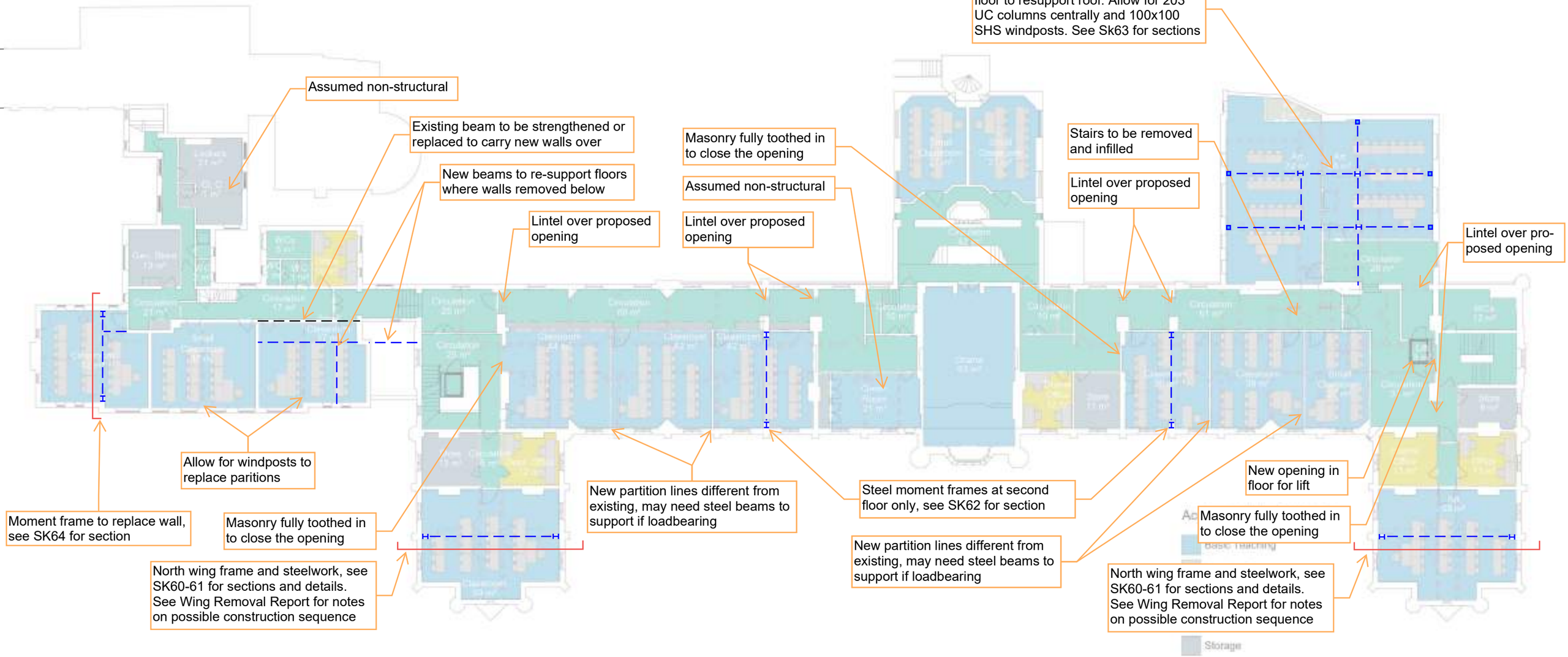
Thomas's College

Proposed Second Floor Main Building

1714 IID XX XX DR A-0110 P09

Scale: 1 : 250 at A3

27.11.23



1399 SK73 Rev A

Main Building
Proposed Second Floor

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

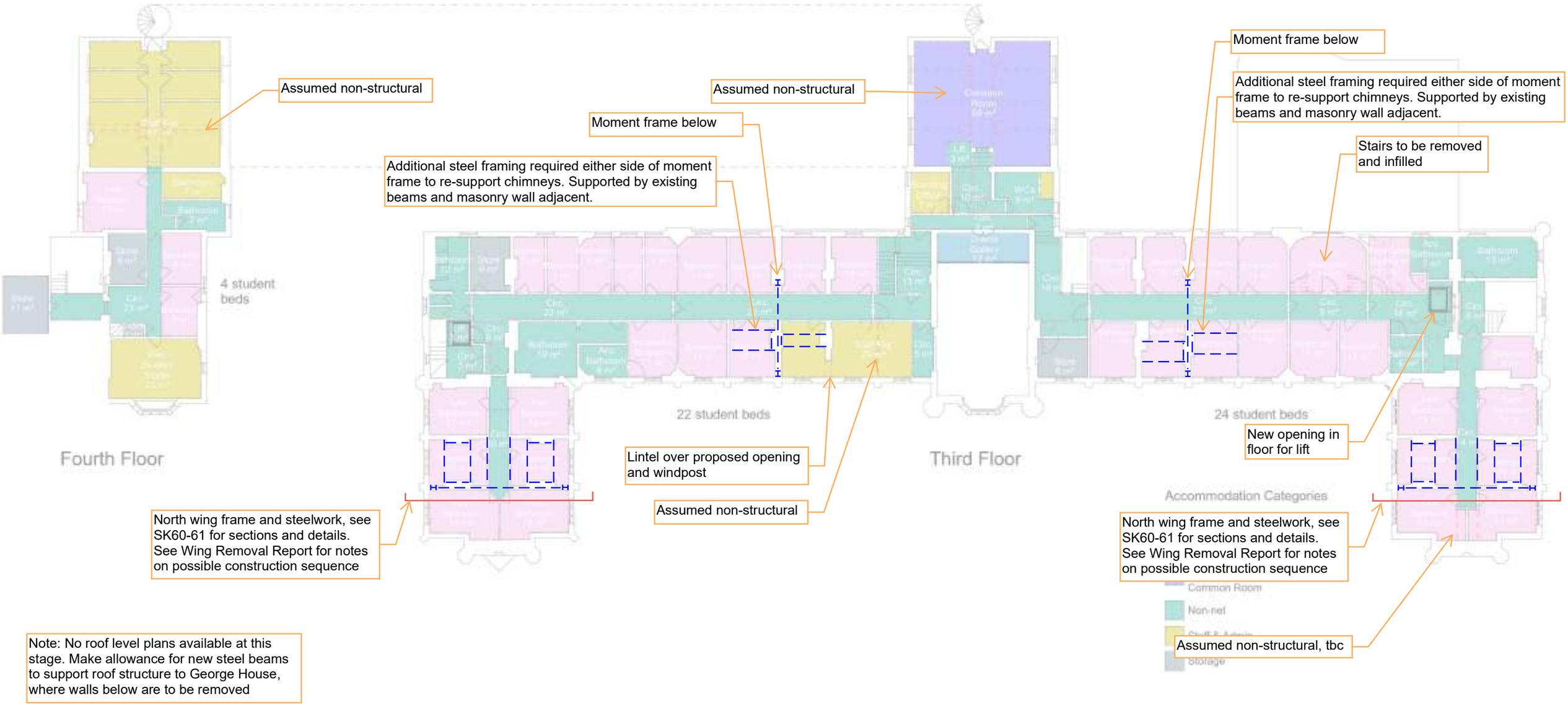
Thomas's College

Proposed Third and Fourth Floor Main Building

1714 IID XX XX DR A-0111 P09

Scale: 1 : 250 at A3

27.11.23



Note: No roof level plans available at this stage. Make allowance for new steel beams to support roof structure to George House, where walls below are to be removed

1399 SK74 Rev A

Main Building
Proposed Third and Fourth Floor

Richmond Hill Campus

Date 12/01/2024

integral engineering design

Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

IID

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

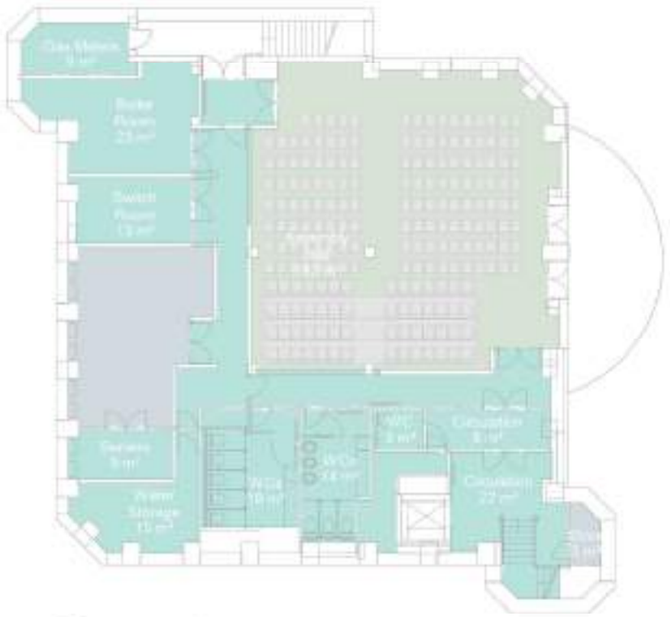
Thomas's College

Proposed Library Plans

1714 IID XX XX DR A-0112 P08

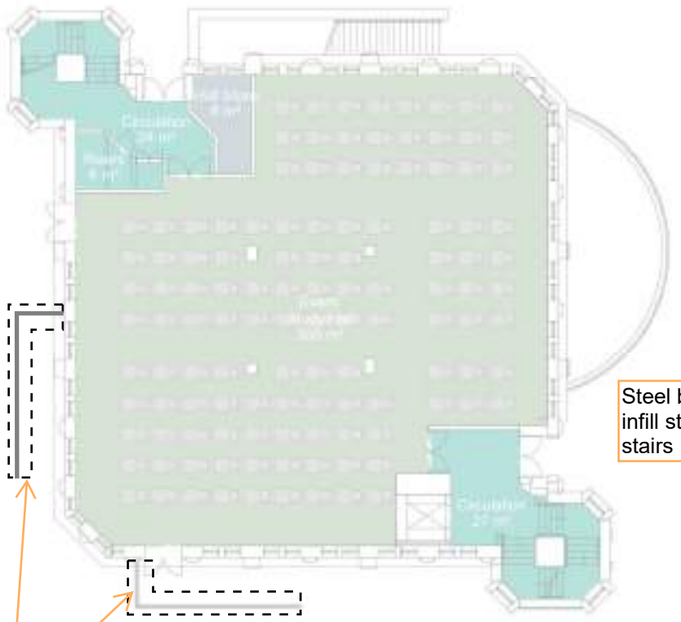
Scale 1 : 250 at A3

27.11.23



Basement

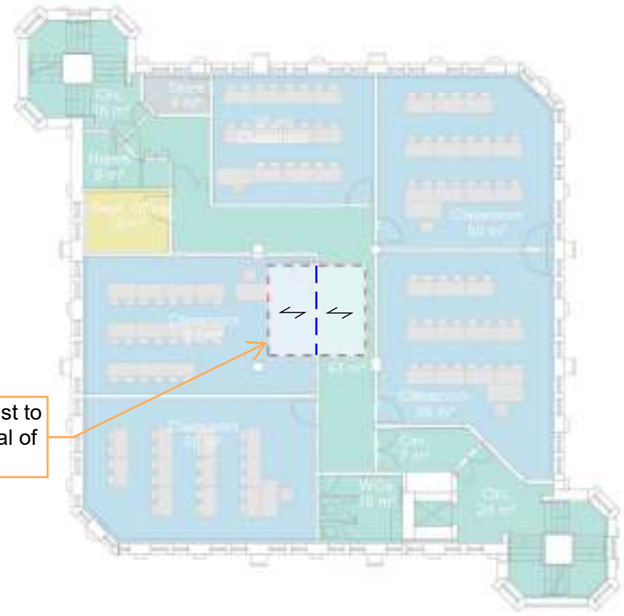
200 seats shown, some with restricted sight lines.
350mm seatways = max 10 seats in a row with two gangways
Bleacher seating to 4 rear rows



Small RC retaining walls to retain new ramps up to proposed openings

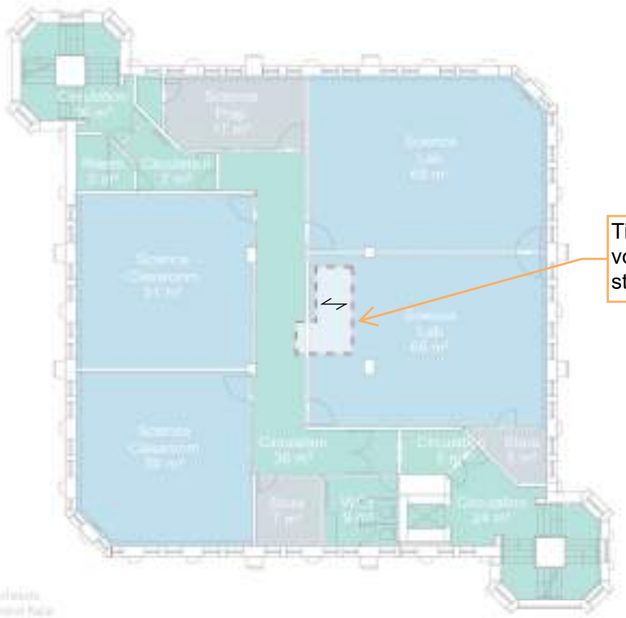
Ground Floor

Exam mode layout shown - 119 seats. Desks spaced at 1.25m
Max 5 seats in a row with two gangways



Steel beam and timber joist to infill stair void with removal of stairs

First Floor



Timber joist to infill stair void with removal of stairs

Second Floor

Third Floor

Note: The proposed layout for the Sir Cyril Taylor Library remains the same for all 3nr schemes. Drawings have been included in this option only to avoid duplication.

Accommodation Categories

- Basic Teaching
- Large Spaces
- Non-net
- Staff & Admin
- Storage

1399 SK75

Richmond Hill Campus

Library
Proposed Plans

Date 18/12/2023

integral engineering design
Integral Engineering Design
84 Walcot Street
Bath
BA1 5BD

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

IID

Thomas's College

Proposed Other Building Plans

1714 IID XX XX DR A-0113 P06

Scale: 1:250 at A3

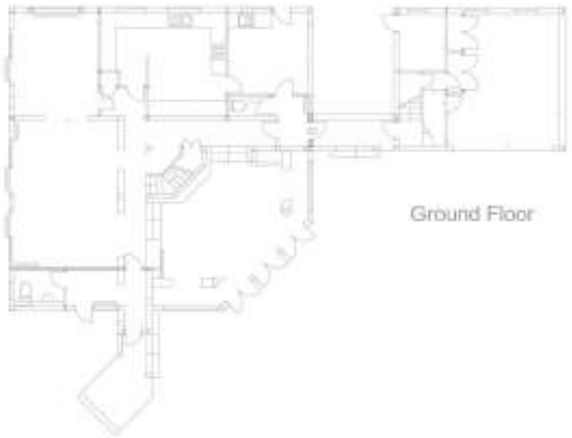
11.10.23

Lintel over new opening

Ground Floor

Longley House

Allow for 100x100 SHS windposts along elevation where existing partitions are being removed.



Ground Floor

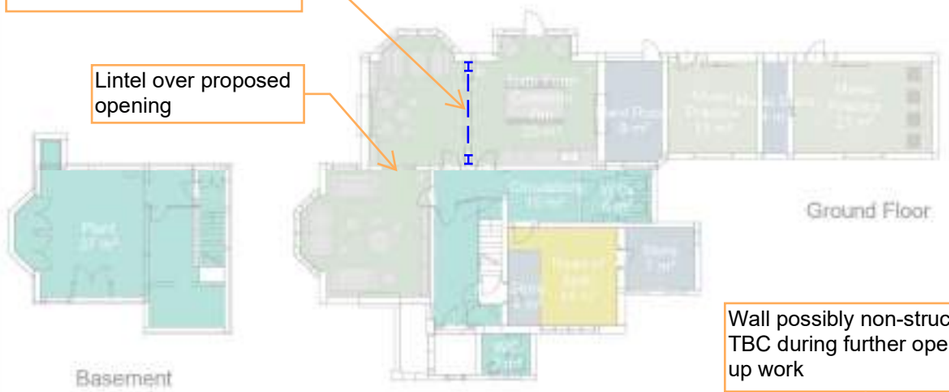
First Floor

Orchard House

No change to existing

Steel moment frame required to replace wall

Lintel over proposed opening



Basement

Ground Floor

Wall possibly non-structural. TBC during further opening up work

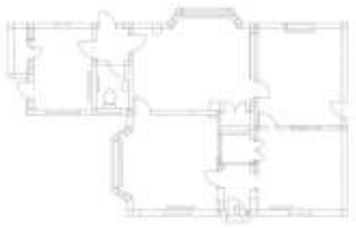
Steel moment frame required to replace wall

Lintel over proposed opening

First Floor

Second Floor

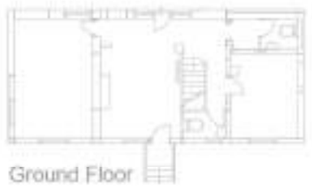
Red House



Ground Floor

Oak Tree Cottage

No change to existing



Ground Floor

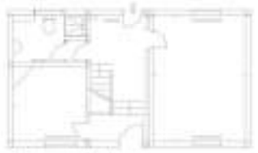
First Floor

Upper Cottage

No change to existing

Lower Cottage

No change to existing



Ground Floor

First Floor

Note: The proposed layout for Longley, Orchard House, Red House, Oak Tree Cottage and Upper and Lower Cottages remain the same for all 3nr schemes. Drawings have been included in this option only to avoid duplication.

Accommodation Categories

- Basic Teaching
- Large Spaces
- Learning Resource
- Non-net
- Staff & Admin
- Storage

Metres 1: 250

0 2.5 5 7.5 10 12.5 15

1399 SK76

Other Buildings Proposed Plans

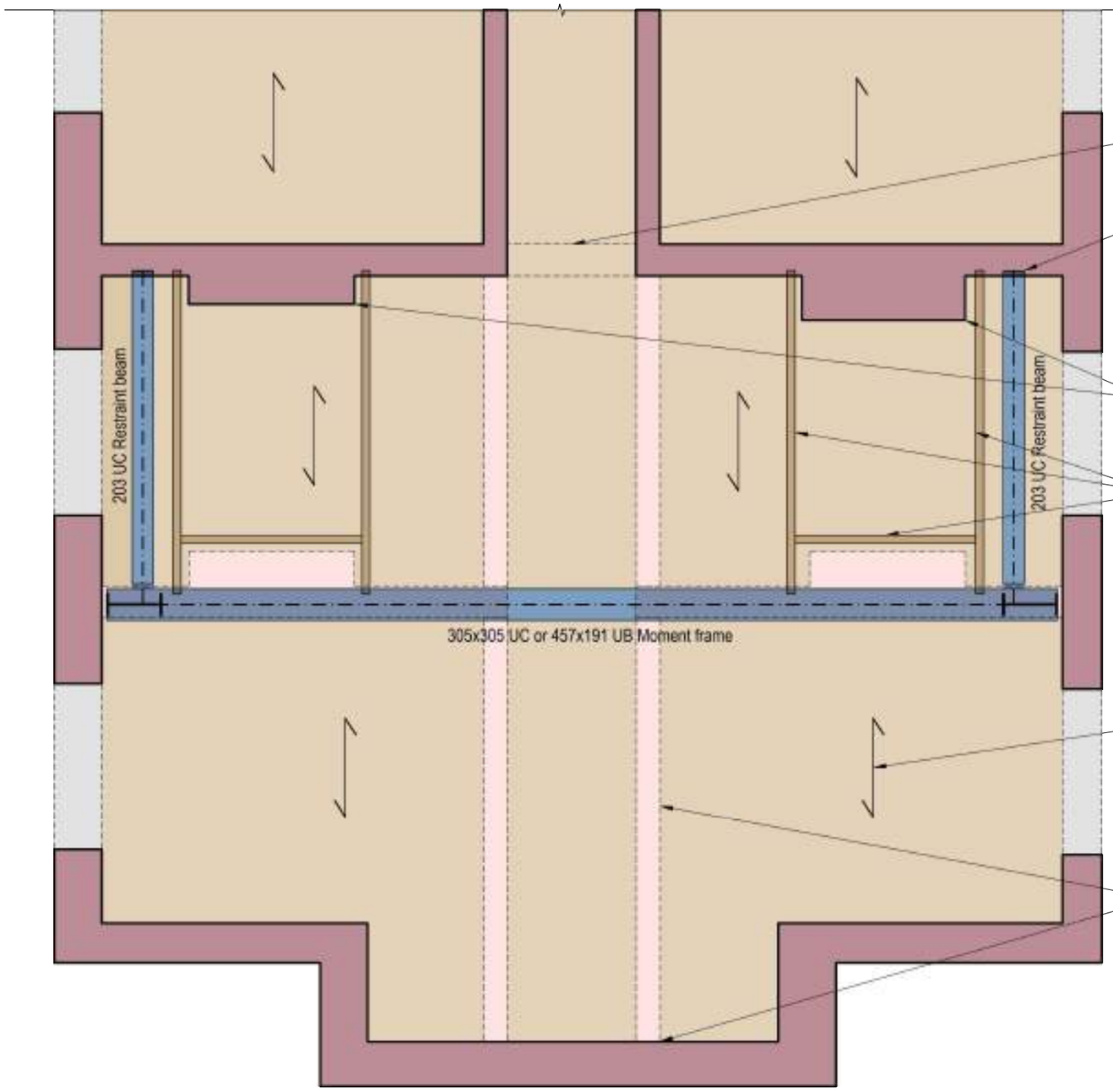
Richmond Hill Campus

Date 18/12/2023

integral engineering design

Integral Engineering Design
64 Walcot Street
Bath
BA1 5BD

IID



Brick arches to corridor

New padstones to support steel restraints

Chimney breasts to remain

Existing timber floor expected to trim around chimney breasts
Allow for doubled up joists to trimmers and new infill joists where chimney removed

Existing timber floor joist size and span unknown.
Allow for doubling up joists to account for increased loading for classroom use.

Masonry walls removed. Junctions with remaining brickwork made good.

1399 Richmond Hill Campus

SK77 Date 19.12.2023

Main Building - 1st & 2nd Floor Wing Proposed Plan

Plot Size A3 Scale 1:50

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3.10 Clerkenwell Workshops
27/31 Clerkenwell Close
London
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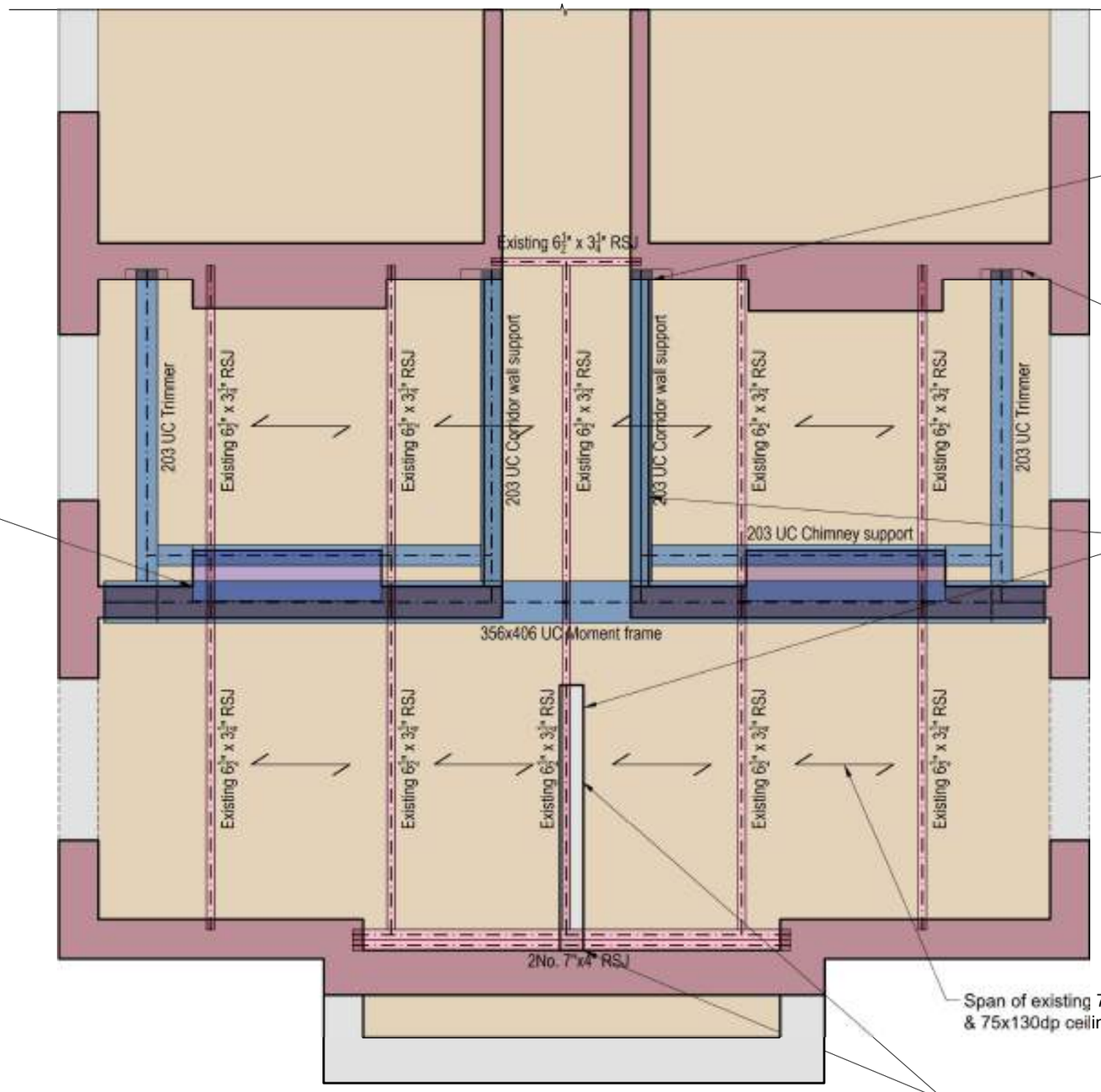

Coriddor support members to bear on padstones. Allow for crank at support to bear below existing steel bearing and chimney arch

New padstones to support steel trimmers

Steel plate over beams to footprint of chimney to provide bearing

Masonry corridor walls to be rebuilt after floor reinstated

Span of existing 78x110dp floor joists @ 380c/c & 75x130dp ceiling joists @ 380c/c

Allow for new 203UC strengthening members under existing RSJs

1399 Richmond Hill Campus

SK78 Date 19.12.2023

Main Building
3rd Floor Wing Proposed Plan

Plot Size A3 Scale 1:50

integral engineering design

3.10 Clerkenwell Workshops
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