

Erica van den Honert
Director
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
PARRAMATTA NSW 2150

PO Box R220
Royal Exchange NSW 1225
P+612 8016 0100
E mail@insw.com
www.insw.com
ABN 85 031302516

Ref: SSD 9835

Dear Erica

Re: SSD 9835 Sydney Football Stadium Redevelopment – Condition B8(a) and (b) aero-acoustic report

I refer to SSD 9835 for Sydney Football Stadium Stage 2 (Design, construction and operation), which was approved by the Minister for Planning and Public Spaces on 6 December 2019. I also refer to the Department's letter dated 17 November 2020, confirming the Planning Secretary's satisfaction that evidence has been provided to meet the requirements of Conditions B8(a) and B8(b) relating to the aero acoustic assessment and B8(d) relating to detailed survey plans.

The Department's letter requested INSW provide evidence to demonstrate that the measures recommended by the approved aero-acoustic assessment have been considered by the design team and have been incorporated into the design. The assessment recommended two alternative measures to mitigate aero-acoustic noise, relating to the size of perforations on the proposed sunshade fins and the size of cables supporting the proposed glass canopy. I can confirm that those recommendations have now been considered by the design team and have been incorporated into the design as evidenced by the documents provided by Cox, Aurecon and Permasteelisa enclosed at Attachment 1. The implementation of these design features will ensure a low risk of aero acoustic noise for these façade components as concluded by RWDI.

Pursuant to Condition B8(c), the Applicant is required to provide evidence to the satisfaction of the Planning Secretary to demonstrate the Design Integrity Assessment (DIA) Report has been updated reflecting any amendments to the design plans to comply with Condition B7 or B8(a) and endorsed by the members of the DIA panel. Cox Architecture has confirmed that the DIA is not required to be updated as a result of the two alternative measures being incorporated into the design. The sunshade perforations and cable sizes are matters that are beyond the scope of detail captured by the DIA. Refer to Attachment 1 for details.

I can also advise that other matters called up by Condition B7 do not necessitate amendment to the DIA based on the current design as these matters are also beyond the scope of detail captured by the DIA. This includes demonstrating compliance with the National Construction Code; compliance with the recommendations of the DDA Compliance Statement – Performance Solutions Stage 2 prepared by Before Compliance dated 23 September 2019 and the BCA, Australian Standards and

Disability Standards; operational waste storage areas and photovoltaic cells being flush with the roof.

The Department should note that INSW is currently preparing a modification to SSD 9835 which will seek to relocate the photovoltaic cells from the stadium roof to Level 5. That modification when submitted will be accompanied by an updated DIA, however at the present time there is no change to the currently endorsed DIA.

On the basis of the above, INSW contends that all requirements of Condition B8 are now satisfied and the condition can be discharged. The Department's confirmation of the same is requested.

Should you have any questions regarding this letter or the enclosed information please contact the undersigned on 0412 775 365.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ballango', written over a horizontal line.

16 December 2020

Stephanie Ballango

Director

Consultant to Infrastructure NSW



16 December 2020

Wayne Hutchinson
Design Director, Sydney Football Stadium Project
John Holland Pty Ltd
65 Pirrama Road,
PYRMONT NSW 2000

Dear Wayne,

Aero Acoustic Report – Design Impacts

Cox confirm that the mitigation strategies outlined in the in Table 3 of *201009 RWDI Project 2000267 Sydney Football Stadium - Aeroacoustic Assessment Final Report* have been implemented into the IFC drawings.

Cox confirm the perforation pattern has been updated to meet low risk category by varying hole pattern with 3 x different sized and shaped holes, with nothing smaller than 30mm diameter. For current hole pattern set out refer to attached drawing: SFS-COX-01-DR-AR60XX08[A]

In Cox's opinion, this change can be implemented without impact to the architectural design intent of the approved SSD DA drawings. The approved design featured perforated metal sunshade panels at high level parapets to help visually "feather" the terminating ends of horizontal sunshade layers. The approved Design Integrity Assessment (DIA) does not make reference to the perforations within the horizontal sunshades and therefore the changes now proposed do not necessitate any updates to the DIA.

Cox are comfortable that the method outlined in the RWDI report regarding detailed design of hole sizes and patterns to achieve a "low risk" of aero-acoustic noise are compatible with delivering the design intent described above.

We also note that structural response Item 2 of table 3 within the RWDI report is addressed as described by Aurecon in their letter dated 11 December 2020 on the same topic is similarly in line with the architectural intent.

Pursuant to Condition B8(c) of SSD 9835, the Design Integrity Assessment is not required to be updated as the amendments to the drawings described above and within the Aurecon and Permasteelisa correspondence are matters of design detail that the DIA does not delve into.

Regards,

A handwritten signature in black ink, appearing to read 'Stuart Harper'.

Stuart Harper
Senior Associate

stuart.harper@cox.com.au

Melbourne studio
Level 2, 167 Flinders Street
Melbourne VIC 3000 Australia

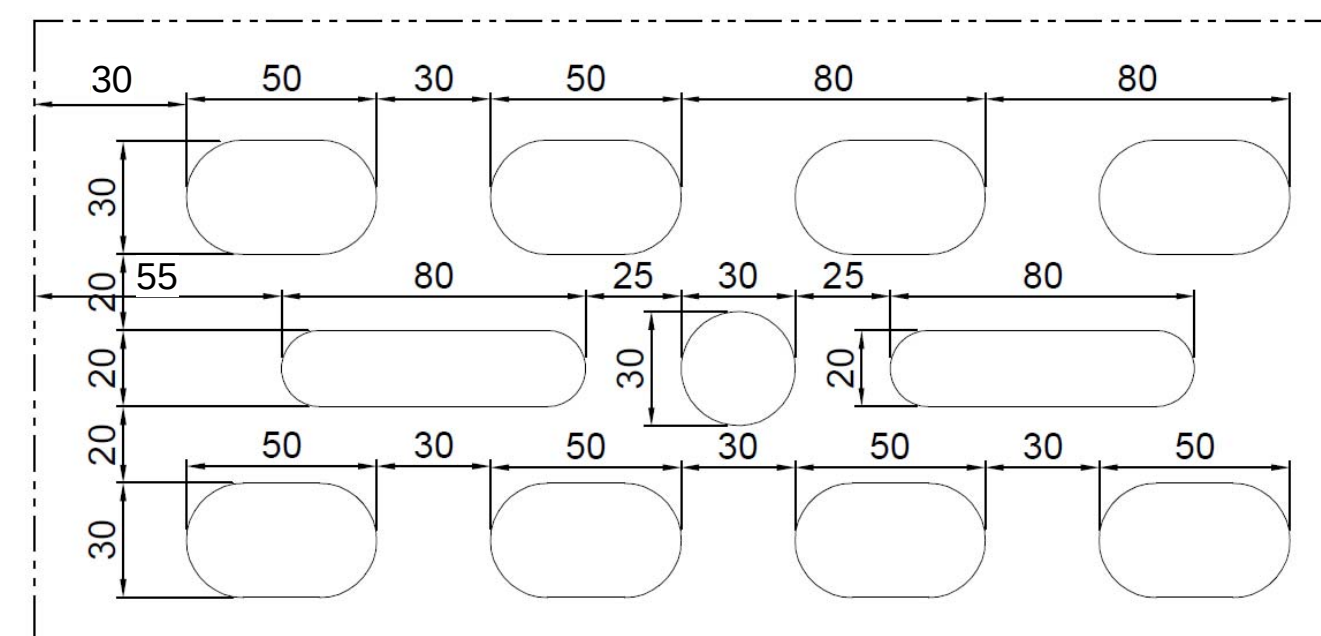
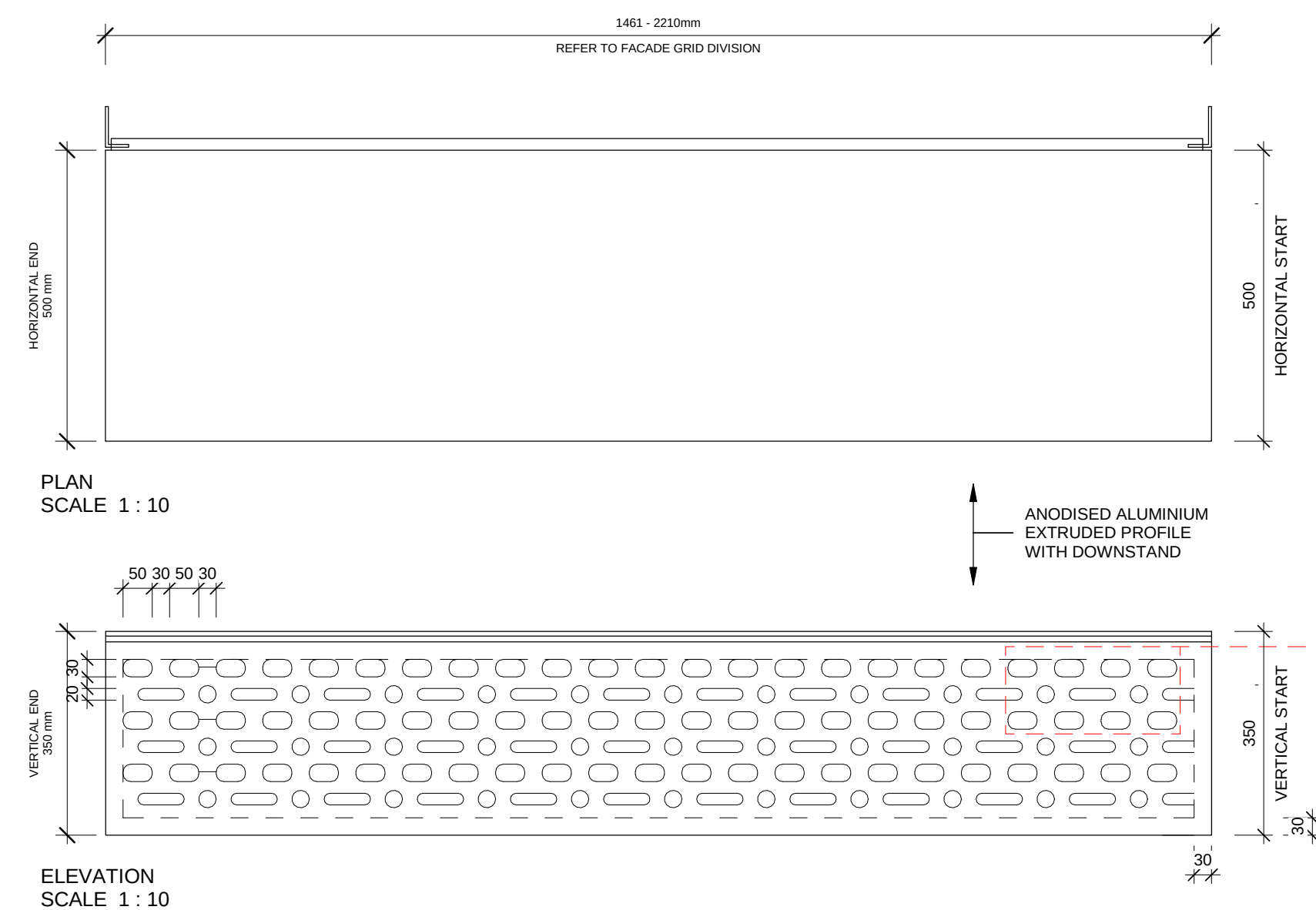
T +61 3 9650 3288
F +61 3 9650 2747
coxarchitecture.com.au

COX Architecture Pty Ltd
ACN 002 535 891

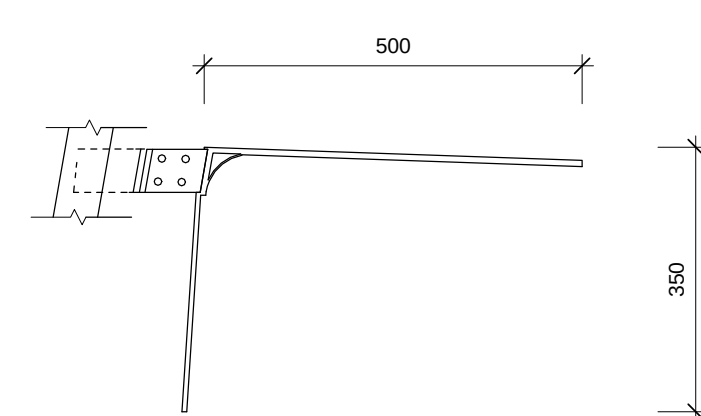
Nominated Architects:
Ian Sutter No. 15843
Jonathan Gardiner No. 14706

SUN SHADE PERFORATED...		
	PANEL TYPE	Count
17.	343.422.167.258.P	40
19.	422.343.258.167.P	40
24.	422.500.258.350.P	40
29.	500.422.350.258.P	40
34.	500.500.167.258.P	24
35.	500.500.258.167.P	24
36.	500.500.258.350.P	24
37.	500.500.350.258.P	24
38.	500.500.350.350.P	344
39.	500.500.350.350.P.X	20
Grand total: 620		

STANDARD SUNSHADE - PERFORATED



TYPICAL PERFORATION DETAIL
SCALE 1 : 2 @ A0



SECTION
SCALE 1 : 10

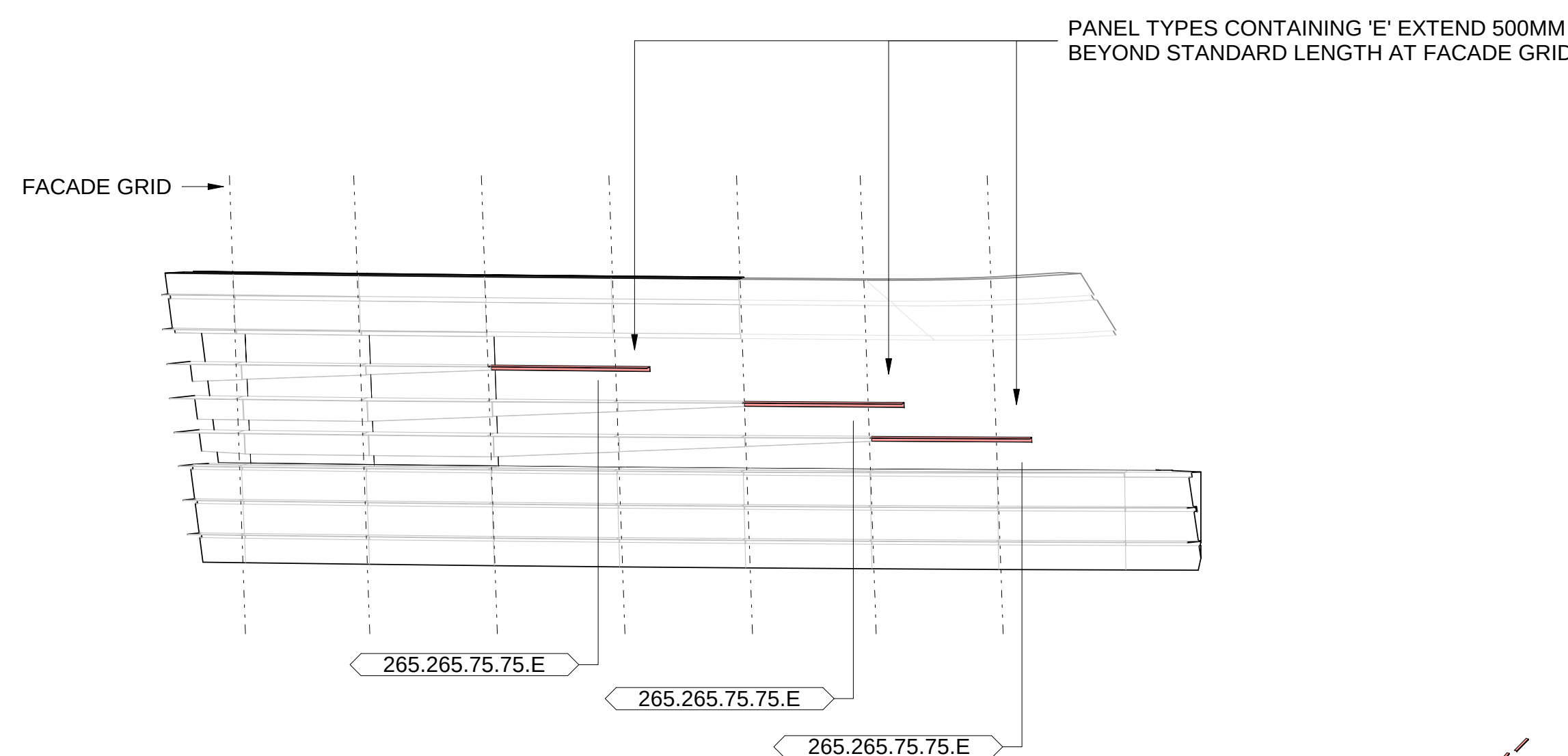
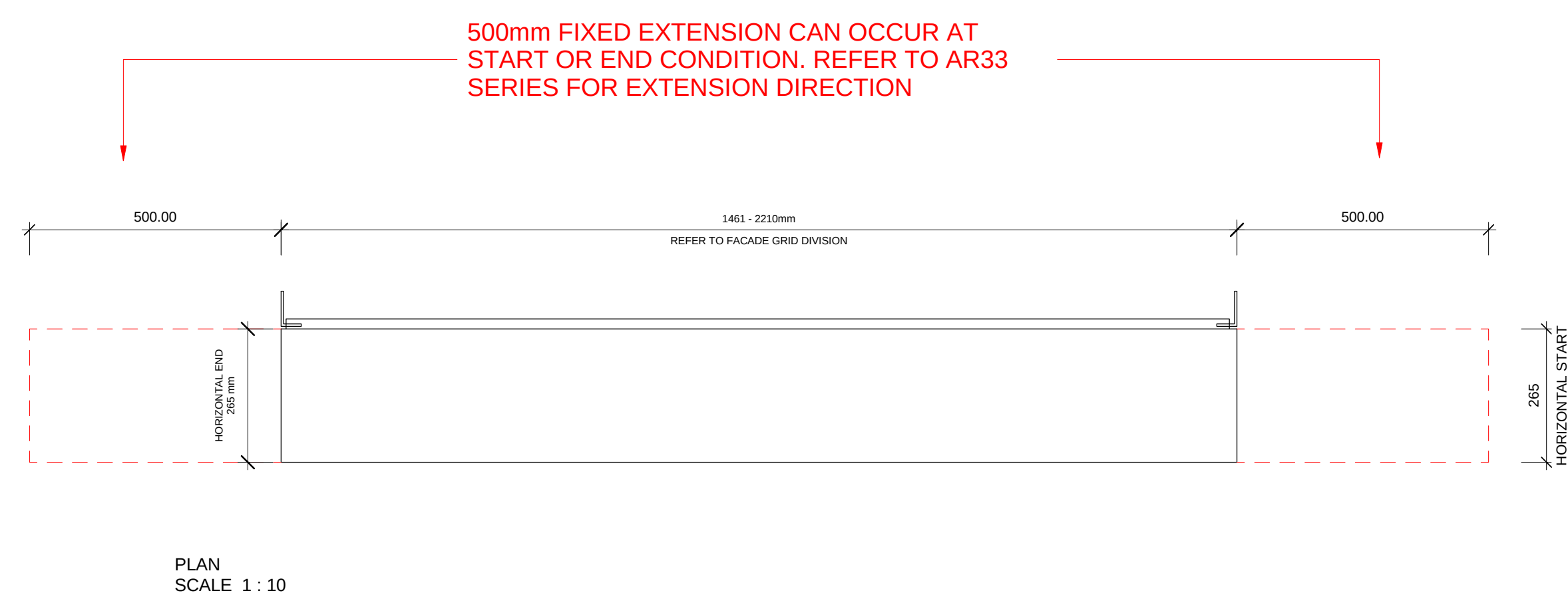


3D - SUNSHADES - PERFORATED

SCALE

SUN SHADE EXTENDED TYPES		
	PANEL TYPE	Count
8.	265.265.75.75.E	76
21.	422.500.75.75.E	20
22.	422.500.75.75.E.X	2
26.	500.422.75.75.E	20
27.	500.422.75.75.E.X	2
Grand total: 120		

STANDARD SUNSHADE - Extended



3D - SUNSHADES - EXTENDED

JD
SCALE

[illegible][illegible]

we are **inSW** Infrastructure
New South Wales

Cox Architecture
Level 6, 155 Clarence Street,
Sydney, NSW 2000, Australia
T + 61 2 9267 9599
F + 61 2 9264 5844
www.coxarchitecture.com.au

Nominated Architects
Joe Agius no. 6491
Russell Lee no. 6367

  **aurecon**
www.aurecongroup.com

ASPECT Studios Pty Ltd
Level 1/78-80 George St,
Redfern, NSW, 2016, Australia
T + 61 29699 7182
www.aspect-studios.com
sydney@aspect-studios.com
ASPECT Studios

Consultants/Subcontractors	
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Architects

NAME: COX Architecture

ADDRESS: Level 6, 155 Clarence St, Sydney, NSW, 2000, Australia

TELFAX: (02) 9267 9599

WEBSITE: www.coxarchitecture.com.au

EMAIL: sydney@cox.com.au

COX

Discipline

ARCHITECTURAL

Project No.	218018.00
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Project	Sydney Football Stadium Redevelopment
Location	Driver Ave, Moore Park NSW, 2021

Phase: CONSTRUCTION PHASE

Document Control Status:

FOR CONSTRUCTION

Drawing Title

ARCHITECTURAL SERVICES -
FACADE DETAIL - SUNSHADE
DETAILS SHEET 03

AD DRAWING SHEET	Drawn: _____
Checked by: SK	H-M
Designed by: SH	Scale: 1: 10 @ A0
Approved by: AR	Date: 04.12.2020
Drawing Number:	Revision: A
SFS-COX-01-DR-AR60XX08	North:



SUNSHADE PERFORATIONS

AMENDMENTS TO ORIGINAL ARCHITECTURAL DESIGN INTENT

DOCUMENT VERIFICATIONS

Rev.	Date	Description	Written by	Checked by	Approved by
6					
5					
4					
3					
2					
1	15-12-2020	Text addition	J Lahteenmaki		
0	10-12-2020	First issue	J Lahteenmaki		

Original Concept

The rear sheet of the sunshades on the Sydney Football Stadium project contain perforations as scheduled by COX Architects.

The original concept was a staggered hole --- refer 01.04.01.02.330 A63.00.04_FACADE DETAILS - 04_D.pdf

It was further developed by COX to become 25mm x 5mm slotted holes – refer ASK461-SFS_Perforated Sunshades Scope Pack.pdf.

Aeroacoustics Review

On Tuesday 18th August Permasteelisa Group received communication through Aconex JH-GCOR-016323 of the preliminary aeroacoustics assessment – refer 200817 Sydney Football Stadium - Prelim Aeroacoustics #2000267.pdf

The original concept was identified as a risk.

Development & Finalization

Permasteelisa Group aimed to satisfy architectural intent with perforation proposals. The final development – refer SK200826-1_Perforated Option1-00.pdf, was accepted Architecturally and satisfied Aeroacoustics as referenced in section 6 “Mitigations” "201009 RWDI Project 2000267 Sydney Football Stadium - Aeroacoustic Assessment Final Report.pdf"

The perforation matrix is to start centered on the rear sunshade face. Any holes that are cropped due to the solid perimeter are to be omitted as confirmed by COX Architects.

Refer Sunshade perforated plate.pdf



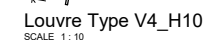
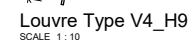
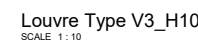
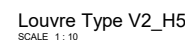
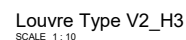
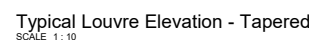
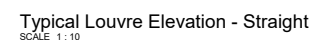
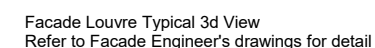
Johannes Lahteenmaki
Project Design Manager
Permasteelisa Group

NOTE: Typical quadrant shown indicative only to communicate intent. Not all quadrants are typical. For full stadium sunshade extents and variations refer to louvre schedule below.

		VERTICAL DIMENSION					
HORIZONTAL DIMENSION		V1 75mm	V2 75mm/175mm taper	V3 175mm/275mm taper	V4 275mm/375mm taper	V5 375mm	
H1 50mm	V1_H1	205m					
H2 50mm/150mm taper	V1_H2	205m					
H3 200mm	V1_H3	1509m					
H4 150mm/250mm taper	V1_H4	206m					
H5 200mm/300mm taper	V1_H5	209m	V2_H5	176m			
H6 250mm/350mm taper	V1_H6	206m					
H7 300mm/400mm taper	V1_H7	209m		V3_H7	176m		
H8 350mm	V1_H8	7413m					
H9 400mm/500mm	V1_H9	210m			V4_H9	176m	
H10 500mm	V1_H10	4457m	V2_H10	114m	V3_H10	114m	
				V4_H10	114m	V5_H10	726m
					TOTAL LENGTH		16425m



Pictured Panel TYPE V3 H7



ASK461 - FACADE PERFORATED SUNSHADES SCOPE PACK

ASK461

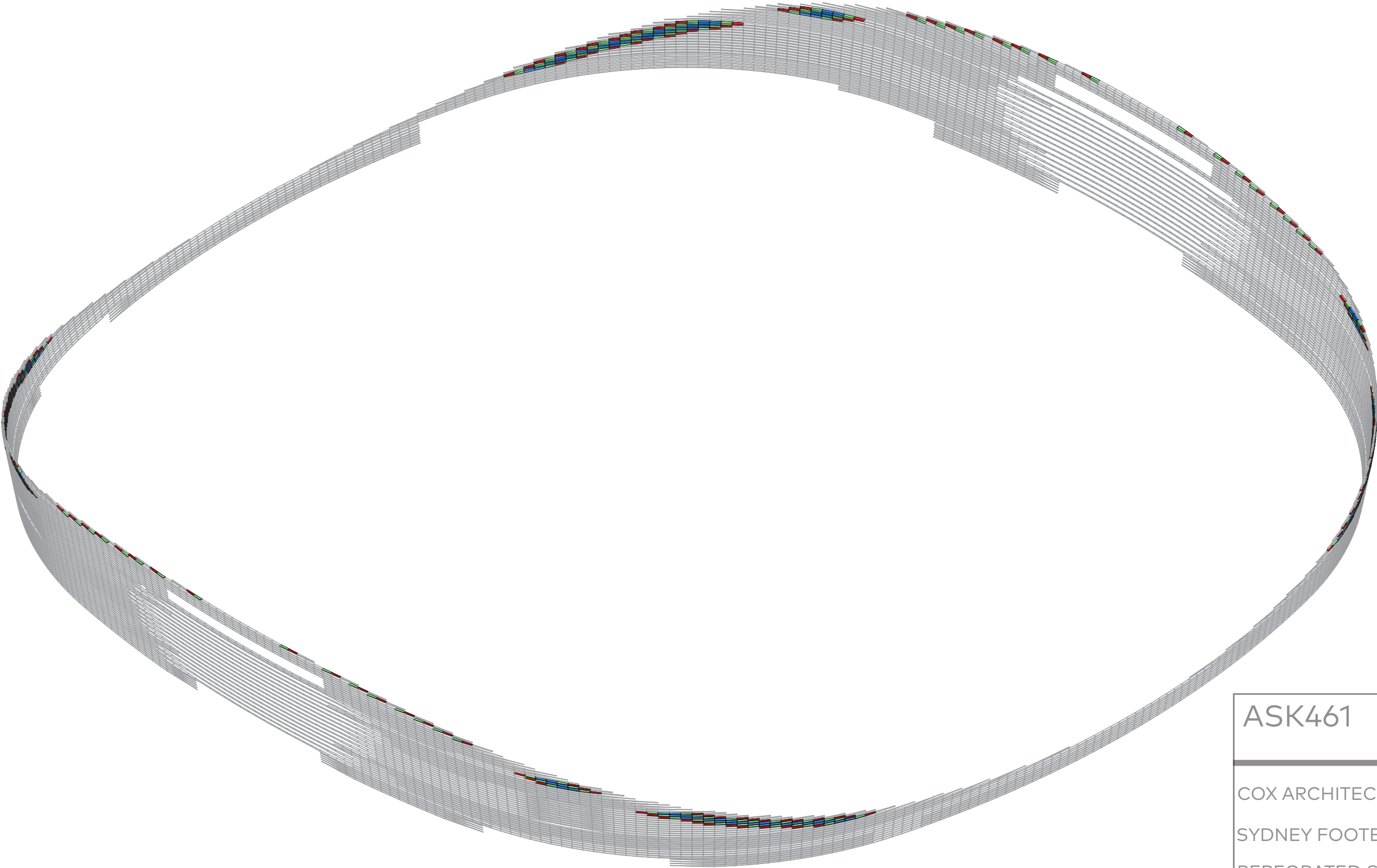
COX ARCHITECTURE
SYDNEY FOOTBALL STADIUM
PERFORATED SUNSHADES PACK

NTS
27.02.20

FACADE PERFORATED SUNSHADES SCOPE PACK

OVERALL AXONOMETRIC VIEW

ORIGIN	AL	CONCE	PT
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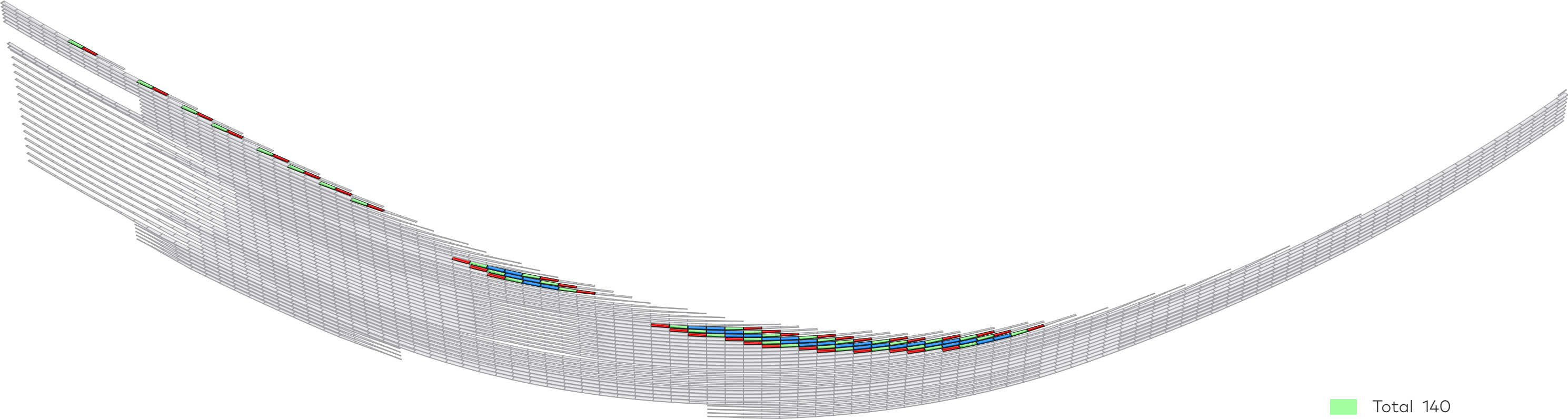


ASK461
COX ARCHITECTURE
SYDNEY FOOTBALL STADIUM
PERFORATED SUNSHADES PACK
NTS
27.02.20

FACADE PERFORATED SUNSHADES SCOPE PACK AND

QUADRANT AXONOMETRIC VIEW

ORIGIN
AL
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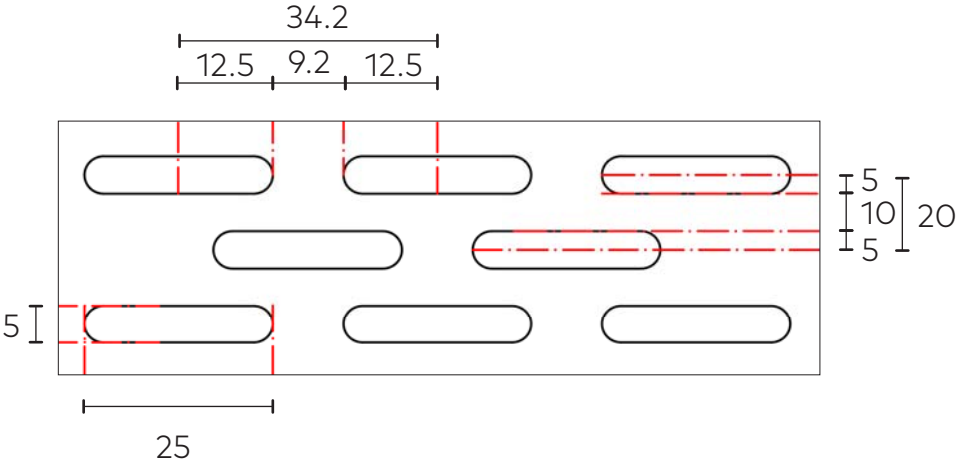
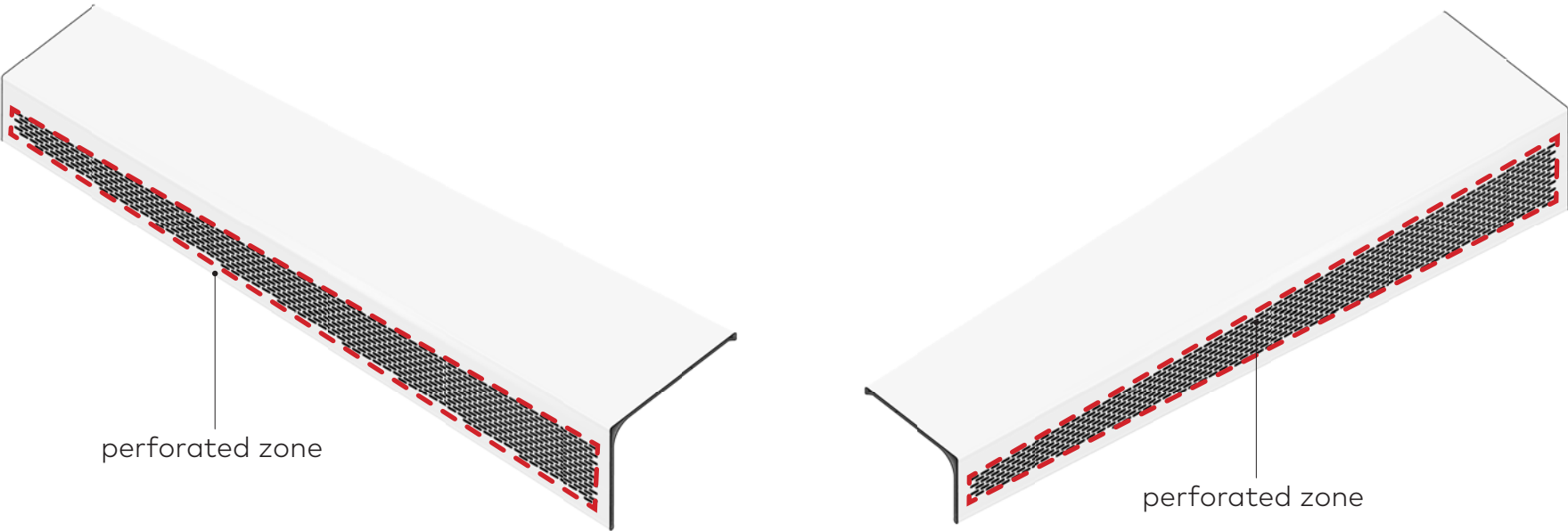
- Total 140
- Total 140
- Total 120

ASK461
COX ARCHITECTURE
SYDNEY FOOTBALL STADIUM
PERFORATED SUNSHADES PACK
NTS
27.02.20

FACADE SUNSHADE PERFORATION SKETCH

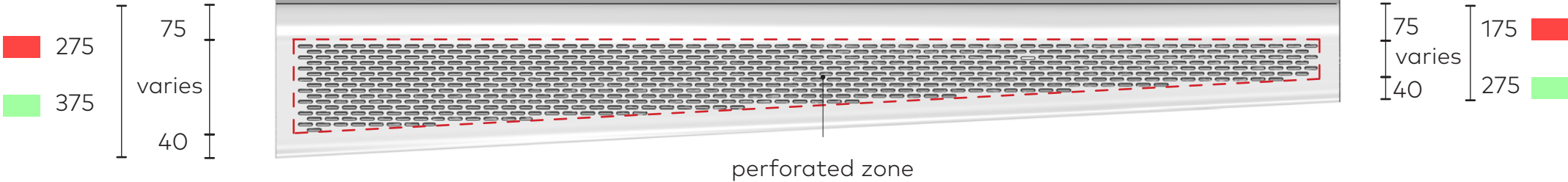
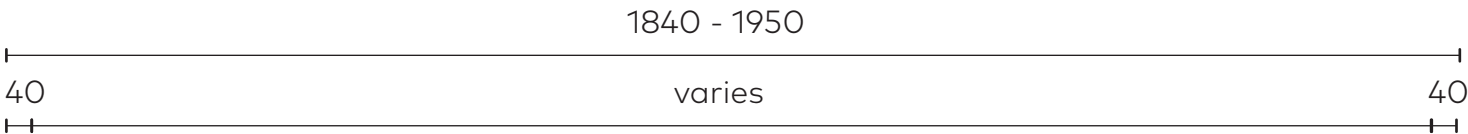
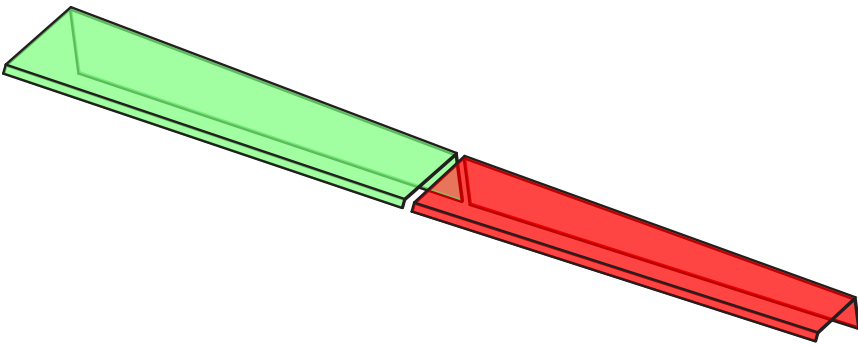
SUNSHADE - TAPERED

ORIGIN	AL	CONCE	PT
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DETAIL (PATTERN PERFORATION)

1:2



ELEVATION (TAPERED)

1:10



PLAN (TAPERED)

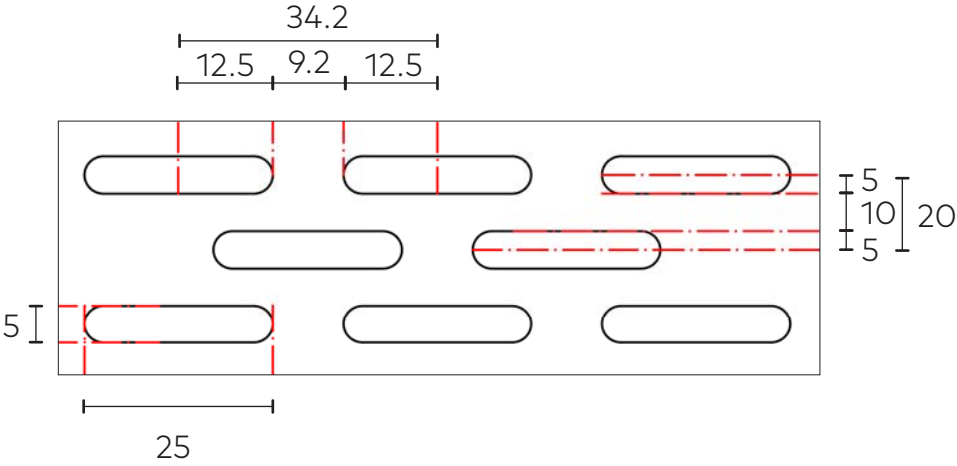
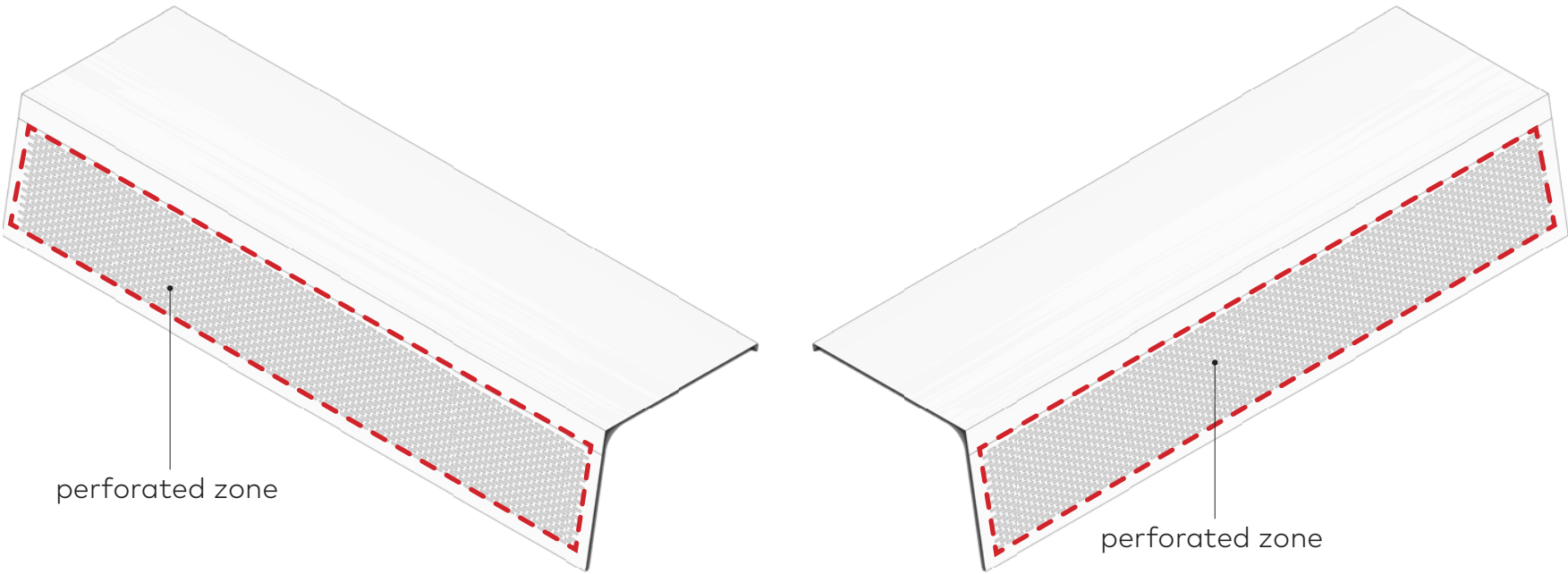
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ASK461
COX ARCHITECTURE
SYDNEY FOOTBALL STADIUM
PERFORATED SUNSHADES PACK
REFER TO SKETCH
27.02.20

FACADE SUNSHADE PERFORATION SKETCH

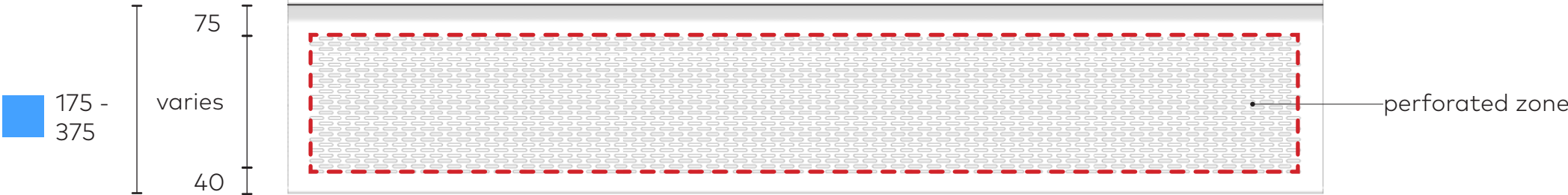
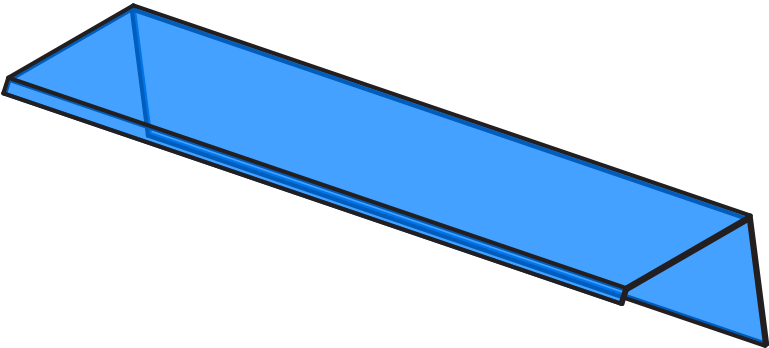
SUNSHADE - RECTANGULAR

ORIGIN	AL	CONCE	PT
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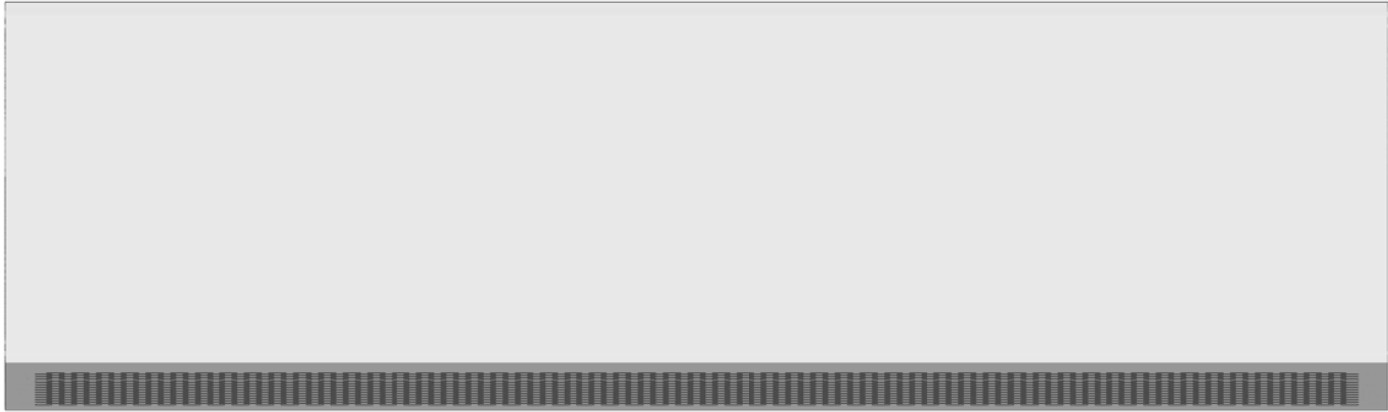


DETAIL (PATTERN PERFORATION)

1:2



ELEVATION
1:10



PLAN
1:10

ASK461
COX ARCHITECTURE
SYDNEY FOOTBALL STADIUM
PERFORATED SUNSHADES PACK
REFER TO SKETCH
27.02.20



Unit 1 Tilers Road, Milton Keynes
Buckinghamshire UK
MK11 3LH

Tel: +44 (0)1908.776970
Fax: +44 (0)1582.470259
E-mail: solutions@rwdi.com

ORIGINAL
ADVISE

MEMORANDUM

DATE:	2020-08-17	RWDI REFERENCE #: 2000267
TO:	Jim Griffiths	EMAIL: jim.griffiths@vanguardia.co.uk
	CC: Harry Lang	EMAIL: harry.lang@vanguardia.co.uk
FROM:	Andrew Bell	Email: andrew.bell@rwdi.com
RE:	Preliminary Wind-Induced Noise Review Sydney Football Stadium Sydney, Australia	

The following is a preliminary summary of our drawing review to assess the potential for wind-induced noise on the façade of the Sydney Football Stadium. The objective of this study is to address the project Planning Requirements B8a, B8b and the Project Brief Requirements F8.5.3 via a design review as to the potential susceptibility of building elements to generate wind-induced noise, and to provide guidance to reduce the risk of wind-induced noise events where and if applicable.

While it is not possible to predict the sound level of wind-induced noise events based on an aeroacoustic desktop study, we propose that the project requirements would be met with respect to mitigation of wind-induced noise if all elements identified via this review as having a potential for wind-induced noise are assessed as Low Risk.

This assessment and recommendations are based on a desktop review of the following electronic design documents received by RWDI up to August 10, 2020:

- AS-01 (Acoustic Screens).pdf
- ASK-844_rev03.pdf
- CW01 (Curtainwall).pdf
- FG01 - Atrium & Awning.pdf
- WackerIngenieure_SydneyFootballStadium_AeroacousticNoise.pdf
- SFS-JHG-00-CM-AL00XX01.nwd

Based on the height of the building above local grade (40m), and statistical wind conditions from Sydney International Airport for a 20-year period, the maximum sustained wind speed used in our assessment is 18m/s, which would occur one-hour per year. Higher wind speeds are not expected to occur frequently enough to cause annoyance.

A brief summary of our review is as follows:

- The profile fins are assessed as **low risk** for wind induced noise (vortex shedding through-flow and up/down-wash).
- Several slots have been identified, but are assessed as **low risk** due to the aspect ratio (cavity resonance).
- Exposed roof trusses are assessed as **low risk** (vortex shedding).
- The cables (e.g. FG01 pg. 16) would be assessed as low risk for an aeolian tone if diameter is greater than 10mm.
- Perforated plates are indicated on Curtain Wall drawings CW01 pgs. 133, 139, & 140 [drawings SFS-PSA-01-SD-FC62XX06, SFS-PSA-01-SD-FC62XX12, & SFS-PSA-01-SD-FC62XX13]. The current design shows a uniform circular hole pattern with 10mm diameter holes. These panels appear to be located in higher elevation areas exposed to wind flowing freely through the holes. As a result, they are assessed as **high risk** for wind induced noise.

To address the risk of perforation noise, we recommend the following mitigation measures (or a combination thereof):

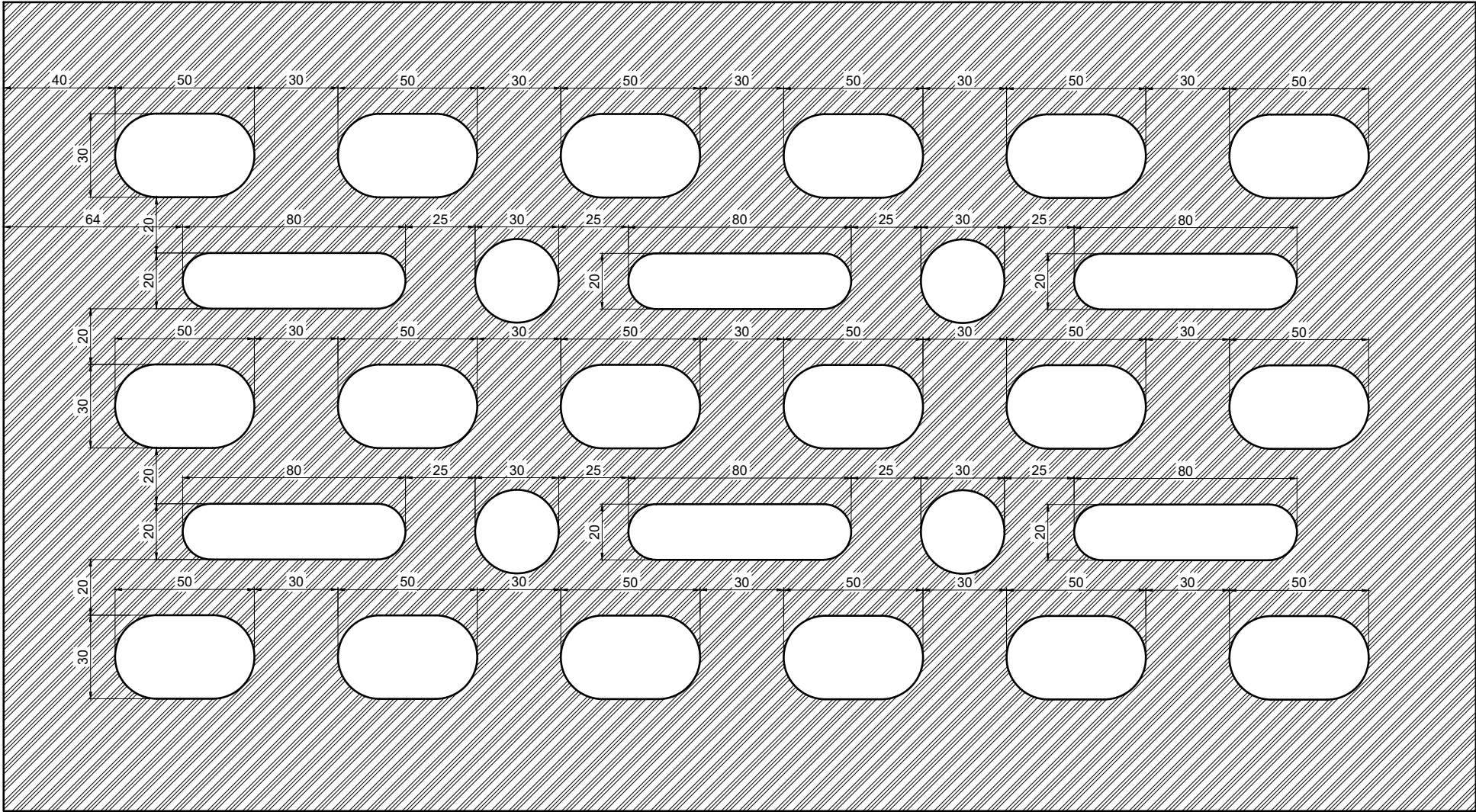
- Eliminating flow through the perforations;
 - Either by substituting a solid panel, or by incorporating a solid backing panel immediately behind the perforated panel.
- Increasing the perforation size;
 - For a uniform circular hole pattern, we would recommend a minimum hole size of 50mm to have a low risk of noise.
- Adding variation to the pattern (see Figure 4 in the attached Appendix);
 - The more variation in size and shape can be added, the lower the risk of wind-induced noise.

Feel free to contact us with any questions.

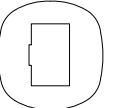
Best regards,

Andrew Bell, M.Sc.Eng.
Senior Acoustician

FINALISED
PERFORMANCE
DESIGN AS PER
MITIGATION
SECTION OF
RWDI REPORT.



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LOCATION PLAN

■■■ WIND BEAM

- SSF5 ALUMINIUM CLADDING
- LGR LOUVER
- GL-01 5Clear HTS/1.52PVB/5Clear HTS w /SJ60#4+12A(black)+5Clear HTS /1.52PVB/5Clear HTS
- GL-01A 6Clear HTS/1.52PVB/6Clear HTS w /SJ60#4+12A(black)+6Clear HTS /1.52PVB/6Clear HTS
- GL-02 6Clear HTS/1.52PVB/6Clear HTS w /SJ60#4+12A(black)+6Clear HTS /1.52PVB/6Clear HTS - FRIT
- GL-03 10 Low Iron/1.52PVB/10 Low Iron
- NO PANEL

Rev	Amendments	Date
-	-	-

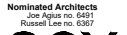
GENERAL NOTES
CONTRACTOR AND SUB-CONTRACTORS SHALL VERIFY ALL DIMENSIONS OF THIS DRAWING AND ITS CONDITIONS PRIOR TO ANY WORK COMMENCING.
ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT. THE MANUFACTURER SHALL NOT COMMENCE ANY WORKS PRIOR TO THE RETURN OF APPROVED SHOP DRAWINGS SIGNED BY THE RELEVANT CONSULTANT.
FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALES DIMENSIONS.
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, DRAWINGS AND CONSULTANT DOCUMENTS.
COPYRIGHT OF THIS DRAWING IS VESTED IN THE PRINCIPAL.
NOTE: ALL REVISIONS TO DRAWINGS WILL BE CLOUSED AND TAGGED.
STRUCTURE NOTES:
STRUCTURAL ELEMENTS SHOWN IN ARCHITECTURAL DRAWINGS ARE INDICATIVE ONLY AND INCLUDED FOR SPATIAL CO-ORDINATION PURPOSES ONLY.
FOR FULL STRUCTURAL DESIGN INCLUDING SUPERSTRUCTURE, SUB-STRUCTURE, SUBSTRUCTURE SIZES & DETAILS, SLAB SIZES & DETAILS, SUBSIZES & SHORING DETAILS, COLUMN STRUCTURAL WALL SIZES & DETAILS REFER STRUCTURAL ENGINEER'S REPORT.
FINAL ENGINEERING CONNECTIONS AND MEMBER TYPES TO MATCH ARCHITECTURAL INTENT.
NOTES:
REFER TO SERVICE ENGINEER'S DRAWINGS FOR LOCATION OF S.D.F. BOXES, GPO'S AND SKIRTING DUCTS. REFER TO SERVICES ENGINEER'S DRAWINGS FOR CO-ORDINATION OF S.D.F. WALL THICKNESS AND CORNER PENETRATIONS.
REFER TO HYDRAULIC ENGINEER'S SERVICE PLAN FOR LOCATION OF SUB-FLOOR SERVICES.
REFER TO DOOR SCHEDULES FOR DOOR HARDWARE AND FURNITURE DETAILS.
REFER TO MECHANICAL ENGINEER'S DRAWINGS AND SHOP DRAWINGS TO CONFIRM SIZES OF ALL DUCT PENETRATIONS AND LOUVER OPENING SIZES.
REFER TO MECHANICAL ENGINEER'S DETAILS FOR PENETRATIONS AND BUILDING IN OF DUCTS, GRILLES, PLANT AND CEILING PLUMBING.
BUILD IN HIGH LEVEL OPENINGS FOR PLUMBING IN CEILING SPACES. REFER TO MECHANICAL ENGINEER'S DRAWING.
FOR ADDITIONAL SETOUT INFORMATION WHERE NO DIMENSIONING SHOWN, REFER TO REFERENCE TAGS FOR DETAILED ARCHITECTURAL DRAWINGS.
REFER TO ARCHITECTURAL SPECIFICATION, SCHEDULES AND ROOM DATA SHEETS FOR FIRE AND FINISHES CODES FOR FURTHER DETAIL AND OTHER MISCELLANEOUS ITEMS.

 PRINT IN COLOUR

 **JOHN HOLLAND**

**Cox Architecture**
Level 16, 155 Clarence Street,
Sydney, NSW 2000, Australia
T + 61 2 9267 9599
F + 61 2 9264 9844
www.coxarchitecture.com.au

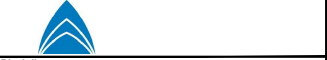
**Aurecon**
115 Military Rd, Neutral Bay,
NSW, 2089
T + 61 2 9465 5599
www.aurecongroup.com

**Nominated Architects**
Jon Appleby no. 8541
Russell Lee no. 6367

**COX**

**ASPECT Studios Pty Ltd**
Level 17/78-80 George St,
Redfern, NSW, 2016, Australia
T + 61 2 9669 7162
www.aspect-studios.com
sydney@aspect-studios.com

Consultants/Subcontractors
Facades:
NAME: PERMASTEELISA
ADDRESS: 13-15 Governor Macquarie Drive, Chipping Norton NSW 2170
TEL/FAX: (02) 9195 1786
WEBSITE: www.permasteelisaigroup.com
EMAIL: info.au@permasteelisaigroup.com



Discipline **FACADE**

Project No. **91186**

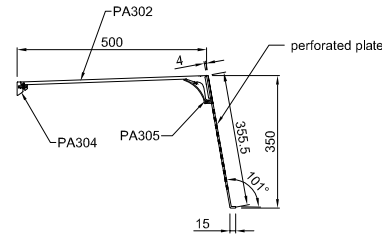
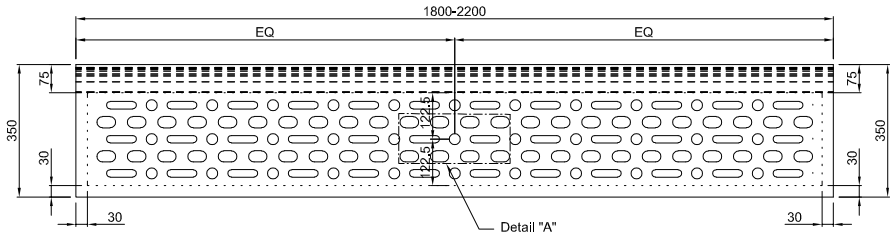
Project **Sydney Football Stadium
Redevelopment**
Driver Ave, Moore Park
NSW, 2021

Phase: **PRELIMINARY DESIGN**

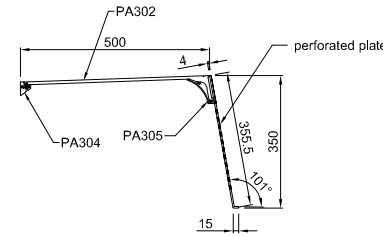
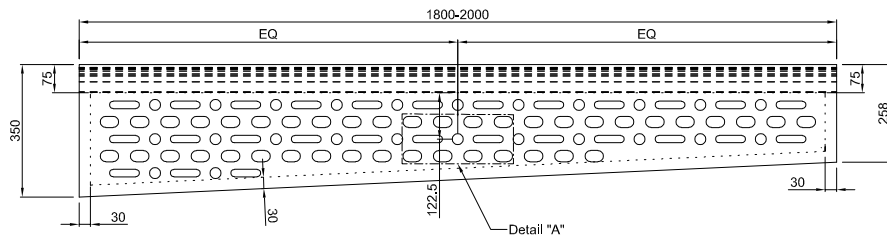
Document Control Status: **FOR INFORMATION**

Drawing Title
**SYDNEY FOOTBALL STADIUM
PERFORATED SHEET**

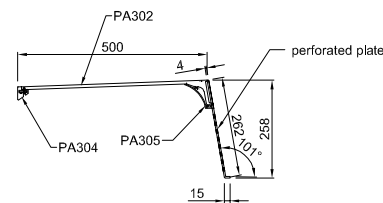
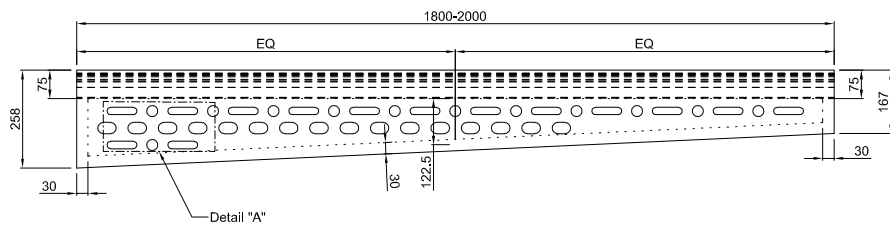
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Checked by: J.L.	Scale: (A1 size) 1:1 @ A1.
Designed by: Pisa PTY	Date: 2020-08-26
Approved by:	Revision: 00
Drawing Number:	North: 
SK200826-1_Perforated Option	



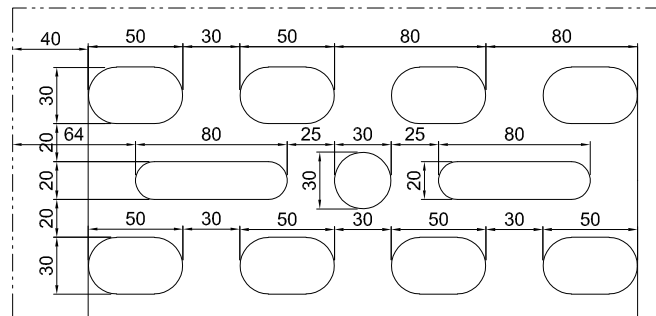
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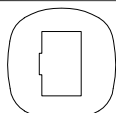
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Detail "A"

FINALISED PERFORMANCE DESIGN AS PER MITIGATION SECTION OF RWDI REPORT.

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LOCATION PLAN

Rev	Amendments	Date
-	-	-

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FINAL ENGINEERING CONNECTIONS AND MEMBER TYPES TO MATCH ARCHITECTURAL INTENT.
NOTES:
REFER TO SERVICE ENGINEER'S DRAWINGS FOR LOCATION OF S.D.F. BOXES, GPO'S AND SHIRTING DUCTS. REFER TO SERVICES ENGINEER'S DRAWINGS FOR CO-ORDINATION OF SLAB & WALL BLOCKOUTS AND CORNER PENETRATIONS.
REFER TO HYDRAULIC ENGINEER'S SERVICE PLAN FOR LOCATION OF SUB-FLOOR SERVICES. REFER TO DOOR SCHEDULES FOR DOOR HARDWARE AND FURNITURE DETAILS.
REFER TO MECHANICAL ENGINEER'S DRAWINGS AND SHOP DRAWINGS TO CONFIRM SIZES OF ALL DUCT PENETRATIONS AND LOUVER OPENING SIZES.
REFER TO MECHANICAL ENGINEER'S DETAILS FOR PENETRATIONS AND BUILDING IN OF DUCTS, CHILLES PLANT AND CEILING PLUMBING.
BUILD IN HIGH LEVEL OPENINGS FOR PLUMBING IN CEILING SPACES. REFER TO MECHANICAL ENGINEER'S DRAWING.
FOR ADDITIONAL DETAIL INFORMATION WHERE NO DIMENSIONS ARE SHOWN, REFER TO REFERENCE TAGS FOR DETAILED ARCHITECTURAL DRAWINGS.
REFER TO ARCHITECTURAL SPECIFICATION, SCHEDULES AND ROOM DATA SHEETS FOR FINISHES AND FINISHES CODES FOR FURTHER DETAIL AND OTHER MISCELLANEOUS ITEMS.

**PRINT IN COLOUR**

**we are insw**

**JOHN HOLLAND**

Cox Architecture
Level 6, 155 Clarence Street,
Sydney, NSW 2000, Australia
T + 61 2 9267 9599
F + 61 2 9264 5844
www.coxarchitecture.com.au

Aurecon
116 Military Rd, Neutral Bay,
NSW, 2089
T + 61 29465 5599
www.aurecongroup.com

Nominated Architects
Jon Agius no. 6491
Russell Lee no. 6507

COX

ASPECT Studios Pty Ltd
Level 1/18-30 George St
Redfern, NSW, 2016, Australia
T + 61 29699 7182
www.aspect-studios.com
sydney@aspect-studios.com

Consultants/Subcontractors
Facade:
NAME: PERMASTEELISA
ADDRESS: 13-15 Governor Macquarie Drive, Chipping Norton NSW 2170
TEL/FAX: (01) 9555 1786
WEBSITE: www.permasteelisaigroup.com
EMAIL: info.au@permasteelisaigroup.com



Discipline	FACADE
Project No.	91186
Project	Sydney Football Stadium Redevelopment Driver Ave, Moore Park NSW, 2021
Phase:	DETAILED DESIGN
Document Control Status:	FOR APPROVAL
Drawing Title	SYDNEY FOOTBALL STADIUM Sunshade perforated plate
A1 DRAWING SHEET	Drawn: L.L.
Checked by: J.L.	Scale: (A1 size) 1:2@ A1
Designed by: Pisa PTY	Date: 2020-06-20
Approved by: T.C	Revision: te
Drawing Number:	North: 
Sunshade perforated pl	
Cox Architecture Pty Ltd ACN 002 536 891	

Aurecon Australasia Pty Ltd
ABN 54 005 139 873
Level 5, 116 Military Road
Neutral Bay NSW 2089
PO Box 538
Neutral Bay NSW 2089
Australia

T +61 2 9465 5599
F +61 2 9465 5598
E sydney@aurecongroup.com
W aurecongroup.com



11 December 2020

Wayne Hutchinson
Design Director, Sydney Football Stadium Project
John Holland Pty Ltd
65 Pirrama Road,
PYRMONT NSW 2000

Dear Wayne,

Design Confirmation – Structural Requirements set out in Aeroacoustic Report

Item 2 in Table 3 of the RWDI Aeroacoustic Report dated 09 October 2020 (ref RWDI#2000267) states in order to mitigate the medium risk of Vortex Induced vibration noise in the cables supporting the glass canopy, *"All canopy supports will no longer use cables. We understand that these members will be 88.9mm diameter CHS members. Final selected members will be in excess of 10mm diameter due to their role as struts, not cables"*.

We confirm the support structure consists of circular hollow sections of approximately 90mm in diameter as shown on the attached structural drawing SFS-AUR-01-DR-ST53XX32 revision 1.

Signed for and on behalf of Aurecon

A handwritten signature in black ink, appearing to read "JP", is written over a horizontal line.

Joseph Pirrello BEng (Hons), MIEAust 2206230, CPEng, NER
Buildings Structures Practice Leader, NSW + ACT, Aurecon
Email: joseph.pirrello@aurecongroup.com

Enc: SFS-AUR-01-DR-ST53XX32[1]

