

WATERLOO METRO QUARTER CENTRAL PRECINCT

SSD-10439 - RESPONSE TO SUBMISSIONS

SOLAR ACCESS

Opportunity

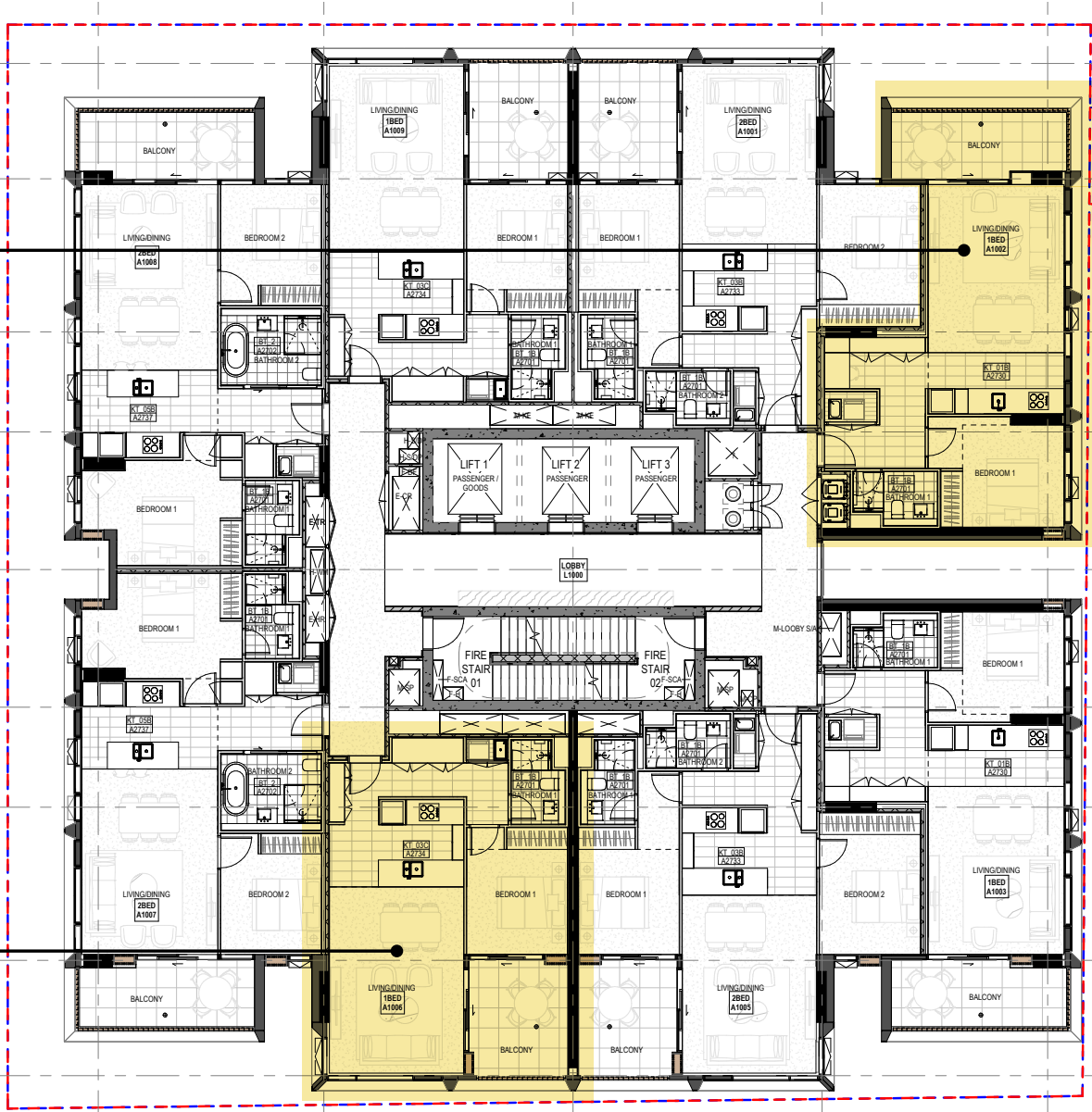
The adjacent diagrams shows the current DA scheme and highlights the 4 apartments that are proposed to be altered to optimise solar amenity.

Living room of the South East 1 bedroom apartment achieves 1sqm direct sunlight for 1.5 hours. Potential for improvement.

South East Apartment

Living room of the North West 1 bedroom apartment complies with ADG solar. Potential to reshape the facade to allow the POS to also comply.

West Apartment



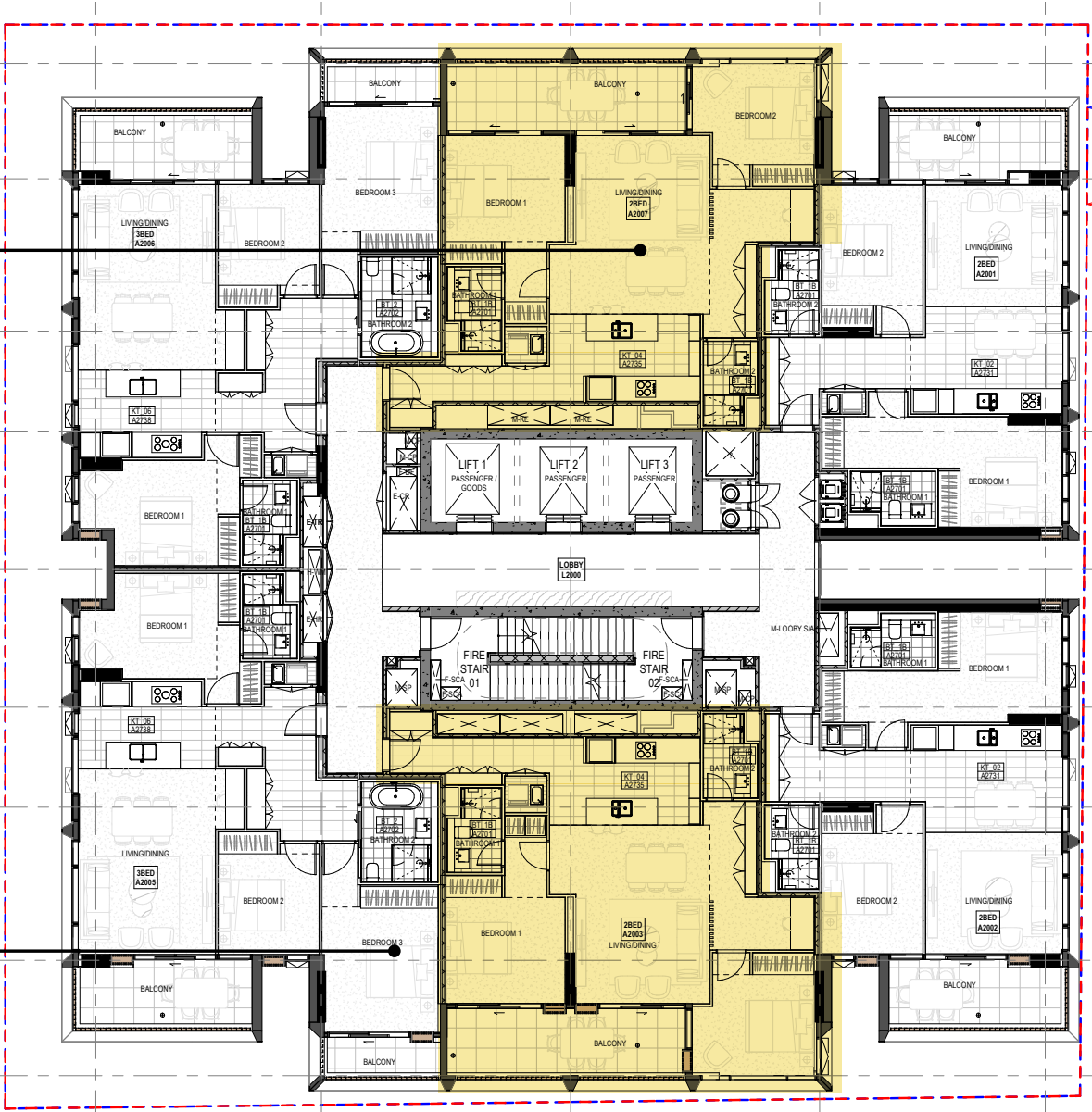
Floor Plan - Level 3-19

POS of the east facing 2 bedroom apartment complies with ADG solar. Potential to reshape the living room to allow the living to also comply.

Highrise East Apartment

Applying the east change to west apartment will see potential improvement in solar access to both the living room and POS.

Highrise West Apartment



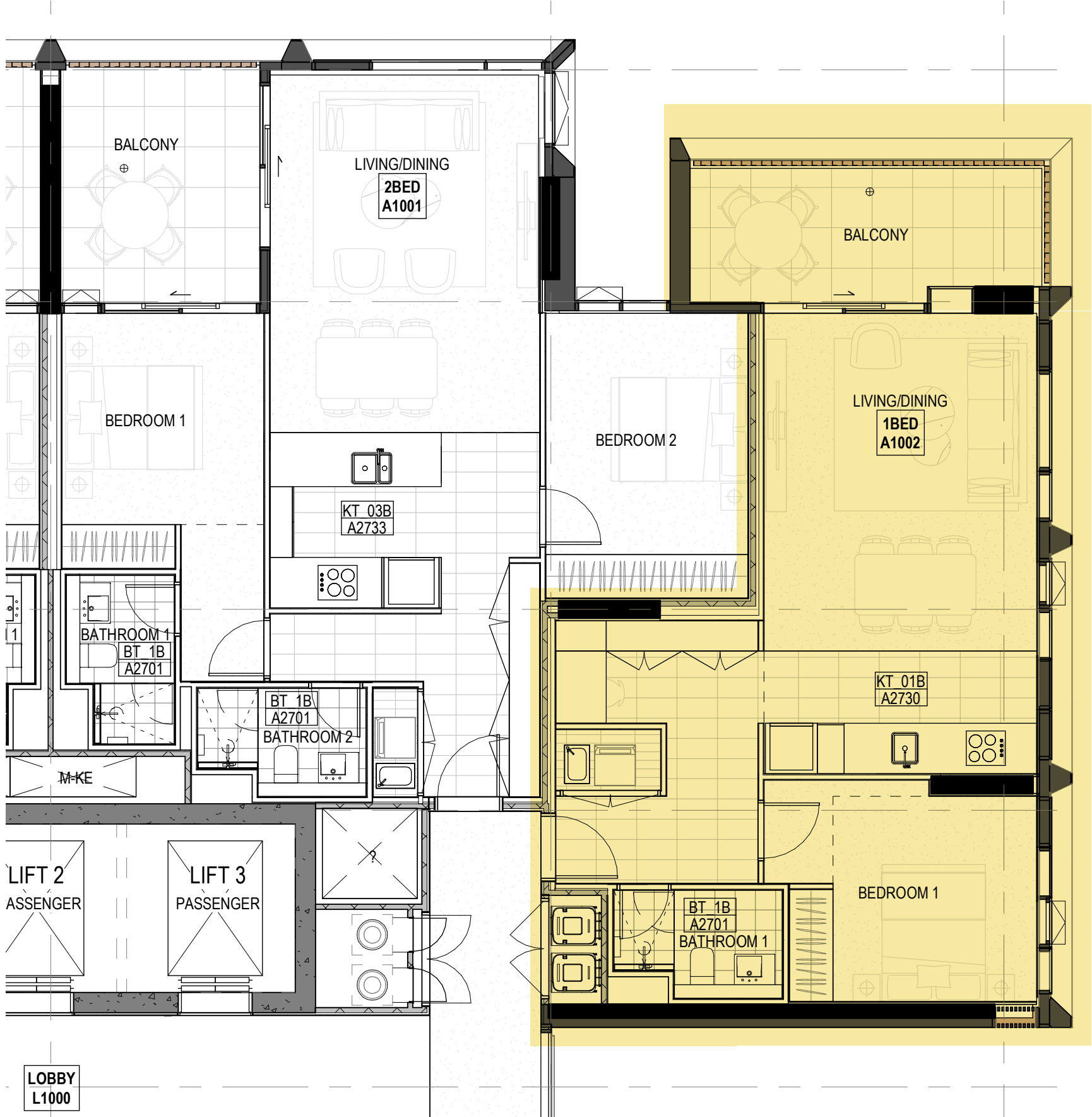
Floor Plan - Level 20-21

SOUTH EAST APARTMENT

SOUTH EAST APARTMENT

The south east apartment recieves great morning sun from 7:10am mid winter.

_Opportunity to improve solar access of the living room while considering overshadowing to Alexandria Park, POS depth and architectural expression.



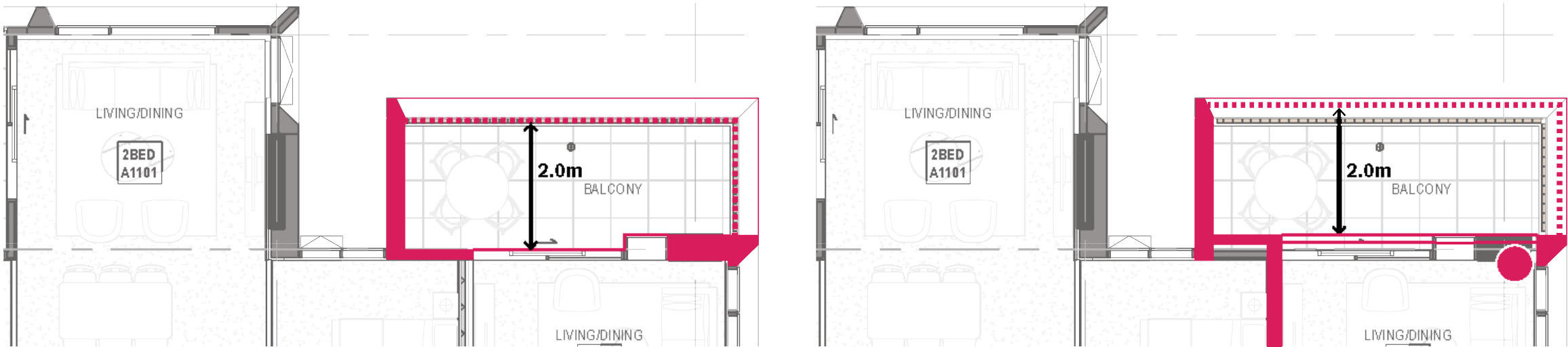
SOUTH EAST APARTMENT

SUMMARY

The proposed scheme improves the solar access to the living room of the south east apartment by 10mins compared to the DA massing where both living room and POS have access to a minimum of 1 sqm solar for 1 hour and 40 mins mid winter.

An additional 19 apartments between level 3 and level 21 achieve the intent of ADG to maximise solar access to both living room and POS between 9:00am and 3:00pm.

The south east apartments have access to great morning sun between 8:00am and 10:40am.



Current DA Massing

Proposed Scheme - Balustrade and Living Glazing Push Out 240mm

- _Maintain 2 metres minimum POS depth
- _Re-oriented column to allow wider opening

2 Hours Direct Sunlight (Living Area) - 21st June

	DA	Proposed Scheme	Proposed Scheme (RWDI Expert Assessment)
8:00 am	1 sqm+	1 sqm+	1 sqm+
8:30 am	1 sqm+	1 sqm+	1 sqm+
8:45 am	1 sqm+	1 sqm+	1 sqm+
9:00 am	1 sqm+	1 sqm+	1 sqm+
9:30 am	1 sqm+	1 sqm+	1 sqm+
10:00 am	1 sqm+	1 sqm+	1 sqm+
10:30 am	1.0 sqm	1 sqm+	1 sqm+
10:35 am	0.76 sqm	1 sqm+	1 sqm+
10:40 am	0.62 sqm	1 sqm+	1 sqm+
10:45 am	0.46 sqm	1 sqm+	0.77 sqm
10:50 am	0.31 sqm	0.89 sqm	0.58 sqm
10:55 am	0.12 sqm	0.56 sqm	0.39 sqm
11:00 am	0.01 sqm	0.3 sqm	0.17 sqm

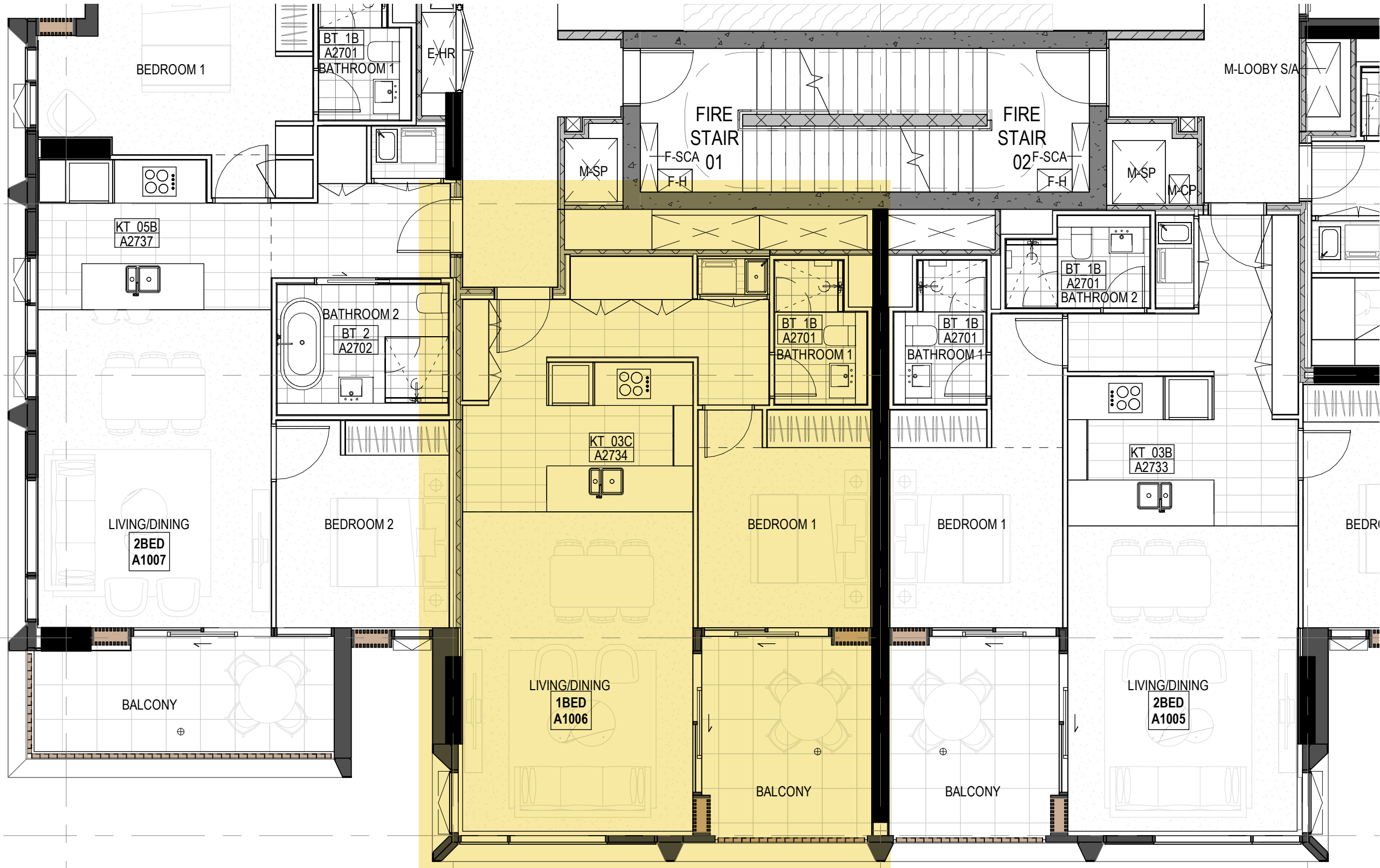
Walsh Analysis method adopted for above measurement

WEST APARTMENT

WEST APARTMENT

The living room of the west captured 1 bedroom apartment has at least 1sqm of solar access between 1:00pm and 3:00pm mid winter.

_Opportunity to improve the solar compliance of the POS while considering architectural expression, internal layout and functionality.

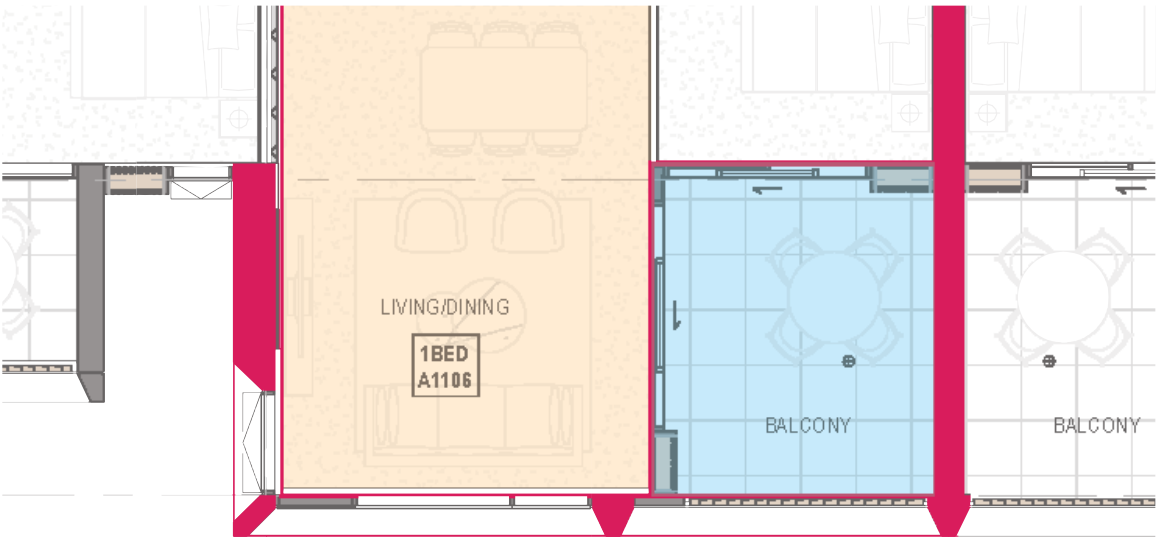


WEST APARTMENT

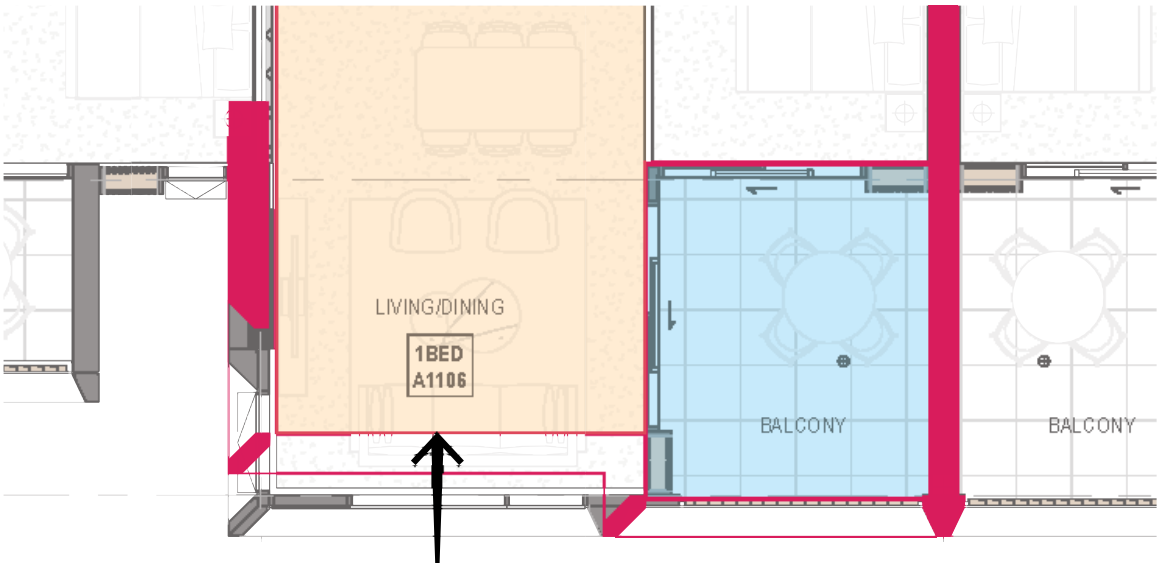
SUMMARY

The proposed scheme improves the solar access to the POS of the west 1 bedroom apartment. Both living room and POS has access to a minimum of 1sqm of solar for 1 hour and 50mins between 9:00am and 3:00pm mid winter.

An additional 14 apartments between level 6 and level 19 achieves the intent of ADG to maximise solar access to both living room and POS between 9:00am and 3:00pm.



Current DA Massing



Proposed Scheme - Stepped Facade

Setback living room 700mm to allow direct solar into private open space

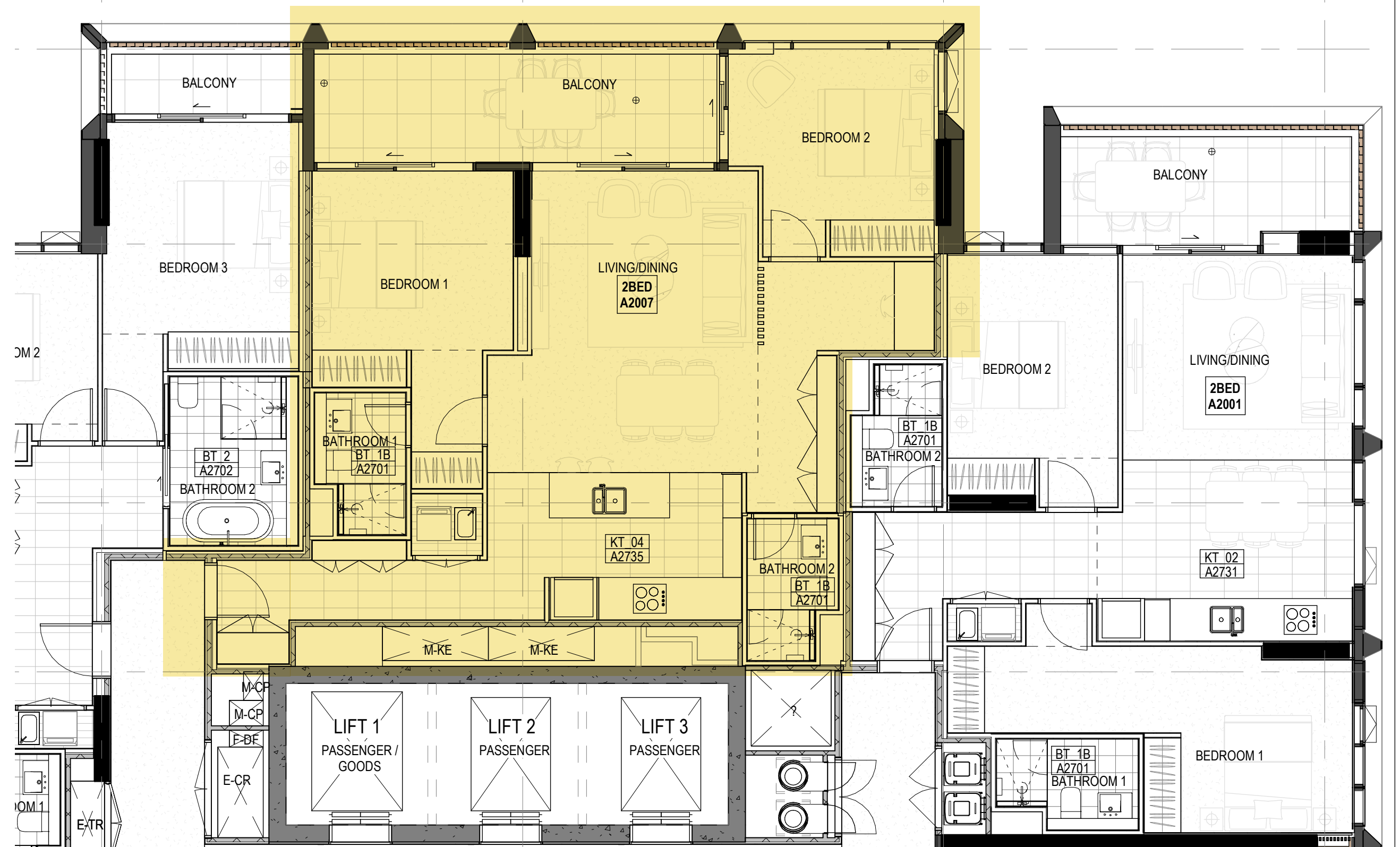
2 Hours Direct Sunlight (Living Area/POS) - 21st June

	DA		Proposed Scheme		Proposed Scheme (RWDI Expert Assessment)	
	Living Room	POS	Living Room	POS	Living Room	POS
1:00 pm	1 sqm+	No solar access	1.0 sqm	1.0 sqm	0.77 sqm	0.82 sqm
1:05 pm	1 sqm+	No solar access	1 sqm+	1 sqm+	0.89 sqm	0.88 sqm
1:10 pm	1 sqm+	No solar access	1 sqm+	1 sqm+	1 sqm+	1 sqm+
1:15 pm	1 sqm+	No solar access	1 sqm+	1 sqm+	1 sqm+	1 sqm+
1:30 pm	1 sqm+	No solar access	1 sqm+	1 sqm+	1 sqm+	1 sqm+
1:45 pm	1 sqm+	0.03 sqm	1 sqm+	1 sqm+	1 sqm+	1 sqm+
2:00 pm	1 sqm+	0.19 sqm	1 sqm+	1 sqm+	1 sqm+	1 sqm+
2:30 pm	1 sqm+	0.68 sqm	1 sqm+	1 sqm+	1 sqm+	1 sqm+
2:50 pm	1 sqm+	1 sqm+	1 sqm+	1 sqm+	1 sqm+	1 sqm+
3:00 pm	1 sqm+	1 sqm+	1 sqm+	1 sqm+	1 sqm+	1 sqm+

Walsh Analysis method adopted for above measurement

HIGHRISE EAST/WEST APARTMENT

_Opportunity to improve the solar compliance of the living room while considering balcony area and functionality.

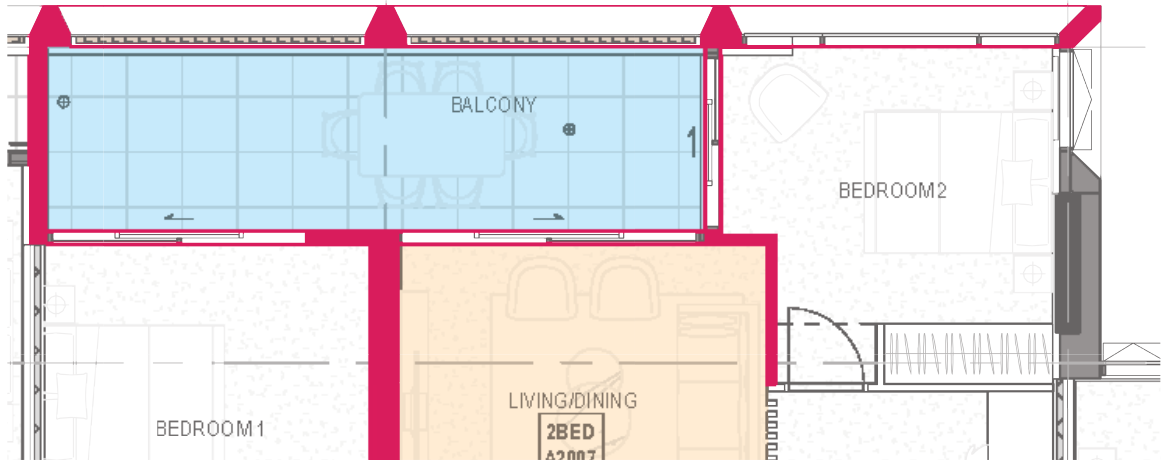


HIGHRISE EAST APARTMENT

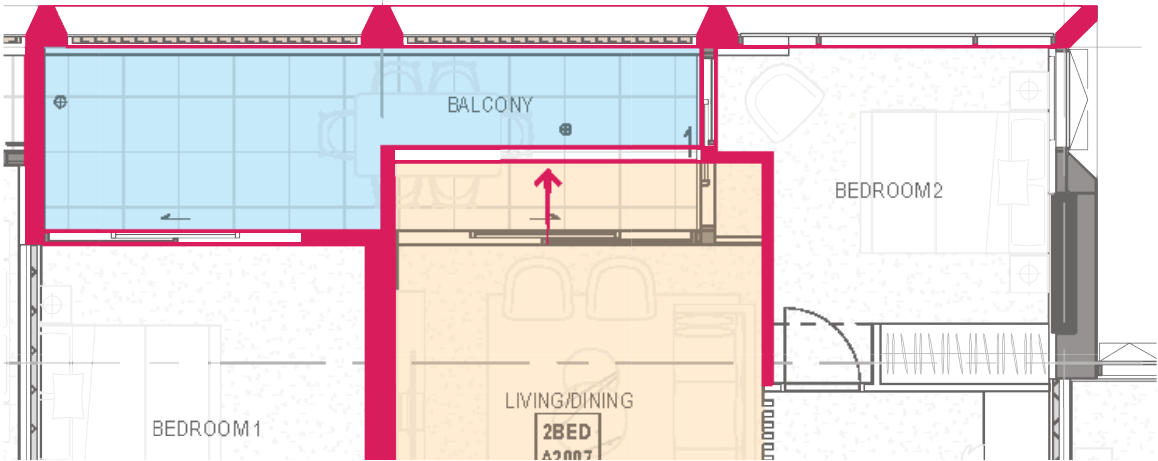
SUMMARY

The proposed scheme allows the living room of the level 20 and 21 east facing 2 bedroom apartments to have access to a minimum of 2 hours solar access between 9:00am and 3:00pm mid winter, resulting in an additional 2 compliant apartments.

An additional 2 apartments on level 20 and 21 achieve a minimum of 2 hours solar access to both living room and POS between 9:00am and 3:00pm.



Current DA Massing



Proposed Scheme - Stepped Facade

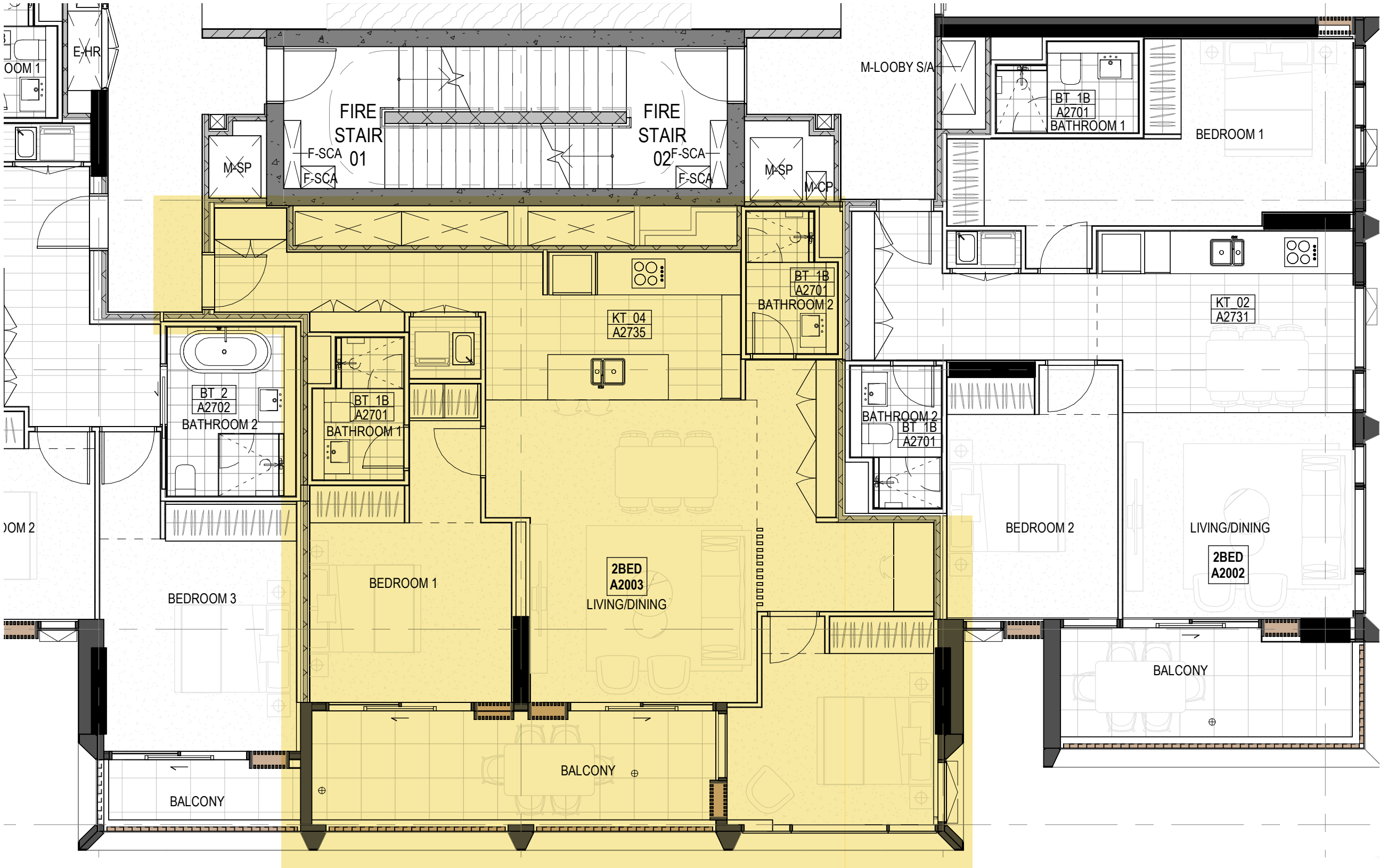
_Push out living room facade to allow direct solar into living room

2 Hours Direct Sunlight (Living Area/POS) - 21st June				
	DA		Proposed Scheme (RWDI Expert Assessment)	
	Living Room	POS	Living Room	POS
9:00 am	1 sqm+	1 sqm+	1 sqm+	1 sqm+
9:30 am	1 sqm+	1 sqm+	1 sqm+	1 sqm+
10:00 am	1 sqm+	1 sqm+	1 sqm+	1 sqm+
10:20 am	1 sqm+	1 sqm+	1 sqm+	1 sqm+
10:30 am	0.78 sqm	1 sqm+	1 sqm+	1 sqm+
11:00 am	No solar access	1 sqm+	1 sqm+	1 sqm+

Walsh Analysis method adopted for above measurement

HIGHRISE WEST APARTMENT

By applying the same change to the highrise west apartment, it will improve the solar access to both the living room and POS.

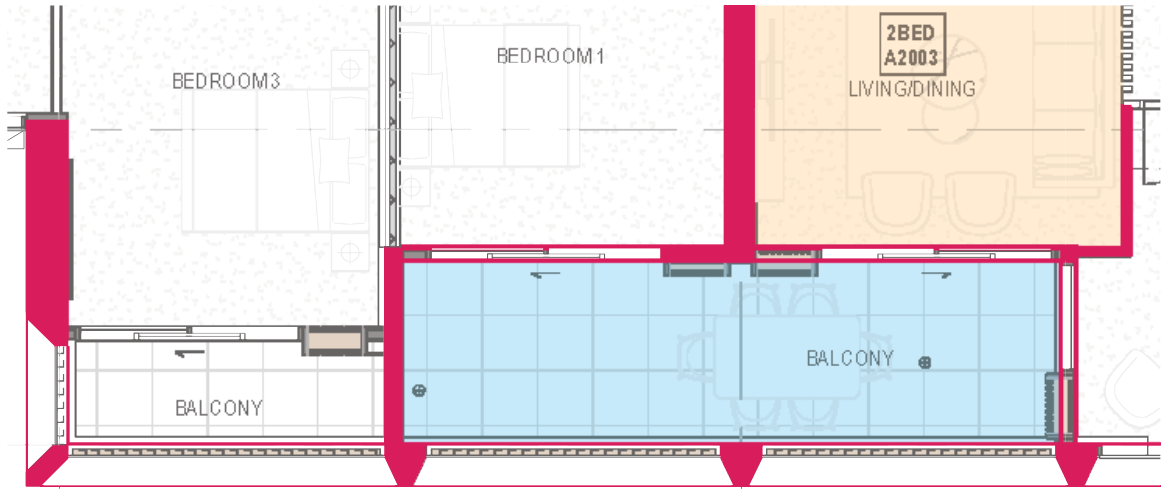


HIGHRISE WEST APARTMENT

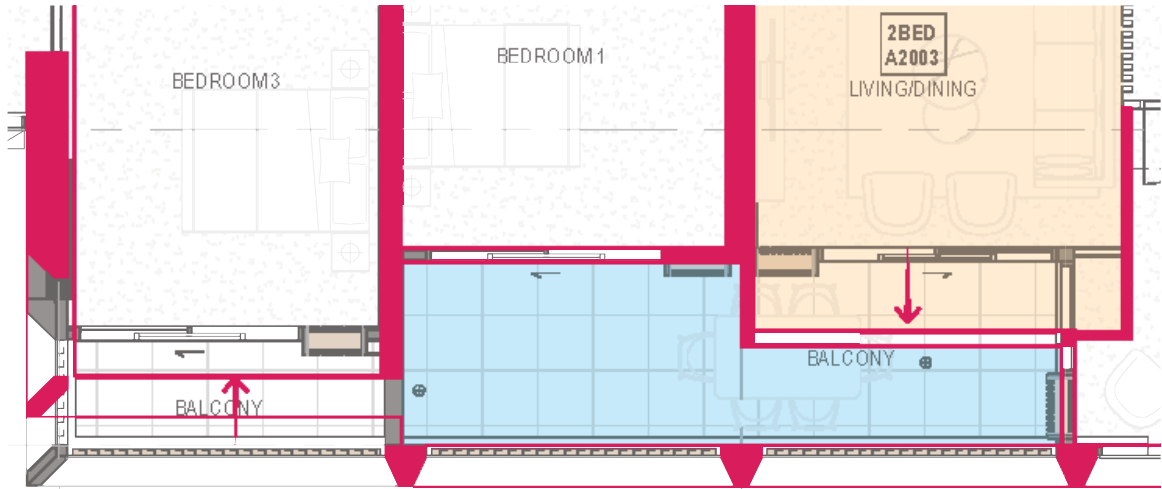
SUMMARY

The proposed scheme improves the solar access to the living room of the high rise west apartment by 30 mins, and POS by 45 mins compared to the DA massing.

West



Current DA Massing



Proposed Scheme - Stepped Facade

_Push out living room facade to allow direct solar into living room

2 Hours Direct Sunlight (Living Area/POS) - 21st June

	DA		Proposed Scheme (RWDI Expert Assessment)	
	Living Room	POS	Living Room	POS
1:00 pm	No solar access	No solar access	No solar access	0.79 sqm
1:05 pm	No solar access	No solar access	No solar access	0.83 sqm
1:10 pm	No solar access	No solar access	No solar access	1 sqm+
1:30 pm	No solar access	0.09 sqm	No solar access	1 sqm+
1:35 pm	No solar access	0.26 sqm	No solar access	1 sqm+
1:40 pm	No solar access	0.42 sqm	No solar access	1 sqm+
1:45 pm	No solar access	0.69 sqm	No solar access	1 sqm+
1:50 pm	No solar access	0.99 sqm	No solar access	1 sqm+
1:55 pm	No solar access	1 sqm+	0.06 sqm	1 sqm+
2:00 pm	No solar access	1 sqm+	0.52 sqm	1 sqm+
2:05 pm	No solar access	1 sqm+	0.87 sqm	1 sqm+
2:10 pm	No solar access	1 sqm+	1 sqm+	1 sqm+
2:30 pm	0.08 sqm	1 sqm+	1 sqm+	1 sqm+
2:35 pm	0.34 sqm	1 sqm+	1 sqm+	1 sqm+
2:40 pm	0.71 sqm	1 sqm+	1 sqm+	1 sqm+
2:45 pm	1 sqm+	1 sqm+	1 sqm+	1 sqm+
3:00 pm	1 sqm+	1 sqm+	1 sqm+	1 sqm+

Walsh Analysis method adopted for above measurement

SUMMARY

SUMMARY

The adjacent table shows solar compliance to achieve 1sqm of direct solar to both living room and POS for the minimum duration of 2 hours between 9am-3pm mid winter between the various schemes.

The design changes to the proposed scheme also allows additional apartments that achieves the intent of ADG by maximising solar access to living room and POS of apartments.



	Peer Review Scheme		DA Scheme		Proposed Scheme (RWDI Expert Assessment)			
	Maximising north facing apartments		Peer view assessment of submitted DA (Base)		Peer view assessment of submitted DA (Base) plus design changes to L20/21 east apartments		Peer view assessment of submitted DA (Base) plus design changes to L20/21 east apartments, west apartments and south east apartments	
	No. of compliant apartments	% of compliant apartments	No. of compliant apartments	% of compliant apartments	No. of compliant apartments	% of compliant apartments	No. of consistent apartments	% of consistent apartments
POS	82	55%	86	57%	86	57%	105	70%
Living	83	55%	78	52%	80	53%	101	67%
Living or POS	85	57%	88	59%	88	59%	105	70%
Both Living & POS	73	48%	66	44%	68	45%	101	67%

Walsh Analysis method adopted for above measurement

Additional 33 apartments are consistent with the intent of ADG by maximising solar access to both living room and POS, where a minimum of 2 hours solar access is achieved between 9:00am and 3:00pm in mid winter.

