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## Emmbrook Secondary School Expansion – Sixth Form Block

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### Report Title

● Doc . 2220077 - EWP - ZZ - XX - TN - FRMP - 0001

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Project number	2220077
Project name	Emmbrook Secondary School Expansion – Sixth Form Block
Client	Wokingham Borough Council
Status	Discharge Planning Condition
Revision	P1
Date	27-10-2025

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# Document Control

	Remarks	Preliminary				
<b>Revision: Draft</b>	Prepared by:	Joe Roche	Checked by:	Tim Kenning	Approved by:	Tim Kenning
<b>Date:18.07.25</b>	Signature:		Signature:		Signature:	
<b>Revision: P01</b>	Prepared by:	Joe Roche	Checked by:	Tim Kenning	Approved by:	Tim Kenning
<b>Date:27.10.25</b>	Signature:		Signature:		Signature:	

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# 1. Introduction

1.1.1 Elliott Wood has been commissioned by Wokingham Borough Council to prepare a Flood Void Maintenance Plan for the consented proposals at Emmbrook Secondary School, Wokingham.

1.1.2 This maintenance plan has been prepared in order to discharge Planning Condition 6 for the consented scheme, which states:

*Flood Void Details – Prior to the commencement of the development within each Phase full details of the floodable voids along with a maintenance plan for their effective functioning shall be submitted for written approval to the local planning authority in consultation with the Environment Agency. The approved voids shall be permanently kept free of obstruction and shall be regularly maintained in accordance with the agreed maintenance plan.*

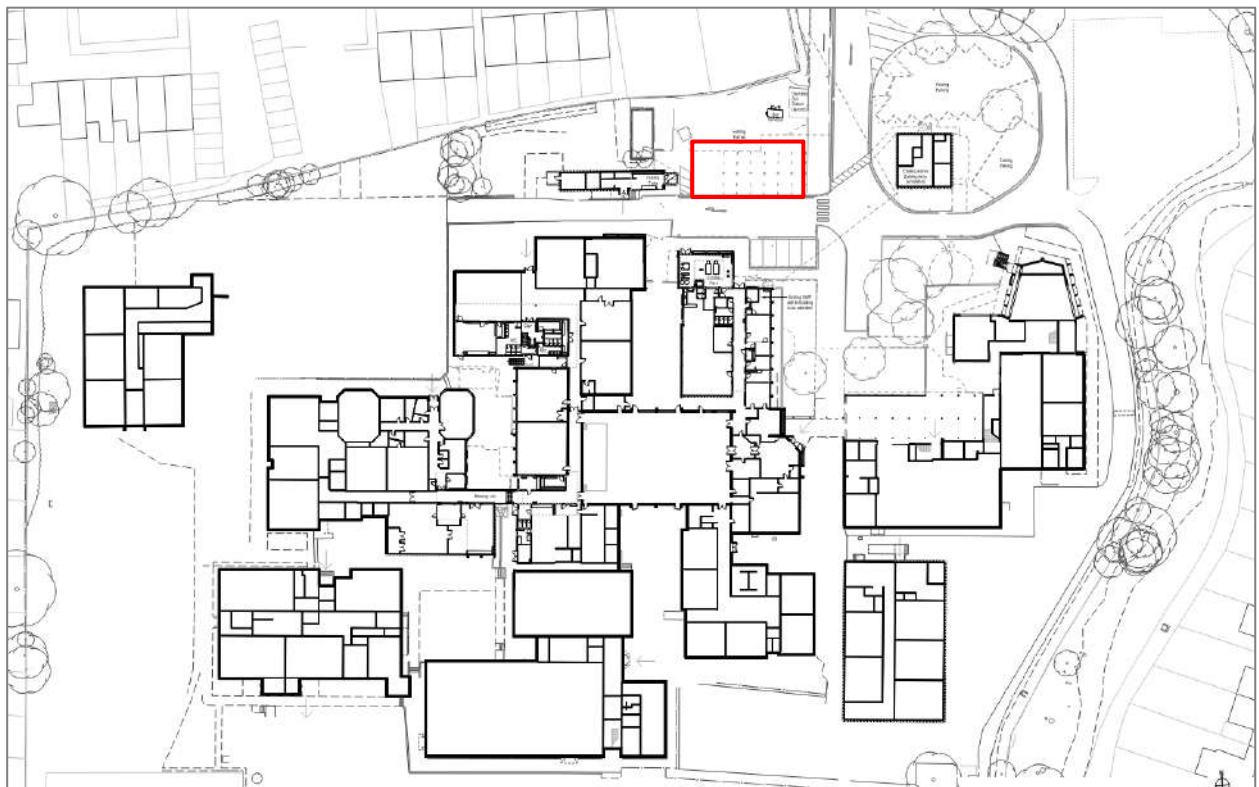
*Reason: To prevent any loss of flood water storage and to reduce the risk of flooding to the proposed development and future occupants. Relevant policy: NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal), Core Strategy policy CP1 and Managing Development Delivery Local Plan Policies CC09 CC10.*

1.1.3 This maintenance plan should be read in conjunction with the site-specific Flood Risk Assessment (FRA), referenced 2220077-EWP-ZZ-XX-RP-C-0001-FRA-P2, which was prepared for planning and since revised to discharge Planning Condition 18.

## 2. Existing Site

2.1.1 Emmbrook School is in Emmbrook, north of Wokingham town centre, and is approximately 2.70 ha in area with the main access from Emmbrook Road to the north. A residential development can be found adjacent to the north and west boundaries with the Emm Brook flowing in a north direction along the eastern boundary.

2.1.2 The school buildings are located across the majority of the site particularly to the north, with playing fields to the south. There are access roads, footways and parking located within the north-eastern part of the site.

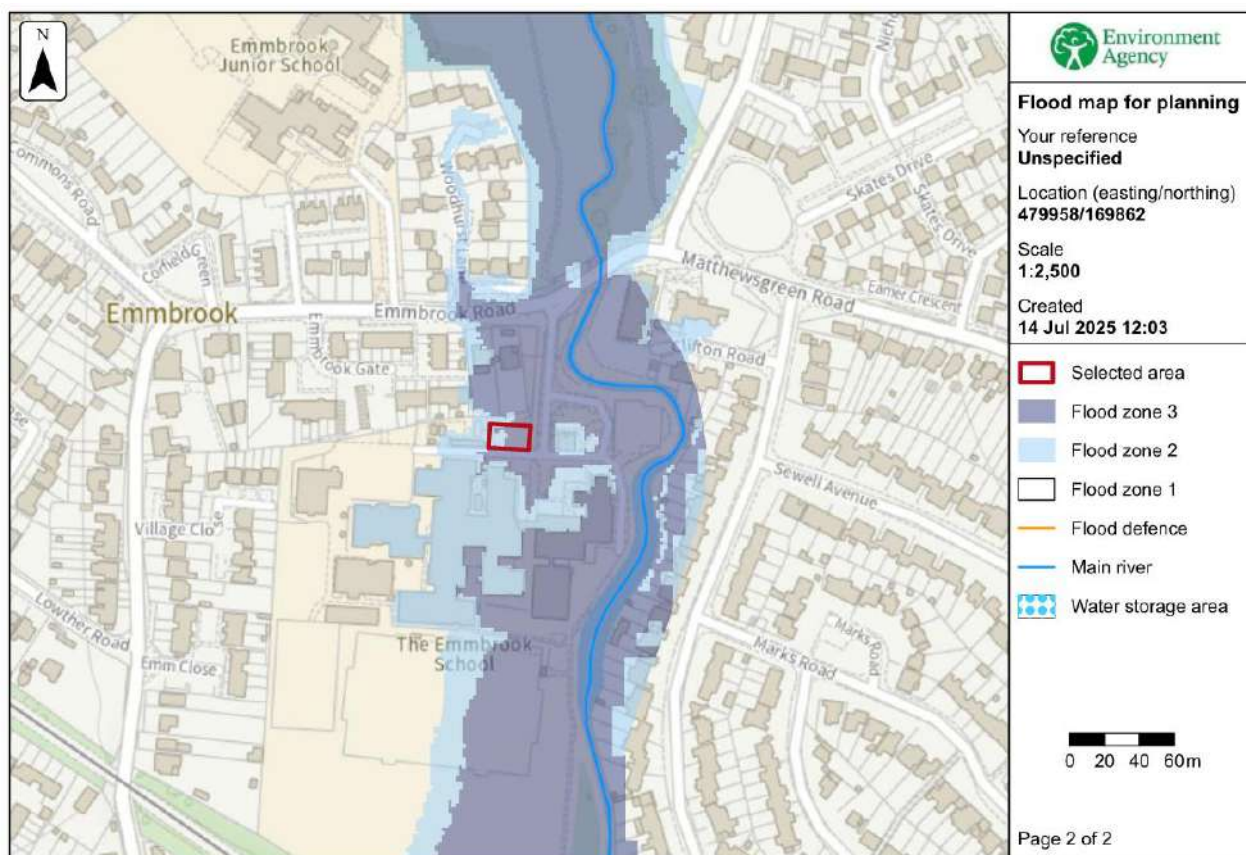


**Figure 1:** Location Plan

**2.1.3** The existing development currently consists of Emmbrook School which is made up of several buildings, pedestrian walkways, vehicular access roads, parking areas and landscaping amenities. The land use to which the new sixth form building will be located, currently consists of existing hardstanding land which is utilised as a car park.

### 3. Flood Risk

- 3.1.1 According to the Environment Agency Flood Risk Information, Emmbrook School is located both in flood zone 1, 2 and 3a. The proposed works, a new sixth form centre, is located within flood zone 2 and 3a, as shown in Figure 2 below.



**Figure 2:** Extract of flood map for planning showing area of proposed works in red.

- 3.1.2 The Product 4 which was obtained from the Environment Agency also provides the expected flood levels across the site for the 20%, 5%, 1% and 1% + 20% and 0.1% Climate Change Annual Exceedance Probabilities. These can be found in Table 3.
- 3.1.3 According to the Environment Agency Hydrology data, since the site is considered a commercial development, located in flood zone 3 and is classed as more vulnerable, the central allowance for the '2050's' model should be used, which is 4%.
- 3.1.4 Since the Product 4 data provided a flood zone extent for the 1 in 100 + 20%, it is not necessary to determine the flood level for the 4% extent.

## 4. Flood Void Strategy

- 4.1.1 As the proposed building, with an approximate footprint of 300 m<sup>2</sup>, is located within Flood Zone 2 and 3a, floodplain compensation is required. This will be achieved through the provision of a flood void beneath the building.
- 4.1.2 As such, the building is to be raised, with the underside of the ground floor slab to be raised approximately 50 mm above the 1 in 100-year flood level, including a 20% allowance for climate change, which is 44.00 mAOD.
- 4.1.3 However, the inclusion of structural elements—specifically concrete columns (3.2 m<sup>3</sup>) and ground beams (17.0 m<sup>3</sup>) will reduce the effective void volume by 20.20 m<sup>3</sup>. As such, additional compensatory flood storage will be required to offset this volume loss. To mitigate the loss of approximately 20.20 m<sup>3</sup> of flood storage volume due to the proposed substructure, it is proposed to lower the ground level beneath the building by a minimum of 60 mm.
- 4.1.4 The existing ground level to the west of the building is approximately 53.60 mAOD, and it is proposed to reduce the level within the void to 53.54 mAOD at its highest point. From the highest point, the ground will fall at a gradient of approximately 1:150 towards the east of the building, where it will tie in flush with existing ground levels at 53.40 mAOD.
- 4.1.5 This adjustment would provide approximately 21.0 m<sup>3</sup> of compensatory flood storage, which exceeds the estimated 20.20 m<sup>3</sup> loss resulting from the concrete columns and ground beams.
- 4.1.6 The ground beneath the building will be constructed with a screed finish. A screed finish with a gentle slope offers several benefits for flood water management. By creating a smooth, angled surface, it helps direct rainwater and floodwaters away from the underside of the building, washing down/cleaning is made easier, reducing the risk of pooling and water damage and finally aiding in preventing weeds growing in the void.

## 5. Proposed Maintenance and Management Strategy

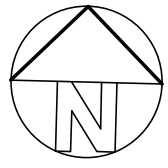
- 5.1.1 All maintenance will be undertaken by the site management team at Emmbrook School.
- 5.1.2 It is recommended that the maintenance team conduct regular inspections of the external void openings to ensure they remain free from debris, sediment, or other obstructions that could impede the flow of water. Inspections should be scheduled frequently, especially after heavy rainfall or adverse weather conditions, as such events increase the risk of blockages. Additionally, the void openings should be checked in advance of any Met Office rainfall warnings (yellow or above).
- 5.1.3 To ensure personnel safety during these tasks, the use of appropriate Personal Protective Equipment (PPE) is essential. This includes gloves for handling debris, safety boots to guard against falling objects, and high-visibility clothing when working in low-light or high-traffic areas. In addition to PPE, suitable tools such as shovels, pressure washers, and drain rods should be used to effectively remove obstructions and maintain the voids.
- 5.1.4 Table 1 below shows the recommended steps to clean and maintain the flood voids.

<b>Task</b>	<b>Frequency</b>	<b>When</b>	<b>Party Responsible</b>	<b>Notes</b>
<b>Inspections</b>	Regular	-	Emmbrook School Management/Maintenance Team	Check for debris, sediment, or any obstructions to ensure void openings are clear.
<b>Inspections</b>	After heavy rainfall or adverse	Heavy rainfall, adverse weather conditions	Emmbrook School Management/Maintenance Team	Increased likely of blockages after such events.
<b>Inspections</b>	Precautionary (Prior to Met Office rainfall warnings)	Met Office issues rainfall warning	Emmbrook School Management/Maintenance Team	Proactive inspection to ensure free flow of water before anticipated heavy rainfall.
<b>Debris Removal</b>	When required	Following inspection	Emmbrook School Management/Maintenance Team	Where possible, remove any leaves, silt or other debris that may have accumulated in the flood void. Debris can obstruct the functioning of the void and reduce its capacity.
<b>Checking for blockages</b>	As part of regular inspections	As part of regular inspections	Emmbrook School Management/Maintenance Team	Make sure the inlet and outlet point of the flood voids are clear and free from any blockages. Block channels may prevent water from entering or exiting the void efficiently.
<b>Repair cracks and damages</b>	When required	Following inspection	Emmbrook School Management/Maintenance Team	Should any cracks or damages in the walls or structure of the flood void, it's essential to repair them promptly. Cracks can compromise the integrity of the void and reduce its effectiveness during flooding.
<b>Pest control</b>	When required	Following inspection	Emmbrook School Management/Maintenance Team	Check for signs of pests and rodents in the flood void and surrounding area. Implementing pest control measures from the outset is recommended, as this will prevent infestations that could damage the structure or interfere with its functioning.
<b>Safety checks</b>	As part of regular inspections	As part of regular inspections	Emmbrook School Management/Maintenance Team	Ensure that access points are secure and in working condition. Safety should be a priority when inspecting or maintaining the void.
<b>Seek professional help</b>	When required	Following inspection	Emmbrook School Management/Maintenance Team	If significant issues are encountered or aspects of the flood void maintenance plan is not clear, it is recommended to seek the assistance of professionals experienced in flood management and engineering.

Table 1: Maintenance and management strategy







ROOT PROTECTION ZONES, REFER TO ARBORICULTURIST REPORT

ROOT PROTECTION ZONES, REFER TO ARBORICULTURIST REPORT

CONCRETE PLINTH FOUNDATIONS FOR EXTERNAL M&E PLANT TBC

3.0m EASEMENT ZONE - SUBJECT TO THAMES WATER REVIEW

### COLUMN SCHEDULE

REF	COLUMN SERIAL SIZE
C01	500SQ RC COLUMN
C10	UC152x152x23
C11	UC152x152x30
C12	UC152x152x37

### STEELWORK BEAM SCHEDULE

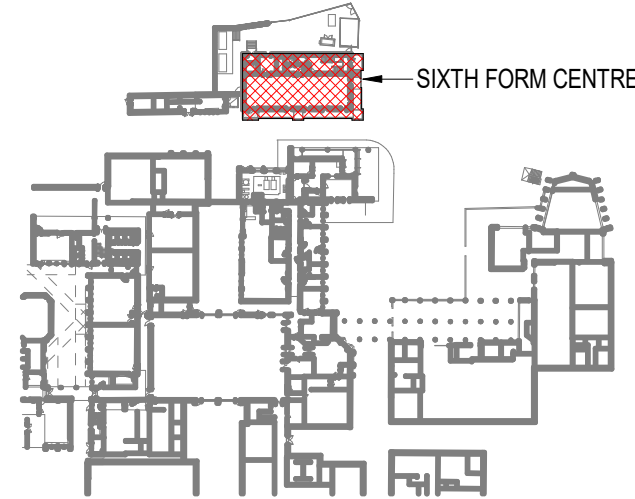
REFERENCE	SIZE
BS01	PFC150x90x24
BS02	RHS200x100x10
BS03	UC152x152x37
BS04	UB406x178x54
BS05	UB457x191x74
VB01	100x10mm M.S. PLATE VERT BRACING

This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

Do not scale from this drawing.

### LEGEND

	NEW REINFORCED CONCRETE
	NEW MASS CONCRETE
	LOAD BEARING STRUCTURE BELOW
	THERMAL BREAK



### GENERAL NOTES:

- ALL MASS CONCRETE ELEMENTS TO BE FN02 CONCRETE.
- UNDERSIDE OF PAD FOUNDATIONS TO BE MIN 15m BELOW GROUND LEVEL TO SUIT NHBC REQUIREMENTS FOR HIGH VOLUME CHANGE POTENTIAL CLAYS WITHIN THE ZONES OF INFLUENCE OF TREES
- ALLOW FOR COMPRESSIBLE MATERIAL TO SIDES OF FOUNDATIONS FOR HEAVE PRECAUTIONS DUE TO HIGH VOLUME CHANGE POTENTIAL CLAYS
- FOUNDATIONS DESIGNED FOR 100kPa GROUND BEARING PRESSURE

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### NOT FOR CONSTRUCTION

P05	S4	17/10/25	AO	TP	Revised Stage 3+ (Client Request)
P04	S4	29/07/25	AO	TP	Draft For Comment
P03	S4	31/01/23	AO	TP	Issued For Stage 3+
P02	S4	23/12/22	AO	TP	Issued For Stage 3+
P01	S4	11/10/22	AO	TP	Issued For Stage 3
rev	sc	date	by	chk	description

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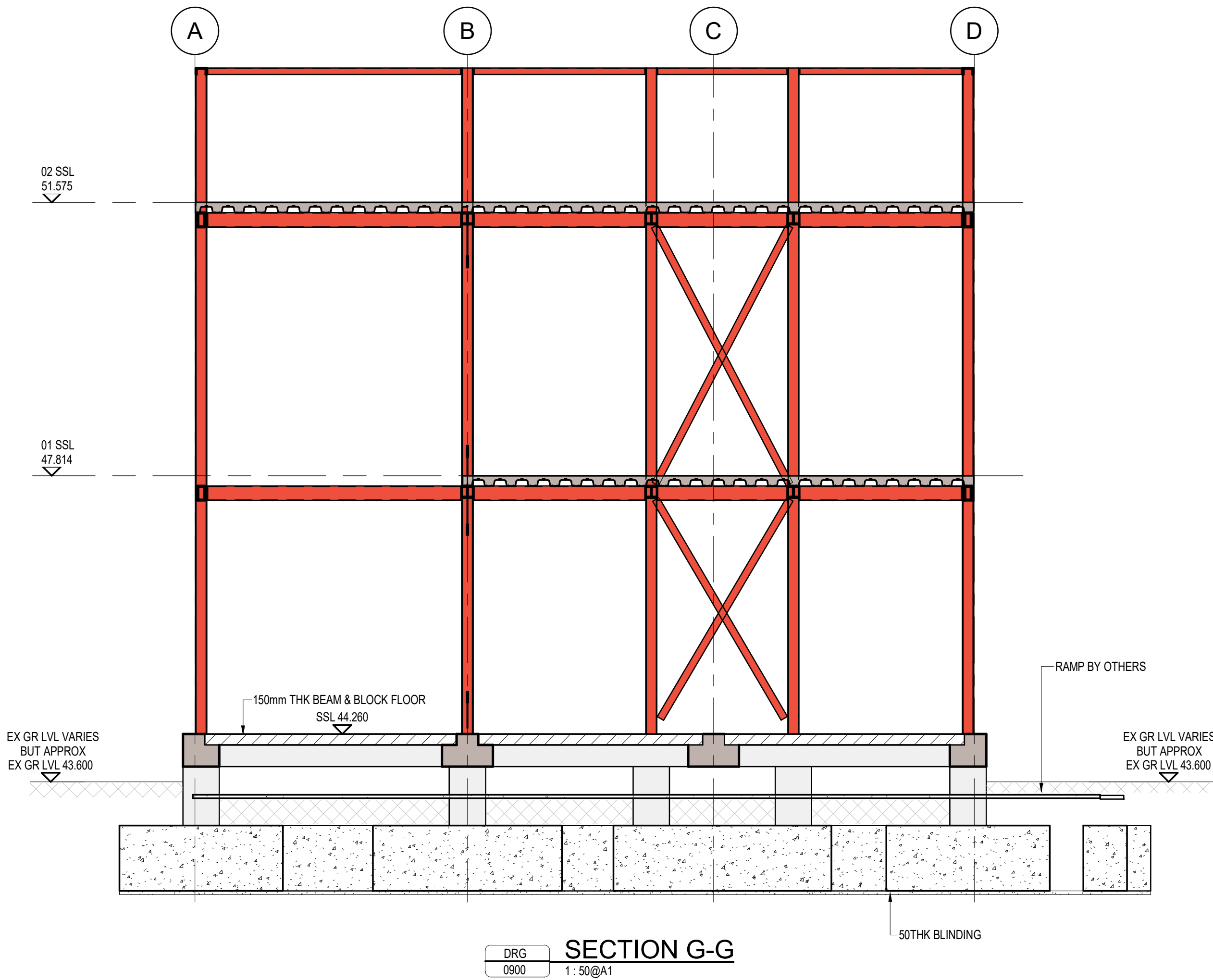
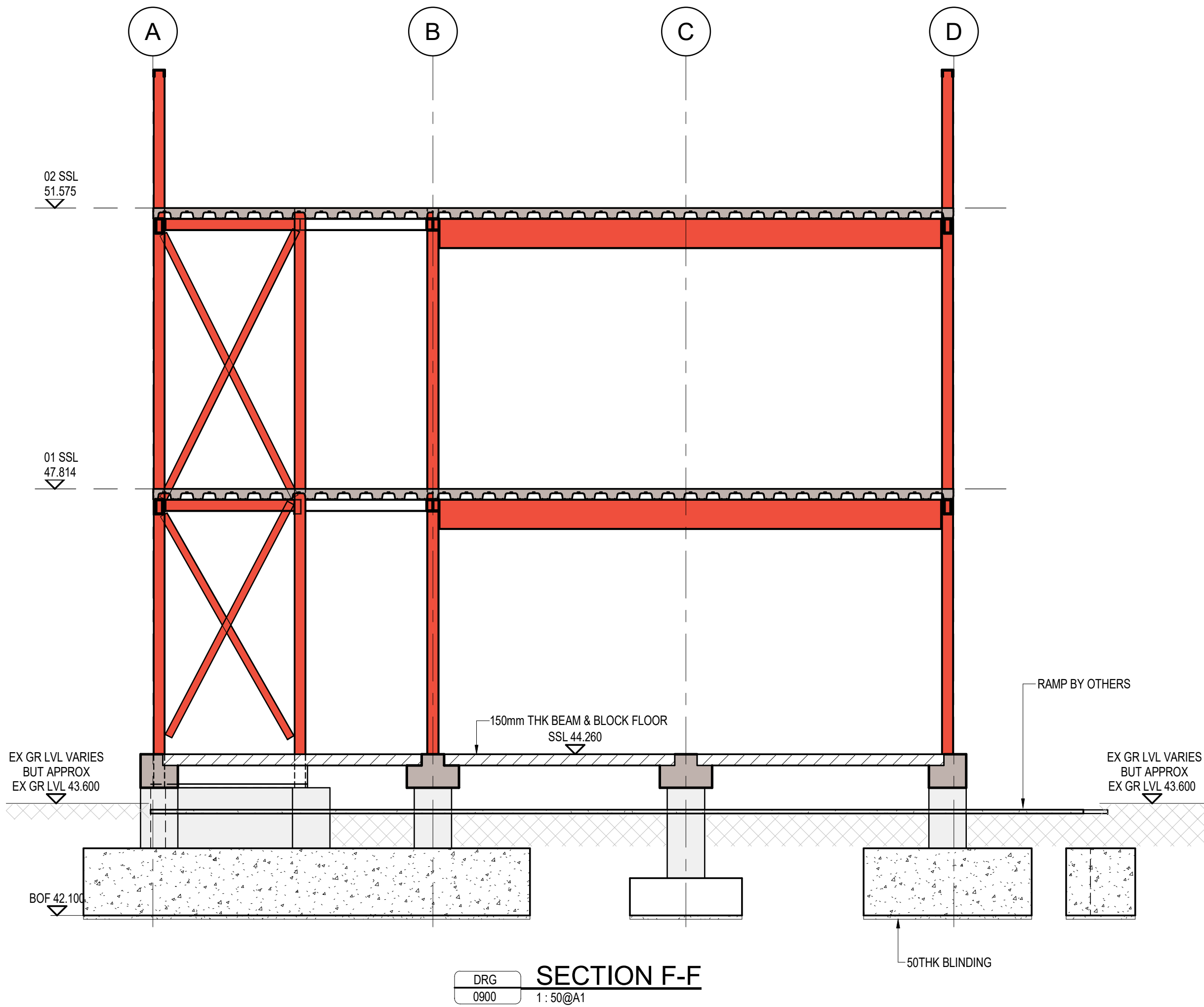
Project  
Emmbrook School Wokingham  
Sixth Form Centre

Drawing title  
Proposed Ground Floor Plan

Scale (s)	Date	EWP P. No.	Drawn
1:50@A1; 1:100@A3	Sept/2022	2220077	AO
Purpose of Issue	Status	Revision	
Preliminary	S4	P05	
Project	Orig.	Volume	Level
EMM-EWP-P2B-00-DR-S-1000			

### NOTES

- ALLOW FOR A142 MESH WITHIN COMPOSITE FLOOR.
- COMPOSITE FLOOR DESIGNED AS SINGLE SPAN METAL DECK WITH CONTINUOUS CONCRETE SLAB OVER SUPPORTING BEAMS.
- ALLOW FOR METAL STUDS WELDED TO TOP OF BEAMS AND CAST INTO COMPOSITE SLAB.
- ALL STEELWORK IS TO BE CORROSION PROTECTED IN ACCORDANCE WITH THE EWP STRUCTURAL SPECIFICATION.
- ALL STEELWORK IS TO BE FIRE PROTECTED IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATION AND EWP STRUCTURAL SPECIFICATION.
- ALL STEELWORK TO BE GRADE S355 JR.
- FOR FULL DETAILS REFER TO EWP STRUCTURAL SPECIFICATION.
- M&E CO-ORDINATION - ALLOWANCE TO BE MADE FOR BUILDERS' WORK HOLES THROUGH THE STEEL BEAM WEBS. TO BE REVIEWED AT THE NEXT DESIGN STAGE WITH THE M&E ENGINEER.



This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

Do not scale from this drawing.

#### LEGEND

	NEW REINFORCED CONCRETE
	NEW MASS CONCRETE
	LOAD BEARING STRUCTURE BELOW
	THERMAL BREAK

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NOT FOR CONSTRUCTION

P01	S4	17/10/25	AO	TP	Revised Stage 3+ (Client Request)
rev	sc	date	by	chk	description

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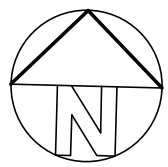
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Project  
Emmbrook School Wokingham  
Sixth Form Centre

Drawing title  
Proposed Section & Details Sheet  
03

Scale (s)	Date	EWP P. No.	Drawn
1:50@A1; 1:100@A3	October/2025	2220077	AO
Purpose of Issue	Status	Revision	
Preliminary	S4	P01	
Project	Orig.	Volume	Level Type Role Drg no.
EMM-EWP-P2B-04-DR-S-3002			





ROOT PROTECTION ZONES, REFER TO ARBORICULTURIST REPORT

ROOT PROTECTION ZONES, REFER TO ARBORICULTURIST REPORT

ROOT PROTECTION ZONES, REFER TO ARBORICULTURIST REPORT

CONCRETE PLINTH FOUNDATIONS FOR EXTERNAL M&E PLANT TBC

1

2

3

4

5

6

7

3.0m EASEMENT ZONE - SUBJECT TO THAMES WATER REVIEW

3000

WATER RESISTANT CONCRETE TBC BY WATERPROOFING SPECIALIST

FOUNDATION SETTING OUT AND SIZES SUBJECT TO FINAL STEEL FRAME SUPERSTRUCTURE DESIGN

50MM GEN 1 SCREED LAID TO 1:150 FALL SSL = VARIES

E 3001

D 3001

F 3002

G 3002

A 3000

A 3000

B 3000

B 3000

C 3001

C 3001

D 3001

F 3002

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200mm THK RC WALL

800mm THK MC RAFT UNDER LIFT PIT

GEN 1 Screed to 1:150

MASS CONCRETE PAD FOUNDATIONS

500mm SQ RC STUB COLUMNS

THAMES WATER SEWER LOCATIONS

SCREED HIGHEST TOC 43.800

SCREED LOWEST TOC 43.400

### COLUMN SCHEDULE

REF	COLUMN SERIAL SIZE
C01	500SQ RC COLUMN
C10	UC152x152x23
C11	UC152x152x30
C12	UC152x152x37

### FOUNDATION SCHEDULE

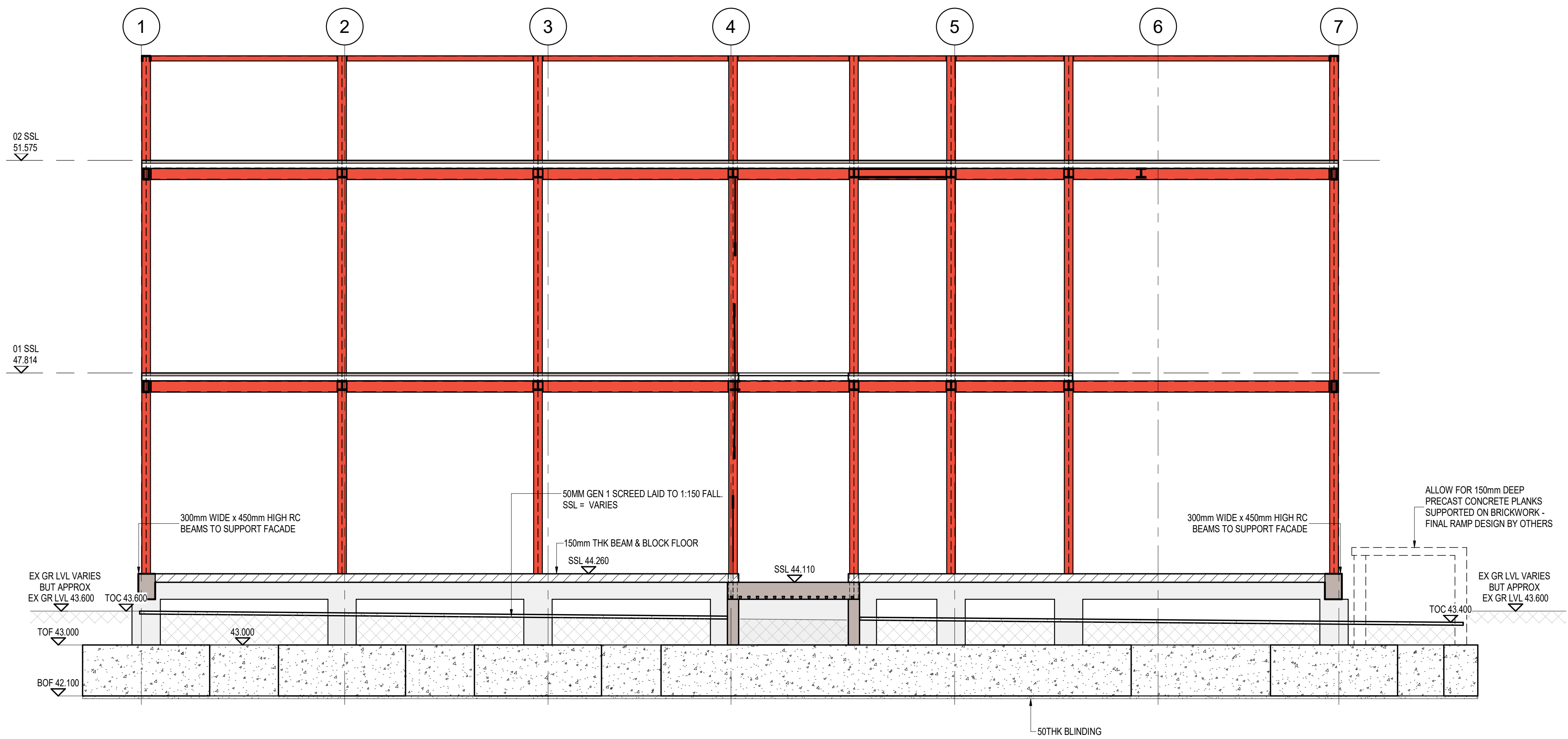
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P02	1500 mm	1500 mm	500
P03	2250 mm	2250 mm	900
P04	3000 mm	1800 mm	900
P05	2250 mm	4300 mm	900

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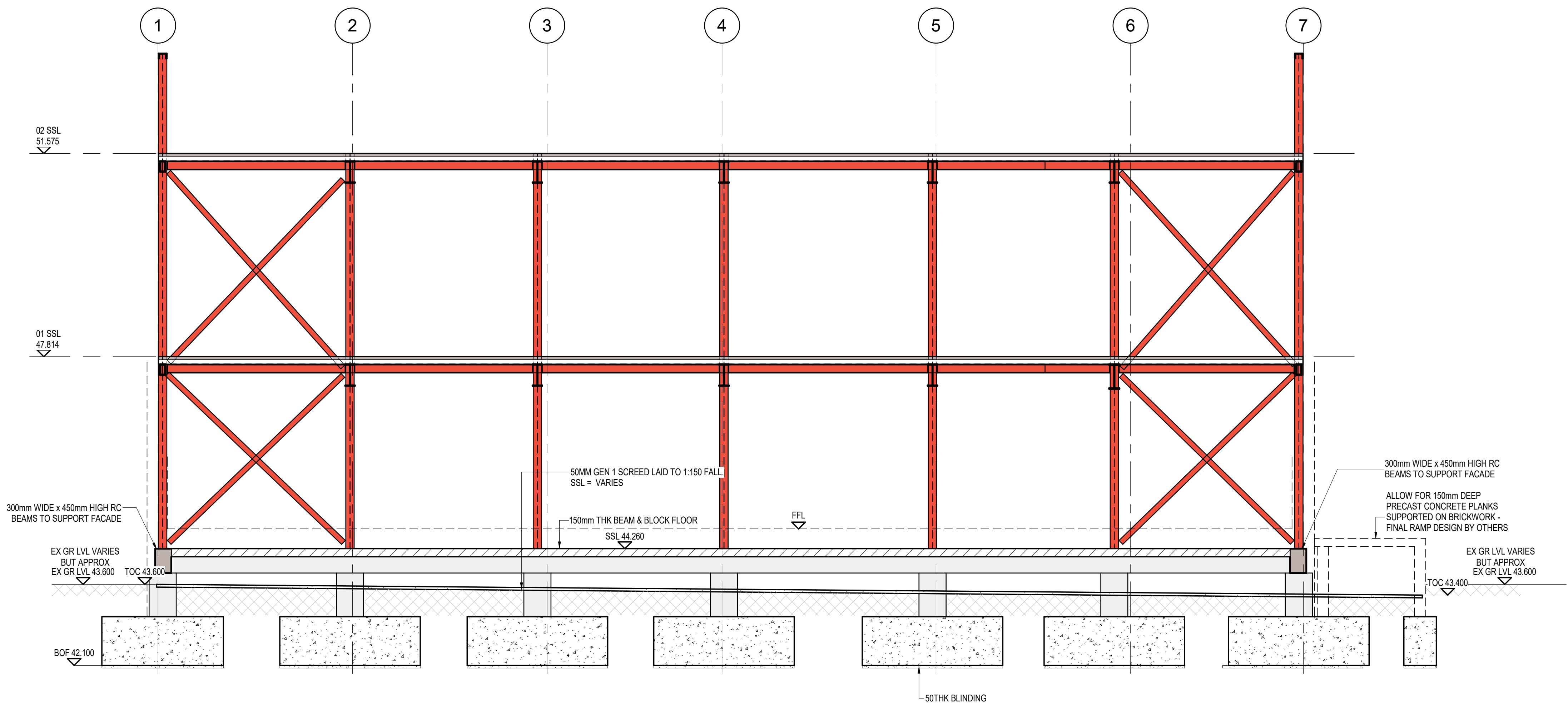
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DRG  
0900

**SECTION A-A**  
1:50@A1



DRG  
0900

**SECTION B-B**  
1:50@A1

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#### LEGEND

	NEW REINFORCED CONCRETE
	NEW MASS CONCRETE
	LOAD BEARING STRUCTURE BELOW
	THERMAL BREAK

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P01	S4	11/10/22	AO	TP	Issued For Stage 3
rev	sc	date	by	chk	description

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Project

Emmbrook School Wokingham  
Sixth Form Centre

Drawing title

Proposed Section & Details Sheet  
01

Scale (s)	Date	EWP P. No.	Drawn
1:50@A1; 1:100@A3	Sep/2022	2220077	AO
Purpose of Issue	Status	Revision	
Preliminary	S4	P05	
Project	Orig.	Volume	Level Type Role Drg no.
EMM-EWP-P2B-XX-DR-S-3000			



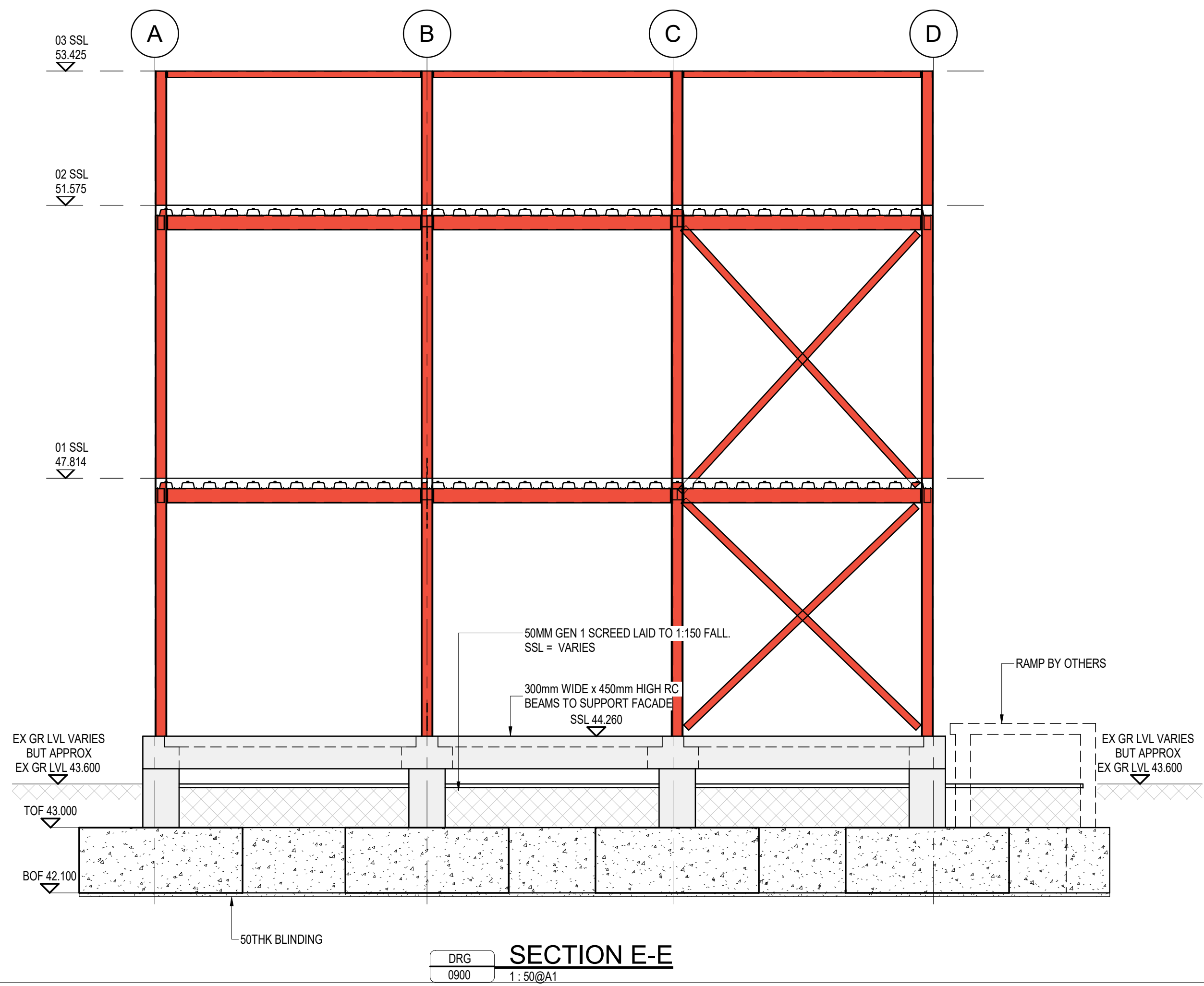
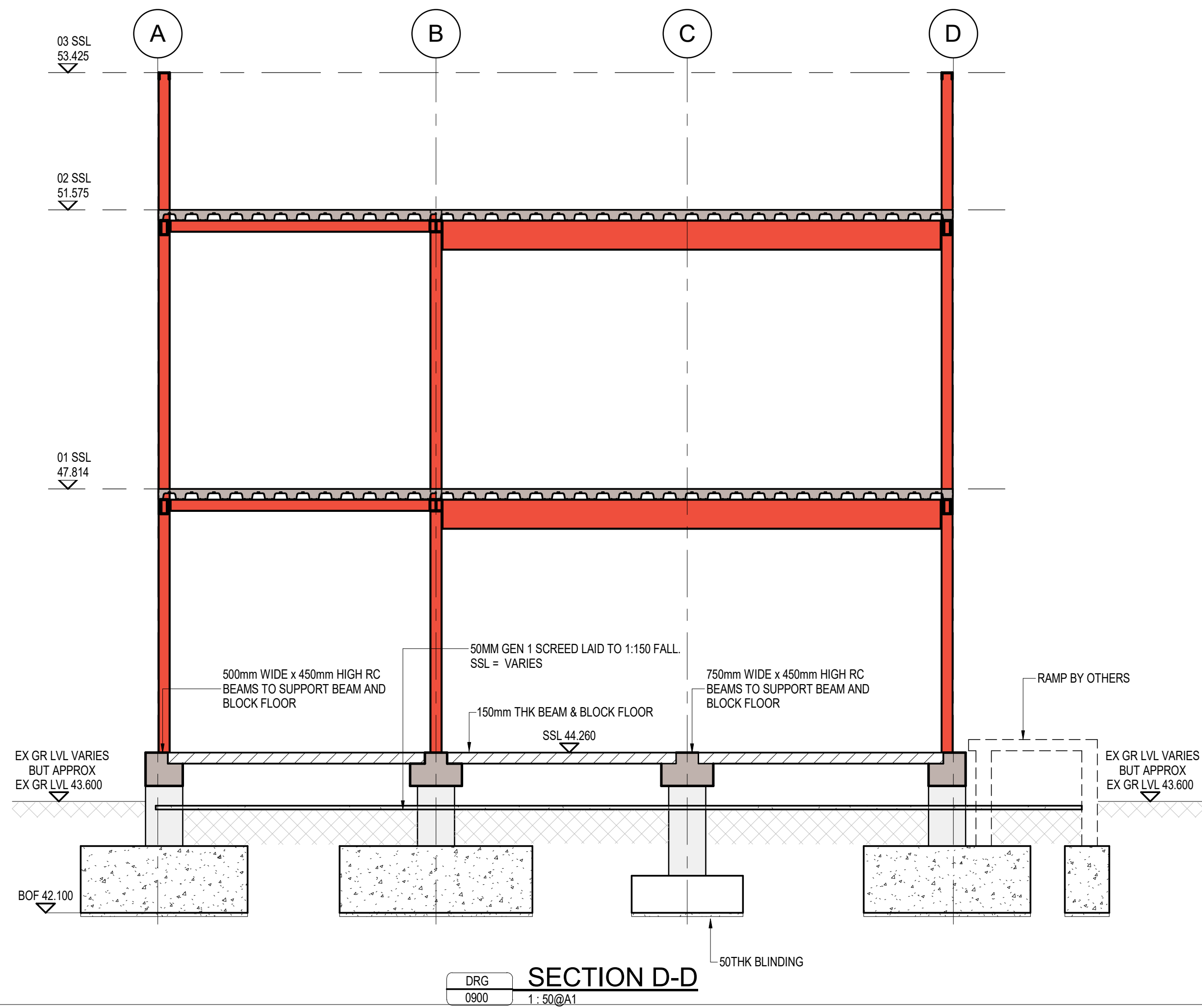
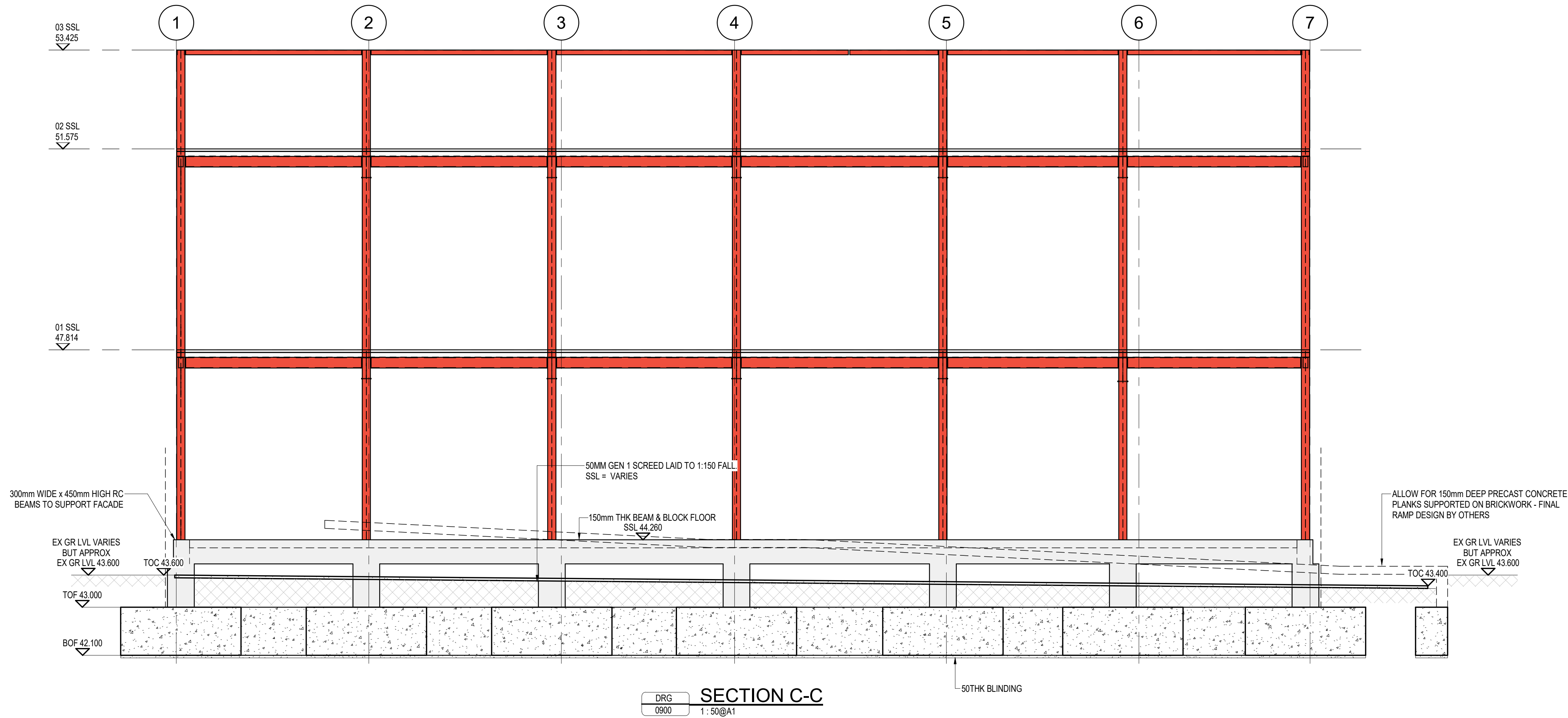
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rev	sc	date	by	chk	description
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P02	S4	23/12/22	AO	TP	Issued For Stage 3+
P01	S4	11/10/22	AO	TP	Issued For Stage 3

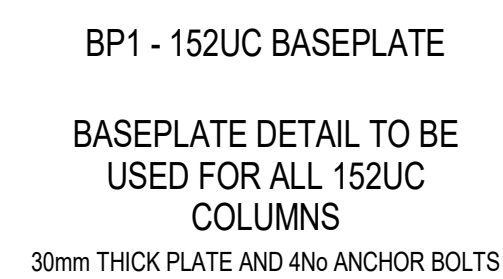
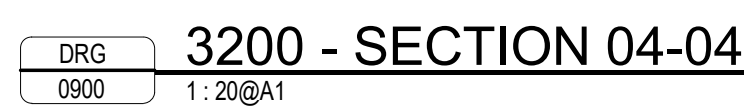
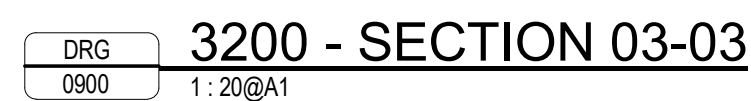
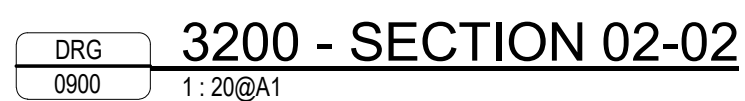
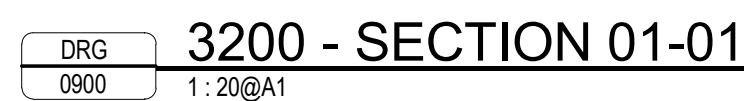
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Project  
Emmbrook School Wokingham  
Sixth Form Centre

Drawing title  
Proposed Section & Details Sheet  
02

Scale (s)	Date	SWP P. No.	Drawn
1:50@A1; 1:100@A3	Sept/2022	2220077	AO
Purpose of Issue	Status	Revision	
Preliminary	S4	P05	
Project	Orig.	Volume	Level Type Role Drg no.
EMM-EWP-P2B-XX-DR-S-3001			



Scale (s)	Date	EWP P. No.	Drawn			
1:50@A1; 1:100@A3	Sept/2022	2220077	AC			
Purpose of Issue	Status	Revision				
Preliminary	S4	P04				
Project	Orig.	Volume	Level	Type	Role	Drw no.
EMM-EWP-P2B-XX-DR-S-3200						

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