ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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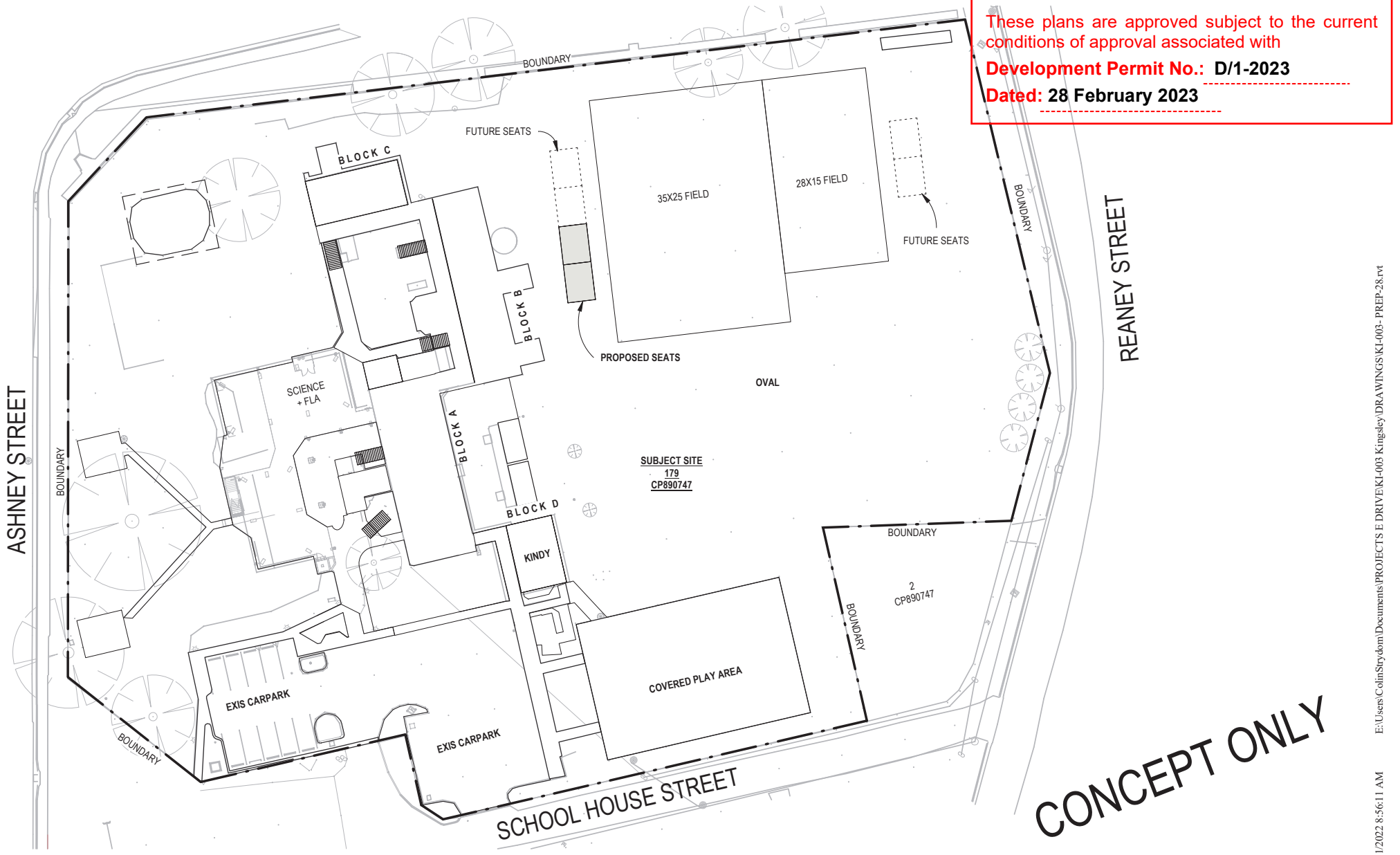
Dated: 28 February 2023



CONCEPT ONLY

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drawing title:
SITE PLAN

drawing no: SK-001 project no: KI-003

project: **A3 DRAWING** NOTED SCALES RELATE TO A3 DRAWINGS
KINGSLEY COLLEGE- PRIMARY STAGE 01 & ASSOCIATED WORKS

location: 19 REANEY STREET, BERSERKER, ROCKHAMPTON

client: KINGSLEY COLLEGE

REVISIONS

REV	DESCRIPTION	DATE
19	PRELIMINARY	03/11/2022

PRELIMINARY SKETCH PLANS:
If the drawings are labelled and issued 'preliminary', below, they are not suitable for Building Application, tender or construction purposes! The intent of preliminary sketch plans are only for presenting the concept for the specific project to the client as nominated in the title sheet.

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ISSUED FOR
PRELIMINARY

scale 1 : 500
date NOV 22
drawn Author
rev 19

MCE
McMurtrie Consulting Engineers

Engineering reimagined.

Kingsley College Grandstand Seating

Flood Statement

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DATE
13 January 2023

REF

R010-22-23

CLIENT
Kingsley College

COMMERCIAL IN CONFIDENCE

Engineering reimagined.

Contact Information

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Document Information

Prepared for	Kingsley College
Document Name	Flood Statement
Job Reference	R010-22-23
Revision	Rev B

Document History

Revision	Date	Description of Revision	Prepared by	Approved by		
				Name	Signature	RPEQ No
A	22/12/2022	Original Issue	T. Milliken	R. Bywater		23569
B	13/01/2023	Updated site description	T. Lisle	R. Bywater		23569

Contents

1 Introduction 4
2 Summary of Existing Conditions 5
3 Development Generated Impacts and Risks 6
4 Limitations 6

1 Introduction

McMurtrie Consulting Engineers (MCE) have been engaged by Kingsley College to prepare a Flood Statement in support of the proposed development of grandstand style seating on the College property at 19 Reaney St, Berserker (see **Figure 1** below).

Figure 1 Site location

The flood hazard overlay map shows the site is affected by the extreme flood hazard zone (see **Figure 2** below) and is thus at risk of riverine flooding during a 1% AEP (Annual Exceedance Probability) event.

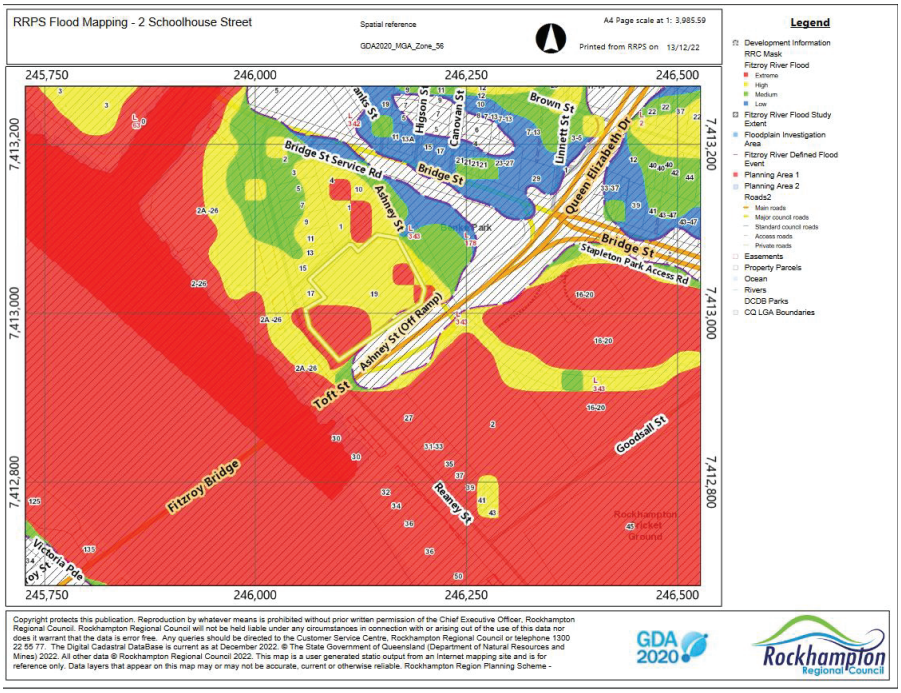

Figure 2 Flood hazard overlay mapping

2 Summary of Existing Conditions

The site has existing school buildings and sports fields and is approximately 12630m^2 in area. It is understood that the intention is to construct a number of grandstand style seating structures to service the sports field (see **Figure 3** below). It is noted that for the purpose of this assessment, the structures are grouped into two 'areas'.

It is expected that a concrete slab will be provided under the structures. The structure will not be habitable and will be used as seating for patrons of the sports field. The grandstand provides an open layout and as such moving floodwaters (rising and receding) would not create turbulence or disruption, and relatively unimpeded flow would be permitted. The existing flood risks are not made worse in this instance by the minor alteration to the flow characteristics of the catchment. There is an insignificant increase in impervious area in the post-development case and will have negligible impact on the peak discharge and stormwater quality. Therefore, it is expected the proposed grandstand style seating will not result in a material increase in the flood level, velocity, or flood hazard on upstream, downstream, or adjacent properties.

Figure 3 Seating Areas

Council's Designated Flood Event (DFE) is a flood with a once in a hundred-year probability or 1% Annual Exceedance Probability (AEP). **Table 1** below shows that the site is subjected to flood depths of up to 1.54m in depth for Seating Area A during a 1% AEP event, and up to 1.46m for Seating Area B. The maximum flood velocities associated with these events were 0.125m/s for grandstand A and 0.184m/s for Seating Area B.

The flood depths and velocities are indicative of slow backwater flooding typically seen at the outer extents of riverine flooding.

Table 1 Flood information (Catchment DE01)

	Seating Area A	Seating Area B
Min surface level (mAHD)	6.98	7.19

Max surface level (mAHD)	7.23	7.24
Min velocity (m/s)	0.054	0.148
Max velocity (m/s)	0.125	0.184
Min depth (m)	1.198	1.422
Max depth (m)	1.542	1.461

It is noted that the flood information shown in Table 1 has been sourced from the recent Flood Impact Assessment carried out by MCE for the site in association with D144-2021.

3 Development Generated Impacts and Risks

It is considered that the proposed structure will have negligible impact on the Fitzroy River flood characteristics and will not result in an adverse flood impact external to the site. It is the owner's responsibility to ensure appropriate flood management measures are implemented, however, it is expected that given the structure is largely permeable, flood management will consist of the following:

- Monitoring flood warnings via appropriate media and Bureau of Meteorology (BOM) website data to plan for flood events, and in the case of a potential flood event;
- Remove all debris, loose materials (i.e. potential hazards) from site; and
- Relocate equipment placed in the vicinity of the structure off-site.

4 Limitations

1. MCE has relied upon third party sources of information to prepare the document which may not have been able to be fully verified. MCE has taken reasonable endeavours to inform itself of the parameters and project and has taken reasonable steps to ensure that the works and document is as accurate as possible given the information upon which it has been based including information that may have been provided or obtained by any third party or external sources which has not been independently verified.
2. MCE reserves the right to review and amend any aspect of the works performed including any opinions and recommendations from the works included or referred to in the works if:
    i. Additional sources of information not presently available (for whatever reason) are provided or becomes known to MCE; or
    ii. MCE considers it prudent to revise any aspect of the works in light of any information which becomes known to it after the date of submission.
    iii. MCE does not give any warranty nor accept any liability in relation to the completeness or accuracy of the works. If any warranty would be implied whether by law, custom or otherwise, that warranty is to the full extent permitted by law excluded. All limitations of liability shall apply for the benefit of the employees, agents and representatives of MCE to the same extent that they apply for the benefit of MCE.
3. It is assumed the grandstand would be constructed with slab on ground foundation and the construction will require negligible earthworks to the existing ground levels within the site.
4. MCE take no responsibility for the structural integrity of the structure, or the final placement (vertical or horizontal) of the structure.
5. It is the landowner's responsibility to implement appropriate flood management strategies. The above noted advice is indicative of a development of this nature. It is the land owner's responsibility to implement, maintain and operate the site specific strategy.

Appendix A: Grandstand Style Seating Plans

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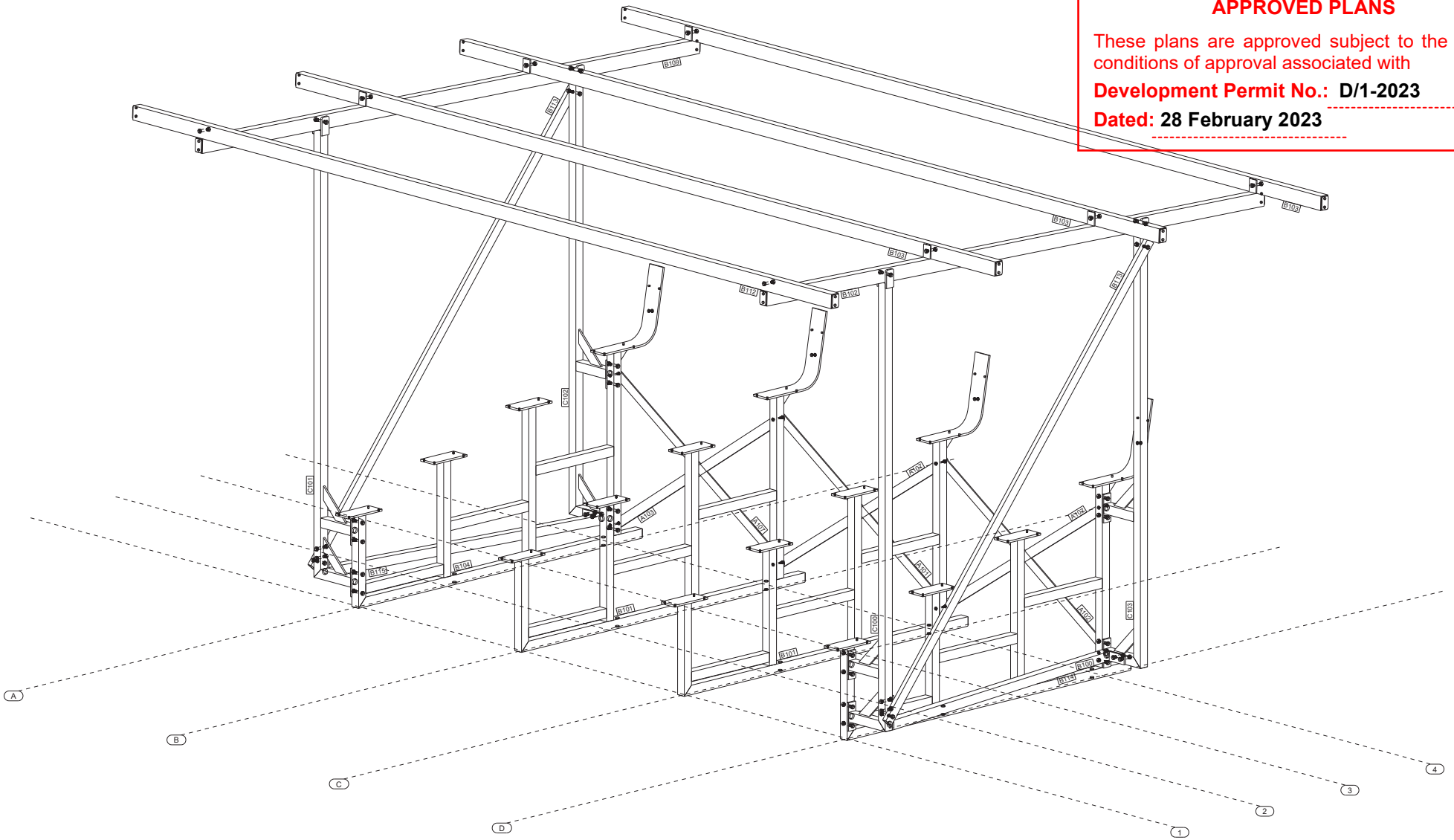

PERSPECTIVE VIEW

LEGENDS and SYMBOLS

- ⊕ - ORIENTATION MARK
- N/S - NEAR SIDE
- F/S - FAR SIDE
- B/S - BOTH SIDE
- O/A - OVER ALL
- C/C - CROSS CENTERS BETWEEN HOLES
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- FLG - FLANGE

T.O.S. - TOP OF STEEL
B.O.S. - BOTTOM OF STEEL
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< - INDICATES THE CONNECTING SIDE / FACE OF MEMBER.

2-Ø22 8.8/TF
- TF = TYPE OF BOLT
- 8.8 = GRADE OF BOLT
- Ø22 = DIAMETER OF BOLT HOLES
- 2 = QUANTITY OF BOLT HOLES

ERECTION NOTES

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NOTE: DO NOT SCALE

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CDE STRUCTURES
BUILDING INFORMATION MODELLING

DRAWING TITLE	PERSPECTIVE VIEW		
PROJECT	Project Name		
DRAWN BY	WP	DRAWING SIZE	A1
CDE JOB No.	S10238	DRAWING No	REV
SCALE	1:10	S10238-MP100	B

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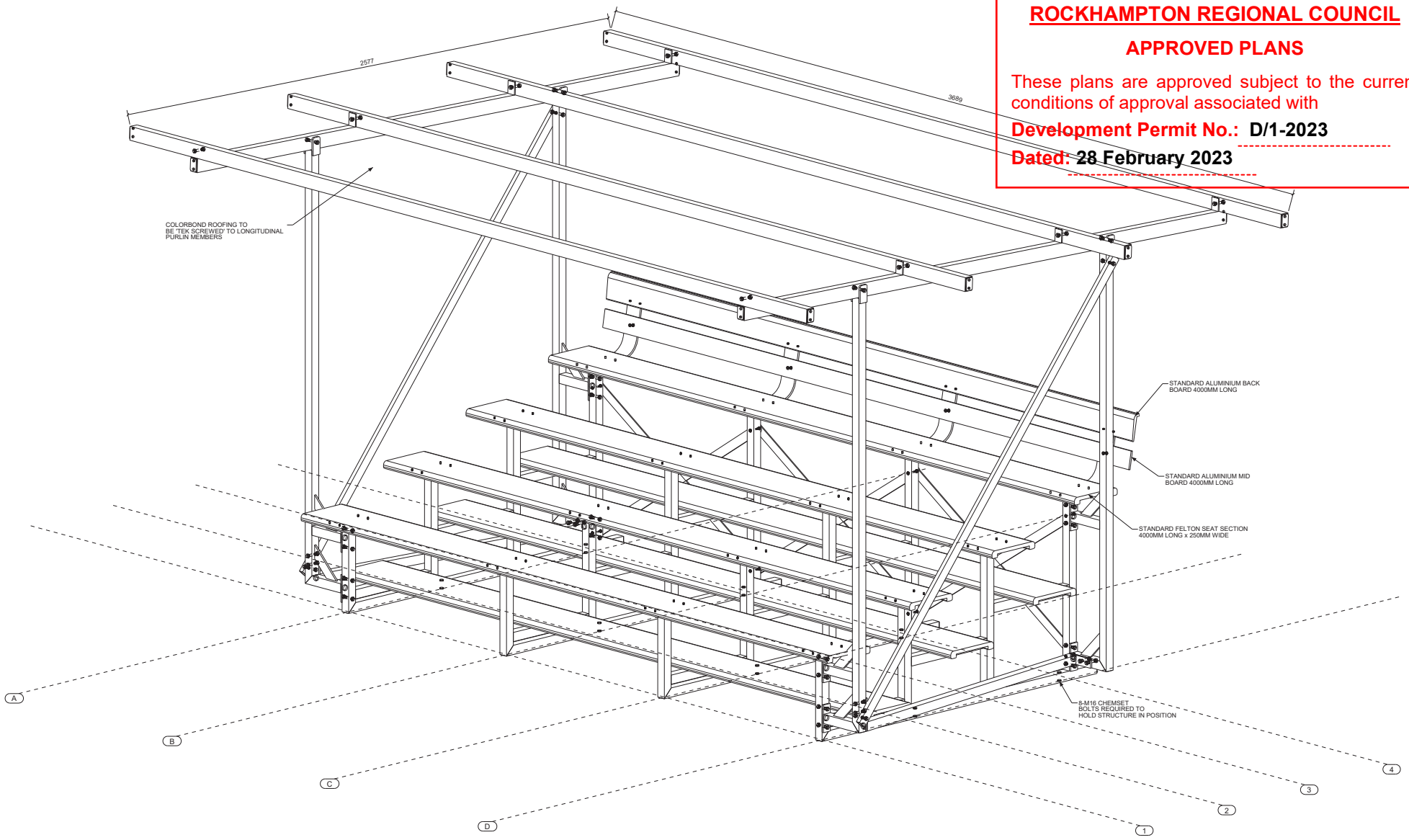

PERSPECTIVE VIEW WITH SEATING

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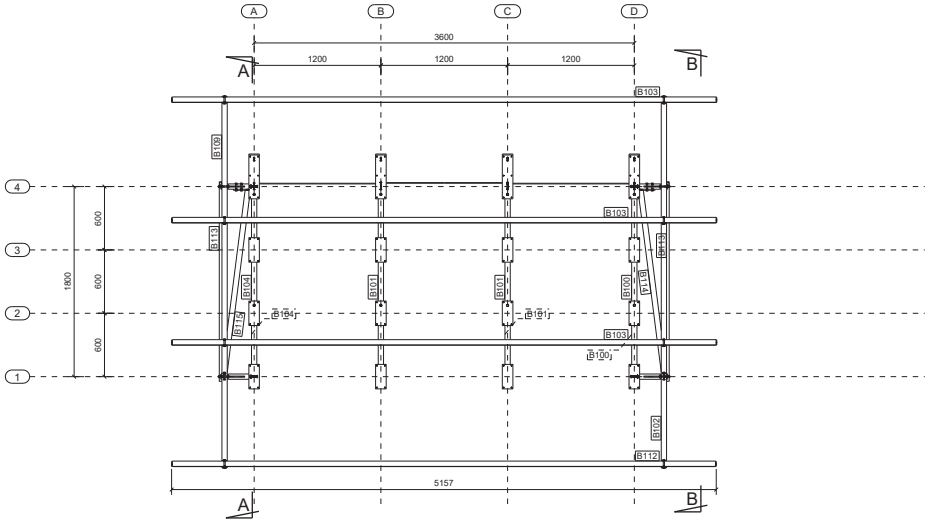

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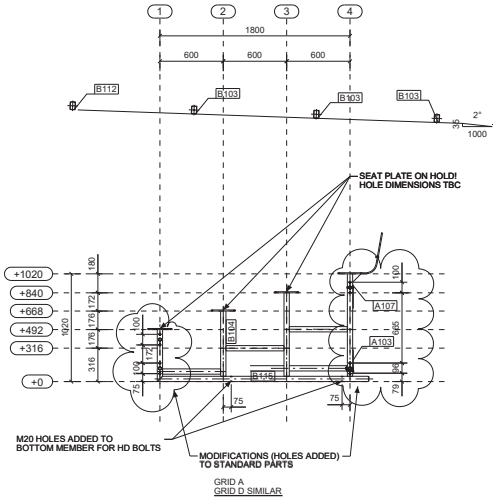

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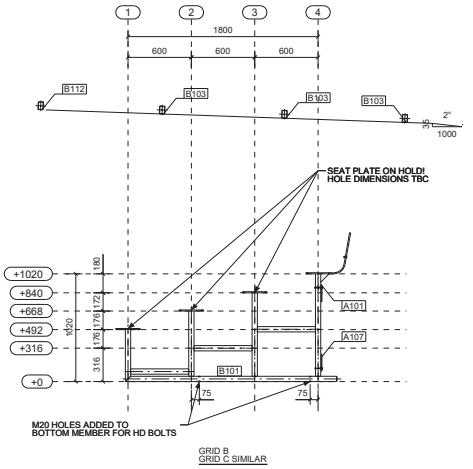

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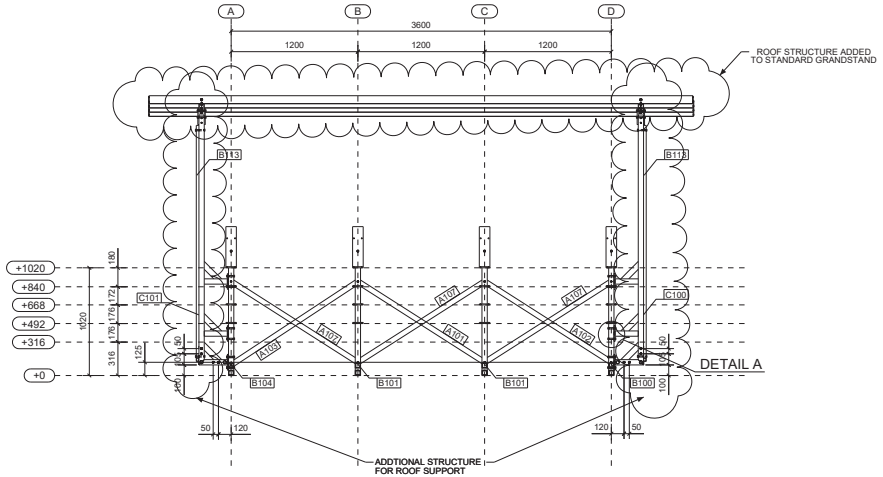
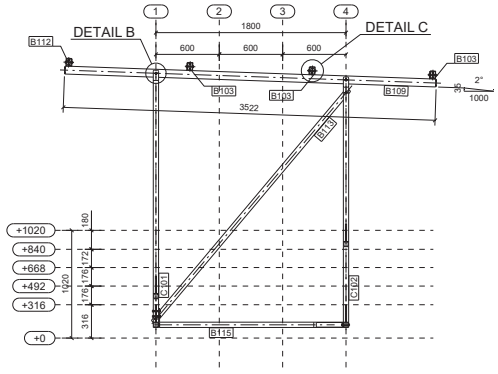
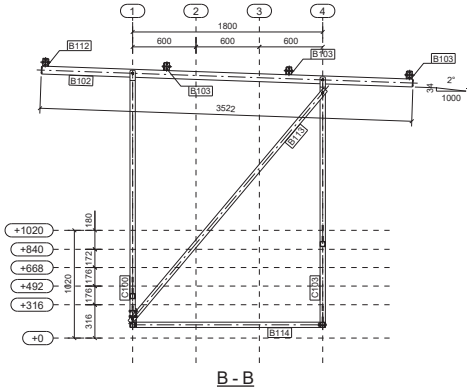




A - A



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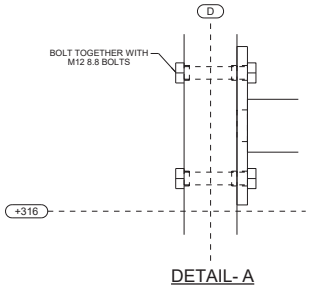
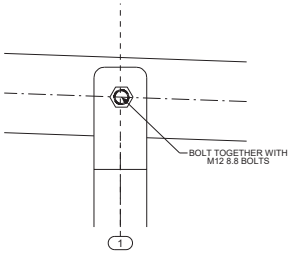


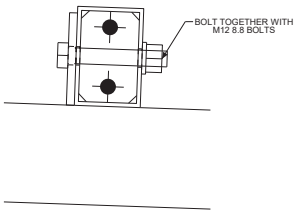
DETAIL- A

BOLT ON ROOF SUPPORT FOR EASY REMOVAL



DETAIL- B

BOLT ON ROOF FOR EASY REMOVAL AND FLATPACK



DETAIL- C

BOLT ON TRUSS FOR EASY REMOVAL AND FLATPACK

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