
Burwood Place 42 - 60 Railway Parade, Burwood

Attachment D - Floorplans solar assessment

15 August 2019

1.1 Solar access to Burwood Grand & Emerald Square assessment summary

Methodology

Calculations of solar access to apartments are taken in 1 minute intervals from 9am to 3pm during the winter solstice.

The solar analysis is based on a 3d model of the floorplans of apartment layouts to Burwood Grand and Emerald Square. All effort has been made to accurately depict layout of apartments and the location of windows and balconies with the plans and information available. The solar access testing are estimates only and do not calculate additional and/or variation of shadows impacted by:

- Existing trees shadow impact; and,
- Surrounding existing built form outside the city centre boundary.

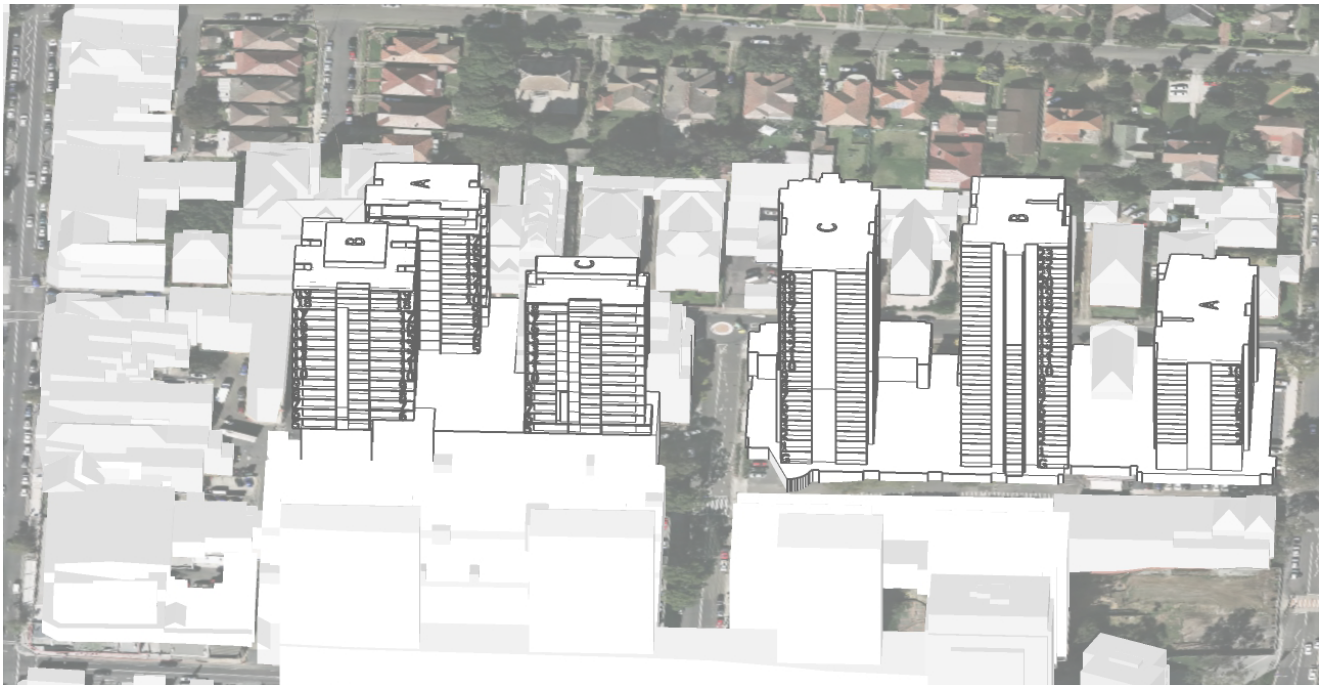
Each apartment has been measured with the minutes of solar access for apartments achieving 2 hours noted the following diagrams.

Five scenarios were tested:

1. Existing Emerald Square and Burwood Grand with **no development on the subject site.**
2. Existing Emerald Square, Burwood Grand and **approved Burwood Central DA with no development on subject site.**
3. Existing Emerald Square, Burwood Grand and approved Burwood Central DA with **maximum development on the subject site without further impacting solar access** to Emerald Square and Burwood Grand.
4. Existing Emerald Square, Burwood Grand and approved Burwood Central DA with a **complying scheme to the current controls on the subject site.**
5. Existing Emerald Square, Burwood Grand and approved Burwood Central DA with the **proposed updated planning proposal scheme on the subject site.**

Scenarios 1,2, 3, 4 and 5 are summarised on the following pages.

Scenario 1: Solar access as approved



Purpose of scenario

Scenario 1 is to test and identify the existing solar access at Emerald Square and Burwood Grand without any development on the subject site and without Burwood Central central approved DA.

Key findings

Emerald Square and Burwood Grand are compliant with solar access without any development on the subject site.

Solar access:

Emerald Square

- Achieves 72% solar access

Burwood Grand

- Achieves 74% solar access

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	365	491
Emerald Square	151	210
	516	701
		74%

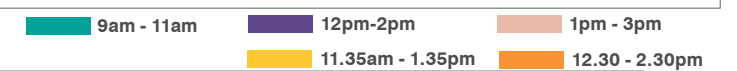
Solar testing summary
Scenario 1: Solar access as approved

Burwood Grand

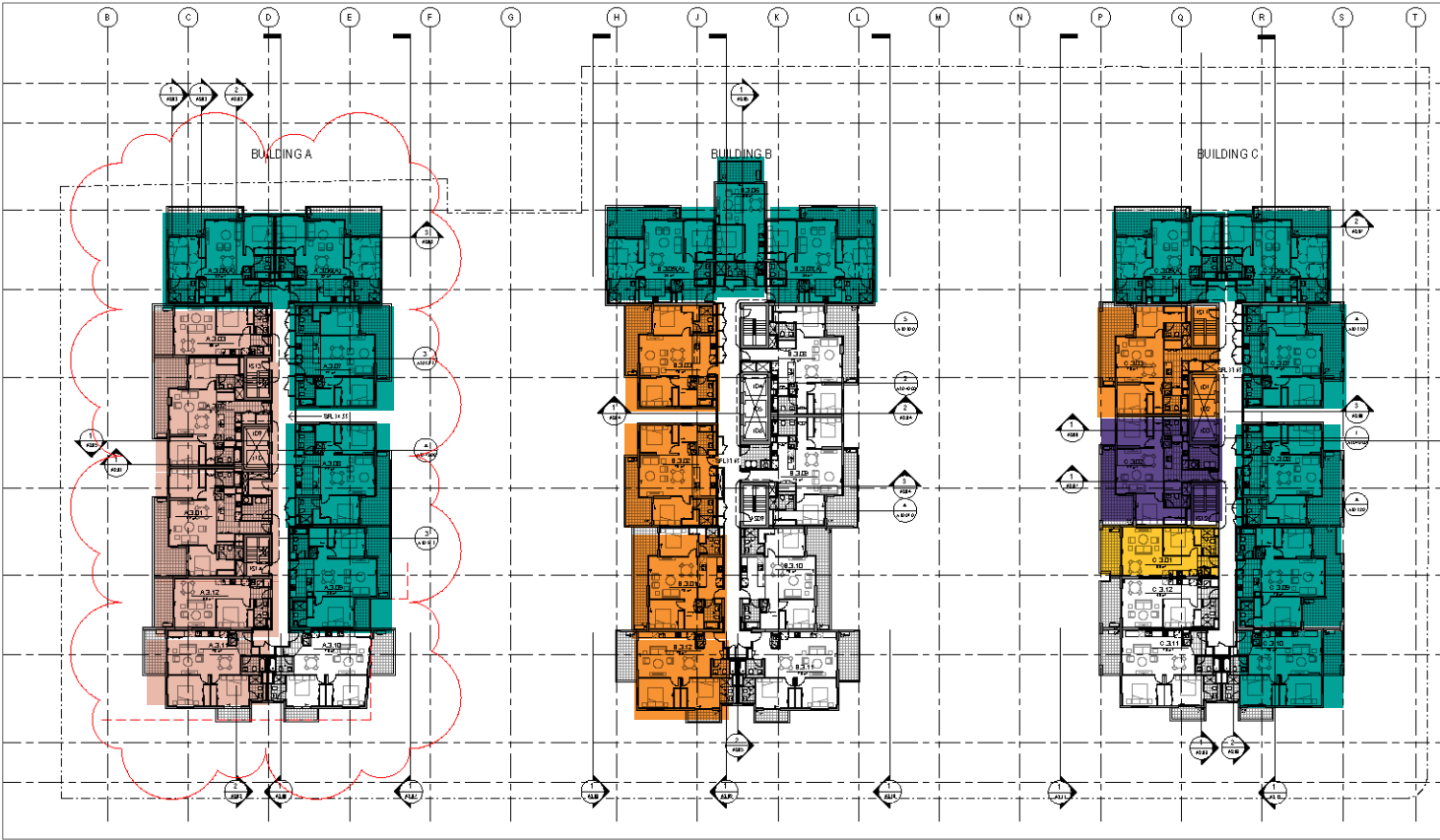
Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Total
A	>2 hours sun		Office space	10	10	10	10	10	10	10	10													80
	Total apartments		space	11	11	11	11	11	11	11	11													88
B	>2 hours sun	5	5	5	5	7	7	7	7	7	7	7	7	7	6	6	5	5	5	5	4	4		130
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	6	6		218
C	>2 hours sun	7	7	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8					155
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9					185
		88%	50%	82%	82%	82%	82%	82%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%					
Total >2hrs of sun																								365
Total apartments																								491
																								74%

Emerald Square

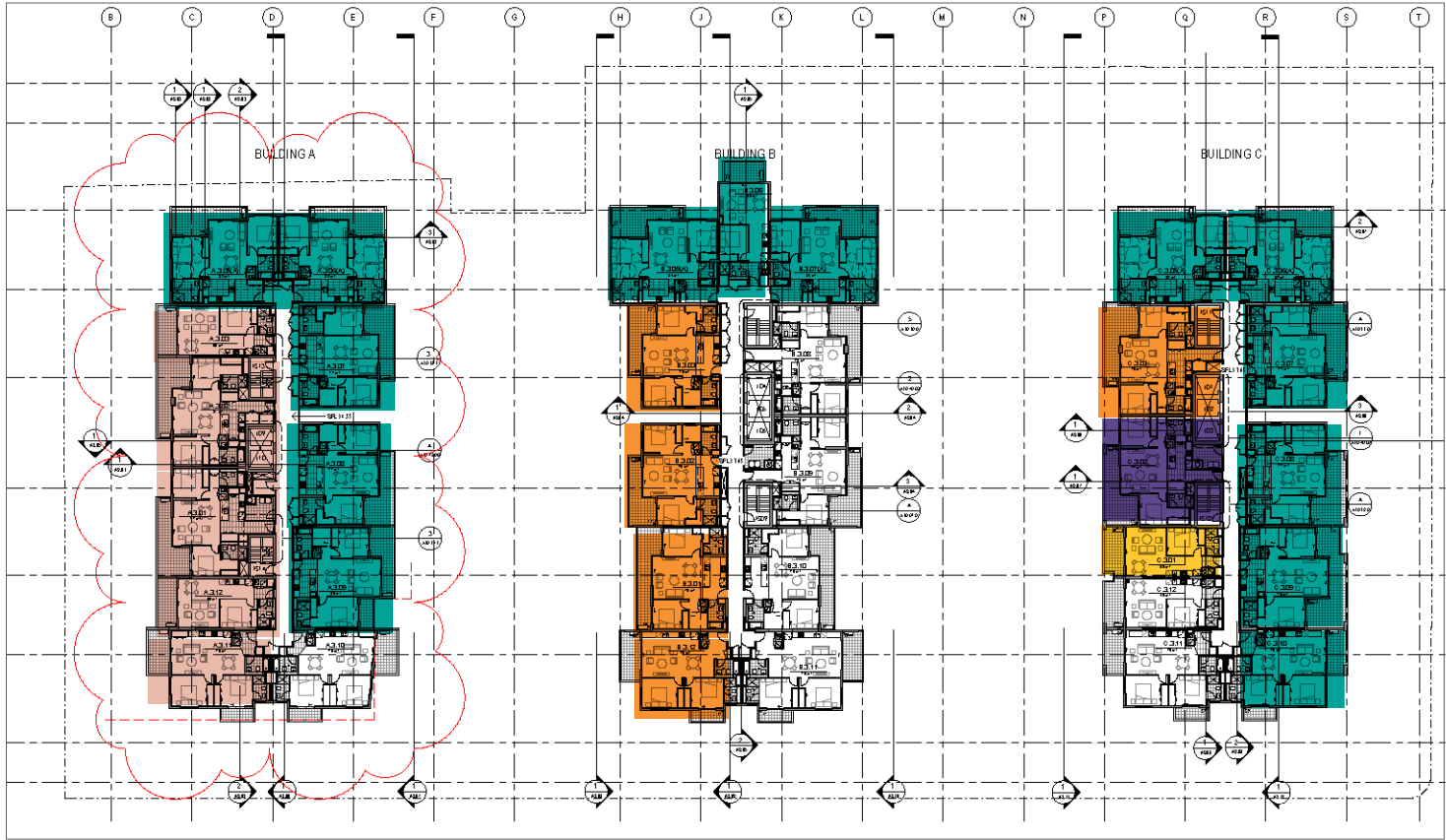
		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total
A	> 2 hours sun	Non-residential podium				2	2	2	2	2	2	3	3	3	3	4	4	1		33
	Total aparments					4	4	5	5	5	5	5	5	5	5	5	4	1		58
						50%	50%	40%	40%	40%	40%	60%	60%	60%	60%	60%	80%	100%	100%	
B	> 2 hours sun	Non-residential podium				3	5	6	6	6	6	6	6	6	6	6	6	4	1	73
	Total aparments					5	7	8	8	8	8	8	8	8	8	8	8	6	1	99
						60%	71%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	67%	100%	
C	> 2 hours sun	Non-residential podium				3	3	3	3	4	4	4	4	4	4	4	3	2		45
	Total aparments					3	3	3	3	5	5	5	5	5	5	5	4	2		53
						100%	100%	100%	100%	80%	80%	80%	80%	80%	80%	80%	80%	75%	100%	
																		Total >2hrs of sun	151	72%
																		Total apartments	210	



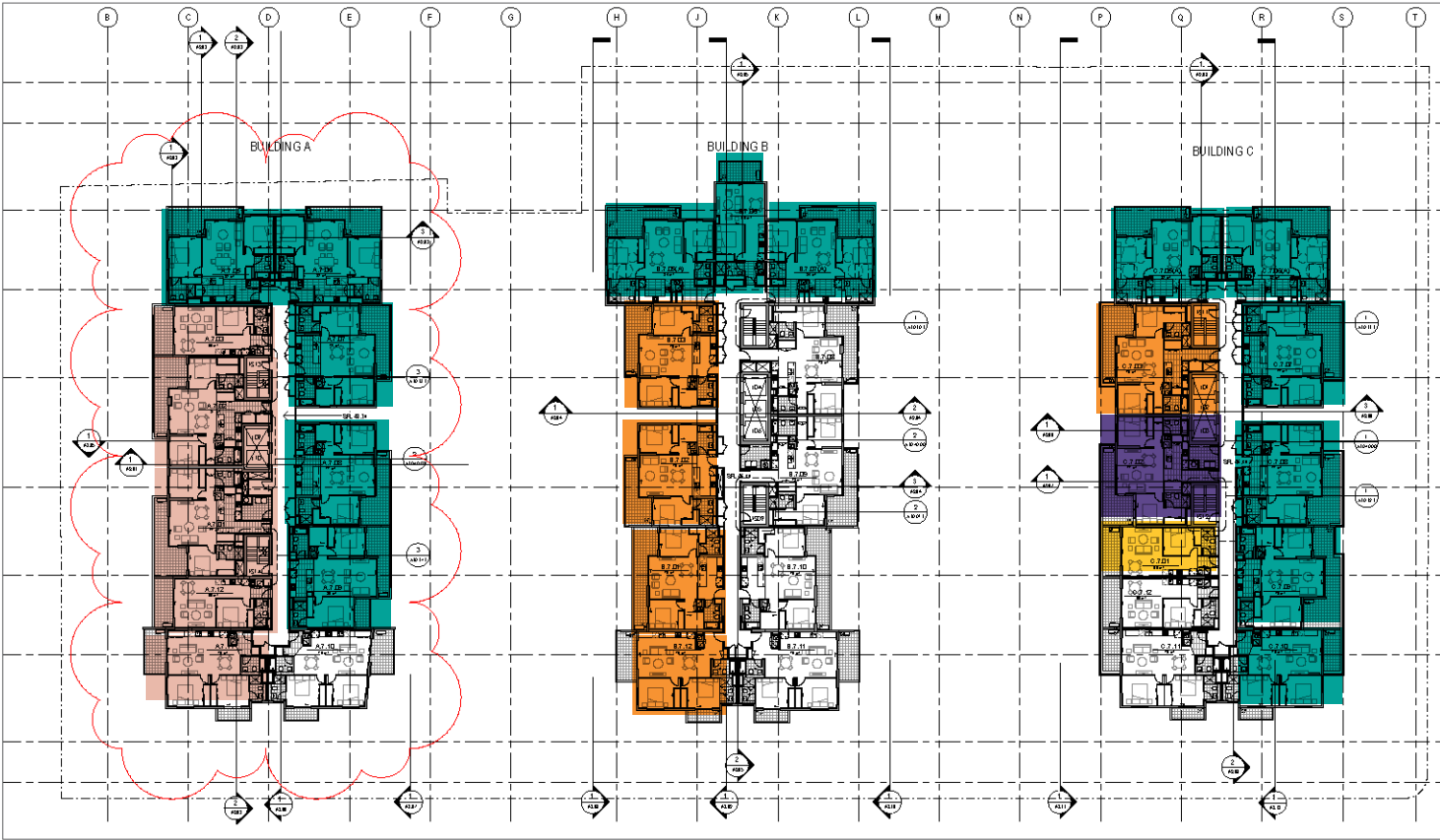
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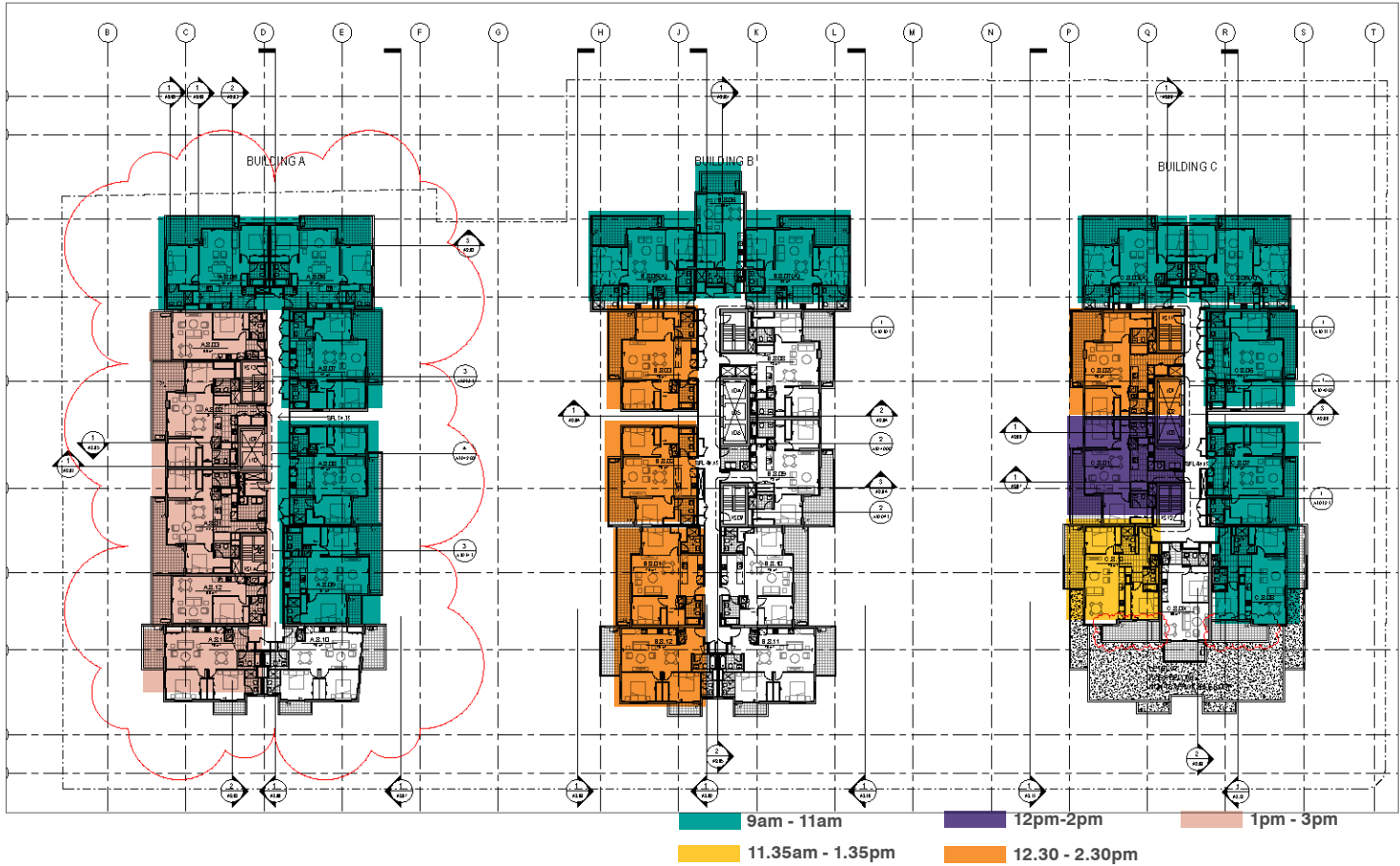
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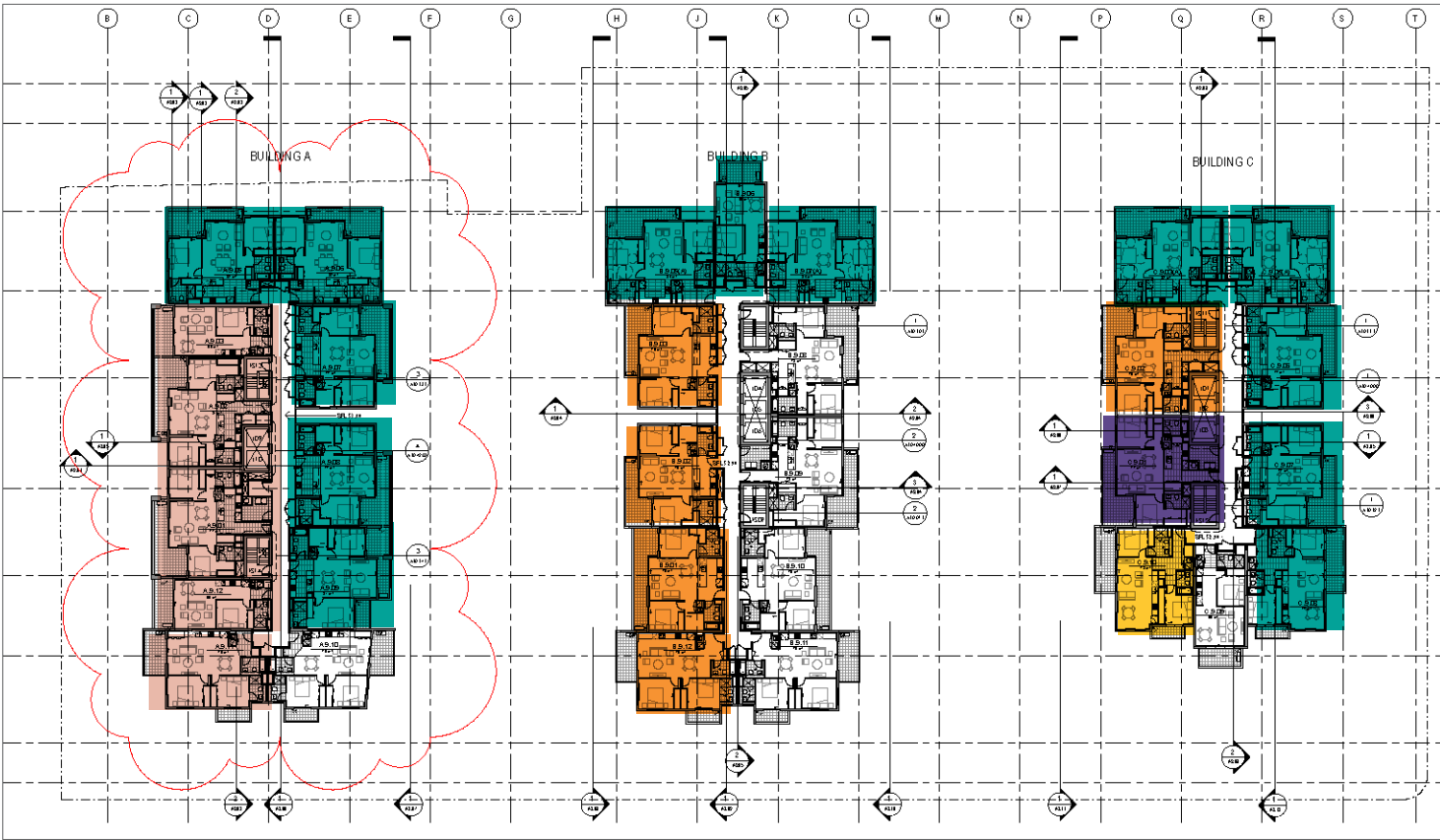
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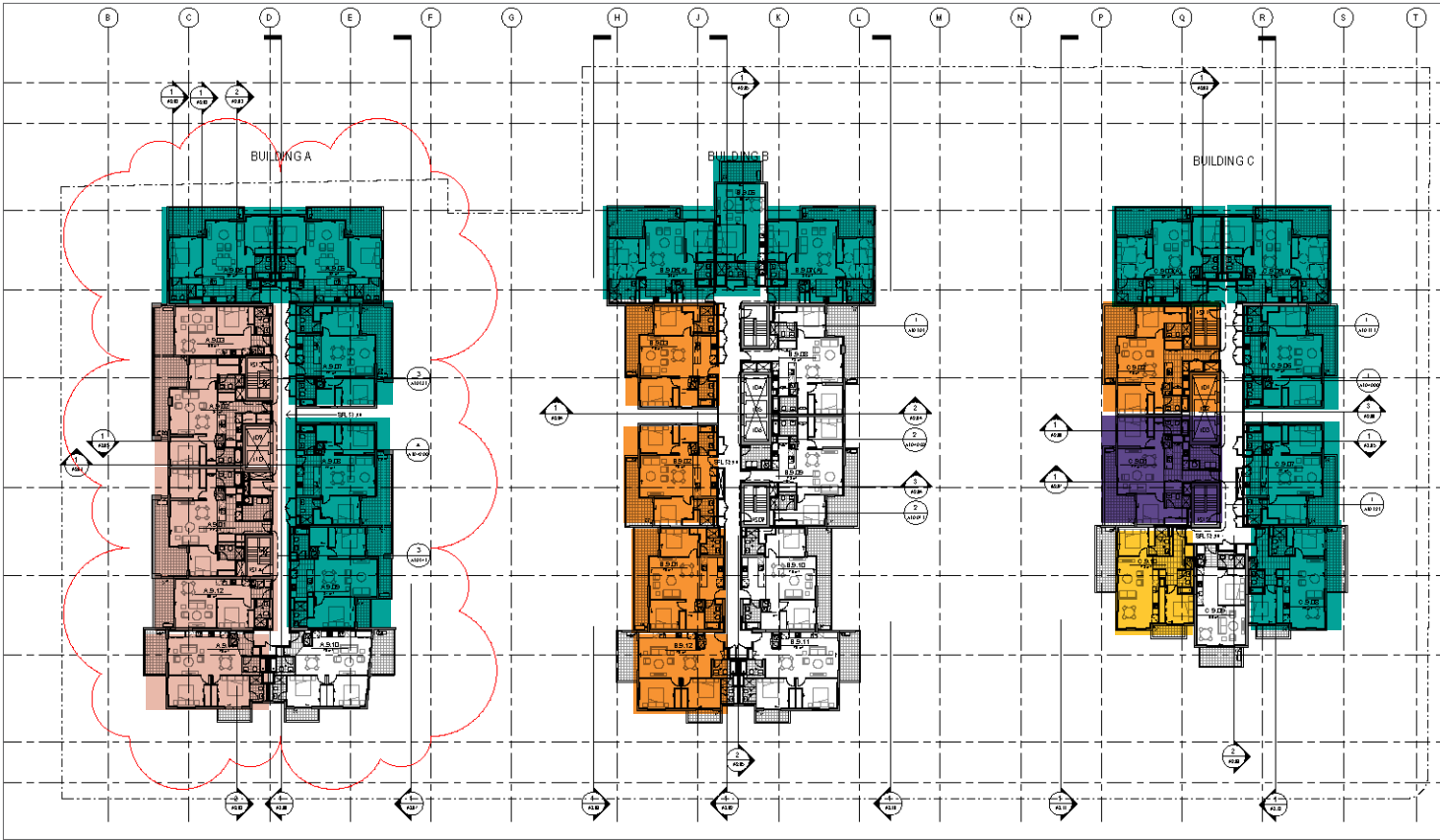
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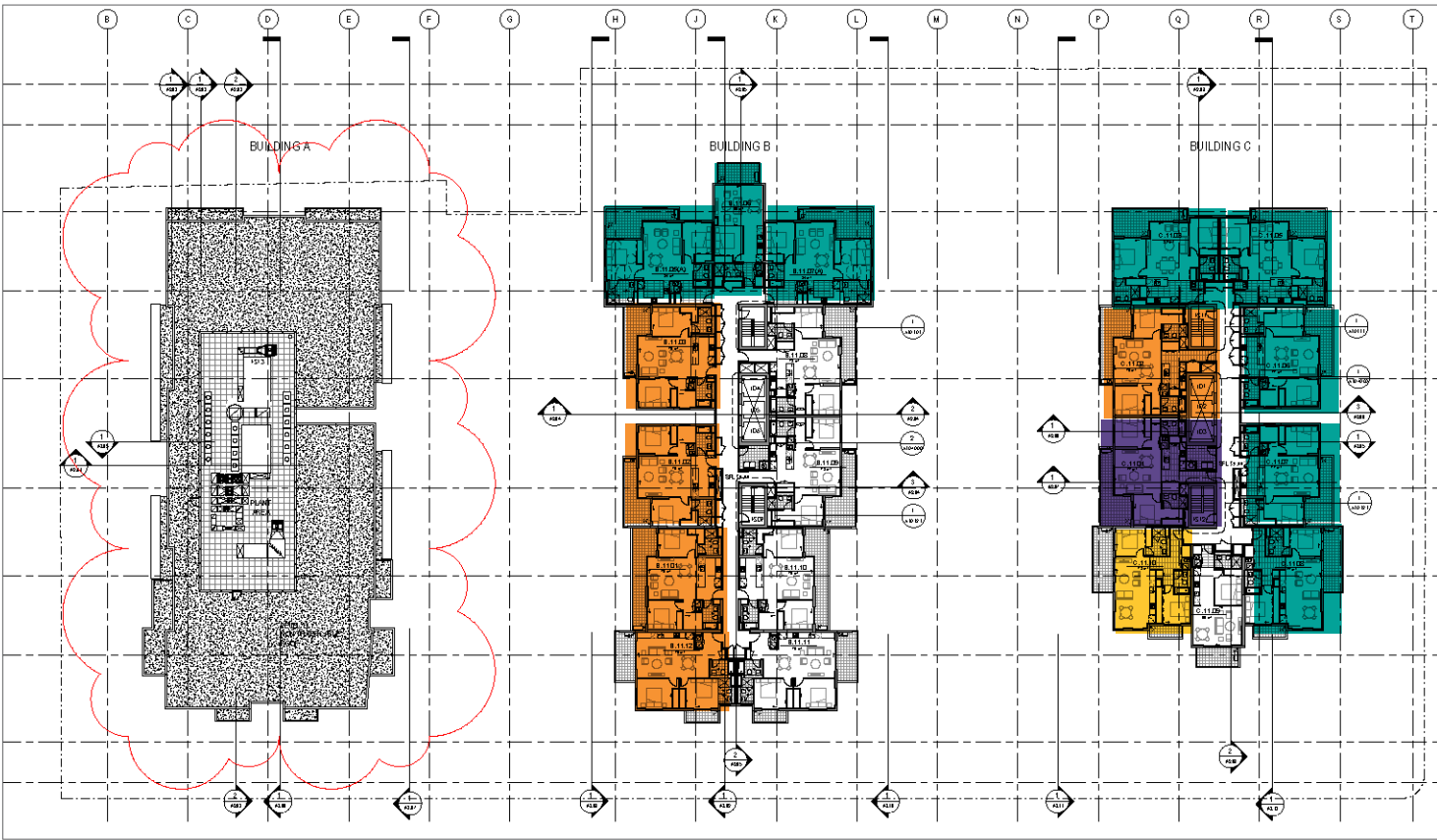
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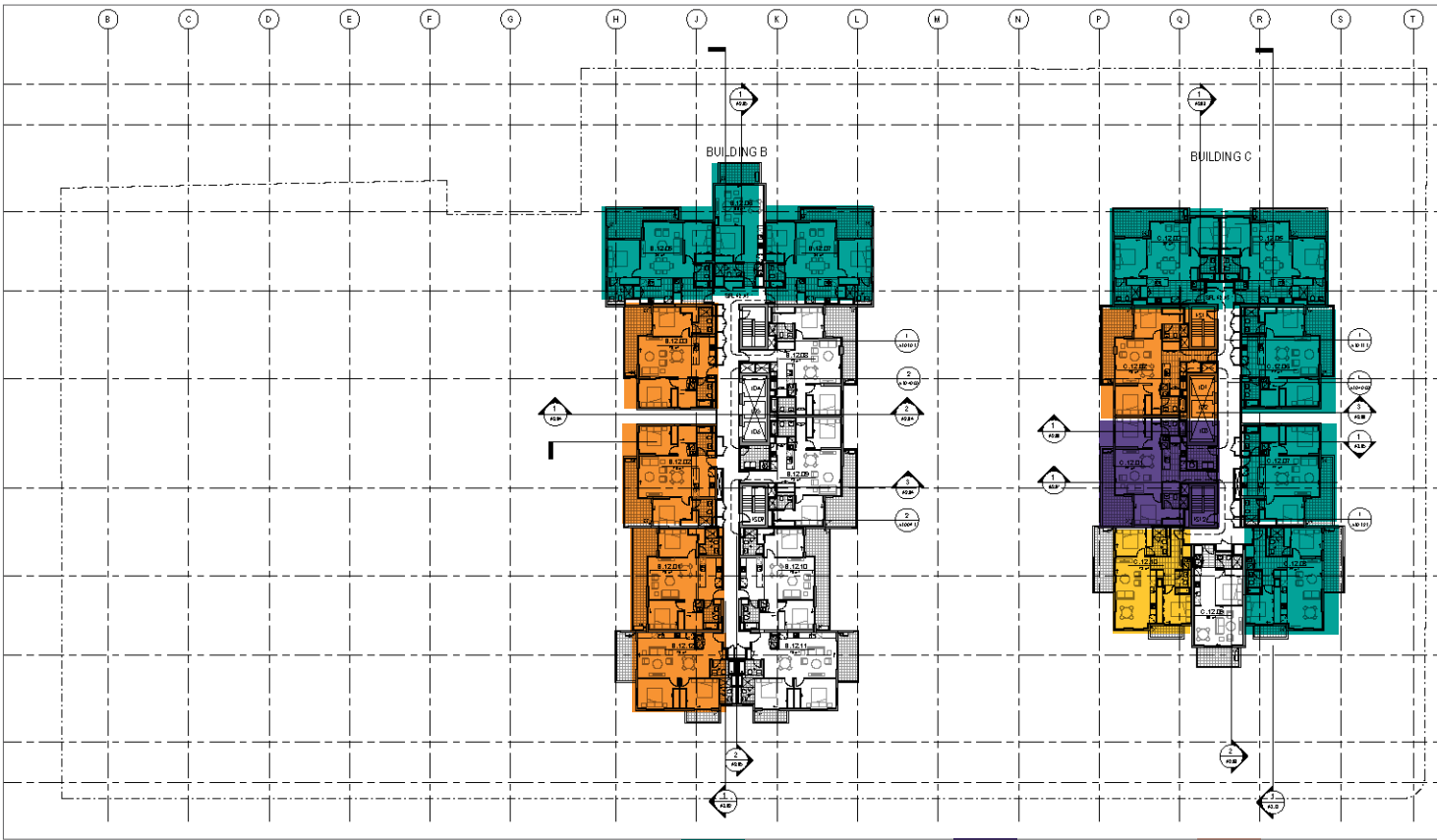
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Level 11

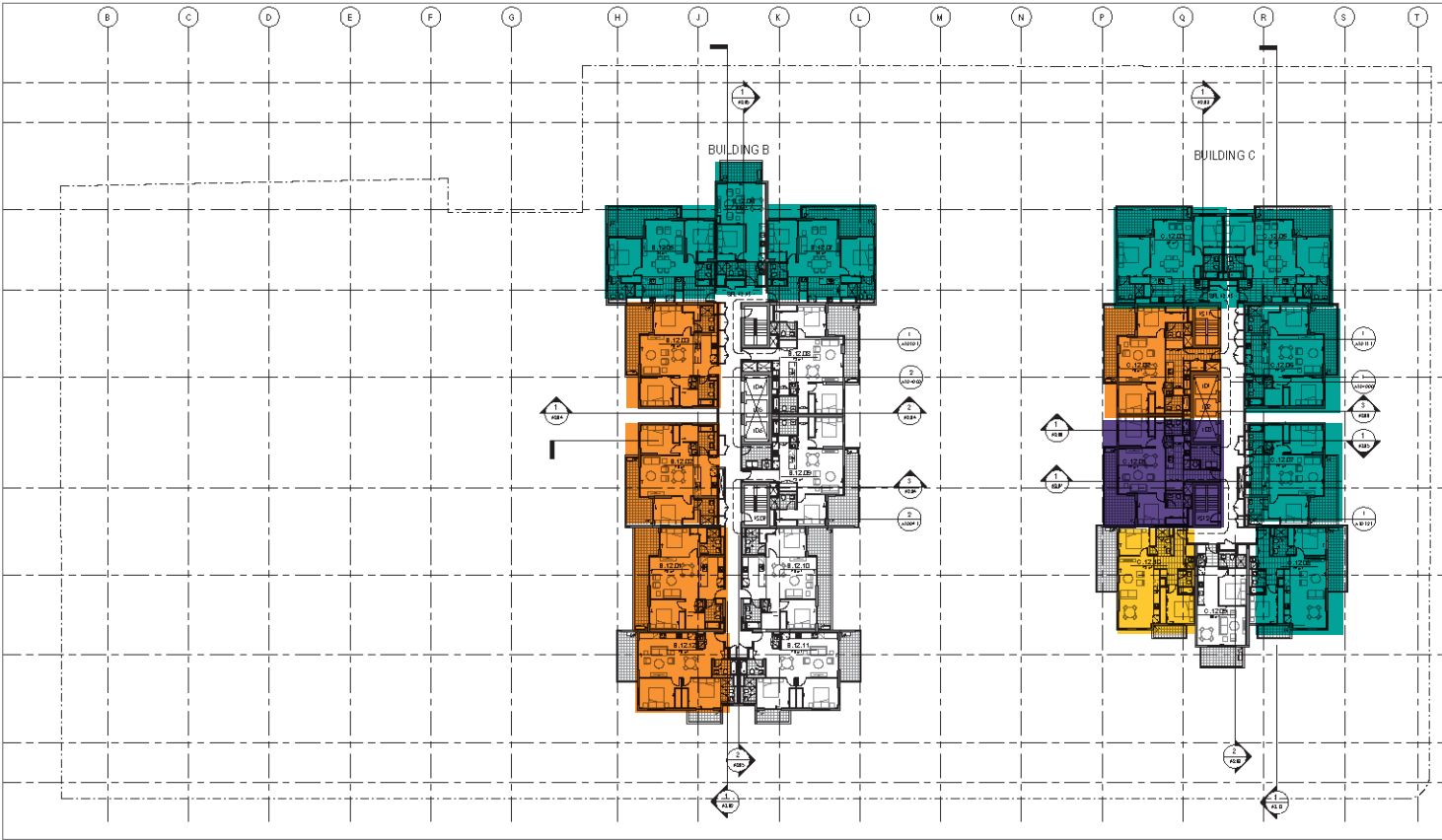


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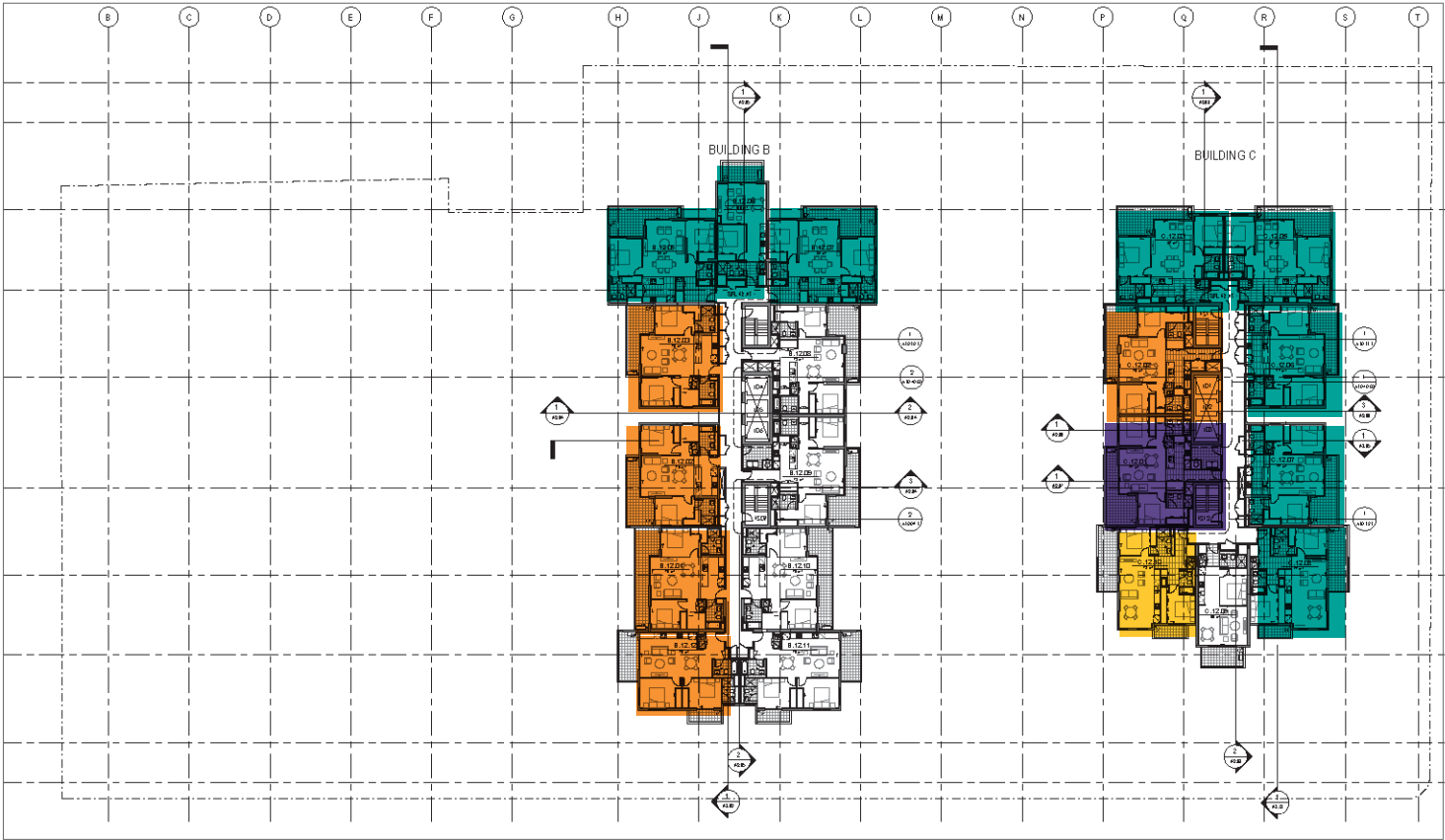


9am - 11am 12pm-2pm 1pm - 3pm
11.35am - 1.35pm 12.30 - 2.30pm

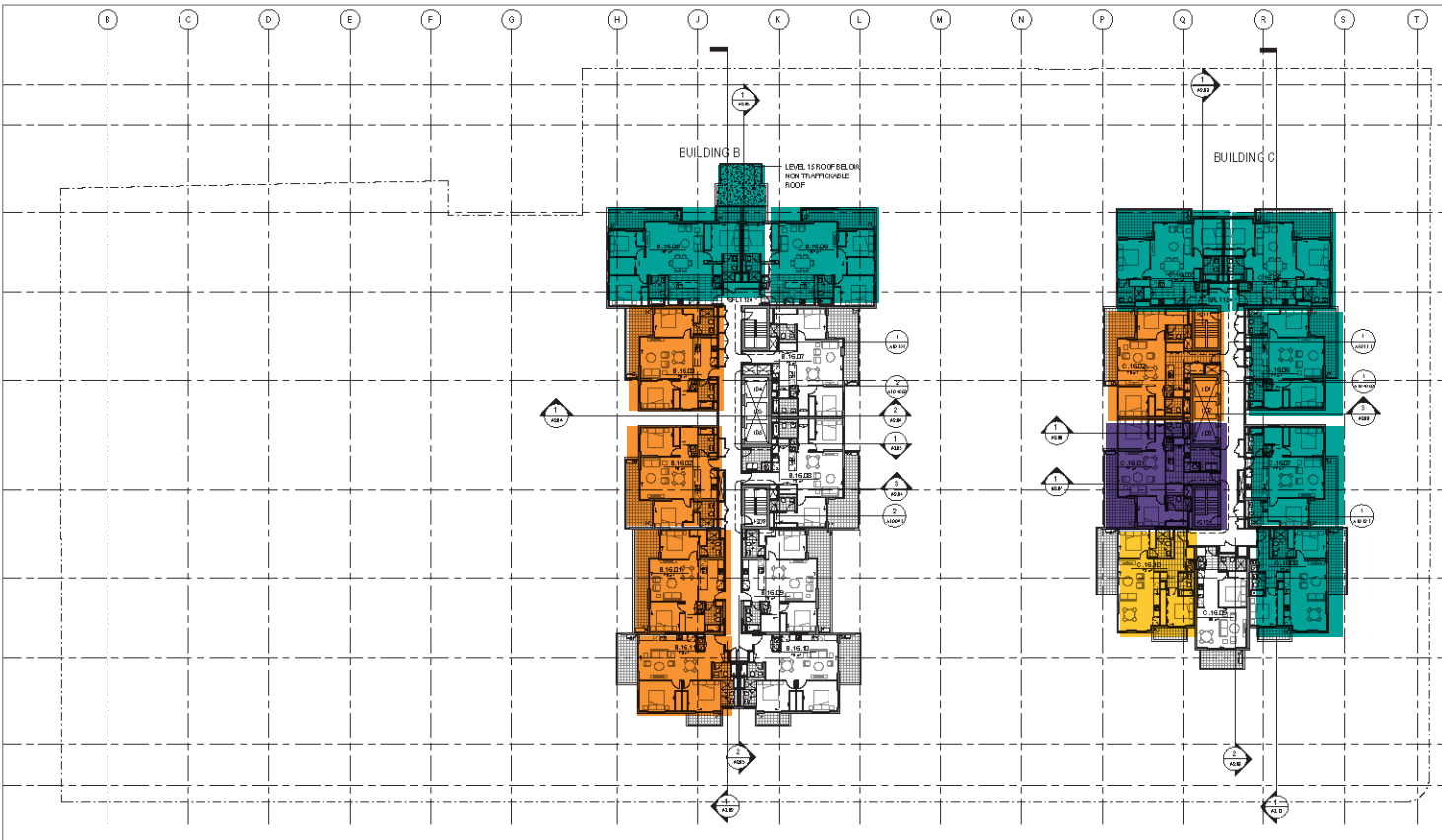
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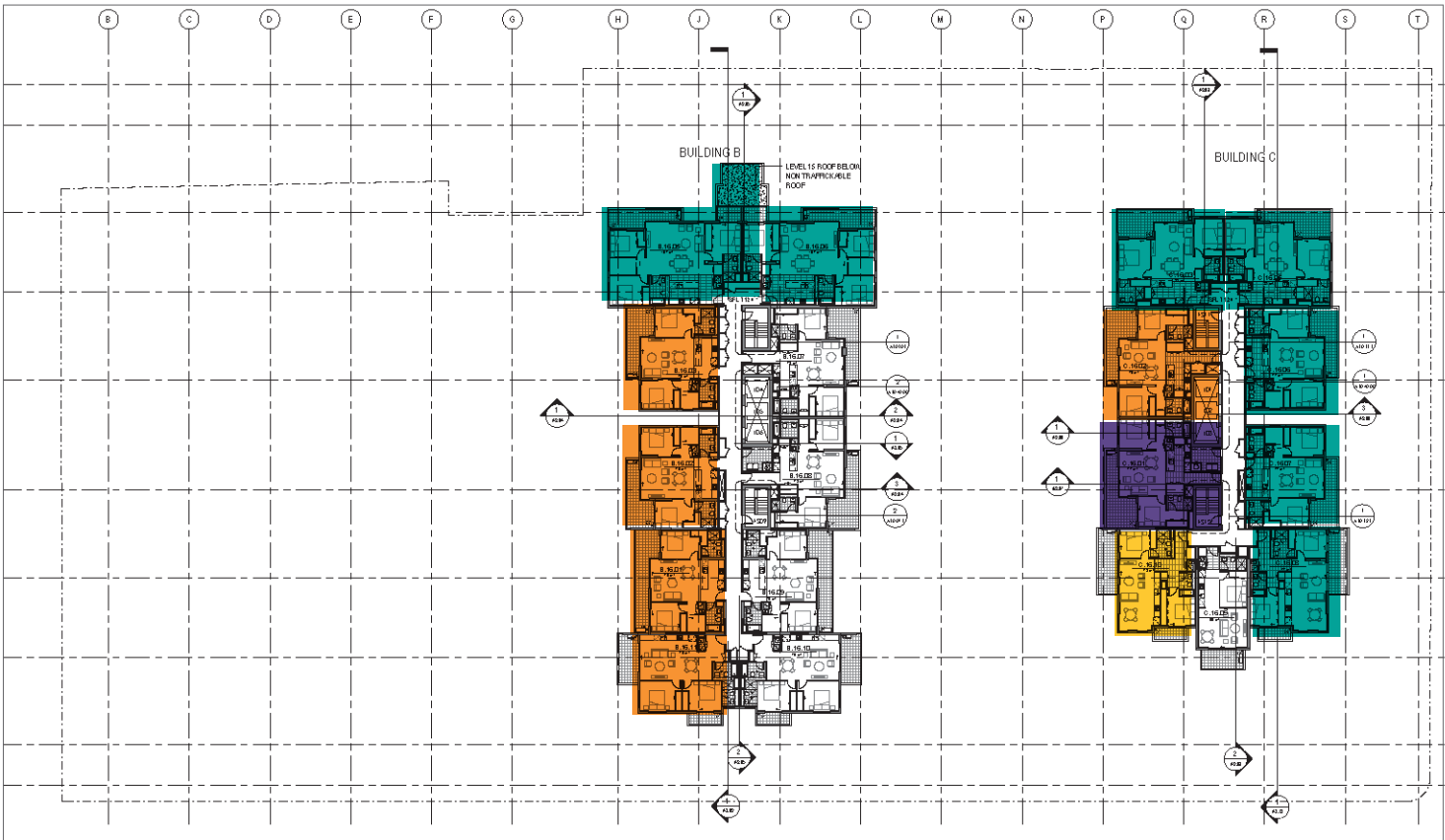
Level 15



Level 16

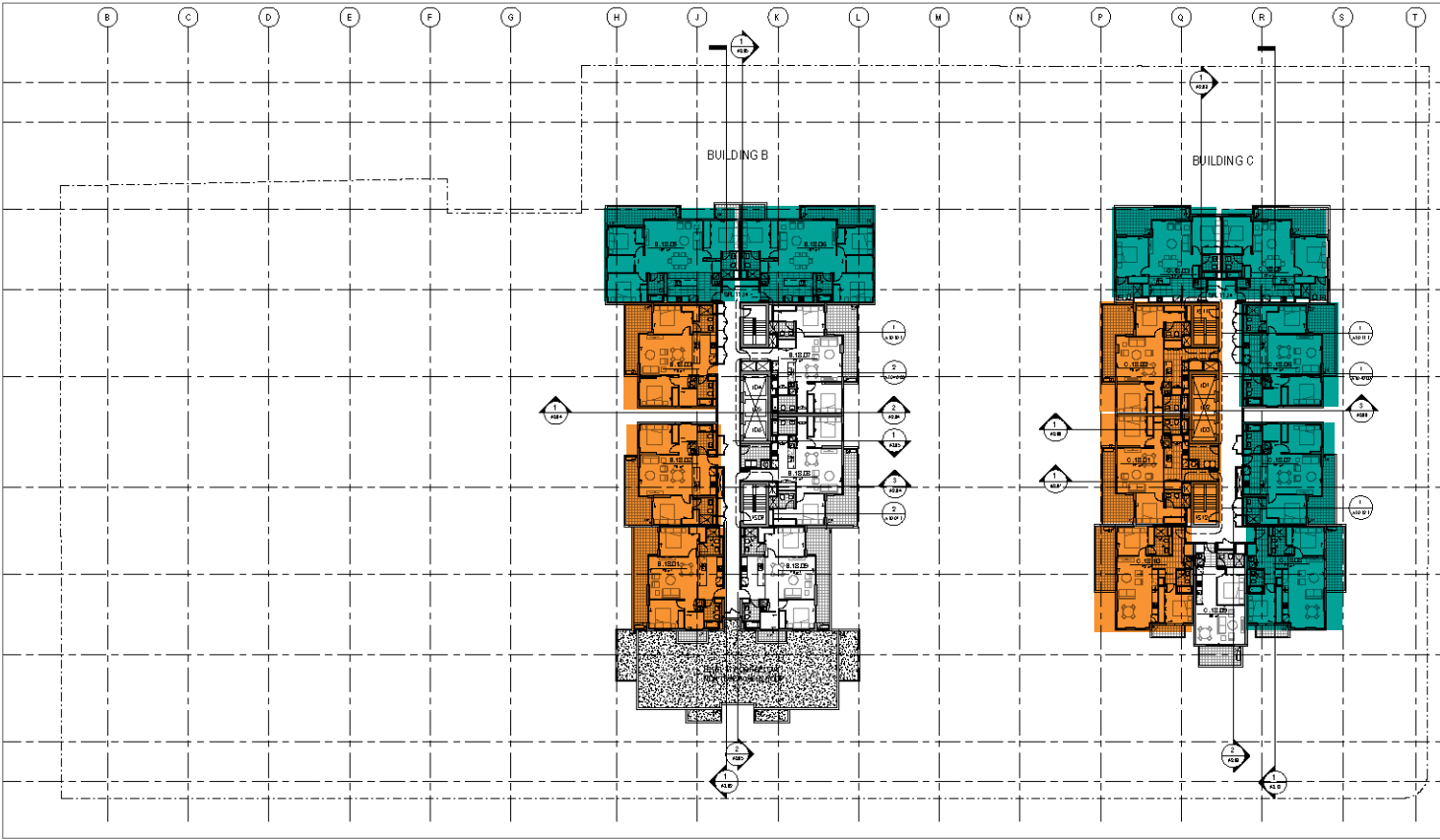


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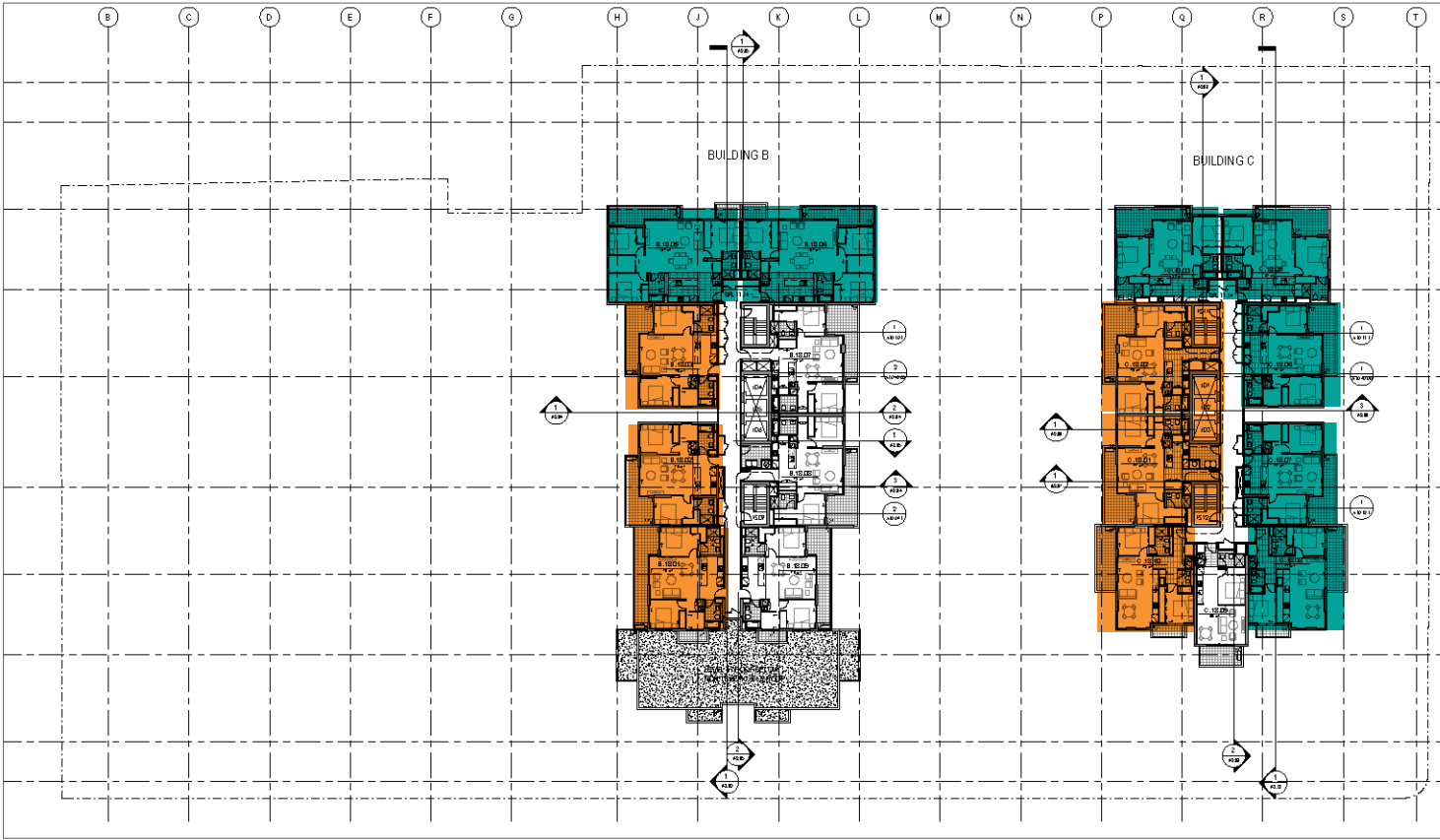


9am - 11am 11.30am - 1.30pm 12pm-2pm
11.35am - 1.35pm 12.30 - 2.30pm

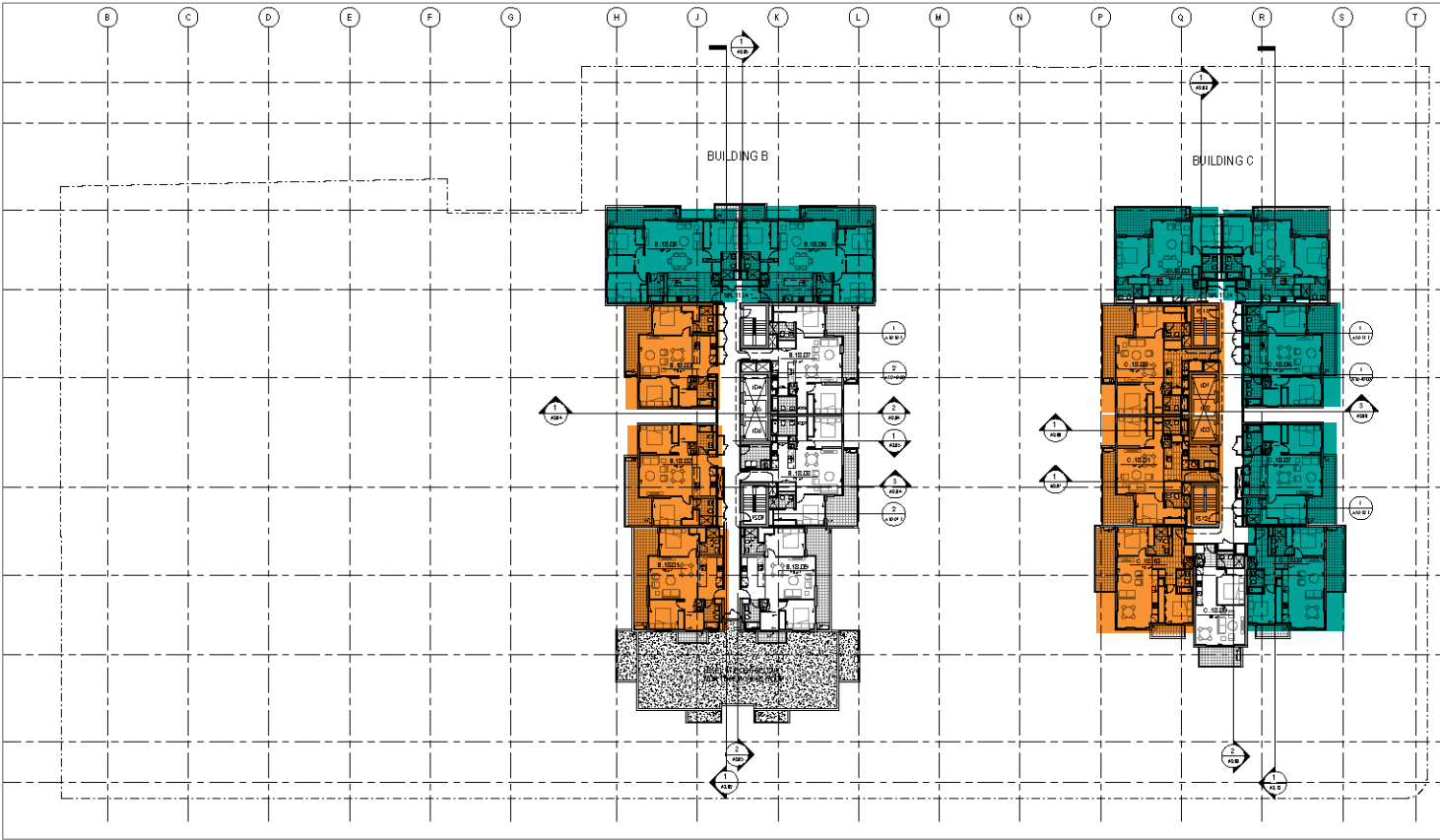
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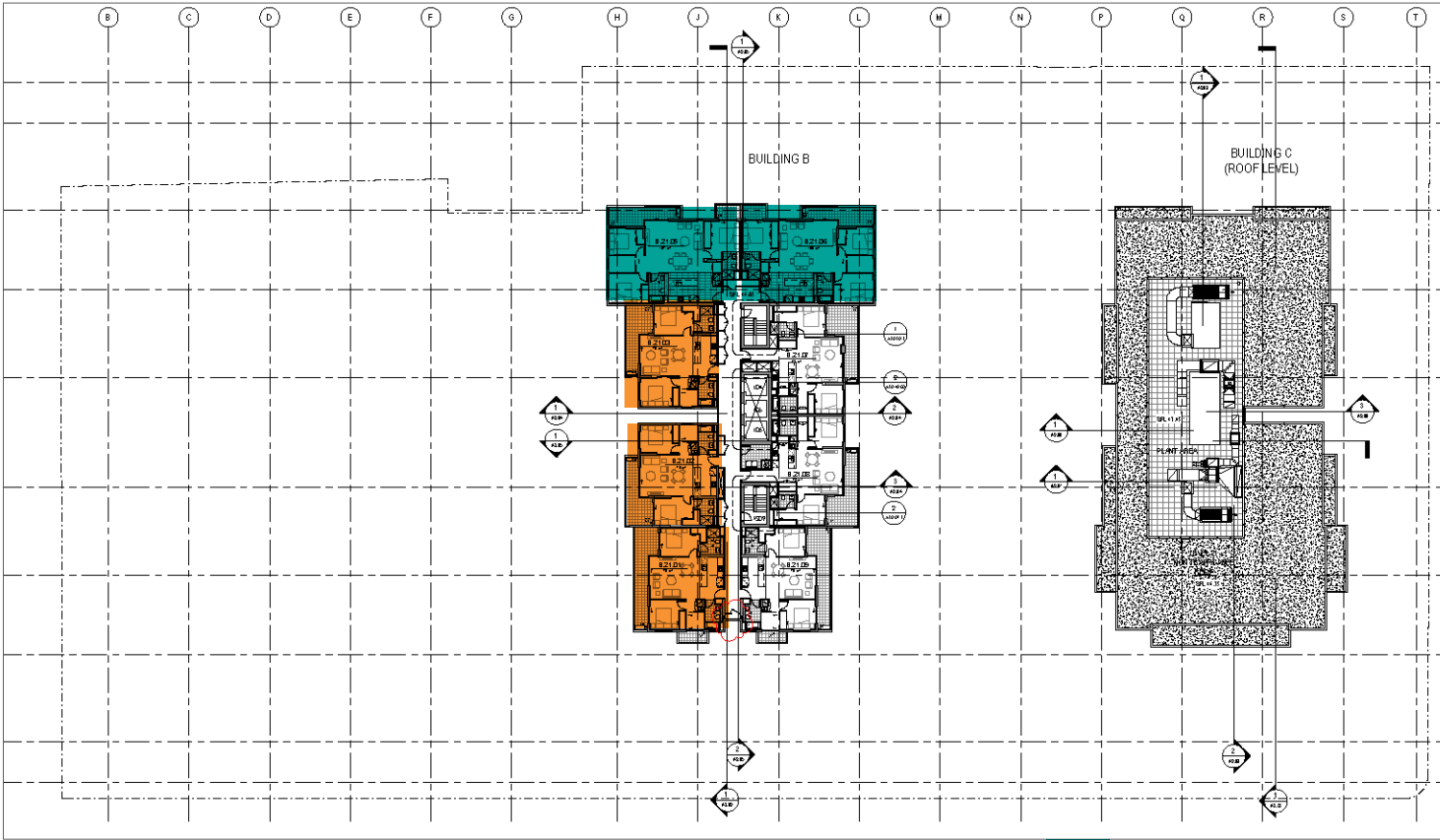
Level 19



Level 20

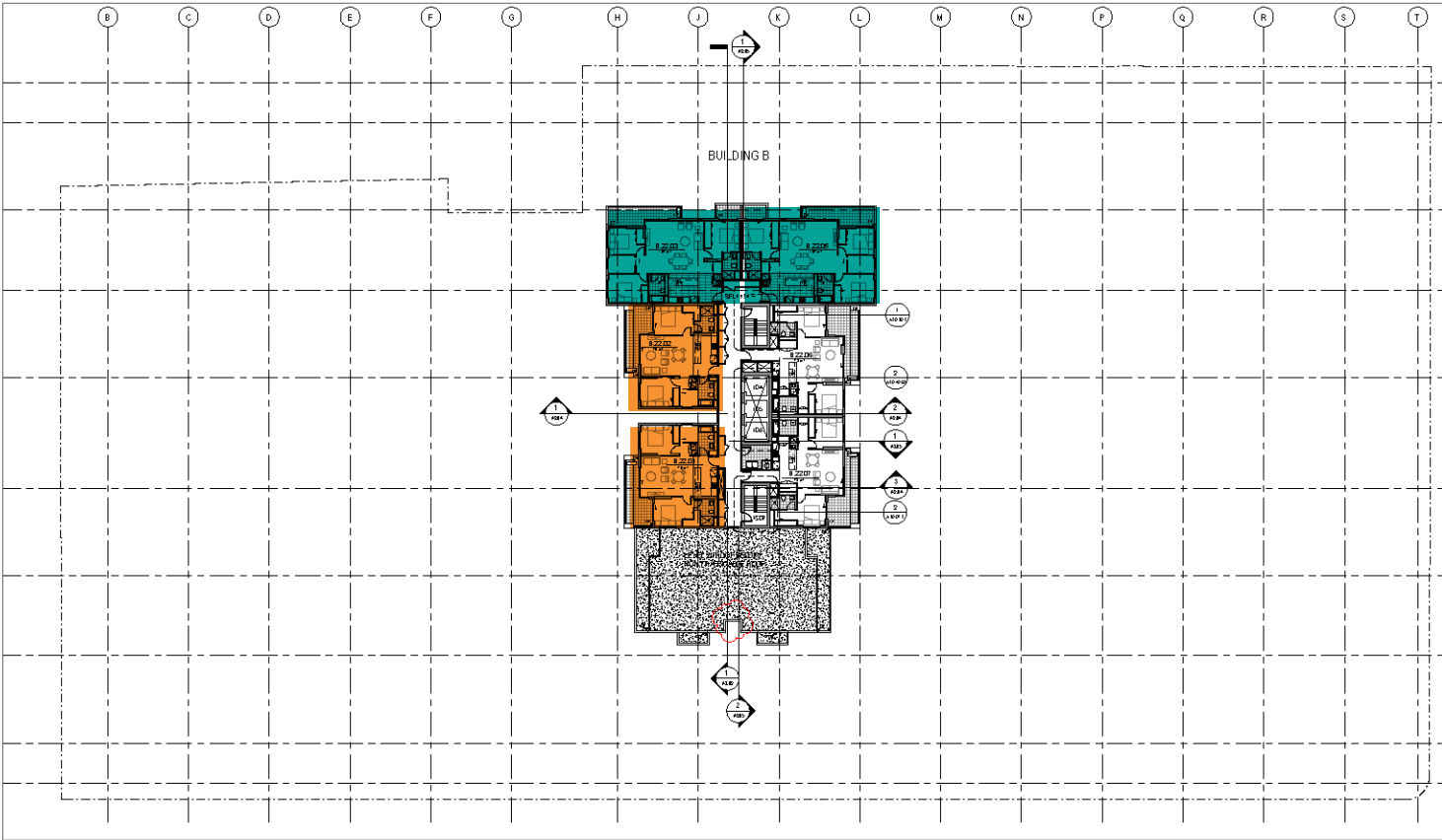


Level 21

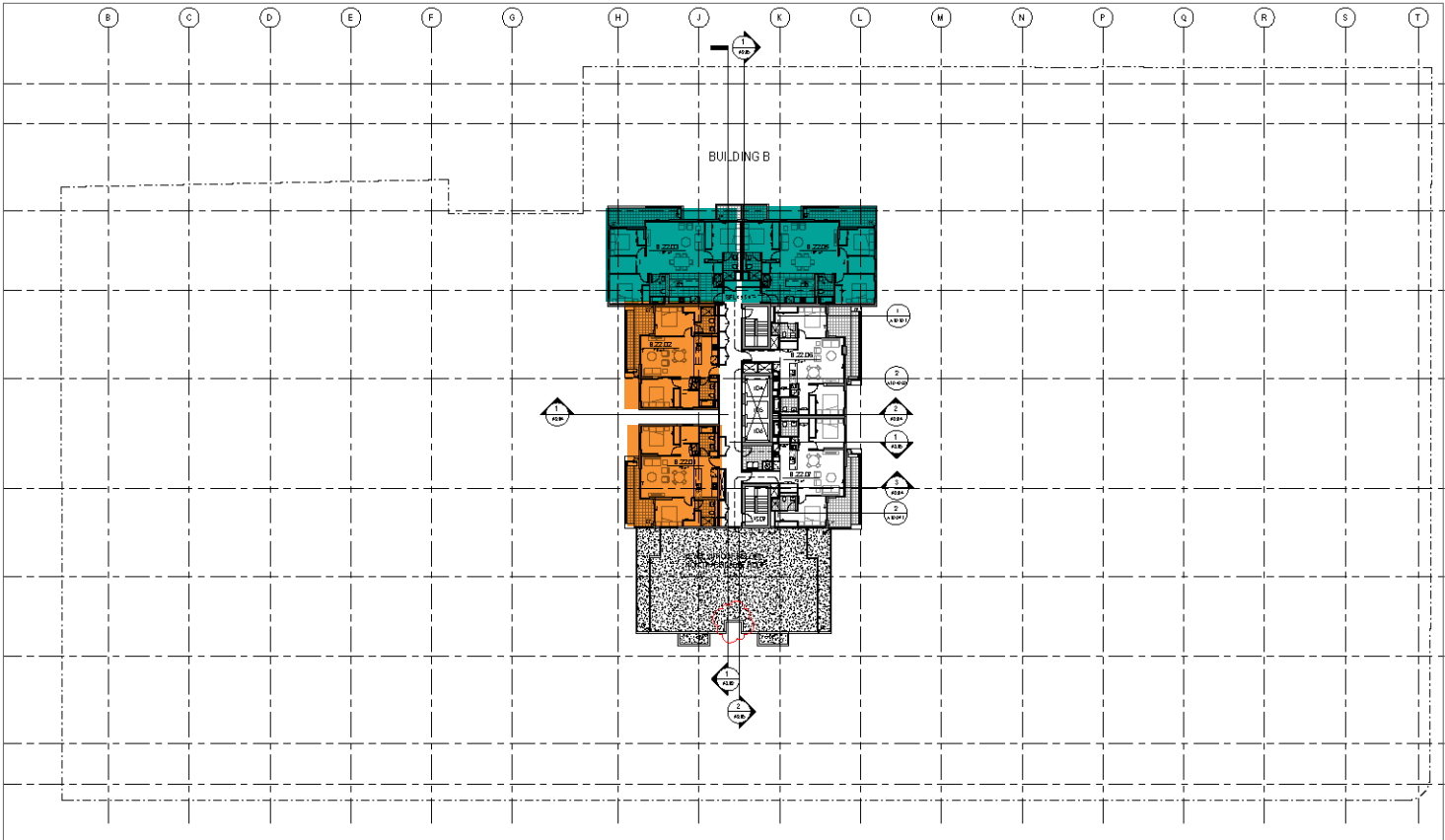


9am - 11am
12.30 - 2.30pm

Level 22

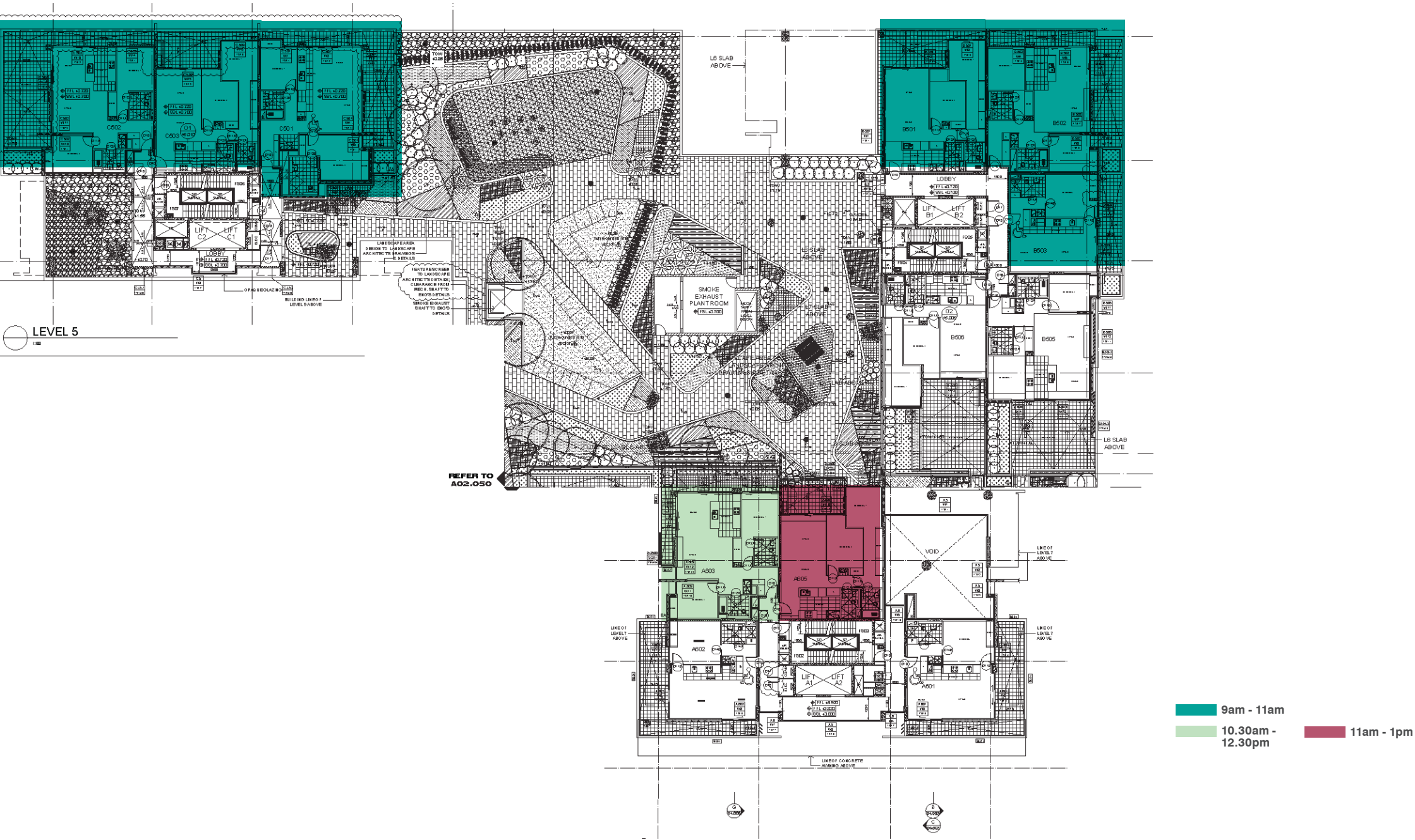


Level 23



9am - 11am
12.30 - 2.30pm

Option 1: Solar access as approved - Emerald Square
Level 5



Level 6



Level 7

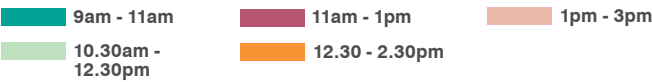


9am - 11am
10.30am - 12.30pm
11am - 1pm
12.30 - 2.30pm

Level 8



Level 9



Level 10



Level 11



Level 12



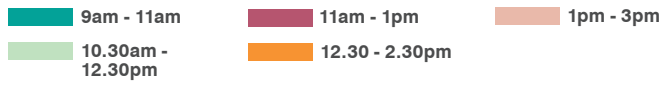
Level 13



Level 15



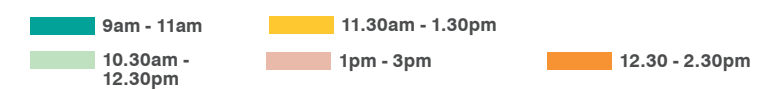
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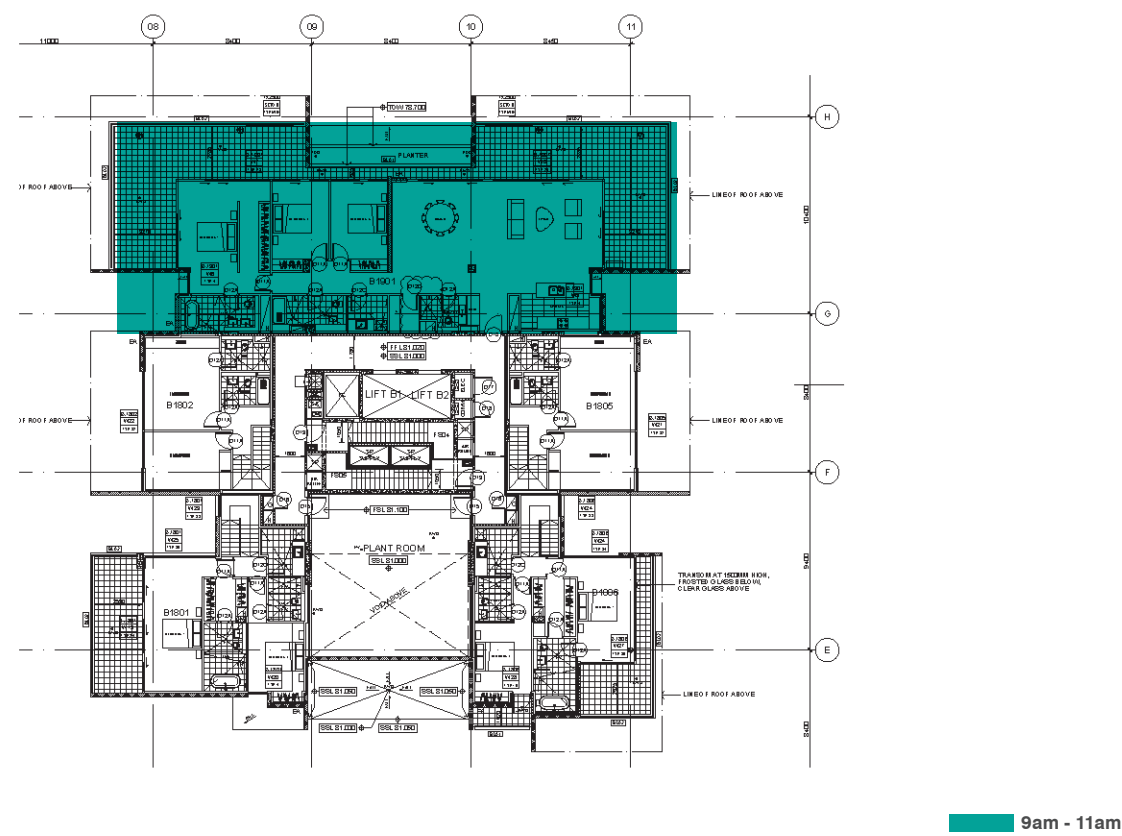
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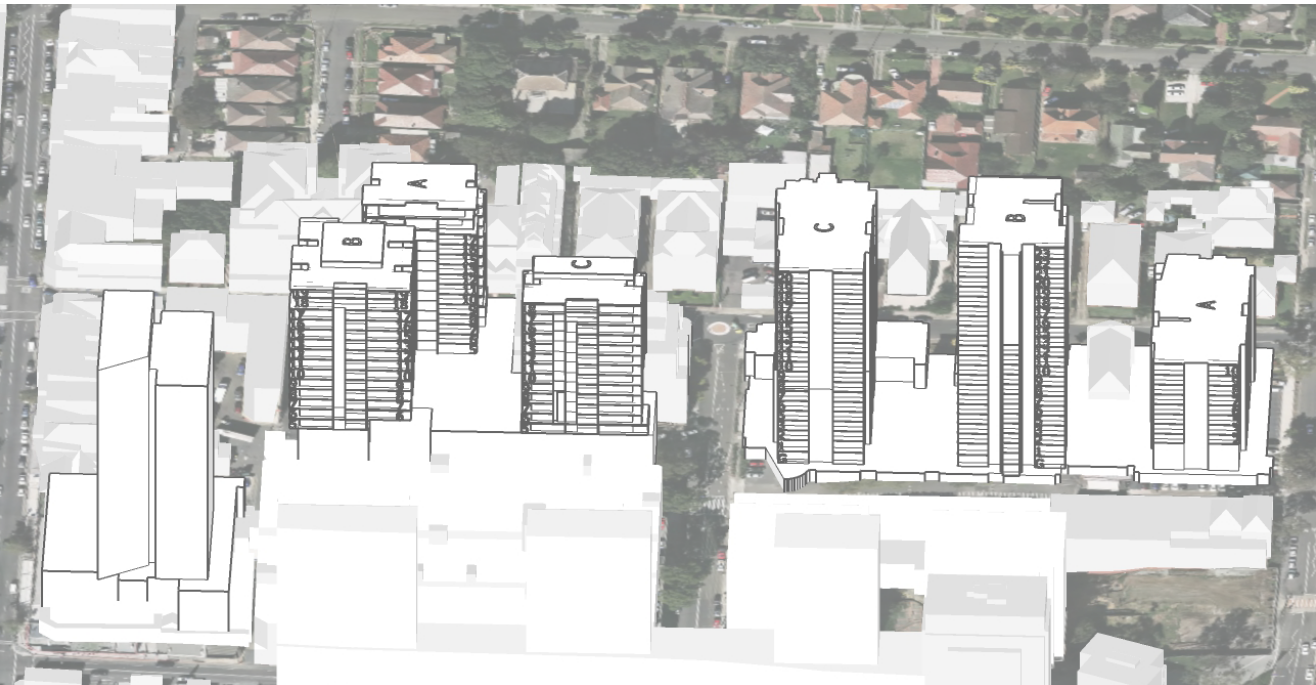
Level 18



Level 19



Scenario 2: Solar access as approved with Burwood Central



Purpose of scenario

Scenario 2 tests the solar impact on Emerald Square and Burwood Grand without development on the subject site. The test includes Burwood Central DA approved building.

Key findings

The test found that Burwood Central had impacts on Tower B of Emerald Square that reduced the overall solar access to 66%.

Solar access:

Emerald Square

- Achieves 66% solar access

Burwood Grand

- Achieves 74% solar access

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	364	491
Emerald Square	138	210
	502	701
		72%

Solar testing summary

Scenario 2: Solar access as approved with Burwood Central

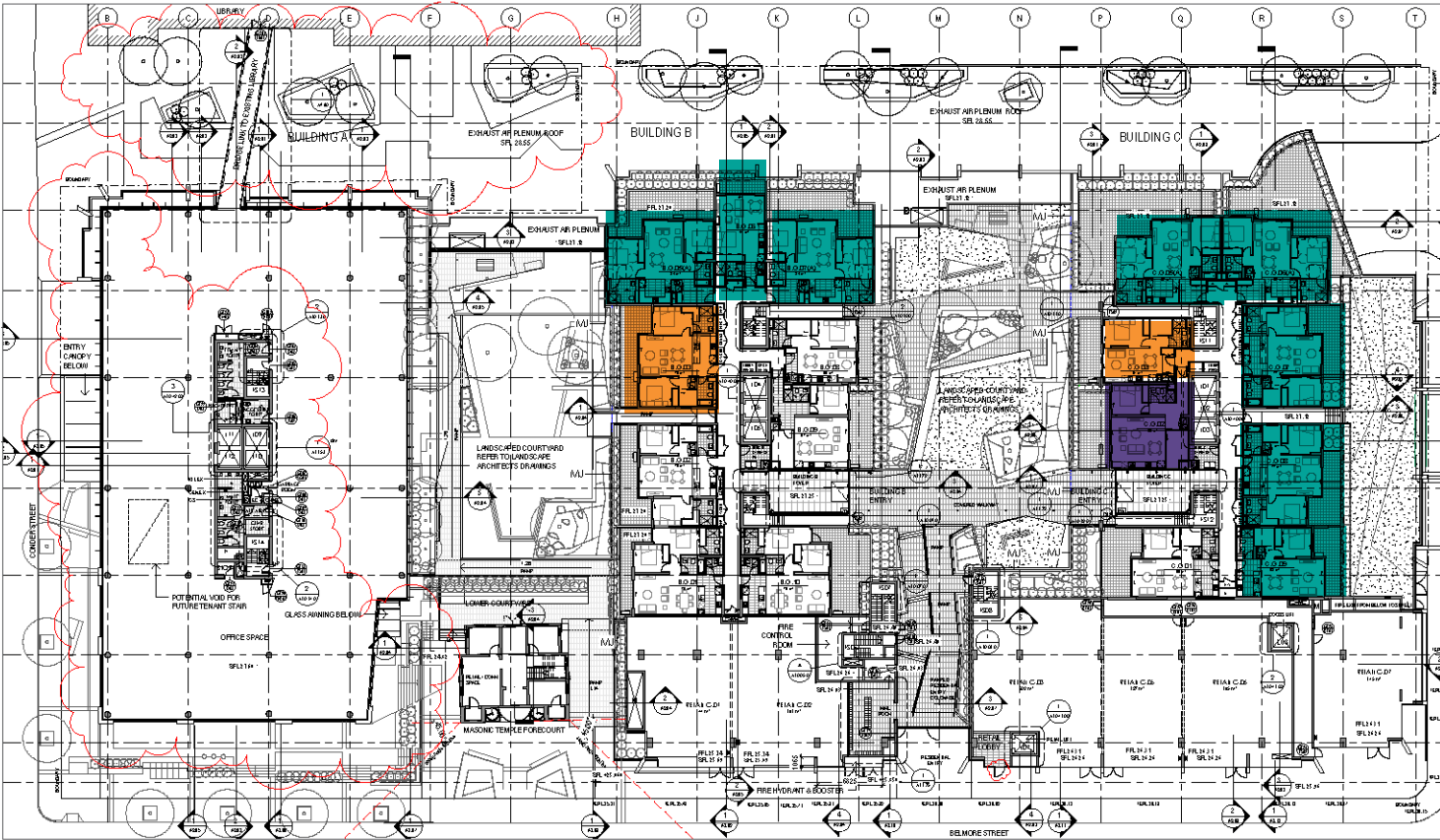
Burwood Grand

Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Total
A	>2 hours sun		Office space	10	10	10	10	10	10	10	10													80
	Total apartments			11	11	11	11	11	11	11	11													88
B	>2 hours sun	4	5	5	5	7	7	7	7	7	7	7	7	7	6	6	5	5	5	5	5	4	4	129
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	8	6	6	218
C	>2 hours sun	7	7	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8				155
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9	9				185
		88%	50%	82%	82%	82%	82%	82%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%				
Total >2hrs of sun																							364	74%
Total apartments																							491	

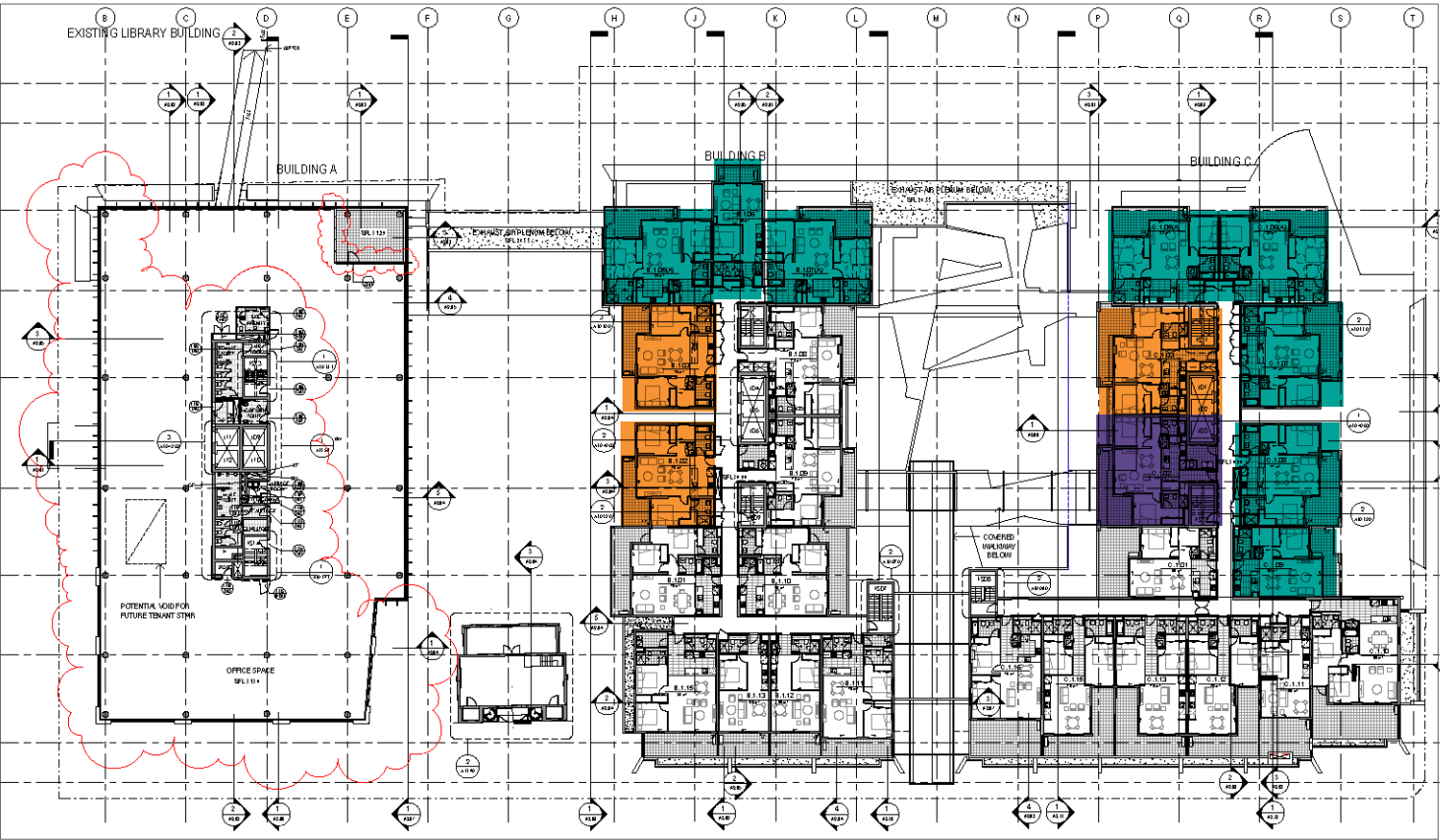
Emerald Square

		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total			
A	>2 hours sun	Non-residential podium				<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>1</u>		<u>33</u>			
	Total apartments					4	4	5	5	5	5	5	5	5	5	5	5	5	4	1		58	
						50%	50%	40%	40%	40%	60%	60%	60%	60%	60%	60%	80%	80%	100%	100%			
B	>2 hours sun	Non-residential podium				<u>2</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>60</u>			
	Total apartments					5	7	8	8	8	8	8	8	8	8	8	8	8	8	6	1		99
						40%	57%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	50%	100%		
C	>2 hours sun	Non-residential podium				<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>2</u>		<u>45</u>			
	Total apartments					3	3	3	3	5	5	5	5	5	5	5	5	5	4	2		53	
						100%	100%	100%	100%	80%	80%	80%	80%	80%	80%	80%	80%	80%	75%	100%			
																		Total >2hrs of sun	138	66%			
																		Total apartments	210				

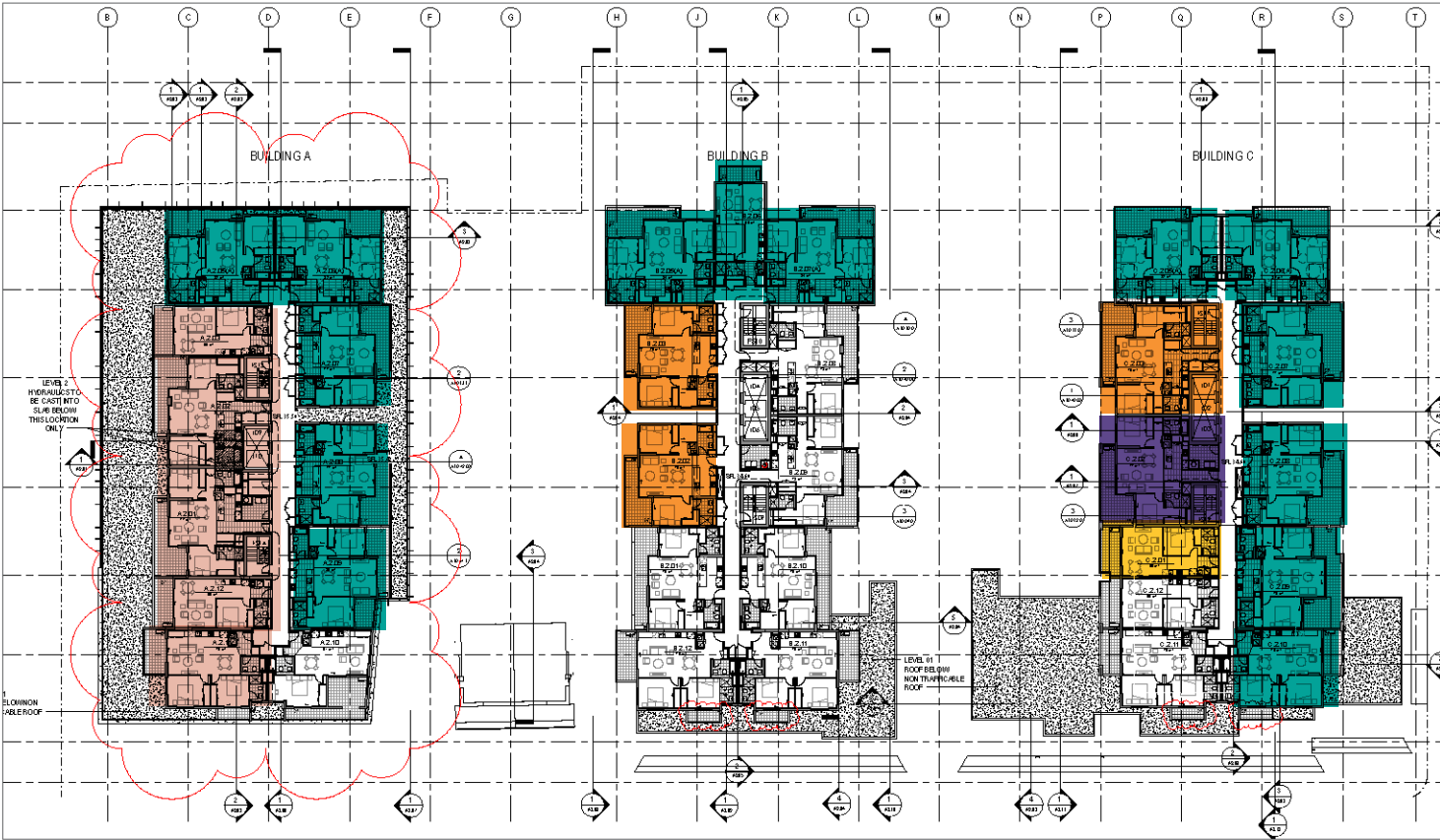
Option 2: Solar access as approved with Burwood Central - Burwood Grand
Ground level



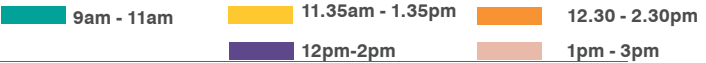
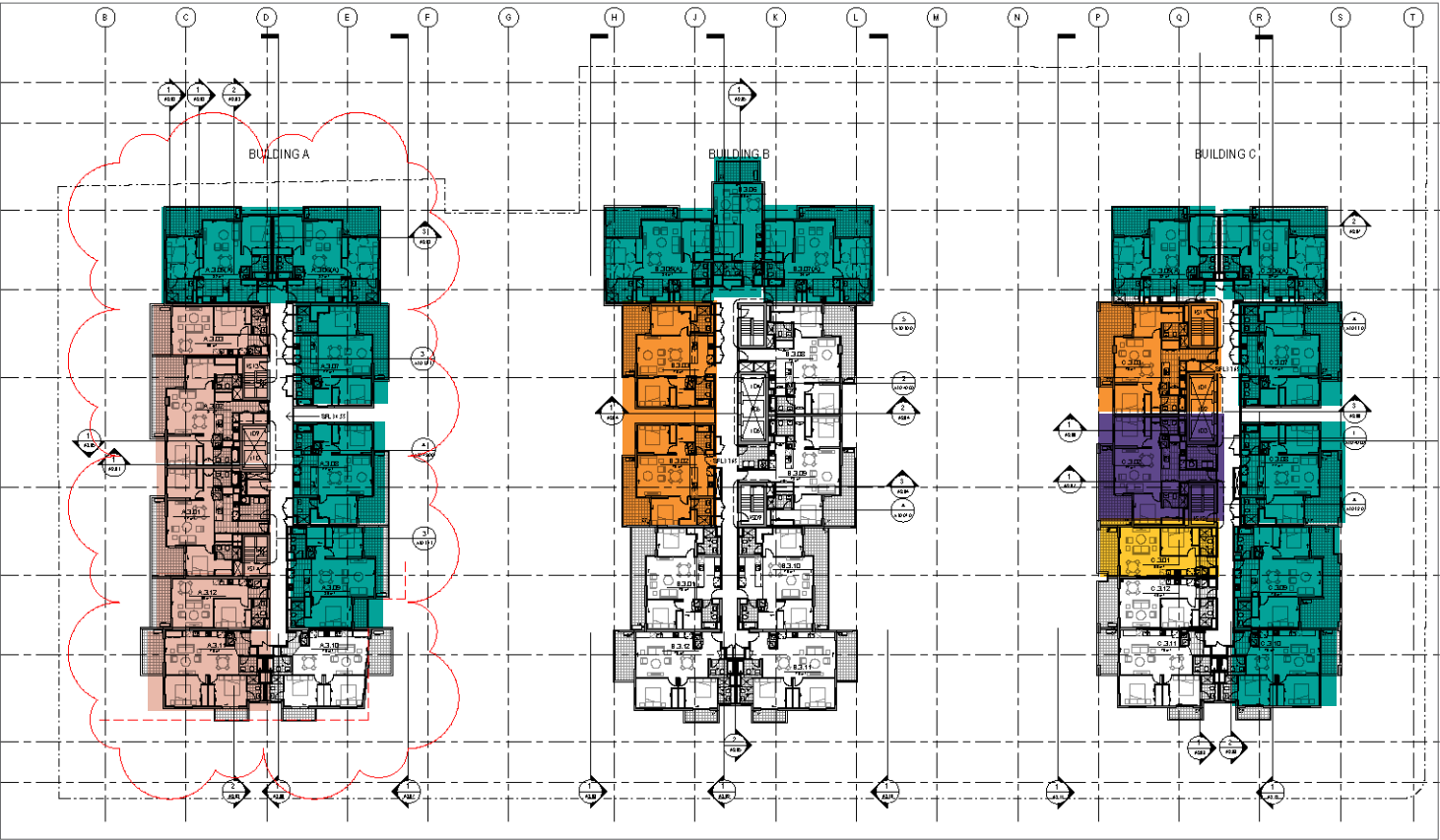
Level 1



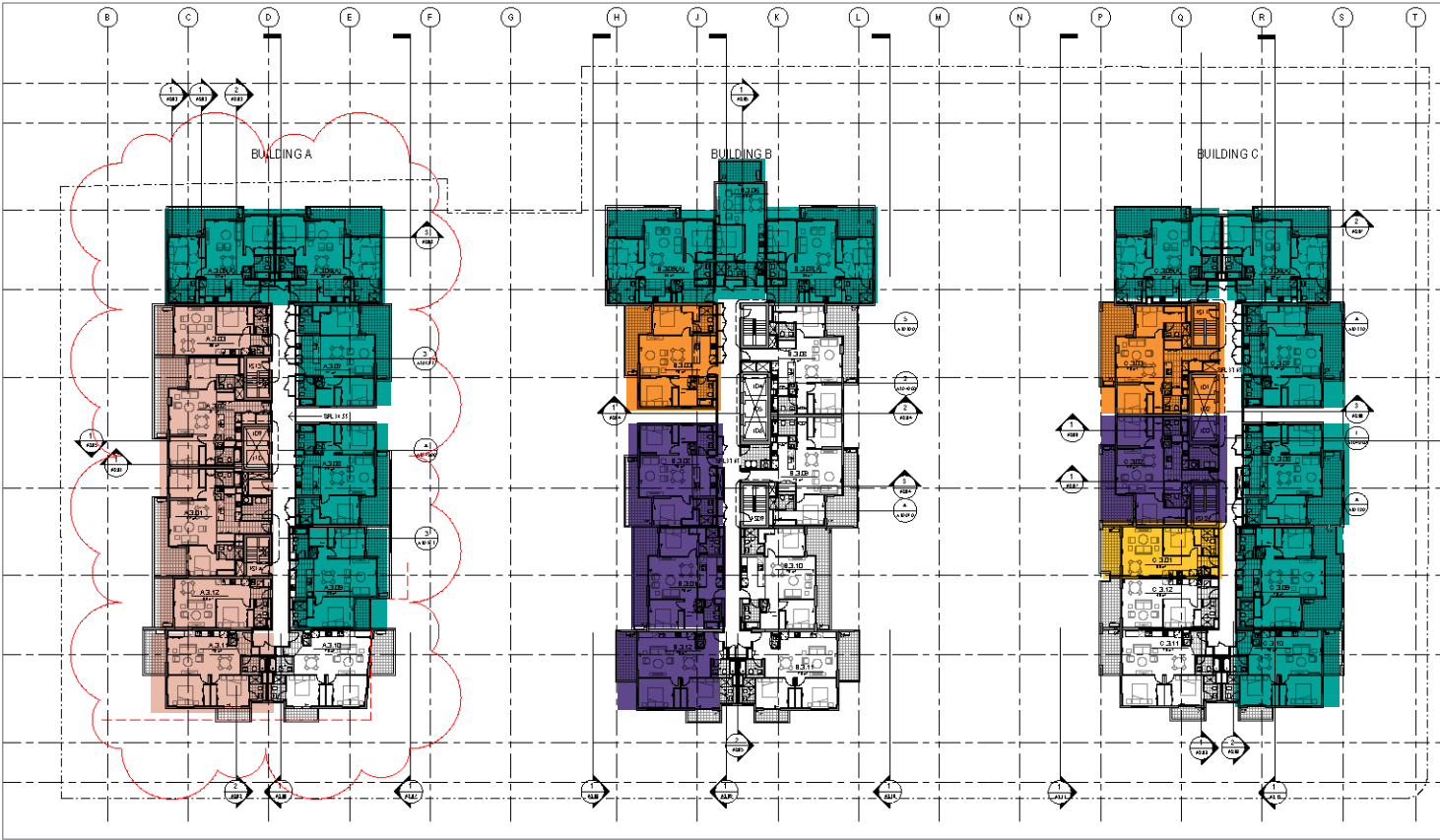
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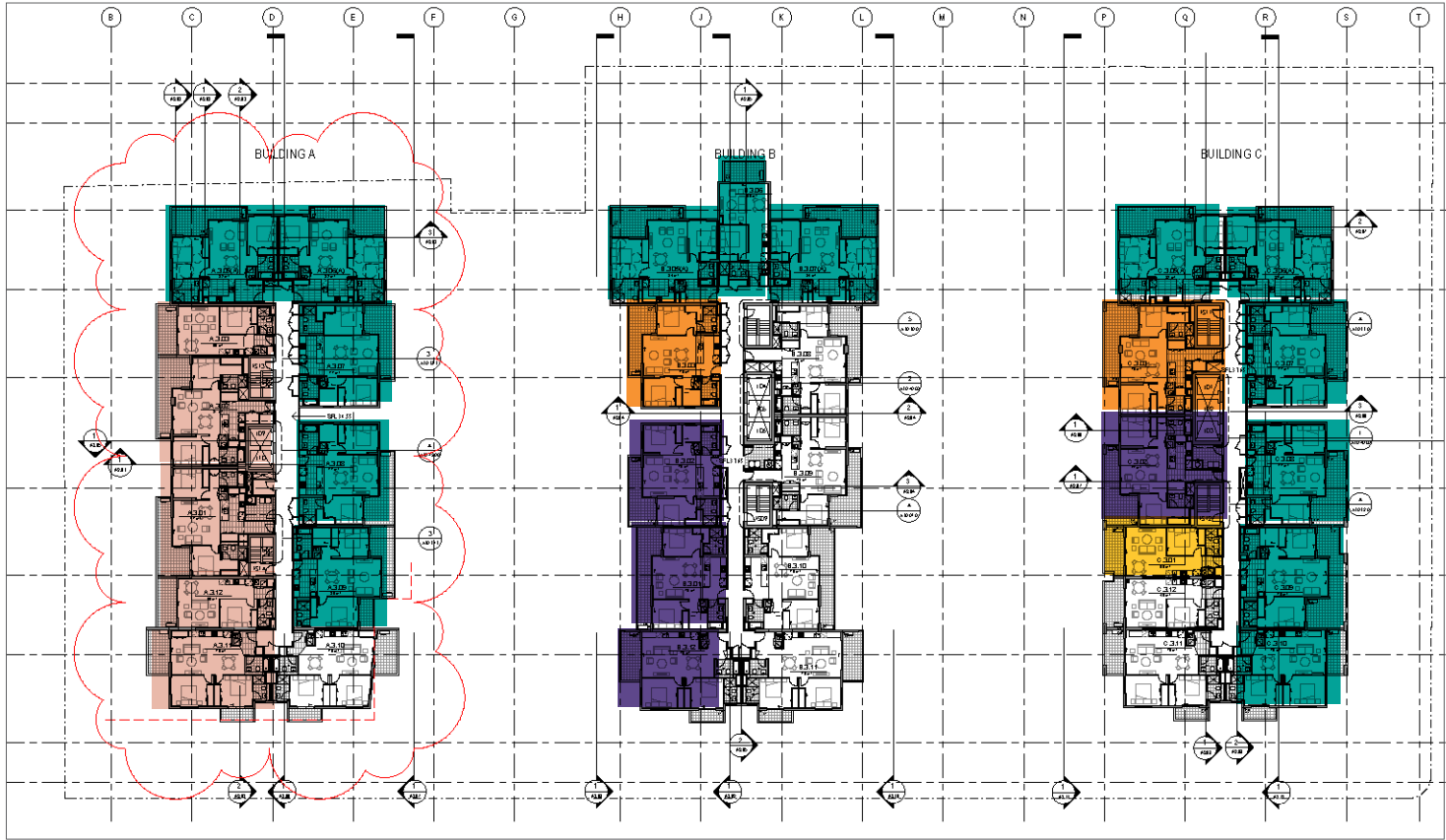
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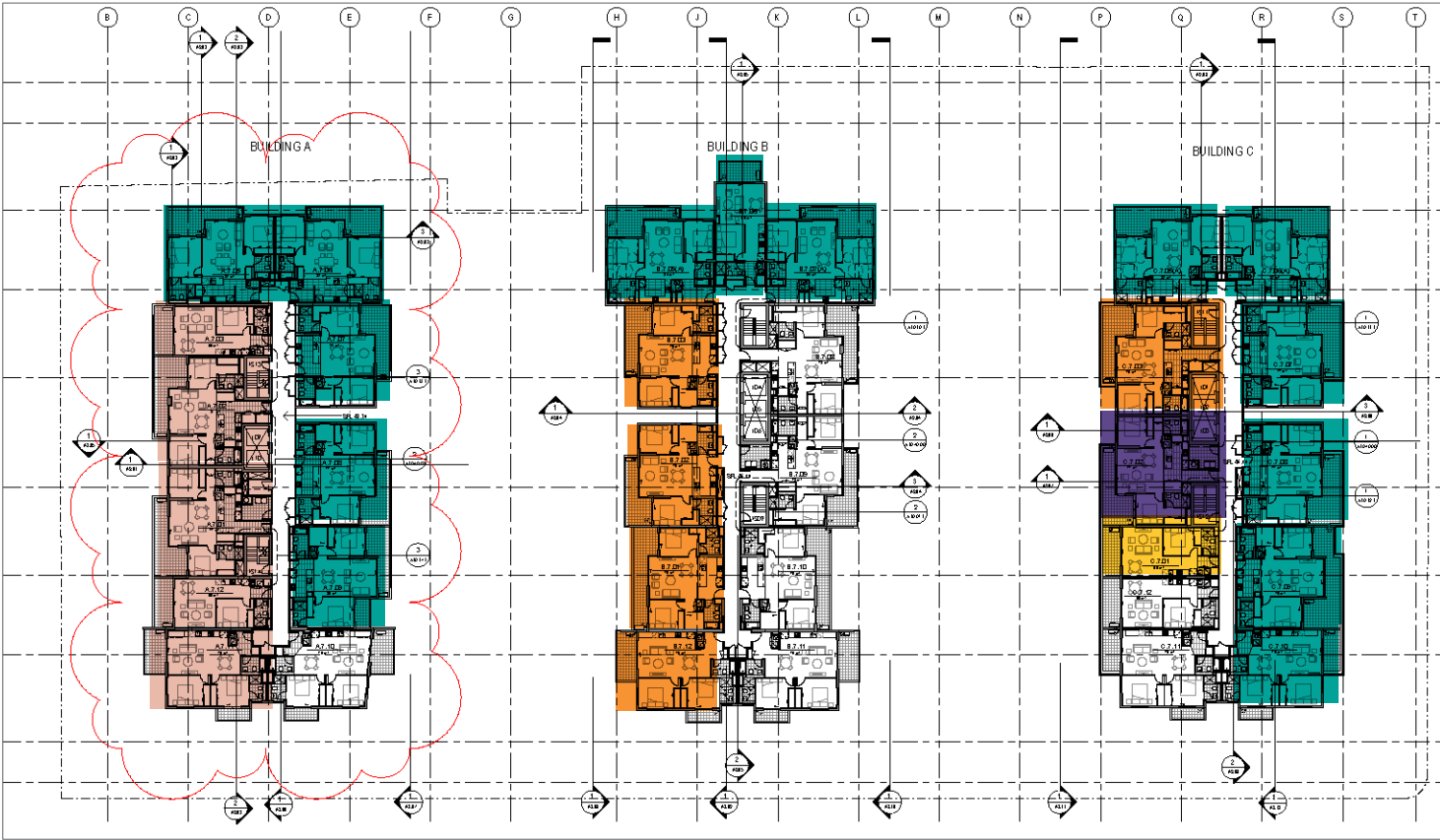
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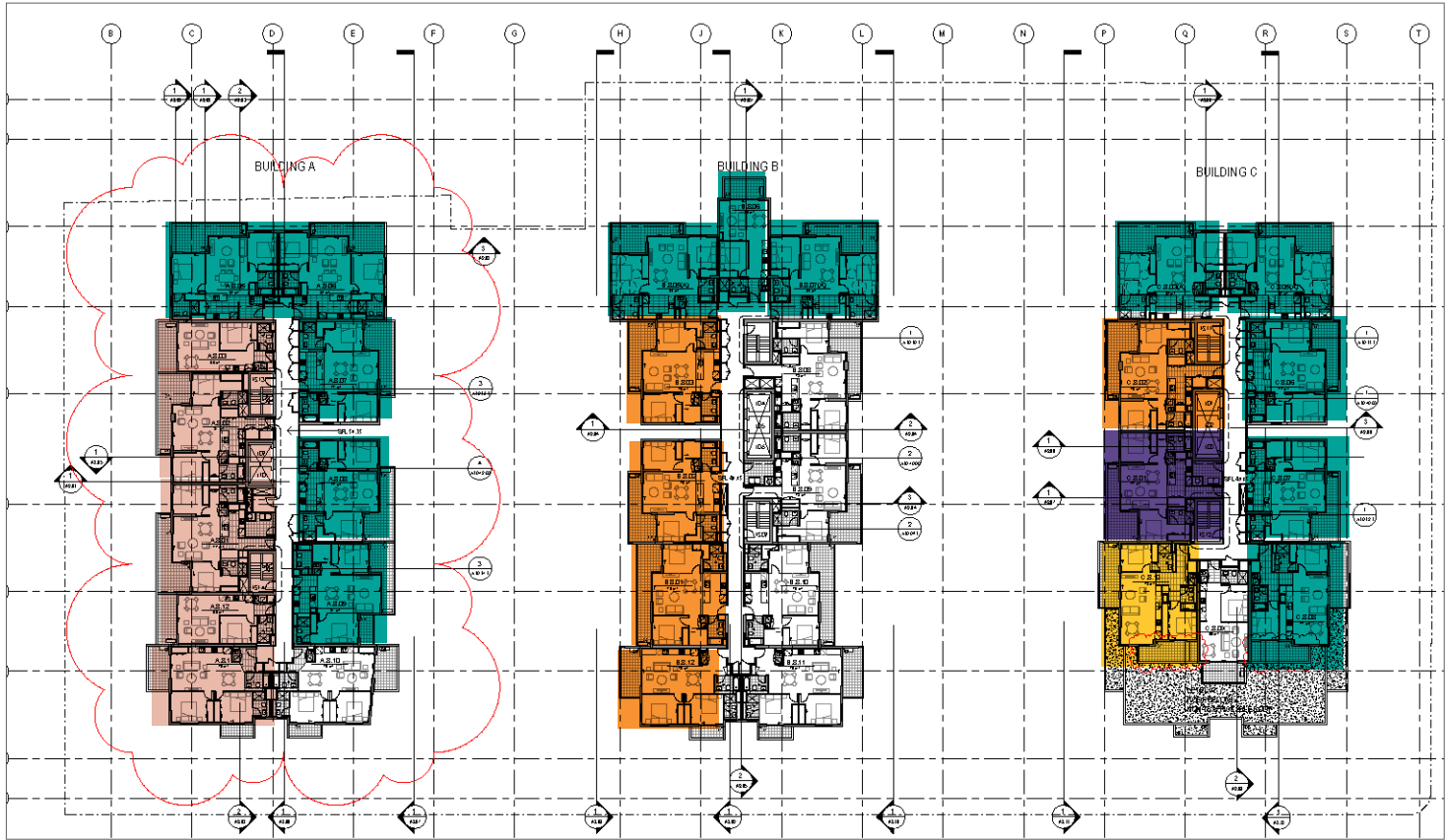
Level 6



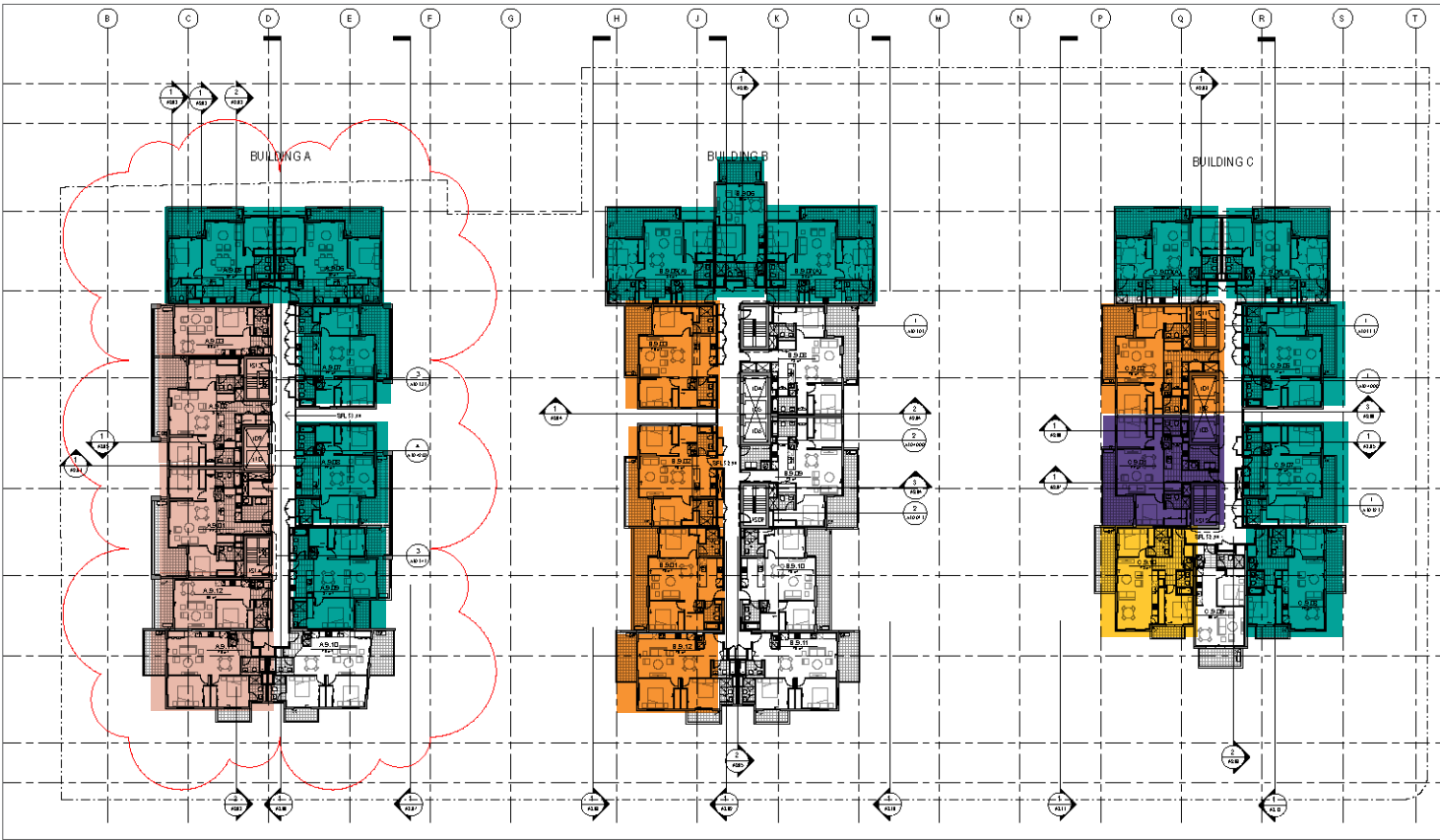
Level 7



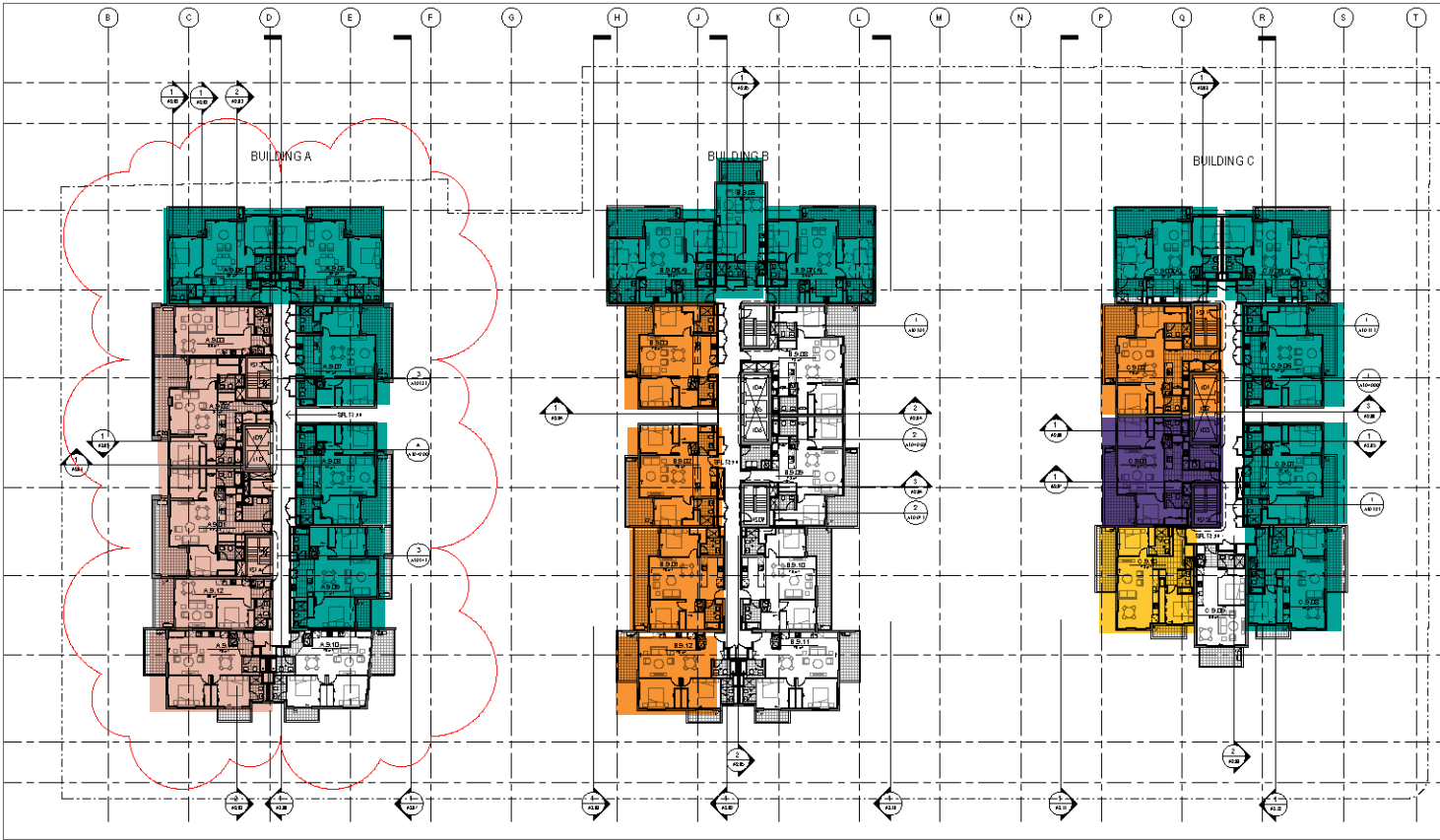
Level 8



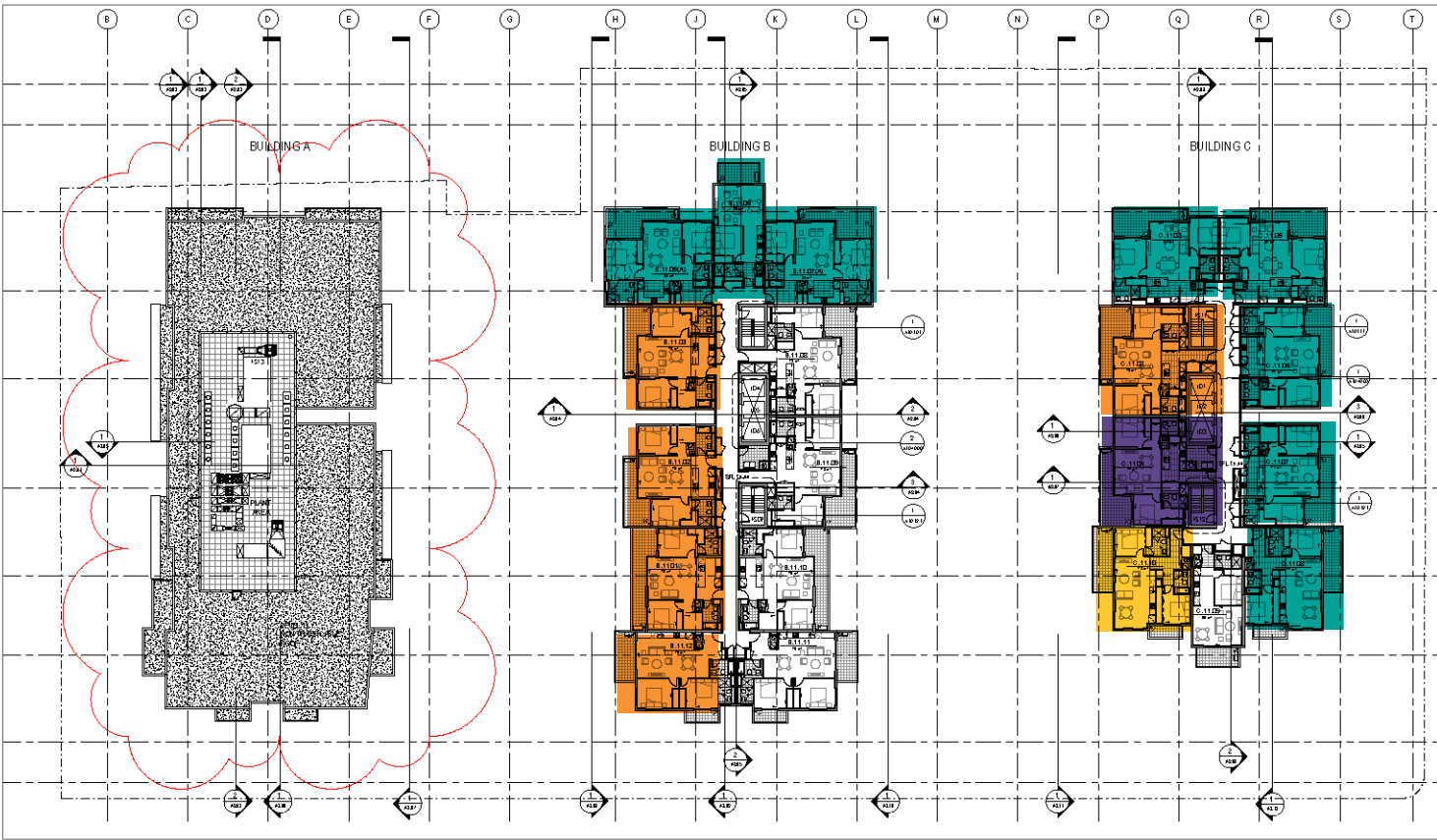
Level 9



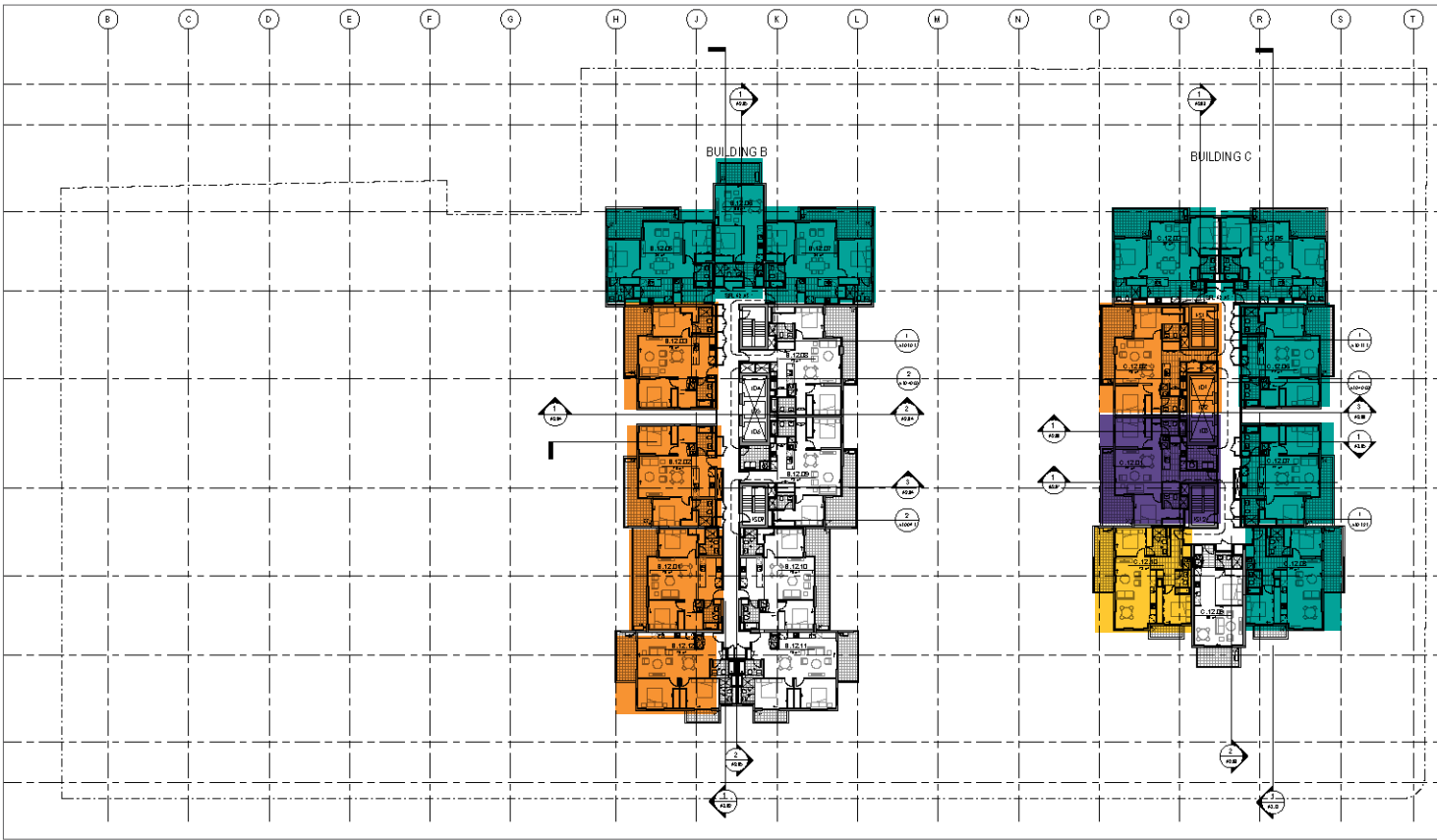
Level 10



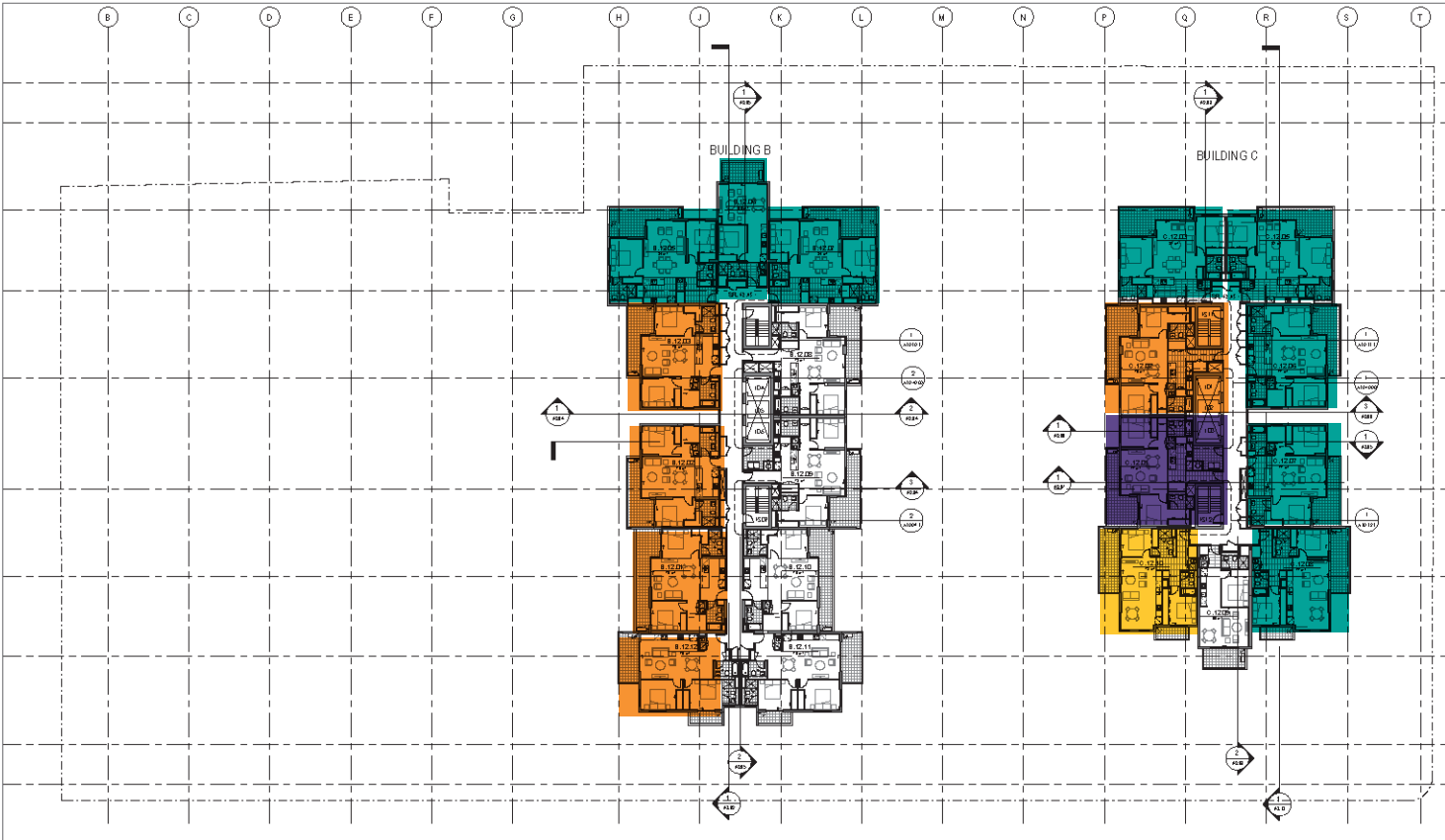
Level 11



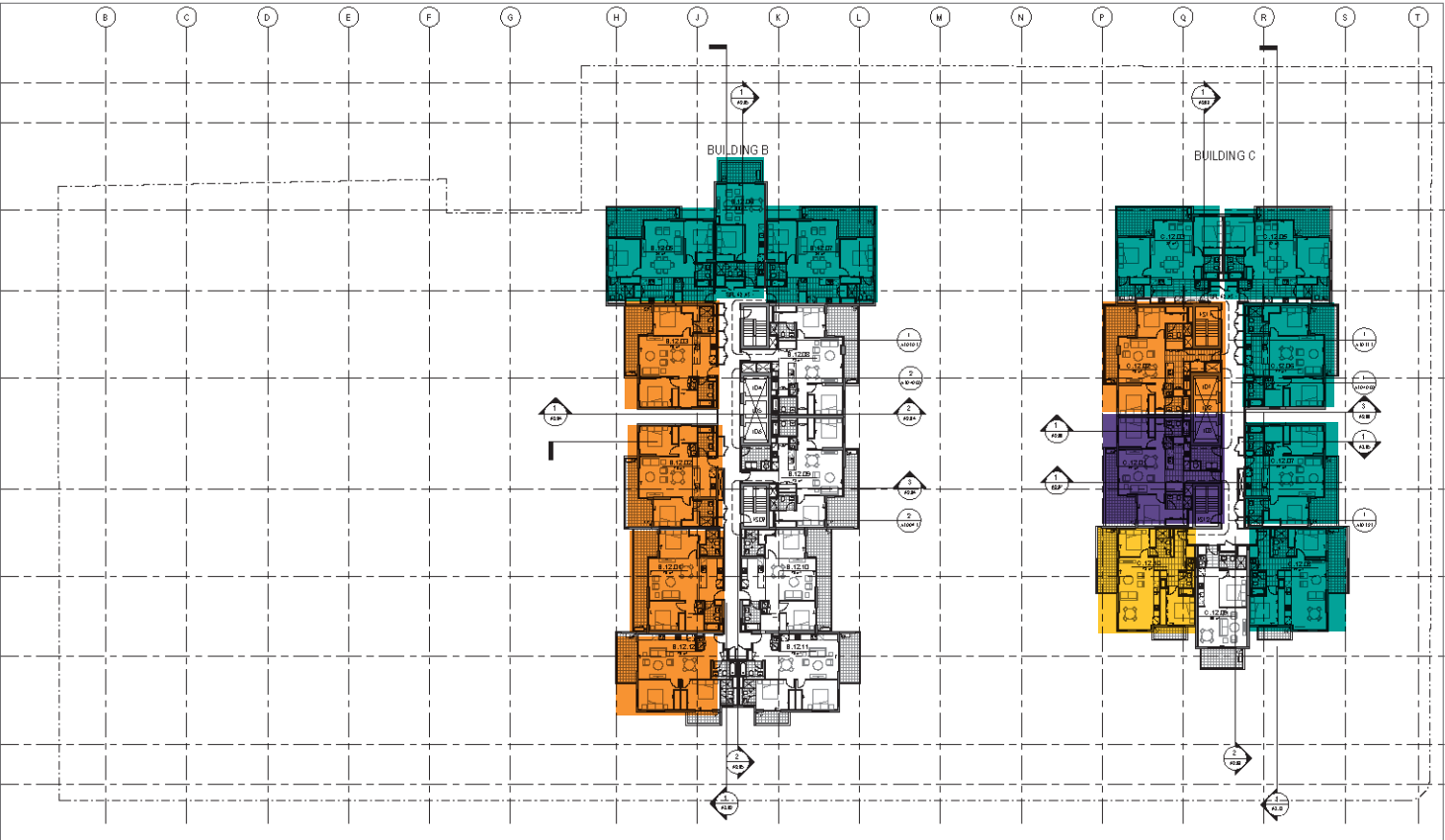
Level 12



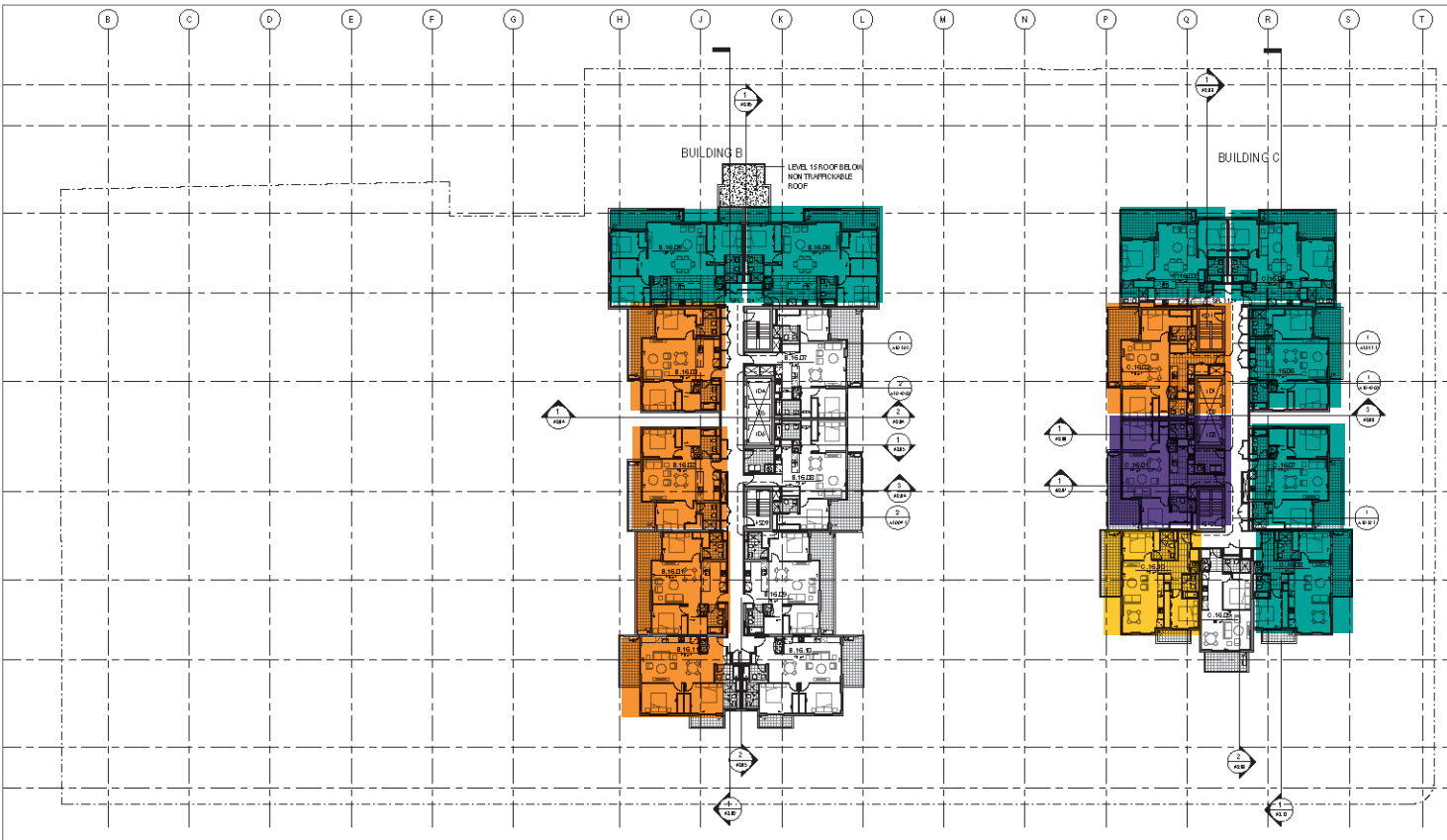
Level 13



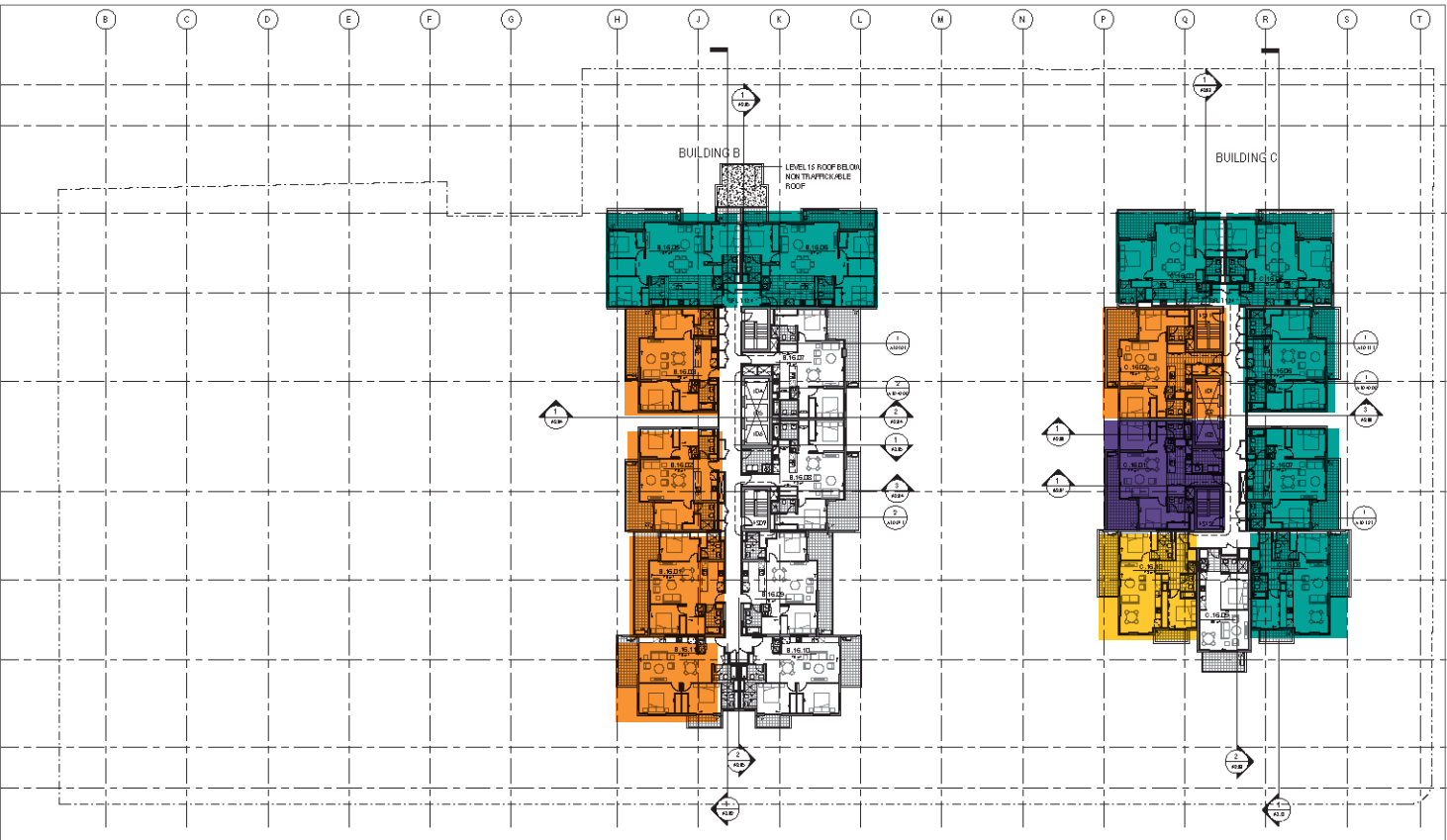
Level 15



Level 16

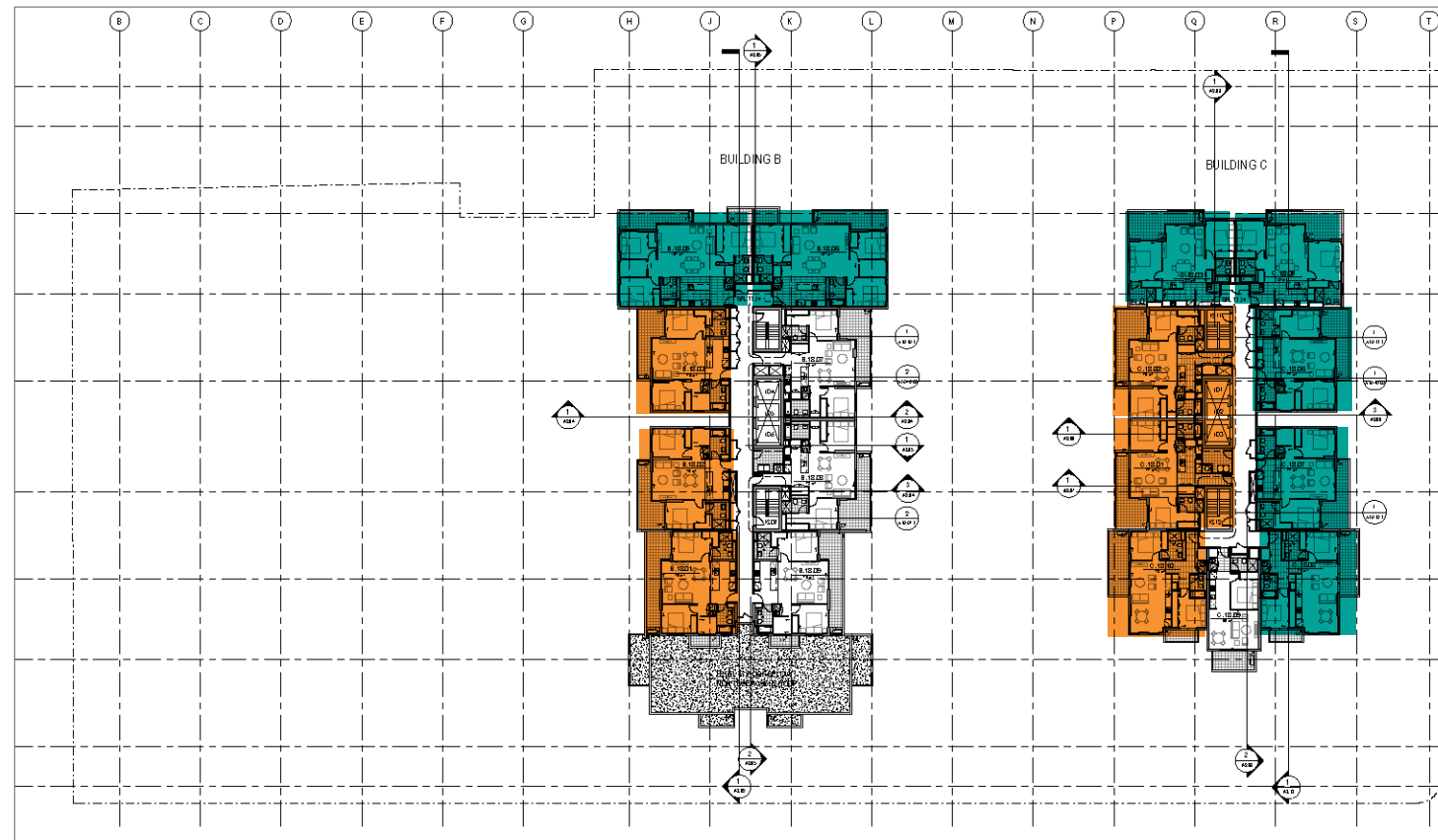


Level 17

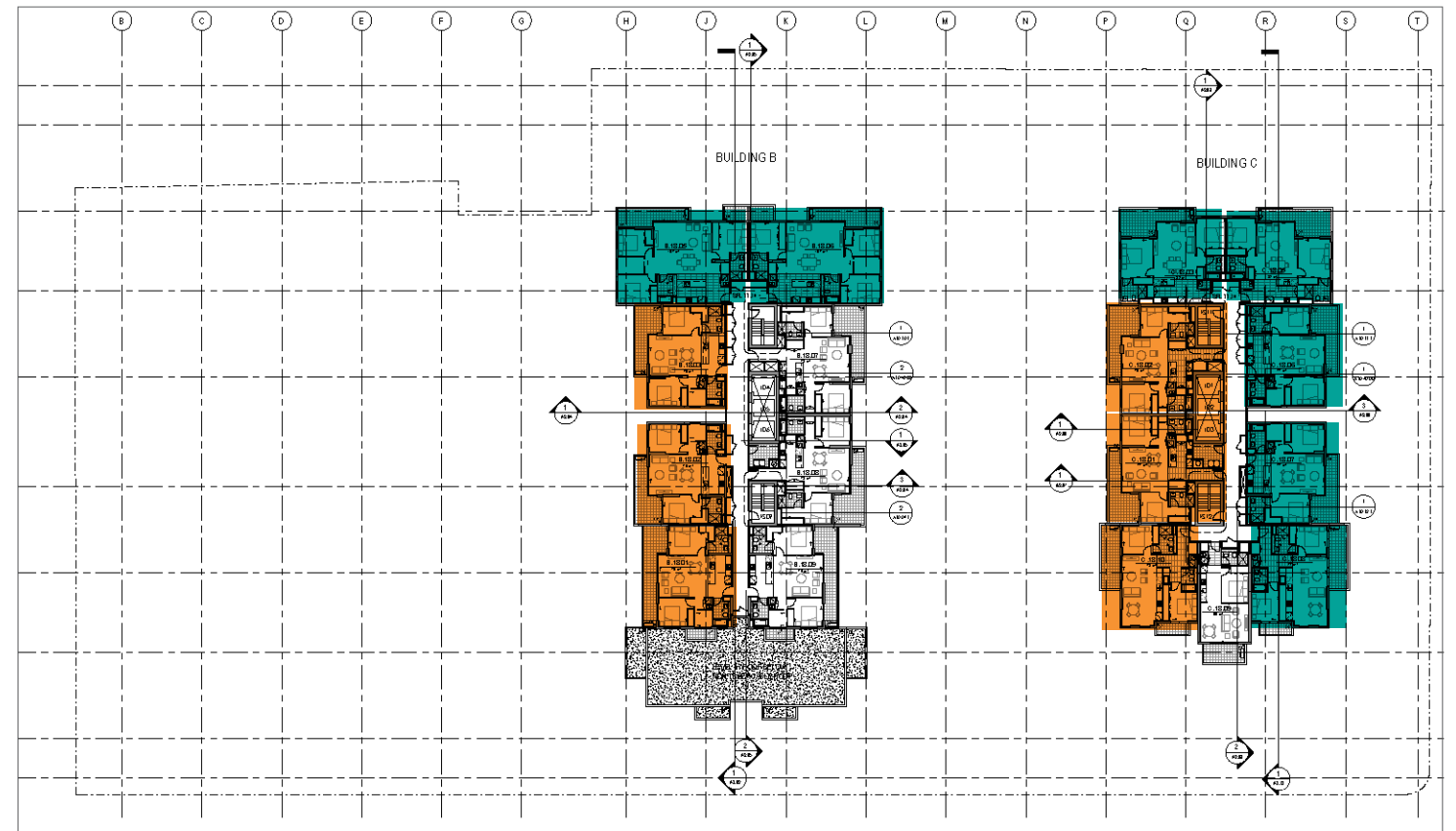


9am - 11am
12.30 - 2.30pm
11.35am - 1.35pm
12pm - 2pm

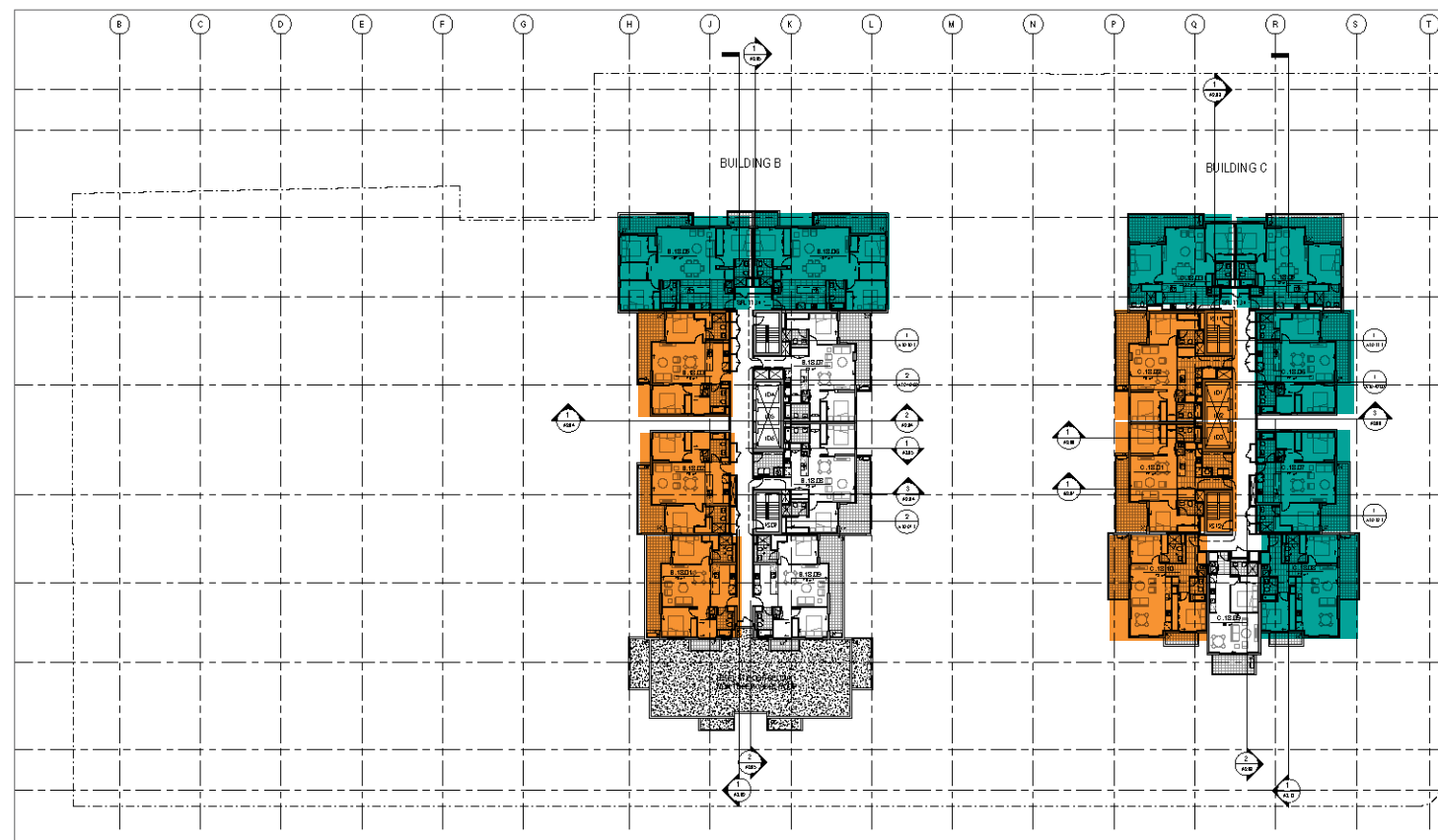
Level 18



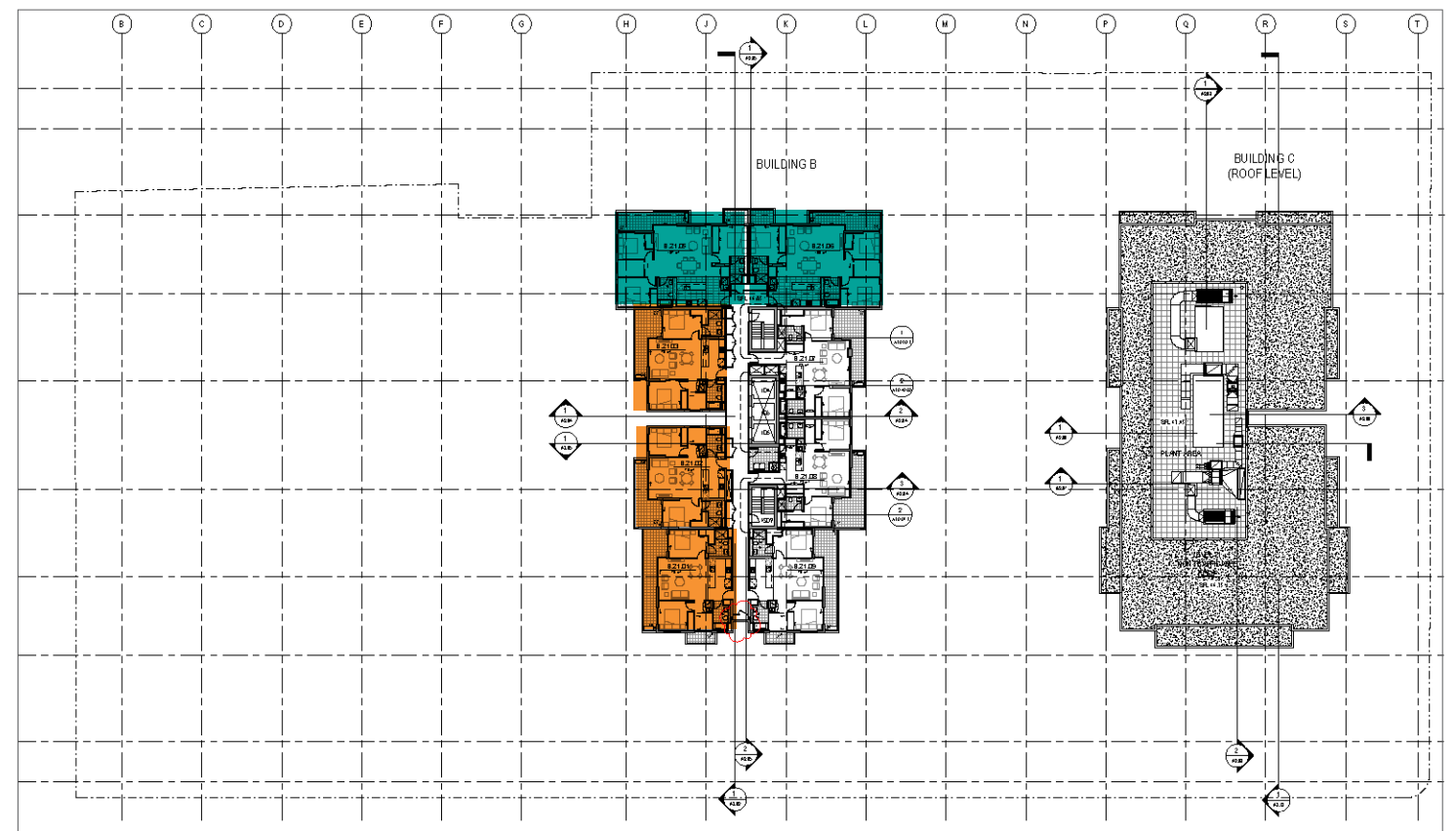
Level 19



Level 20

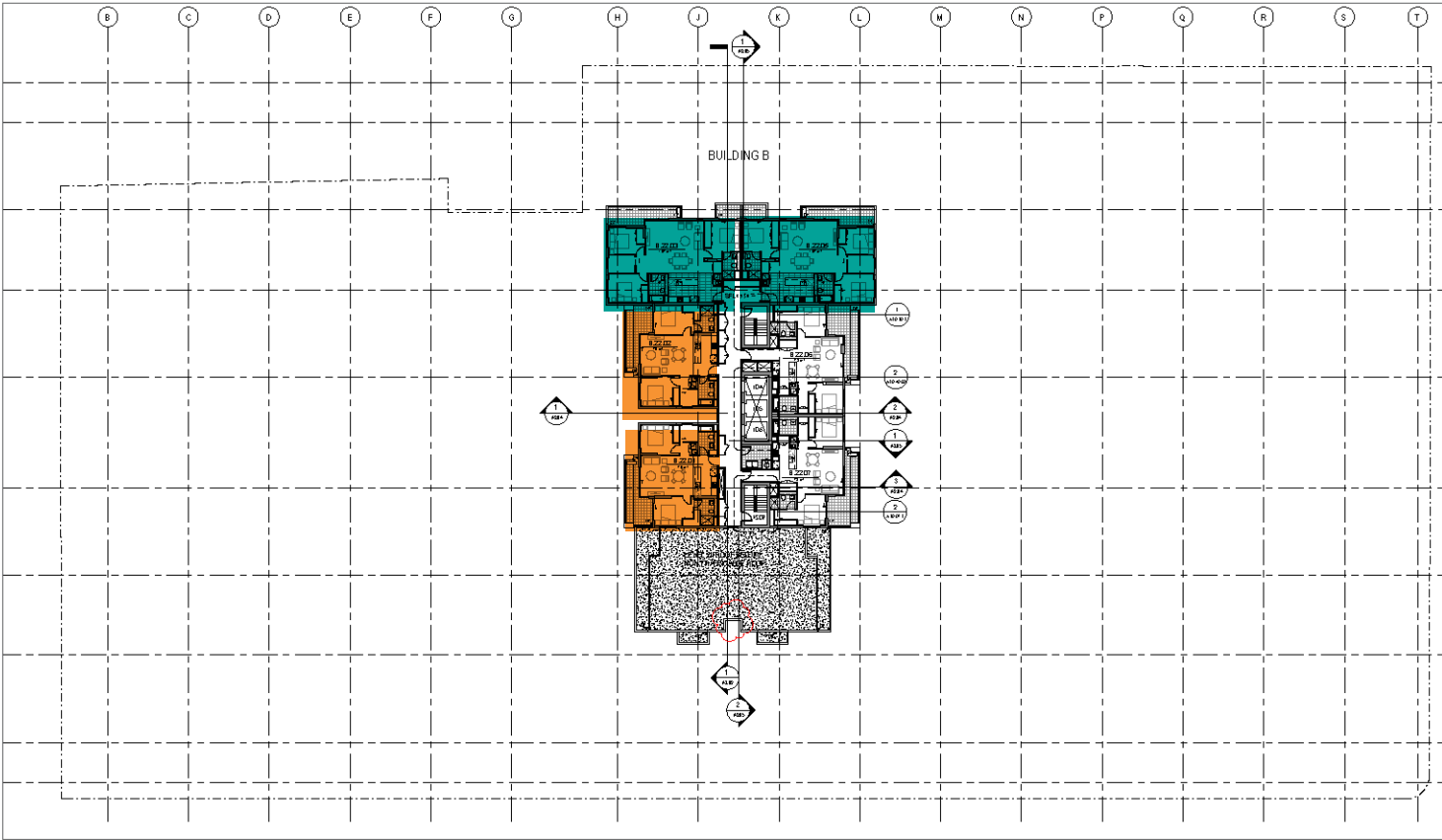


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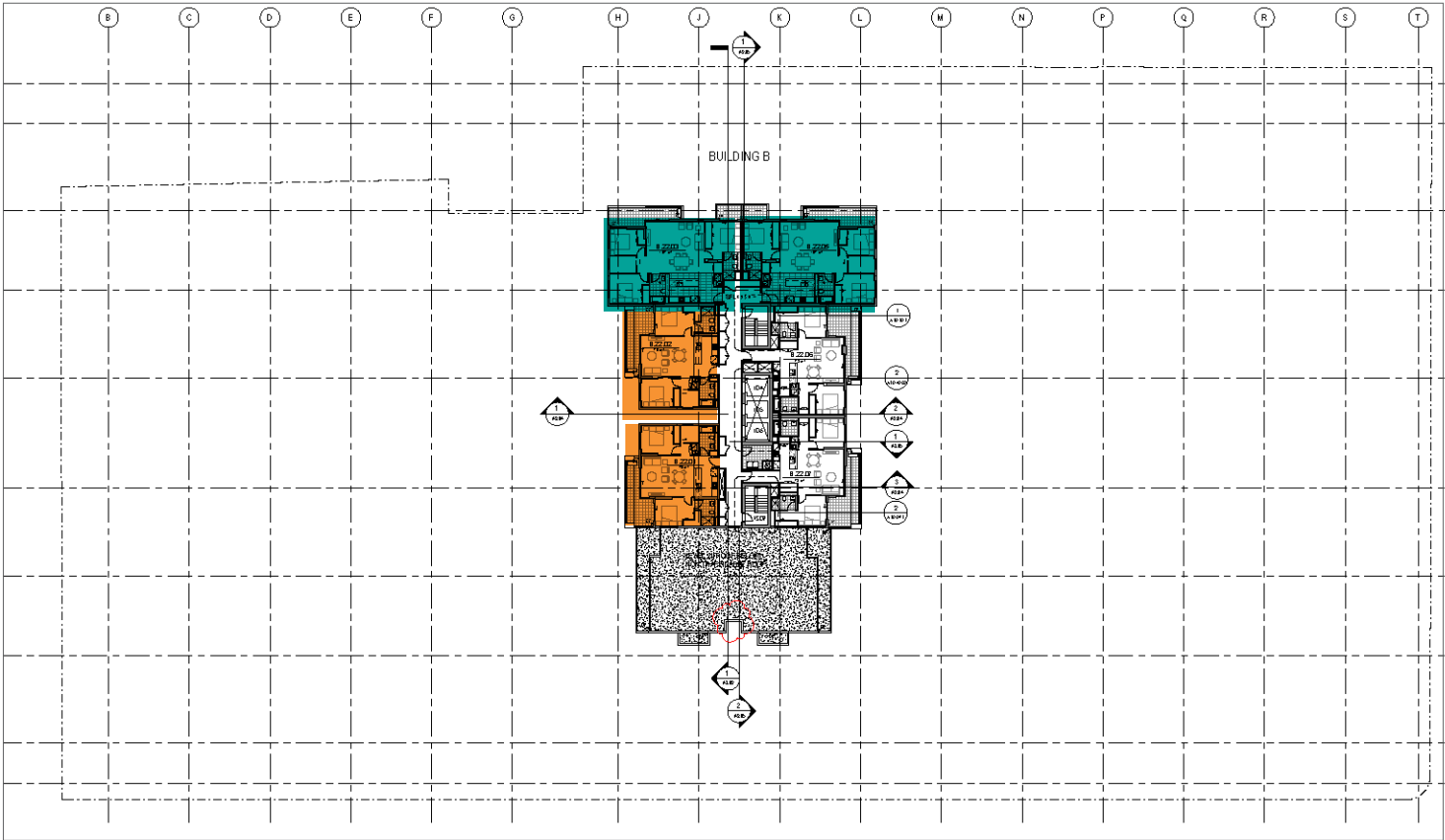


9am - 11am 12.30 - 2.30pm

Level 22



Level 23



9am - 11am 12.30 - 2.30pm



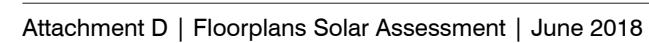
Level 6



Level 7



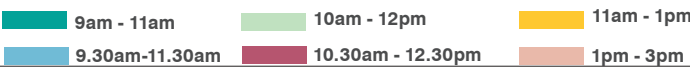
Level 9



Level 10



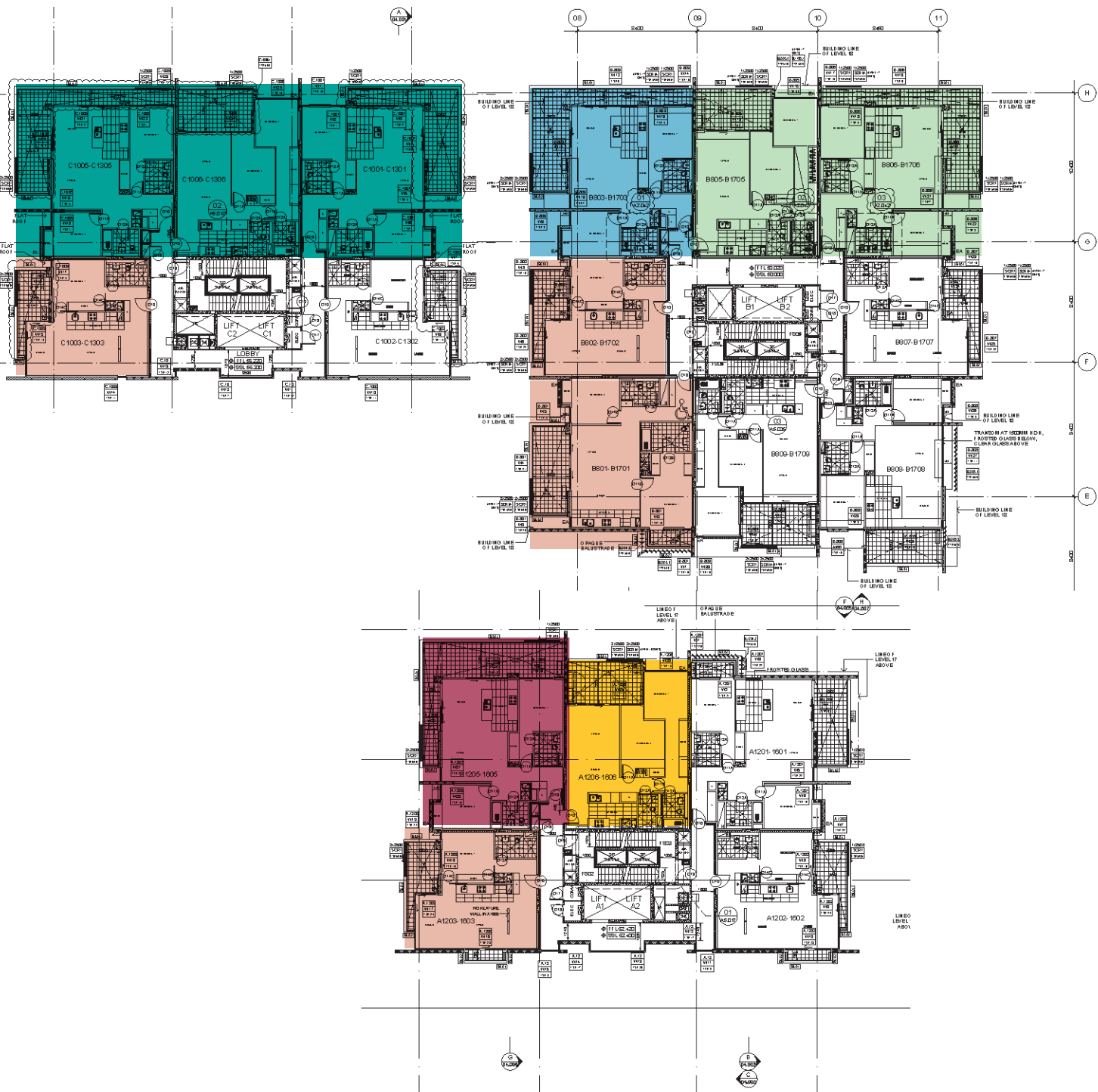
Level 11



Level 12



Level 13



Level 15



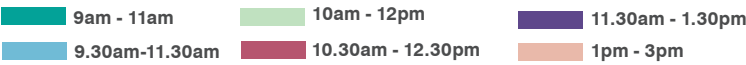
Level 16



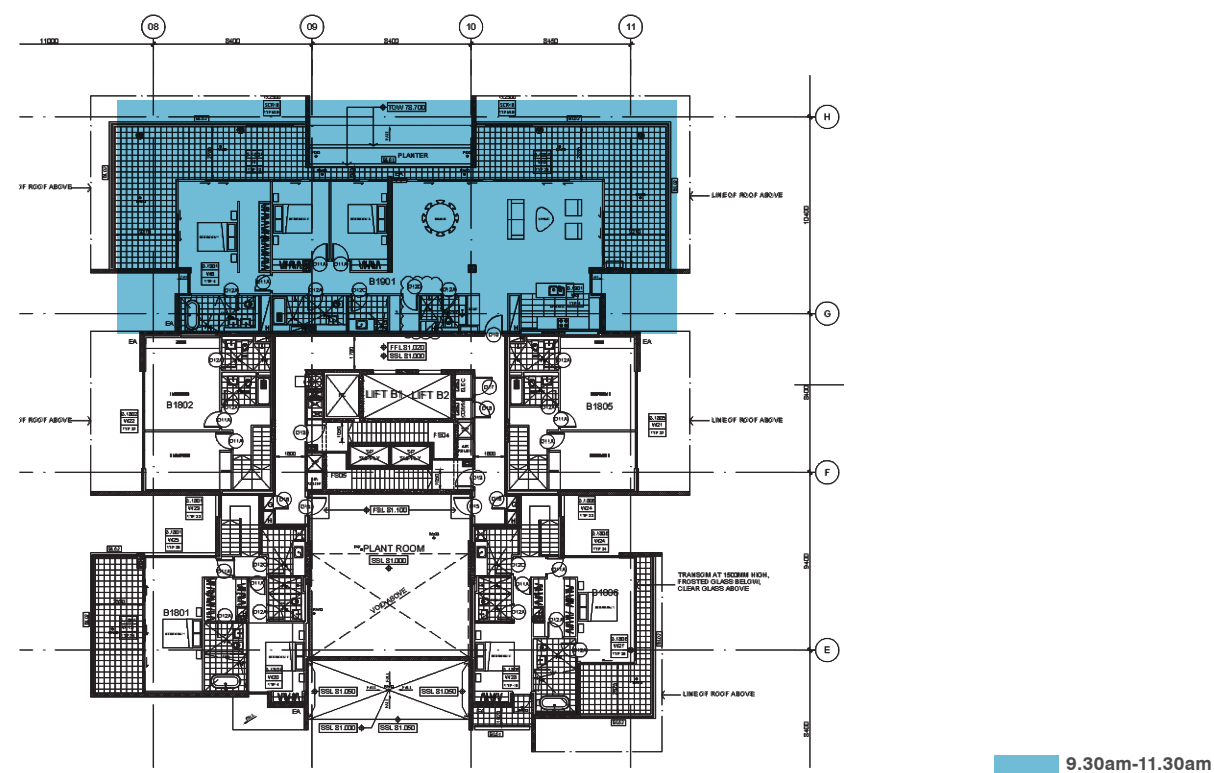
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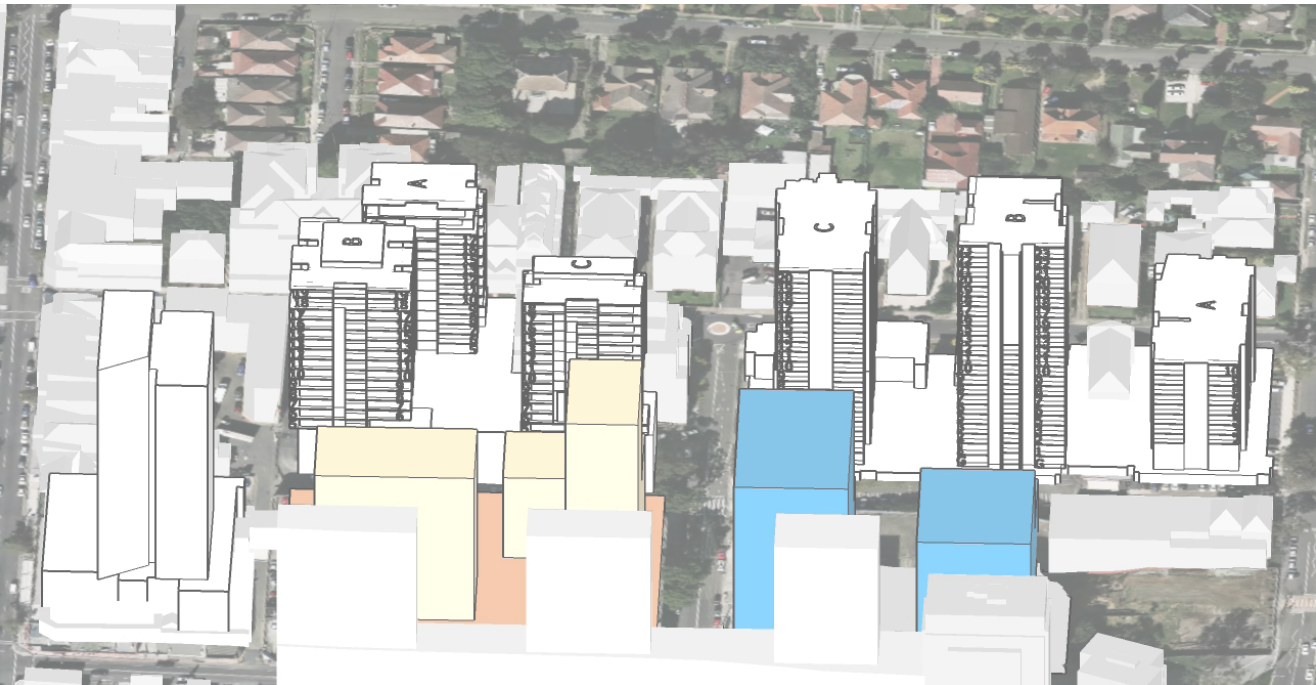
Level 18



Level 19



Scenario 3: Complying with no solar impact



Purpose of scenario

Scenario 3 tests the built form on the subject site in accordance to current planning controls and with Burwood Central DA. The built form testing identifies the maximum development on site with no additional solar impact to Emerald Square and Burwood Grand.

Key findings

The testing identified the maximum FSR and HOB on the Holdmark site without any further solar impact to Emerald Square and Burwood Grand developments as approved.

FSR:

- Site A (East) 4.53
- Site B (West) 4.55

HOB:

Site A (East)

- Podium- 7.6m
- Tower 1- 51.8m
- Tower 2- 69.6m

Site B (West)

- Tower 1- 2.2m
- Tower 2- 36m

Solar access:

Emerald Square

- Achieves 66% solar access

Burwood Grand

- Achieves 74% solar access

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	364	491
Emerald Square	138	210
	502	701
		72%

Solar testing summary

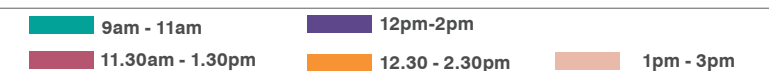
Scenario 3: Complying with no solar impact

Burwood Grand

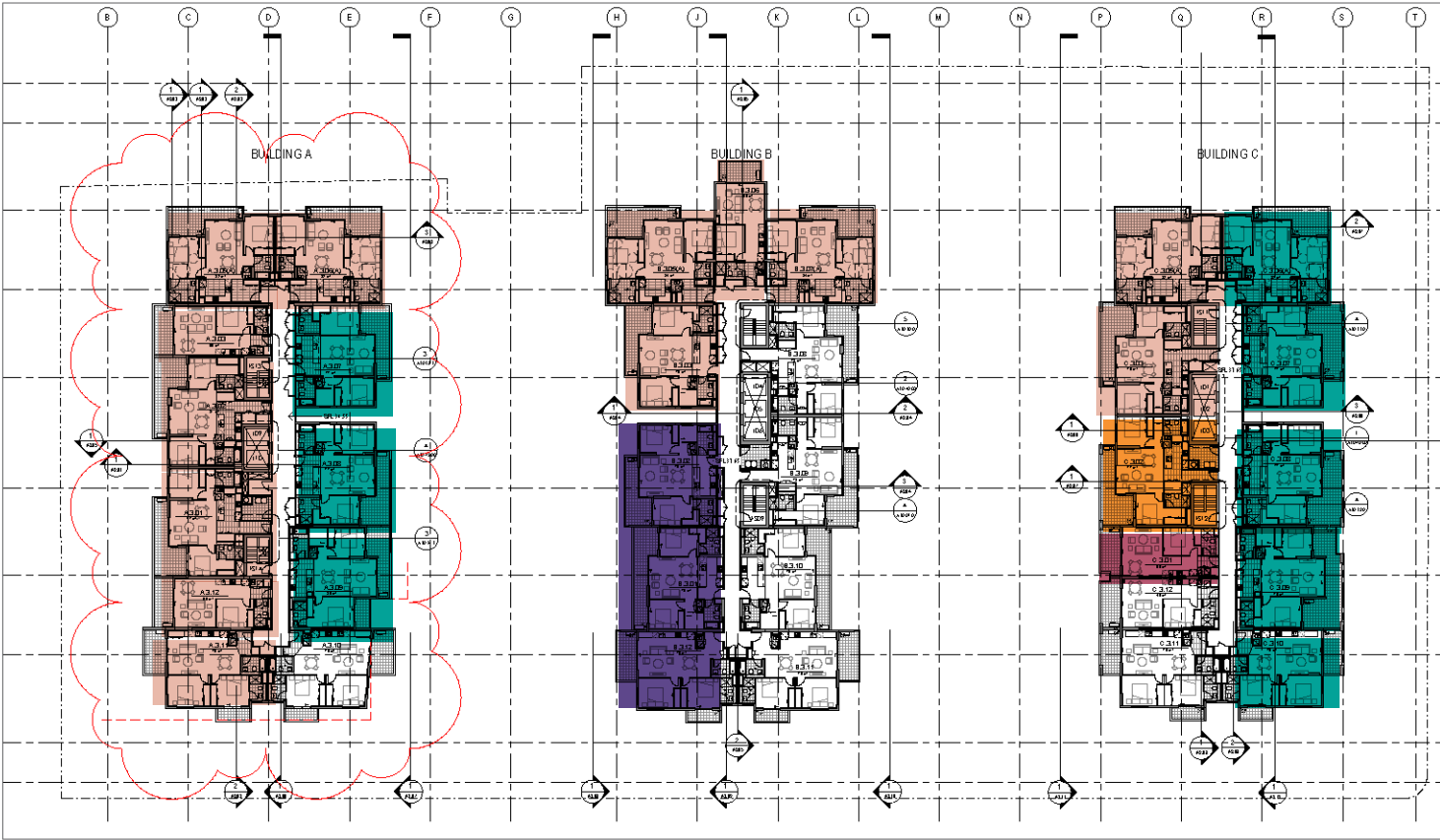
Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Total
A	>2 hours sun		Office space	10	10	10	10	10	10	10	10													80
	Total apartments			11	11	11	11	11	11	11	11													88
				91%	91%	91%	91%	91%	91%	91%	91%													
B	>2 hours sun	4	5	5	5	7	7	7	7	7	7	7	7	7	6	6	5	5	5	5	5	4	4	129
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	8	6	6	218
		44%	38%	45%	45%	64%	64%	64%	64%	64%	64%	64%	64%	64%	60%	60%	63%	63%	63%	63%	63%	67%	67%	
C	>2 hours sun	7	7	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8				155
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9	9				185
		88%	50%	82%	82%	82%	82%	82%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%				
Total >2hrs of sun																							364	74%
Total apartments																							491	

Emerald Square

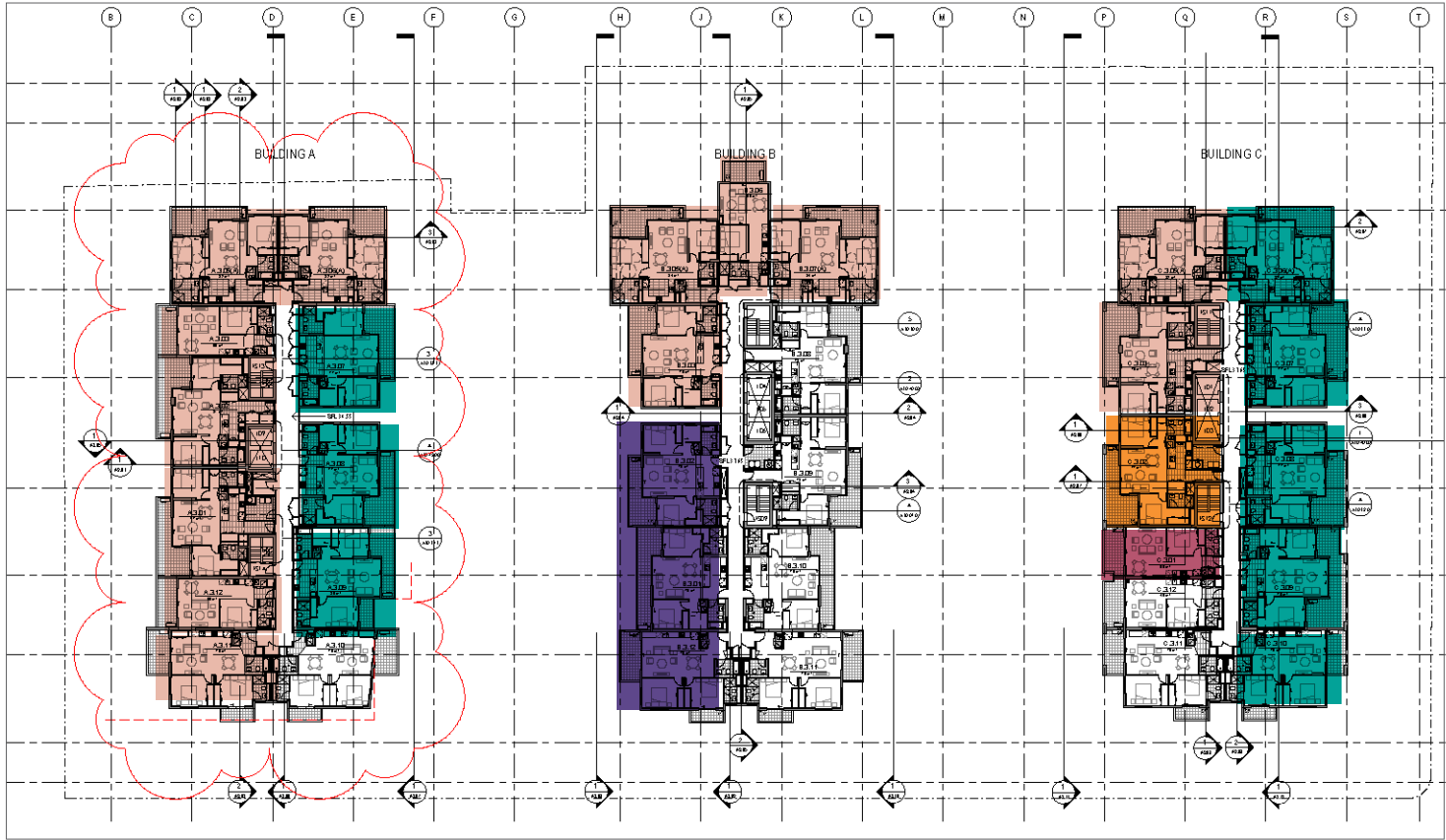
		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total
A	>2 hours sun	Non-residential podium			2	2	2	2	2	2	3	3	3	3	4	4	1		33	
	Total apartments		4	4	5	5	5	5	5	5	5	5	5	5	5	4	1	58		
			50%	50%	40%	40%	40%	60%	60%	60%	60%	60%	60%	80%	100%	100%				
B	>2 hours sun	Non-residential podium			2	4	5	5	5	5	5	5	5	5	5	5	3	1	60	
	Total apartments		5	7	8	8	8	8	8	8	8	8	8	8	8	6	1	99		
			40%	57%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	50%	100%			
C	>2 hours sun	Non-residential podium			3	3	3	3	4	4	4	4	4	4	4	3	2		45	
	Total apartments		3	3	3	3	5	5	5	5	5	5	5	5	4	2		53		
			100%	100%	100%	100%	80%	80%	80%	80%	80%	80%	80%	80%	75%	100%				
Total >2hrs of sun																		138	66%	
Total apartments																		210		



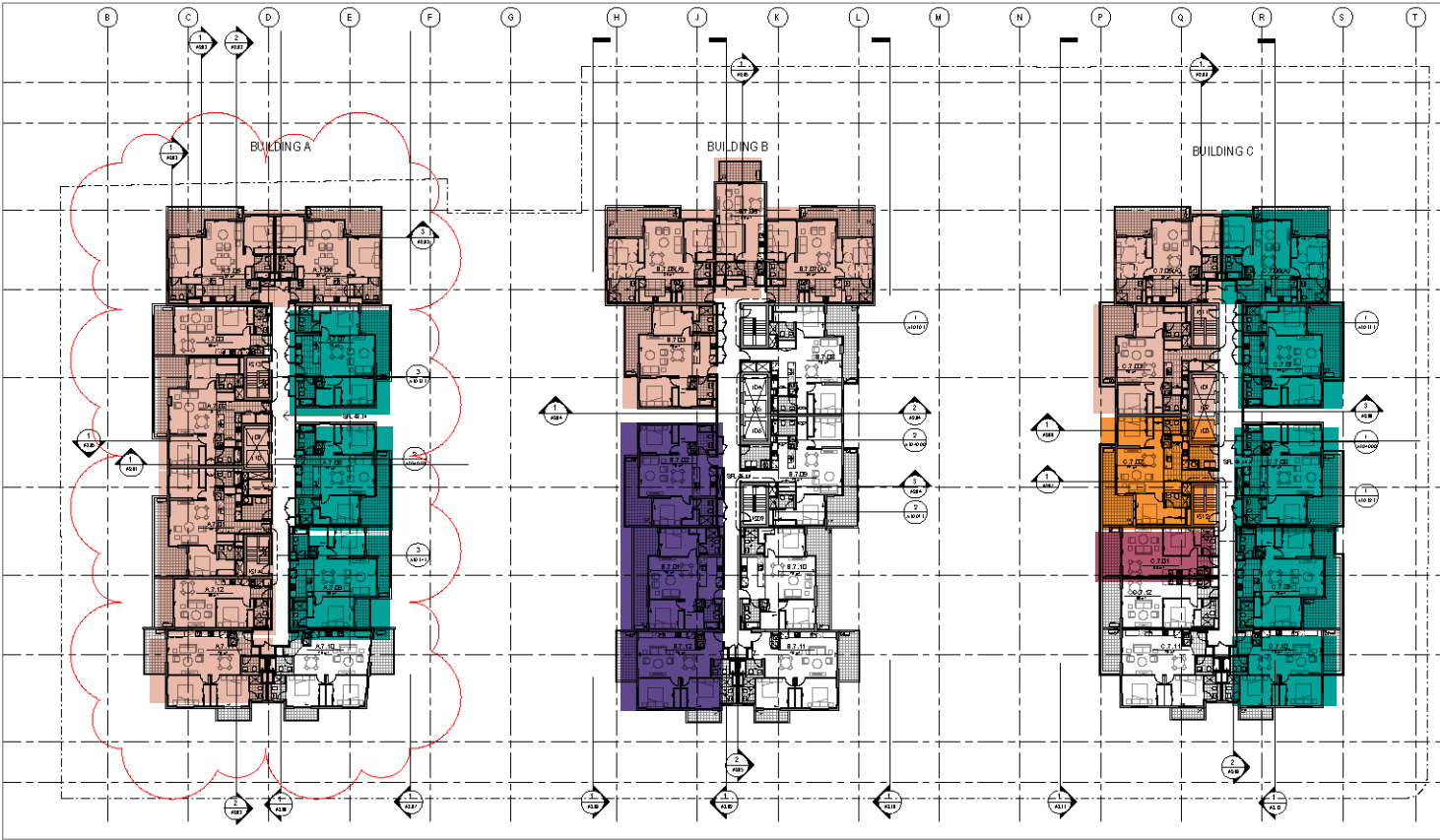
Level 5



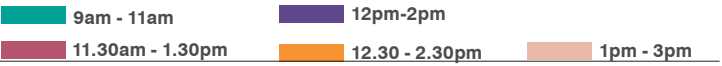
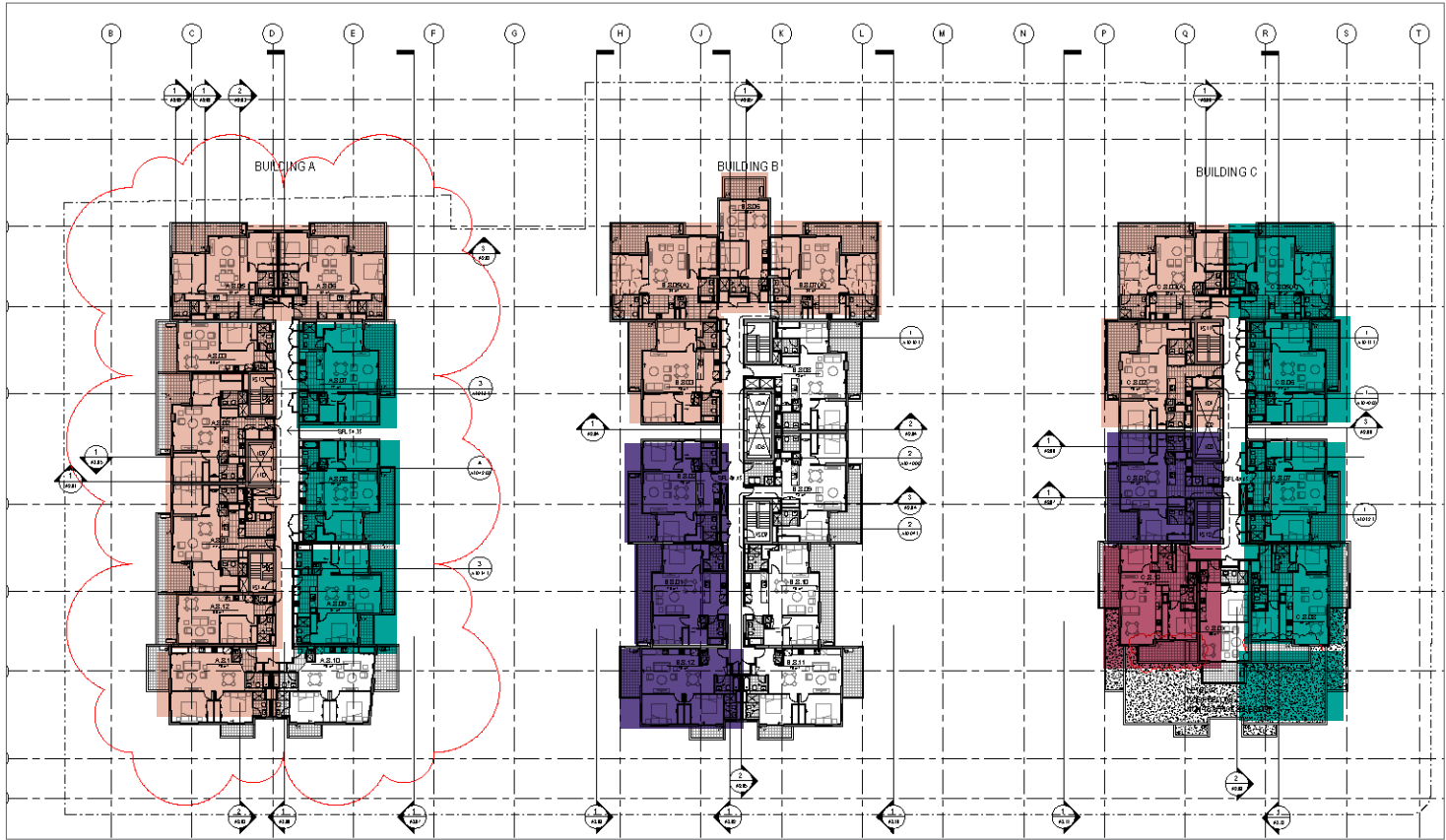
Level 6



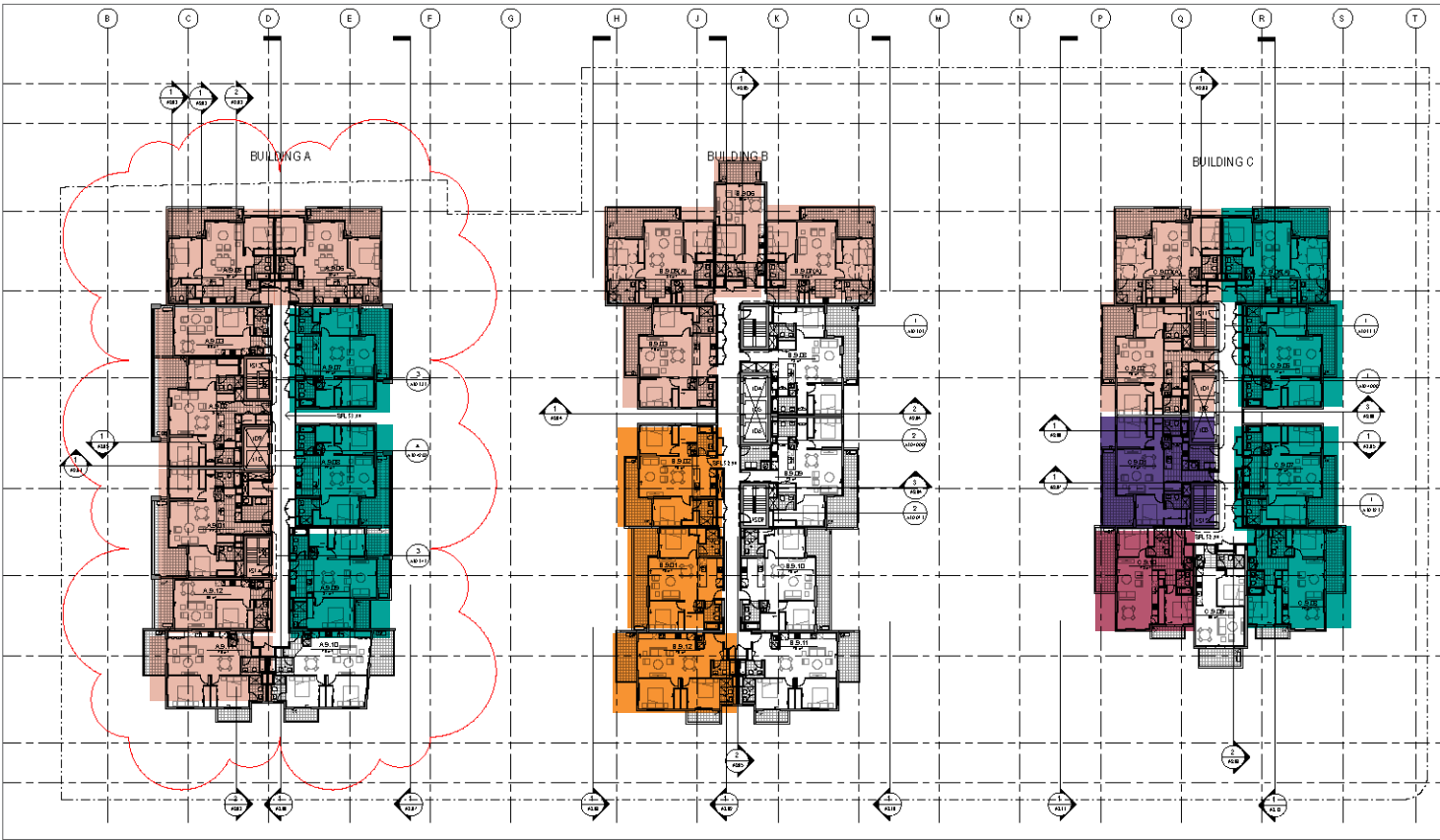
Level 7



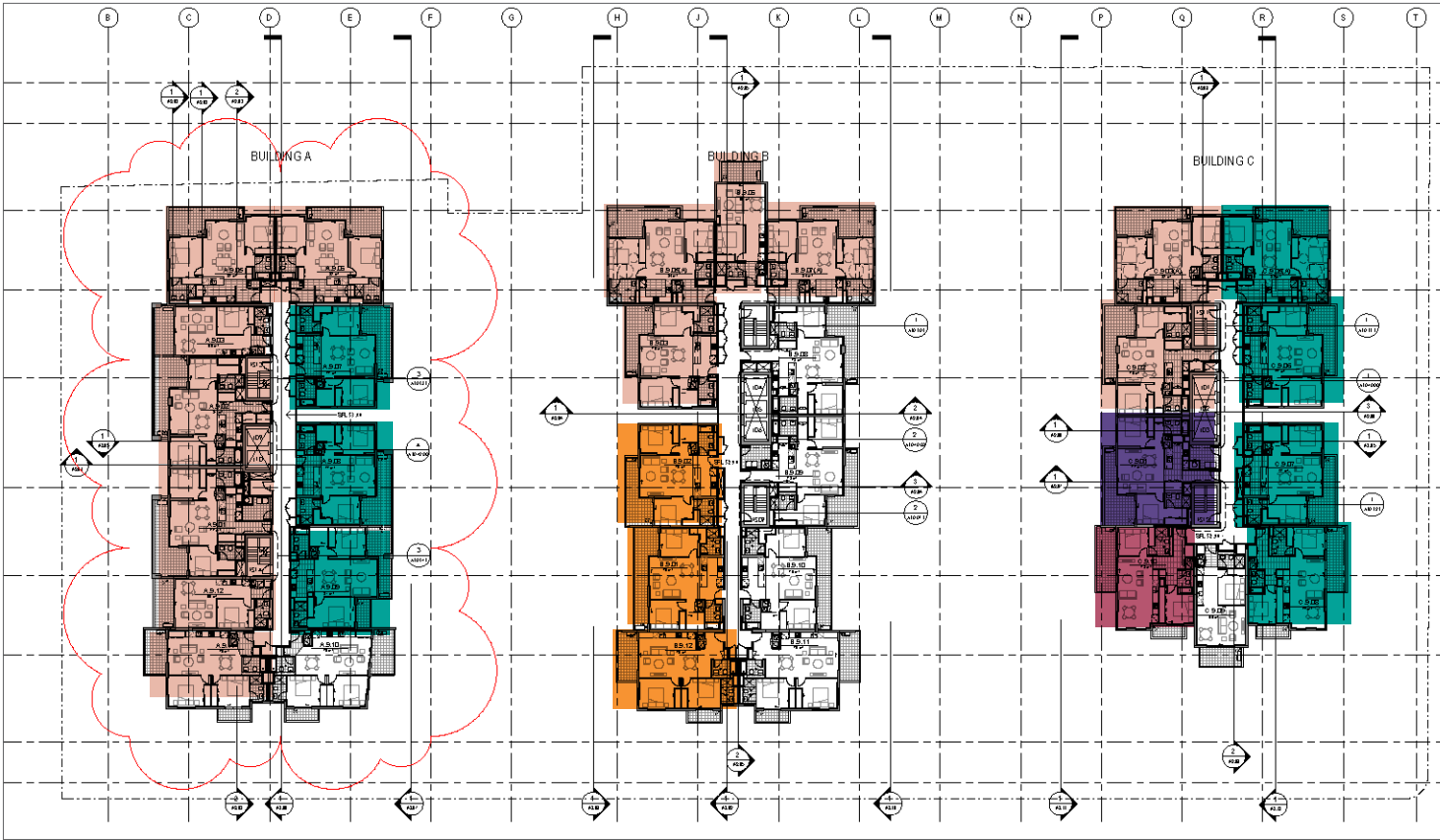
Level 8



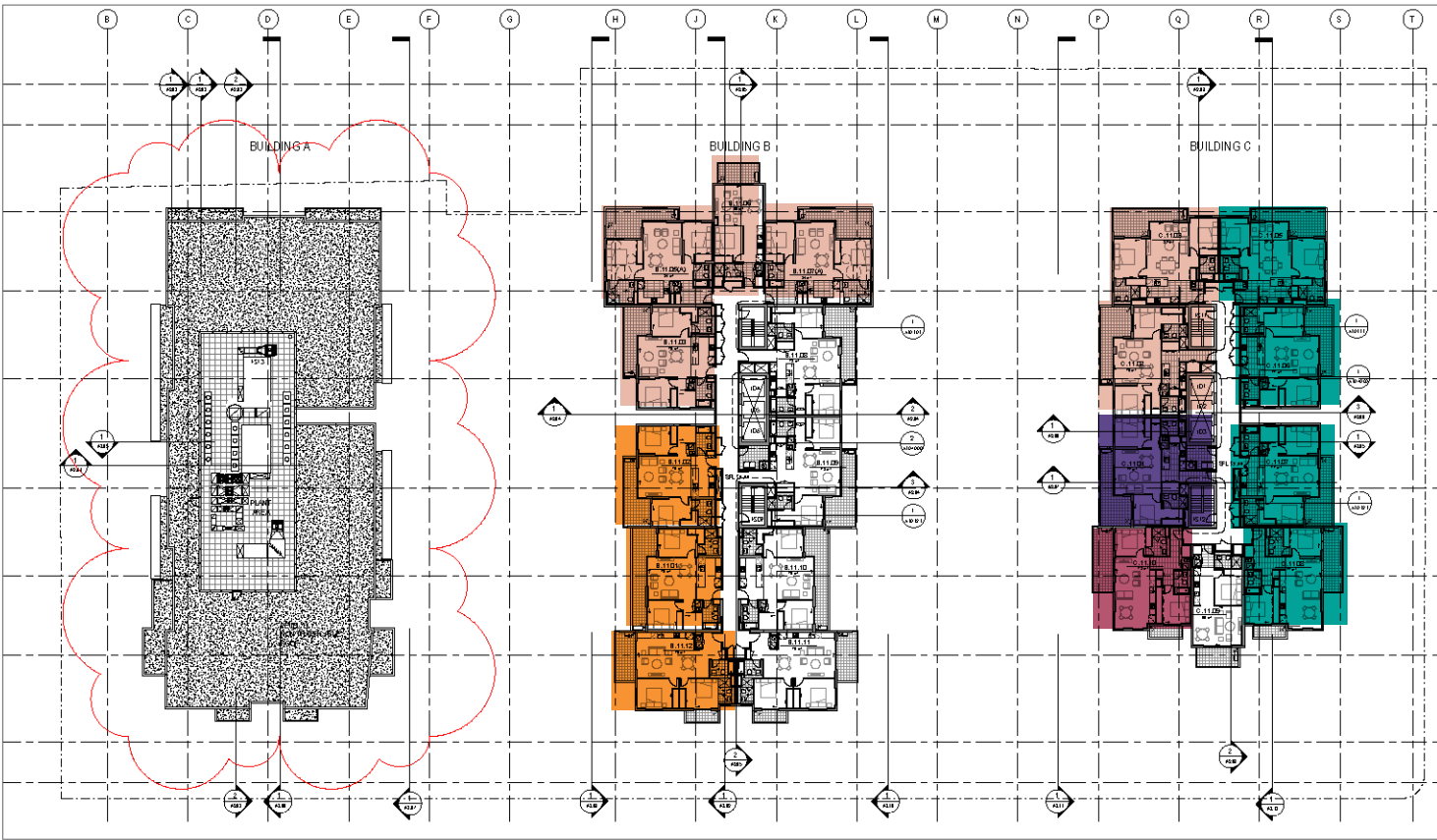
Level 9



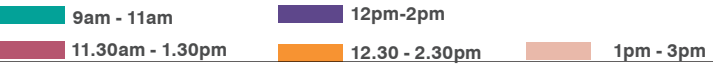
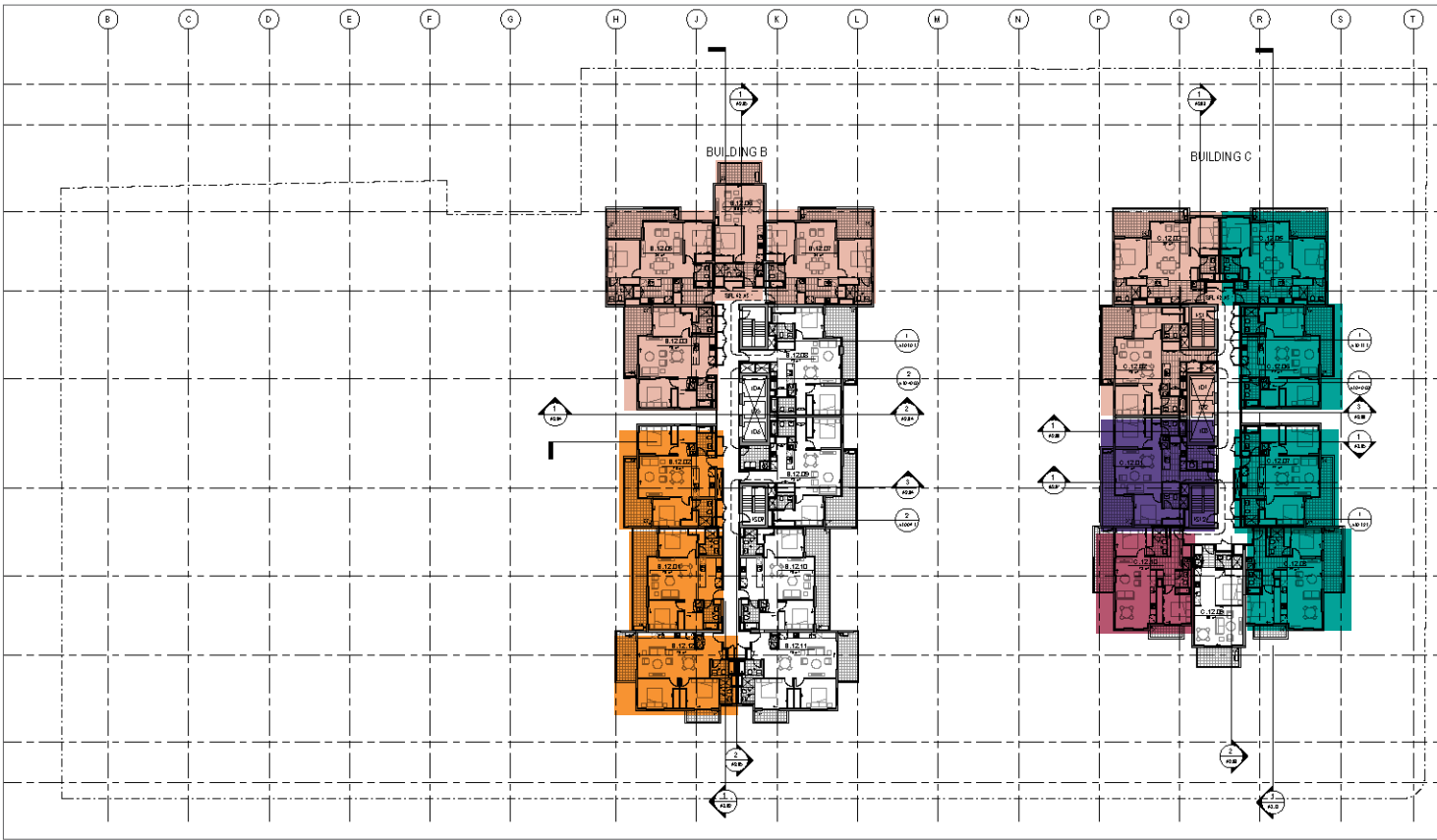
Level 10



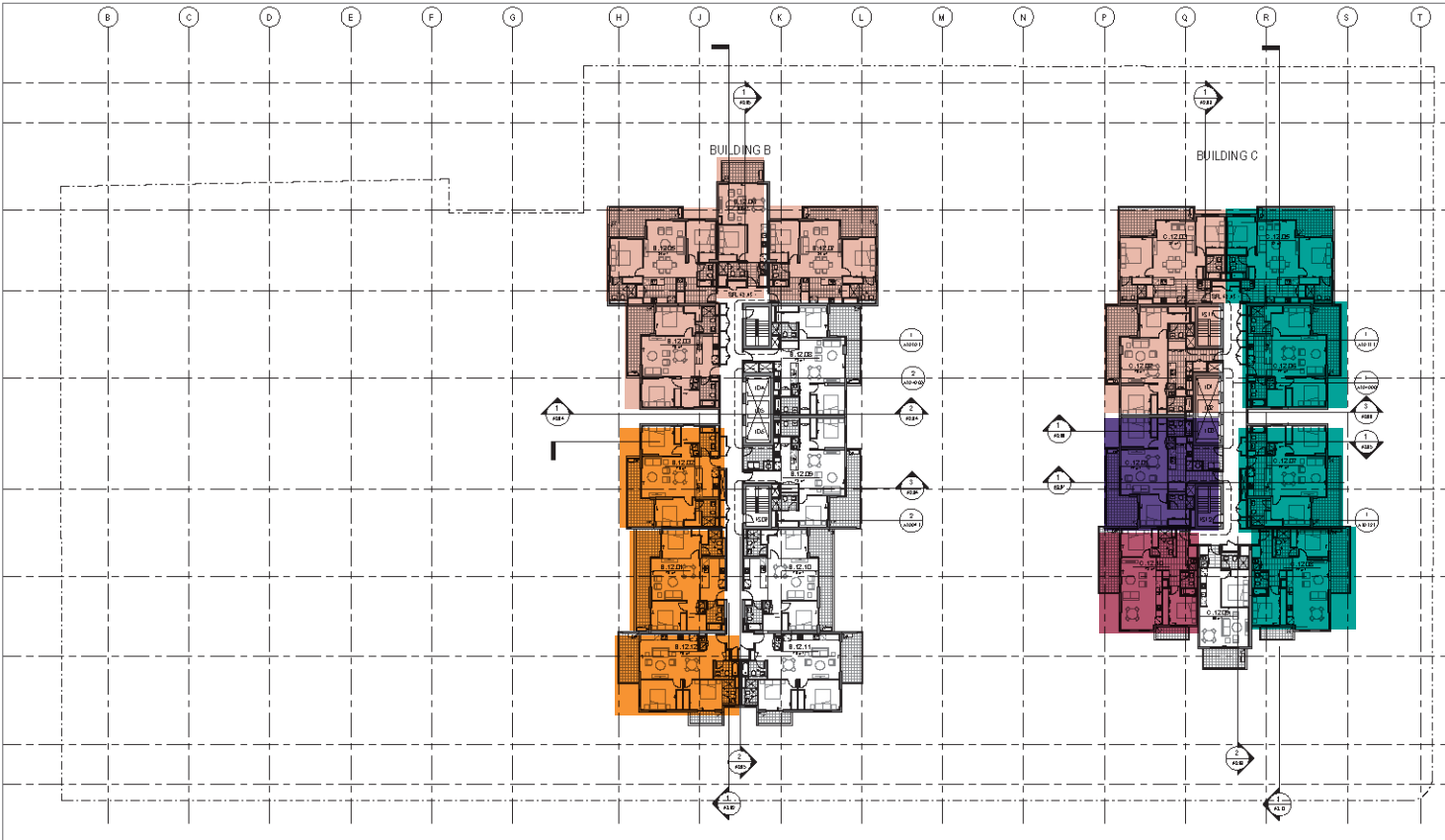
Level 11



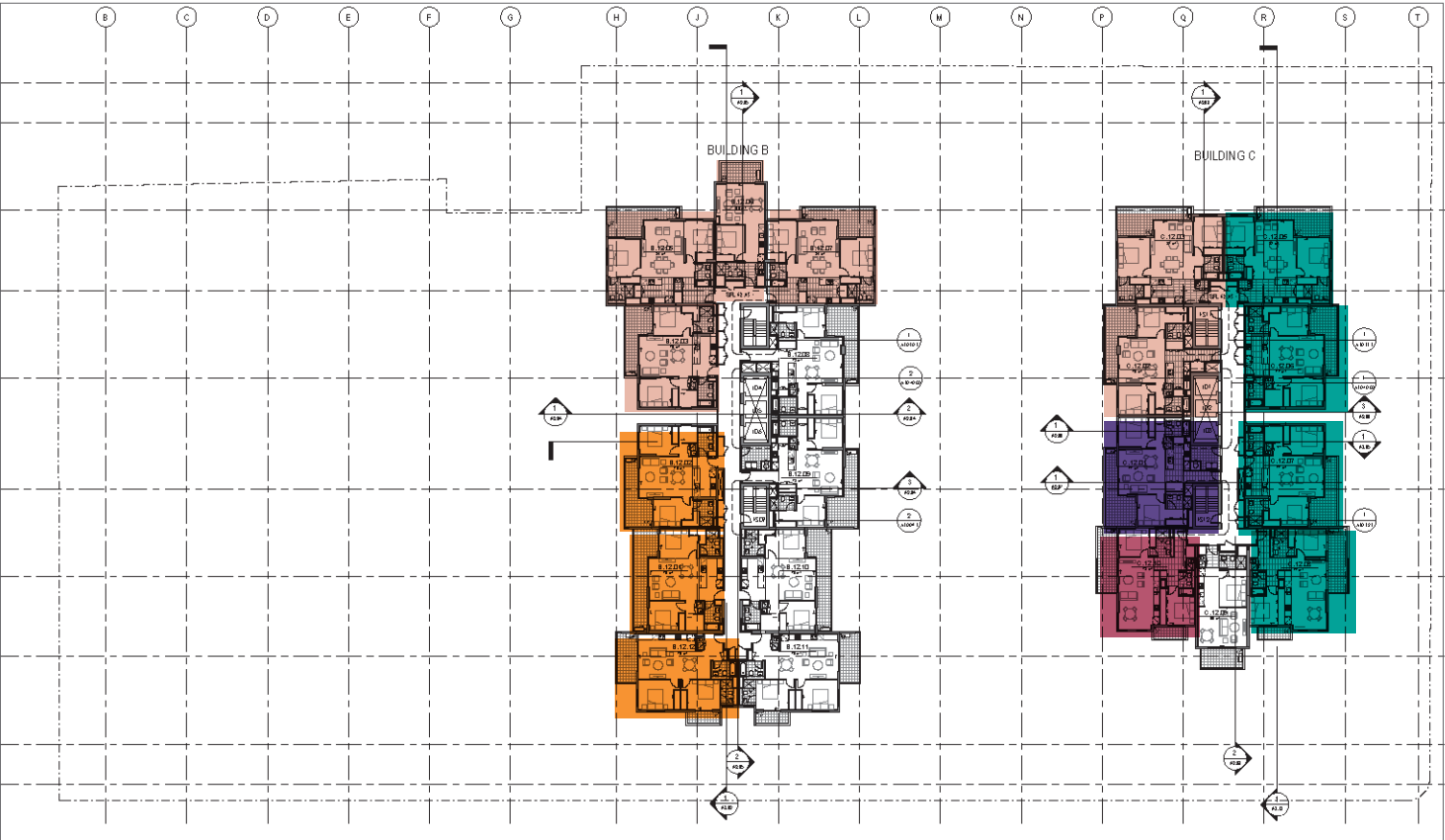
Level 12



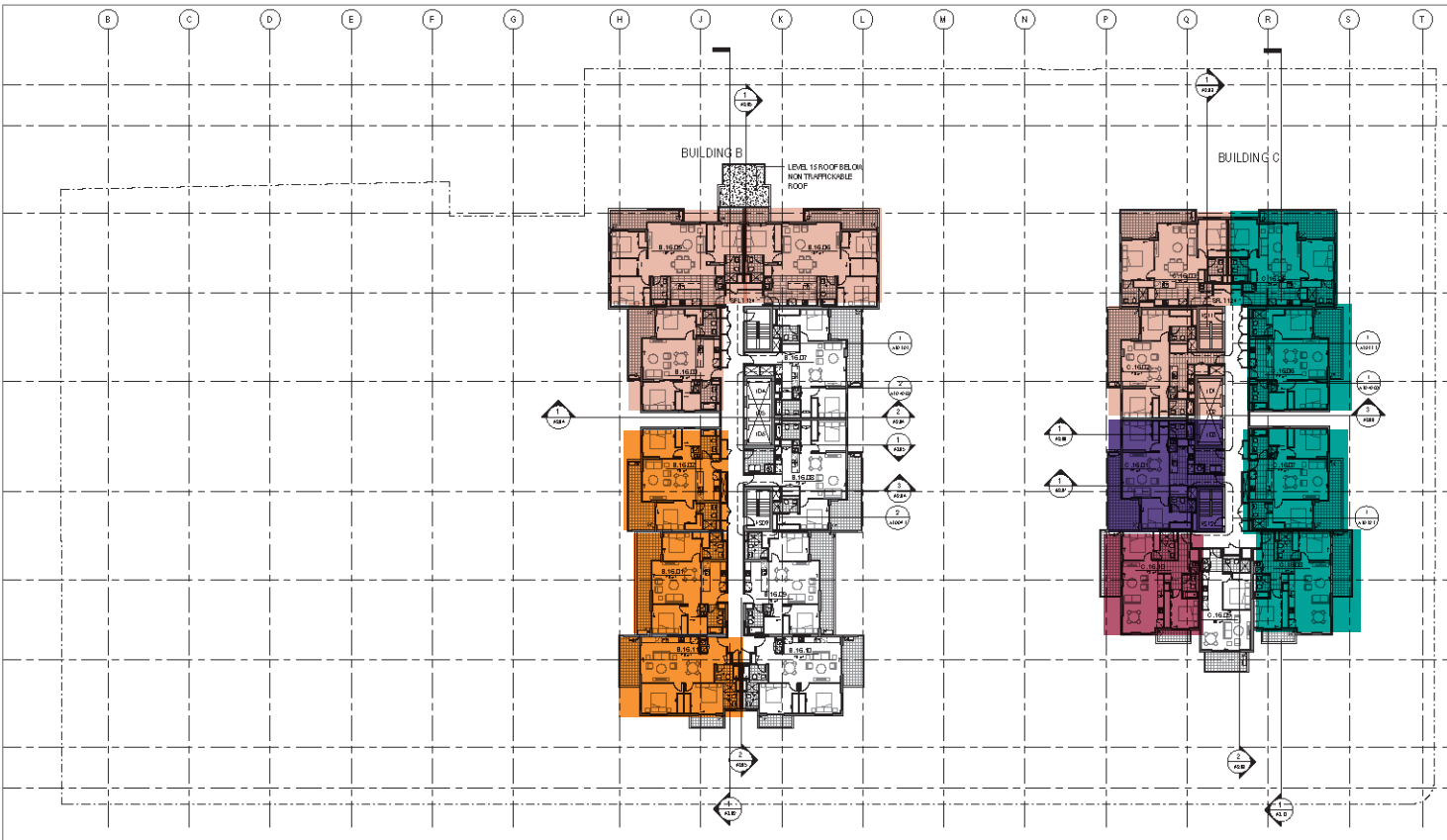
Level 13



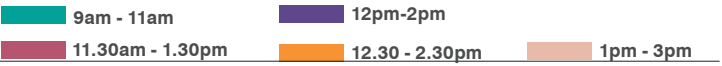
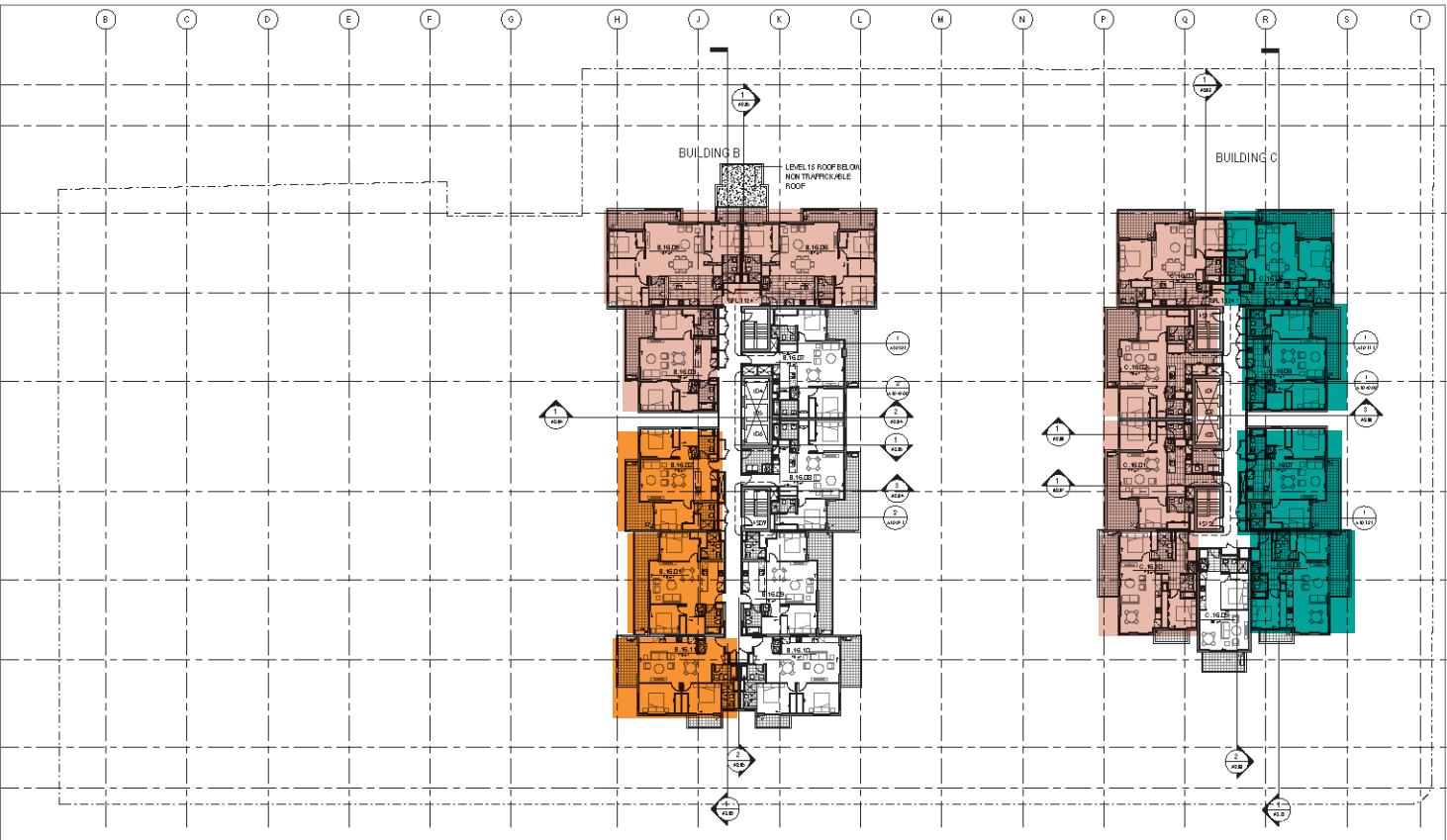
Level 15



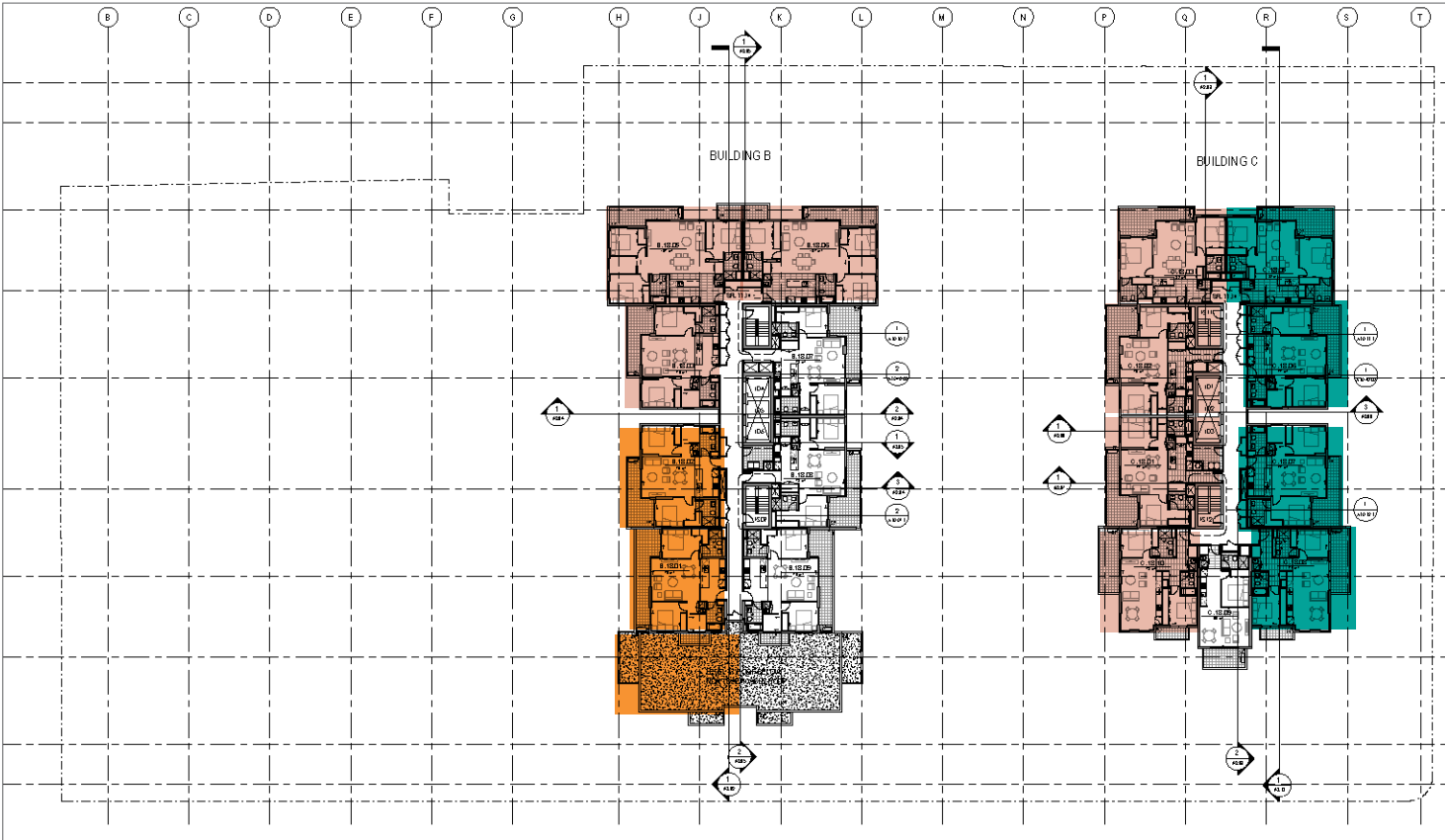
Level 16



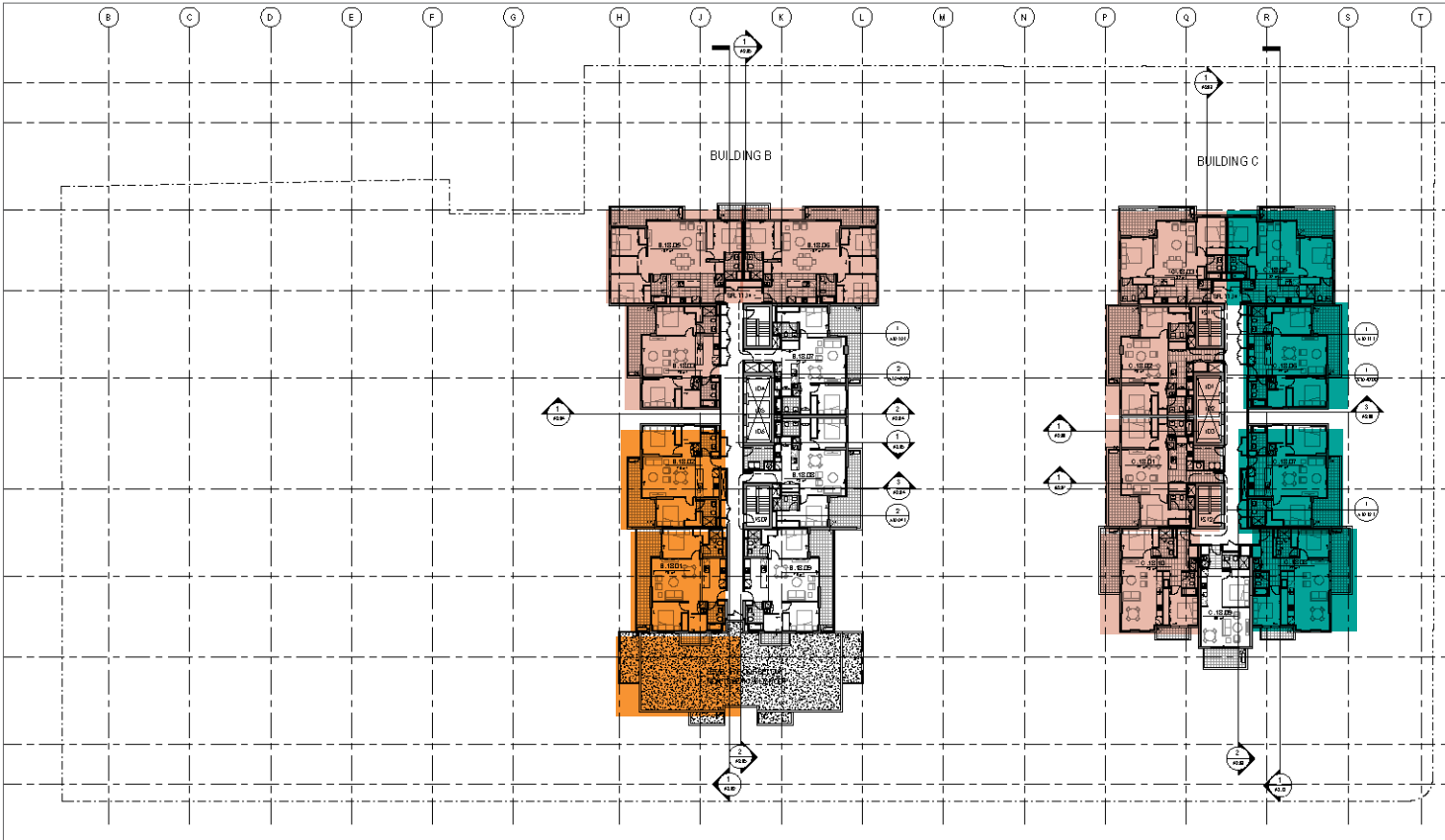
Level 17



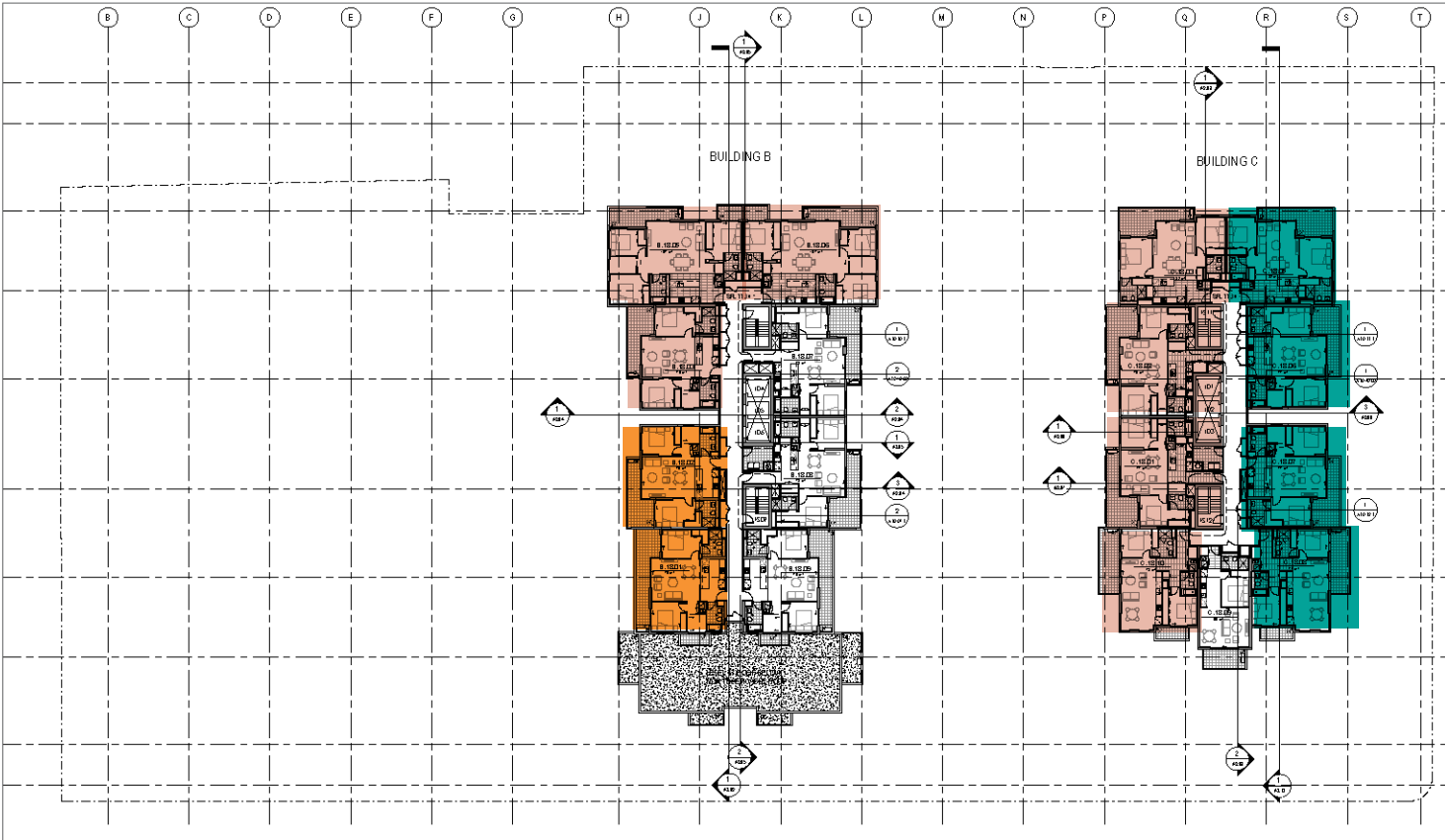
Level 18



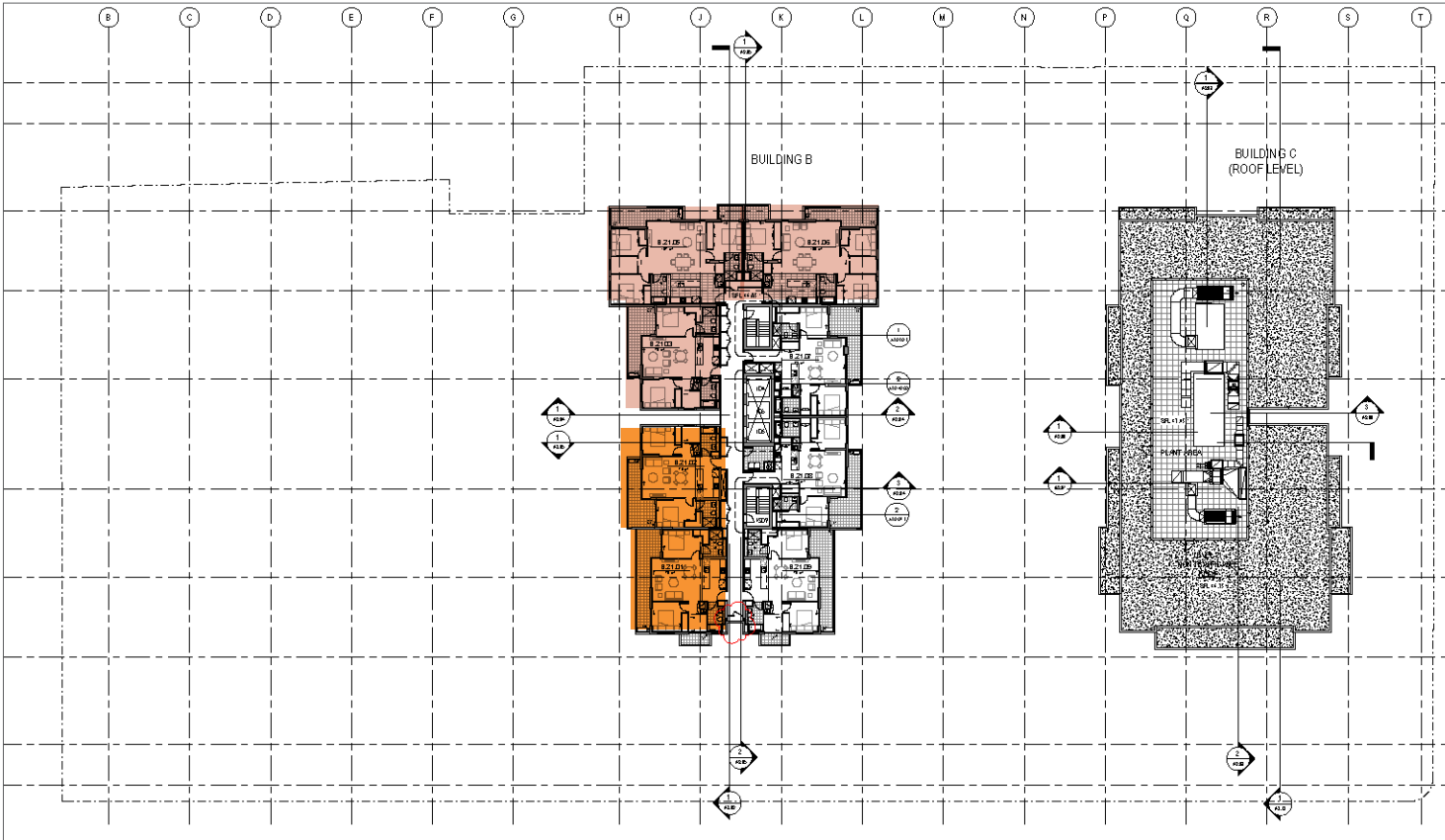
Level 19



Level 20

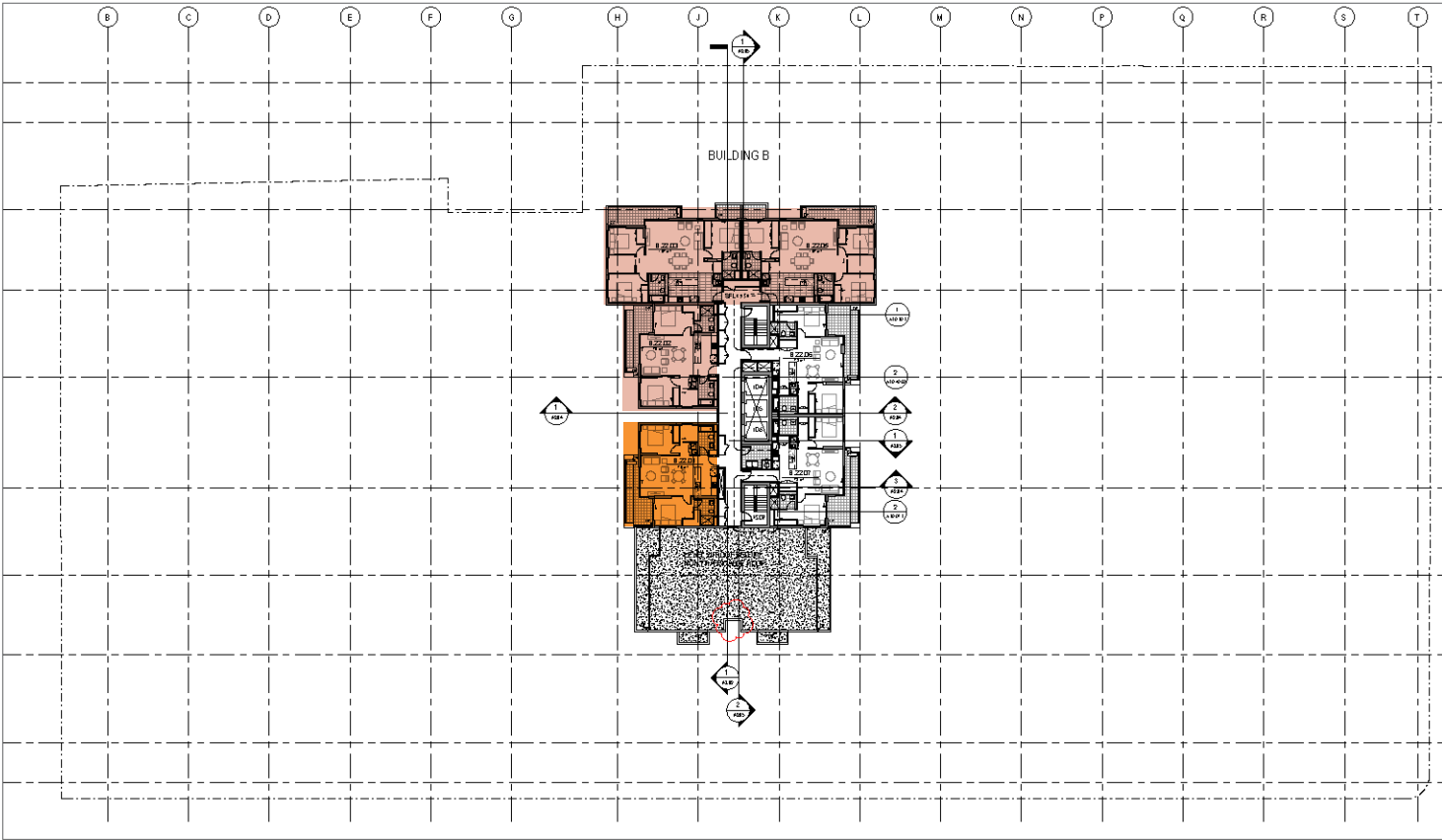


Level 21

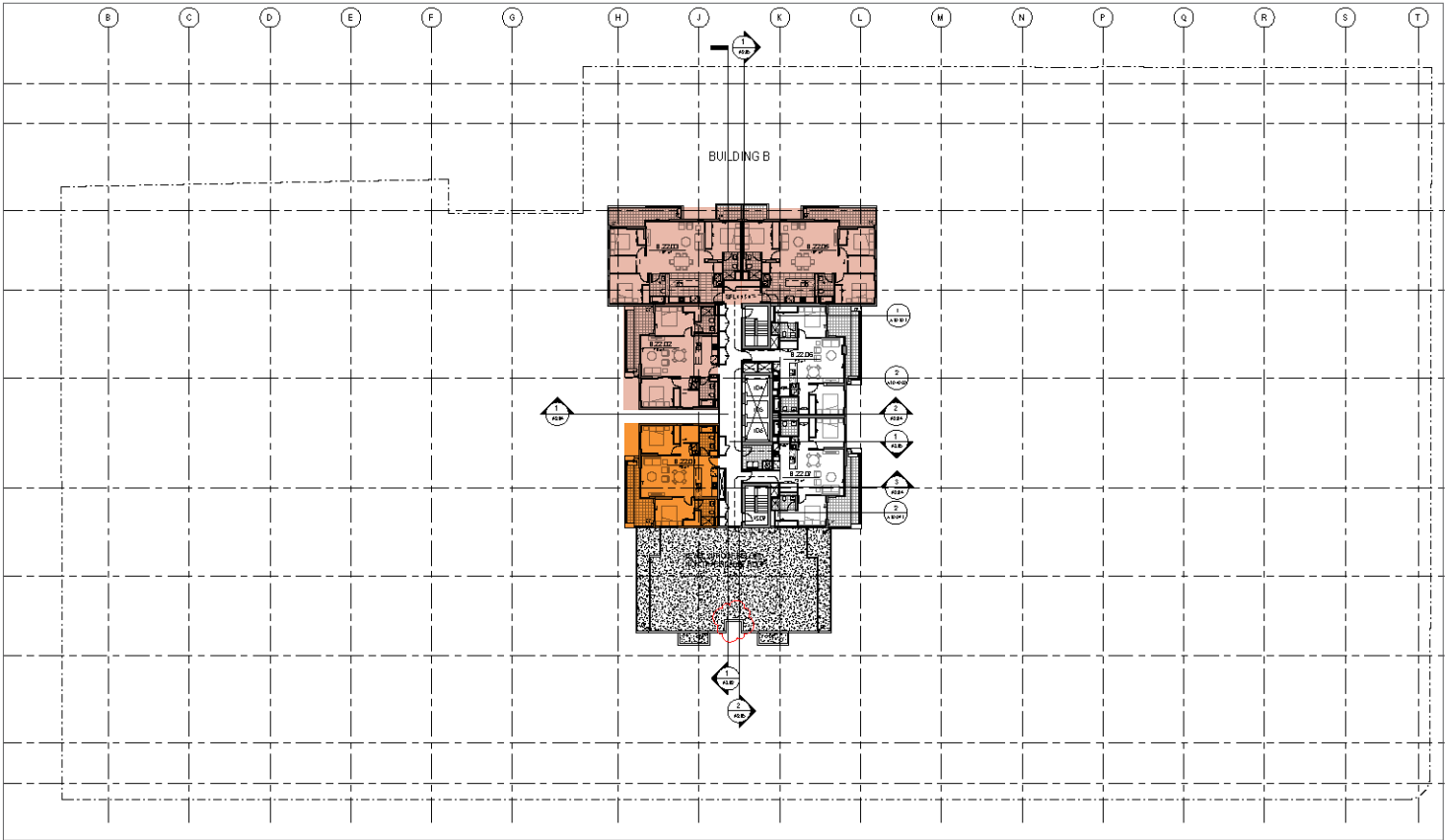


9am - 11am 12.30 - 2.30pm 1pm - 3pm

Level 22



Level 23



12.30 - 2.30pm 1pm - 3pm



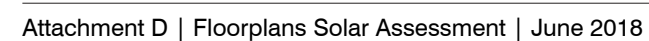
Level 6



Level 7



Level 9



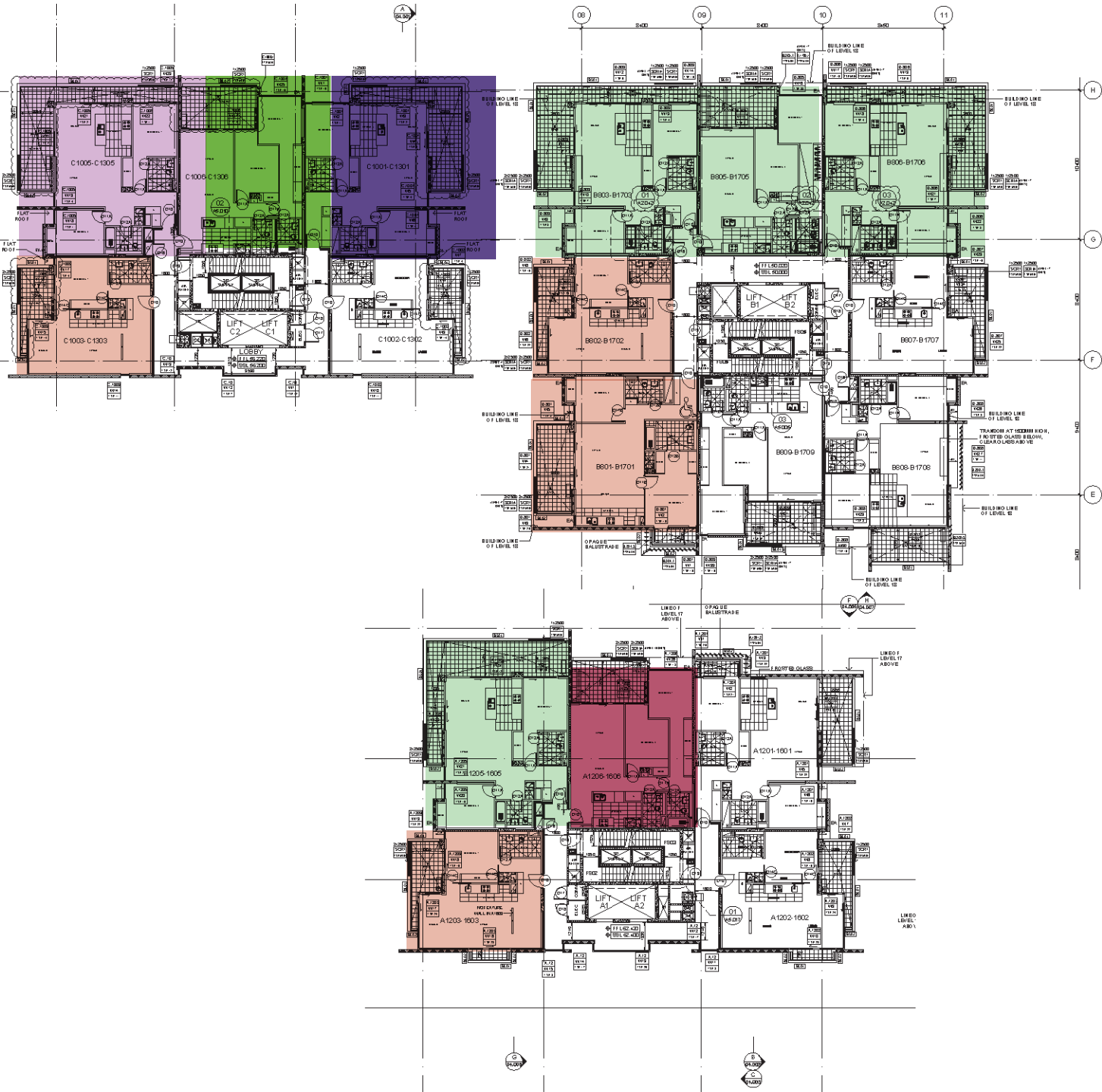
Level 10



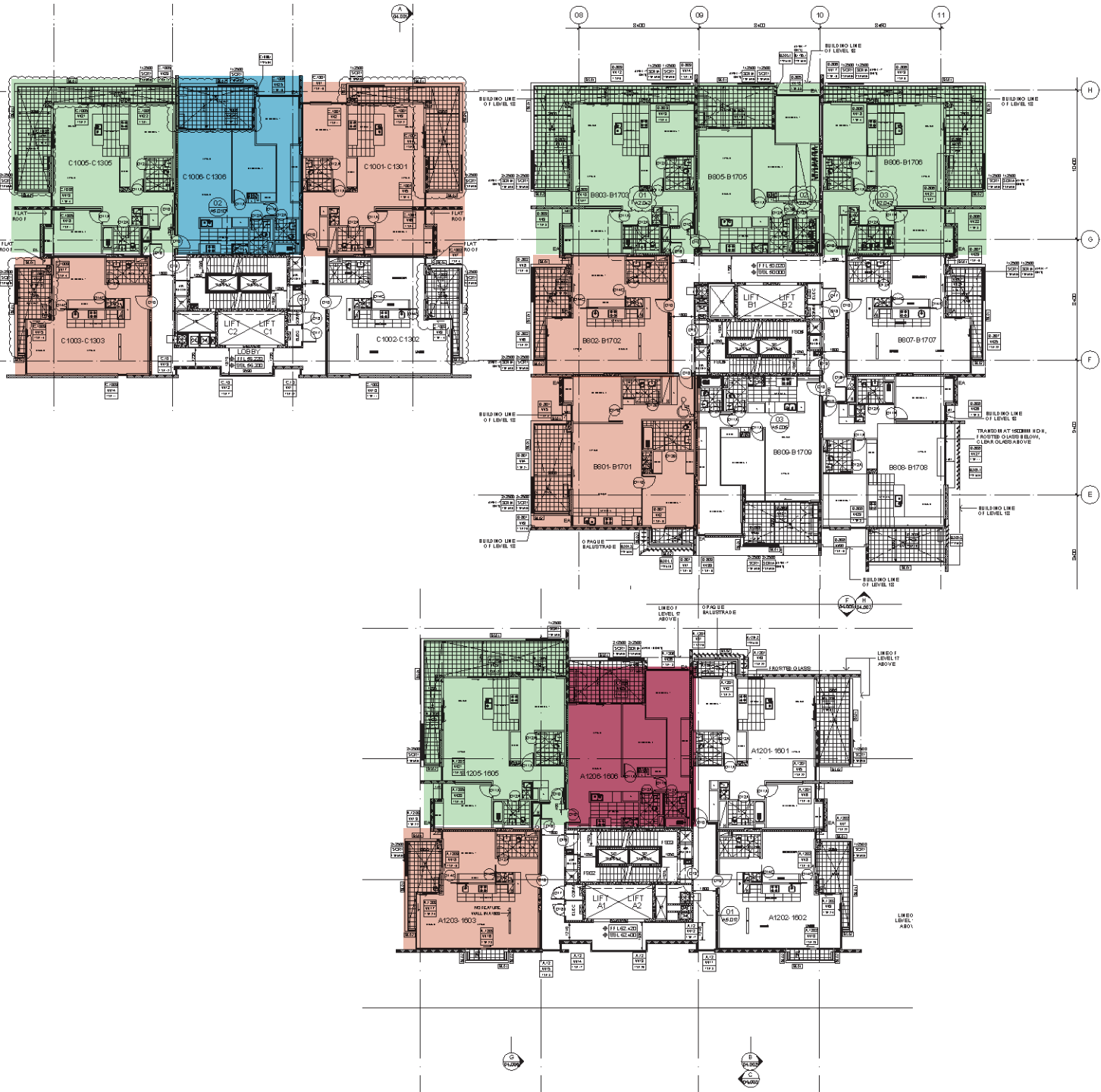
Level 11



Level 12



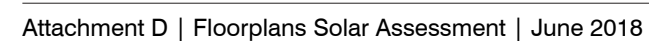
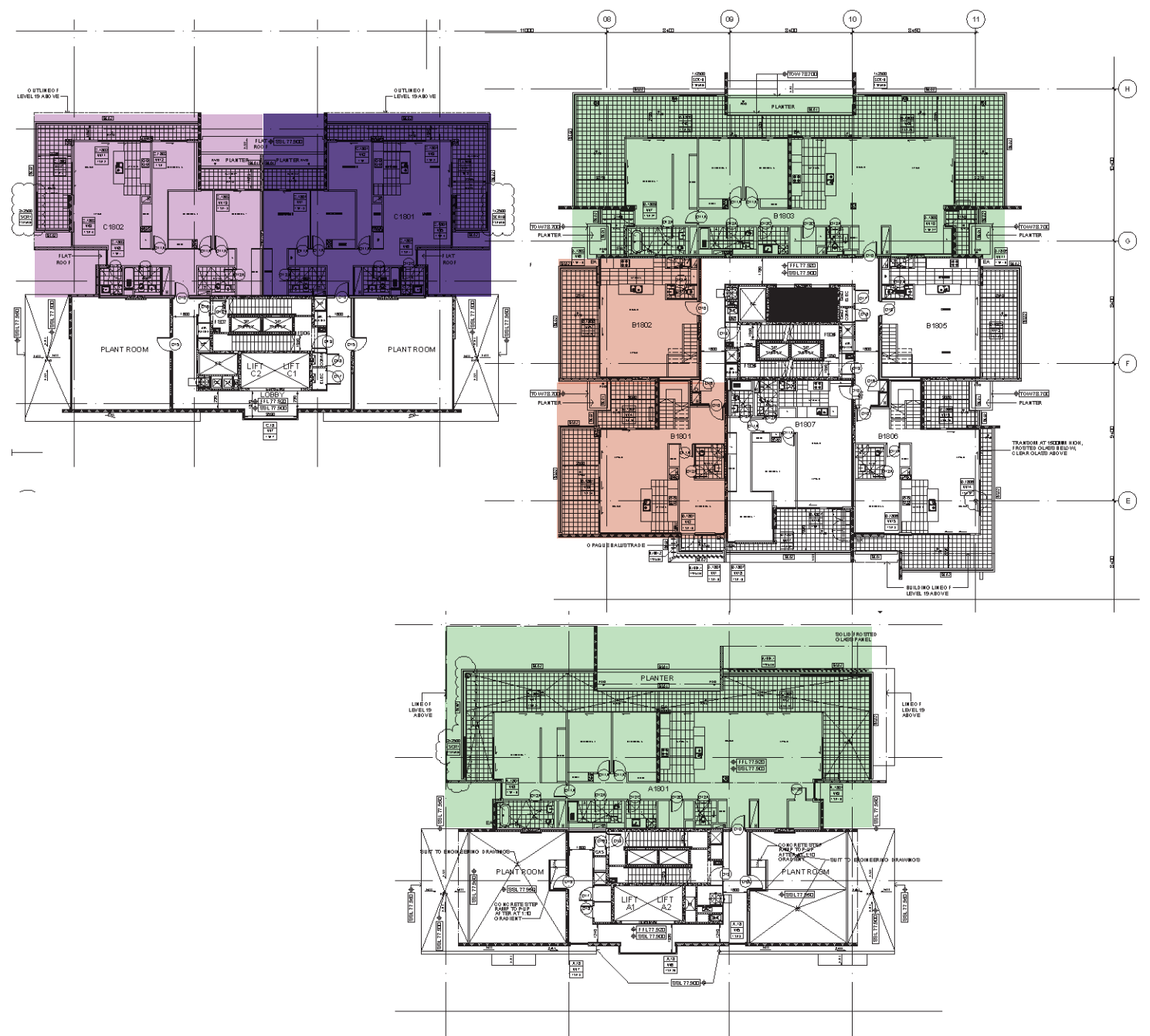
Level 13



Level 16

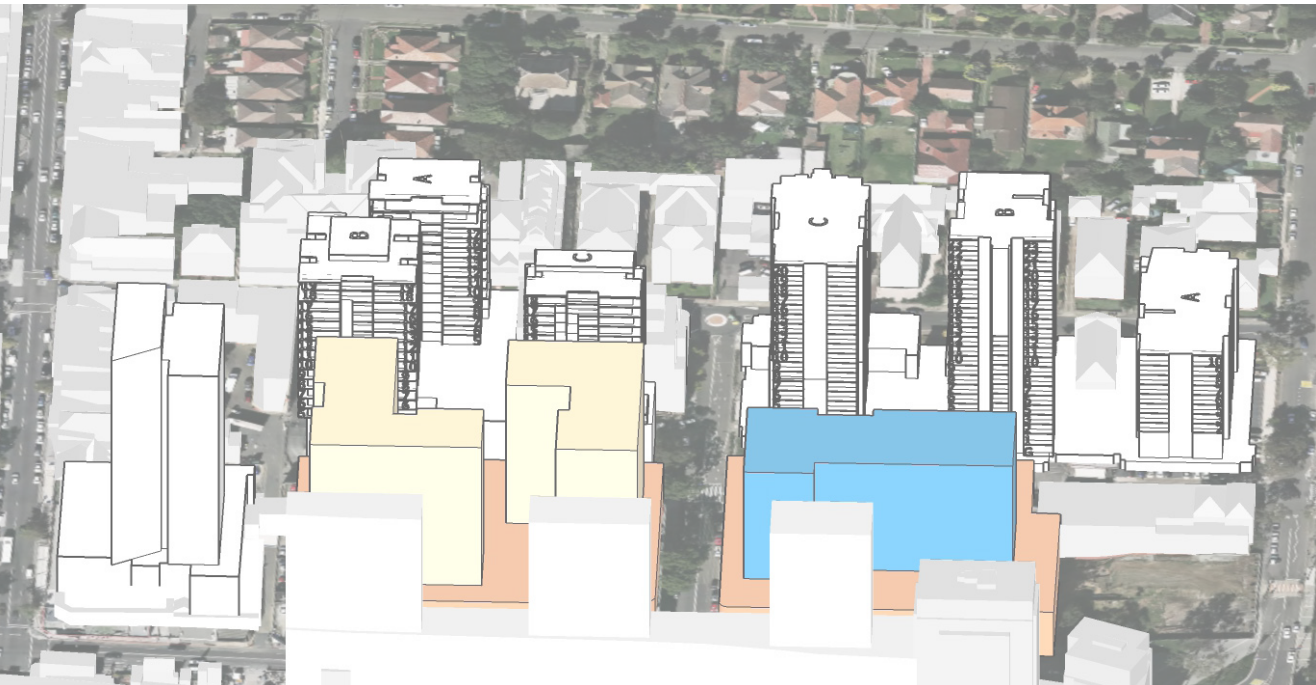


Level 18





Scenario 4: Complying with maximum FSR and heights achievable



Purpose of scenario

Scenario 4 tests the solar impact of a complying scheme on the subject site. The built form is developed in compliance to current controls and Burwood Central DA is included in the assessment.

Key findings

The testing identified complying scheme reaching maximum HOB and FSR found that there were increased solar impacts to Emerald Square an decrease of 24% solar accessibility and a decrease of 21% on Burwood Grand.

FSR:

- Site A (East) 6.63
- Site B (West) 4.53

HOB:

Site A (East)	Site B (West)
– Podium- 14m	– Podium- 14m
– Tower 1- 58m	– Tower 1- 48m
– Tower 2- 69.6m	– Tower 2- 48m

Solar access:

Emerald Square

- Complying maximum FSR & HOB scheme achieves 42%

Burwood Grand

- Complying maximum FSR & HOB scheme achieves 53%

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	259	491
Emerald Square	88	210
	347	701
		50%

Solar testing summary

Scenario 4: Complying with maximum FSR and heights achievable

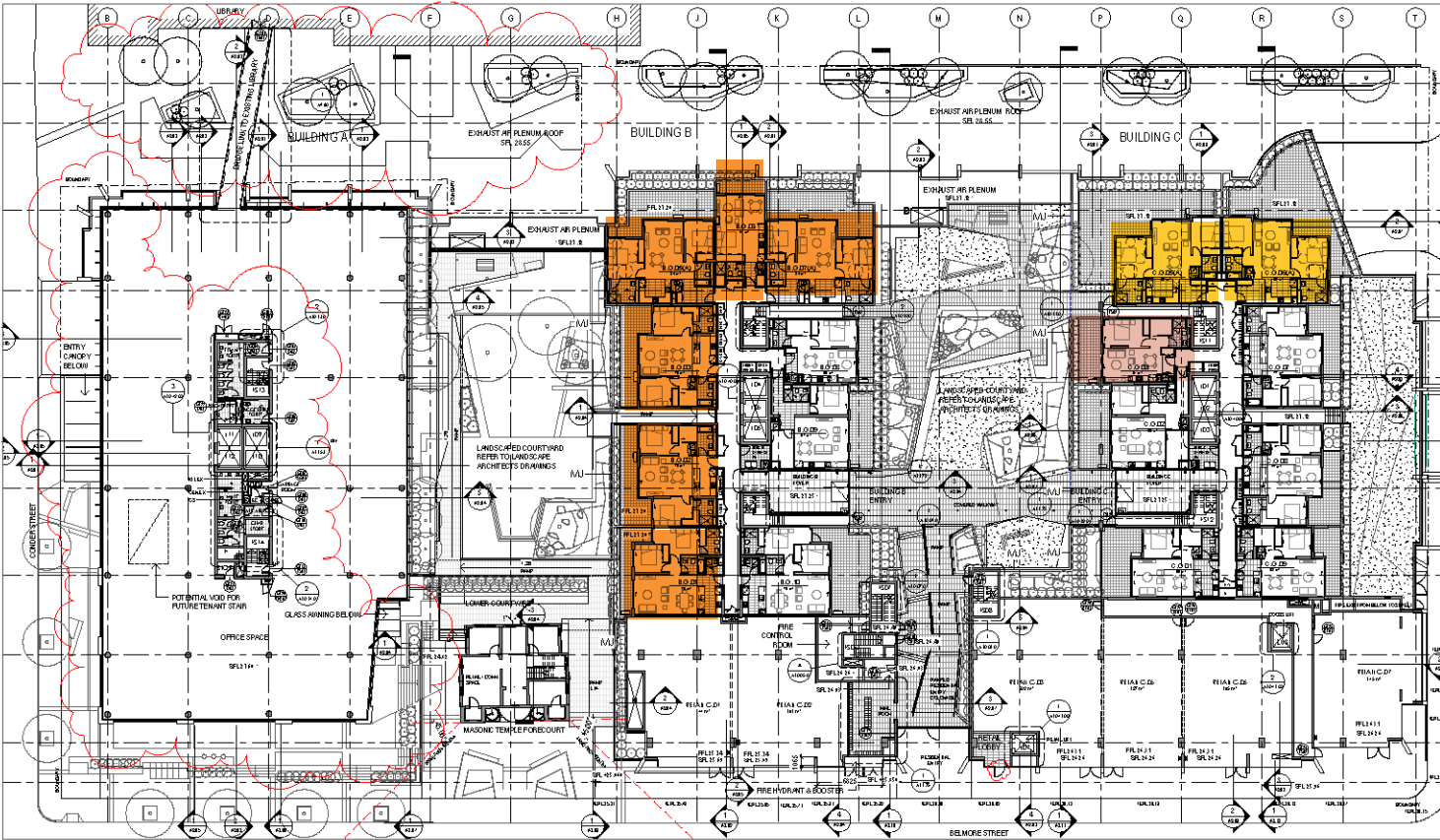
Burwood Grand

Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Total
A	>2 hours sun	Office space		<u>7</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>													<u>67</u>
	Total apartments			11	11	11	11	11	11	11	11													88
			64%	64%	73%	82%	82%	82%	82%	82%	82%													
B	>2 hours sun	<u>6</u>	<u>6</u>	<u>6</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>6</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>135</u>
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	6	6	218
		67%	46%	55%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	60%	60%	63%	63%	63%	63%	67%	67%	
C	>2 hours sun	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>				<u>57</u>
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9	9				185
		38%	21%	27%	27%	27%	27%	27%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%				
Total >2hrs of sun																						259	53%	
Total apartments																						491		

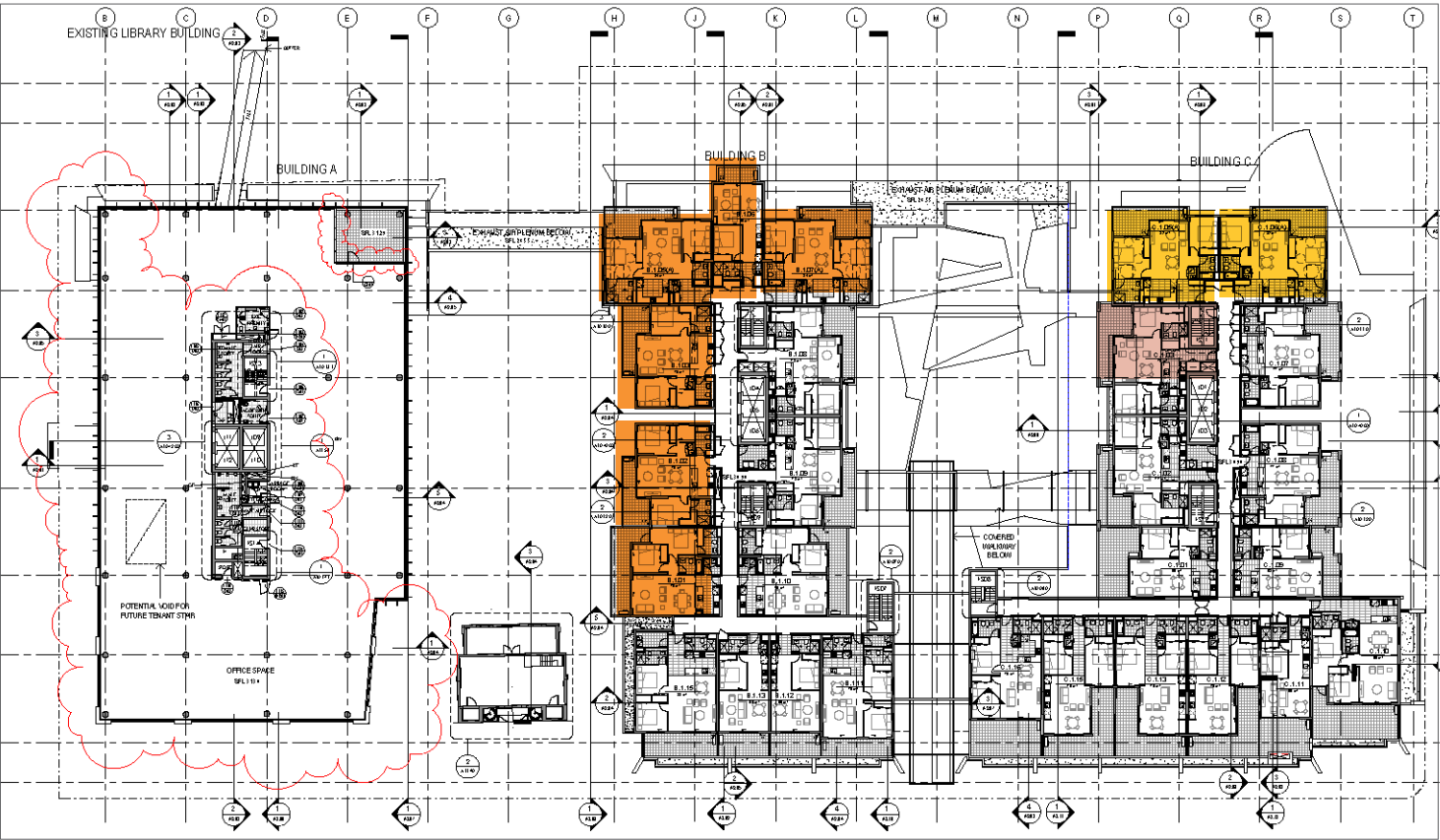
Emerald Square

		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total
A	>2 hours sun	Non-residential podium				<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>1</u>		<u>31</u>
	Total apartments					4	4	5	5	5	5	5	5	5	5	5	4	1		58
						50%	50%	40%	40%	40%	60%	60%	60%	60%	60%	60%	75%	100%		
B	>2 hours sun	Non-residential podium				<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>30</u>
	Total apartments					5	7	8	8	8	8	8	8	8	8	8	8	6	1	99
						0%	14%	13%	13%	13%	13%	13%	13%	50%	63%	63%	63%	50%	100%	
C	>2 hours sun	Non-residential podium				<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>2</u>		<u>27</u>
	Total apartments					3	3	3	3	5	5	5	5	5	5	5	4	2		53
						33%	33%	33%	33%	40%	40%	40%	40%	40%	80%	80%	75%	100%		
																		Total >2hrs of sun	88	42%
																		Total apartments	210	

Option 4: Complying with maximum FSR and heights achievable - Burwood Grand
Ground level



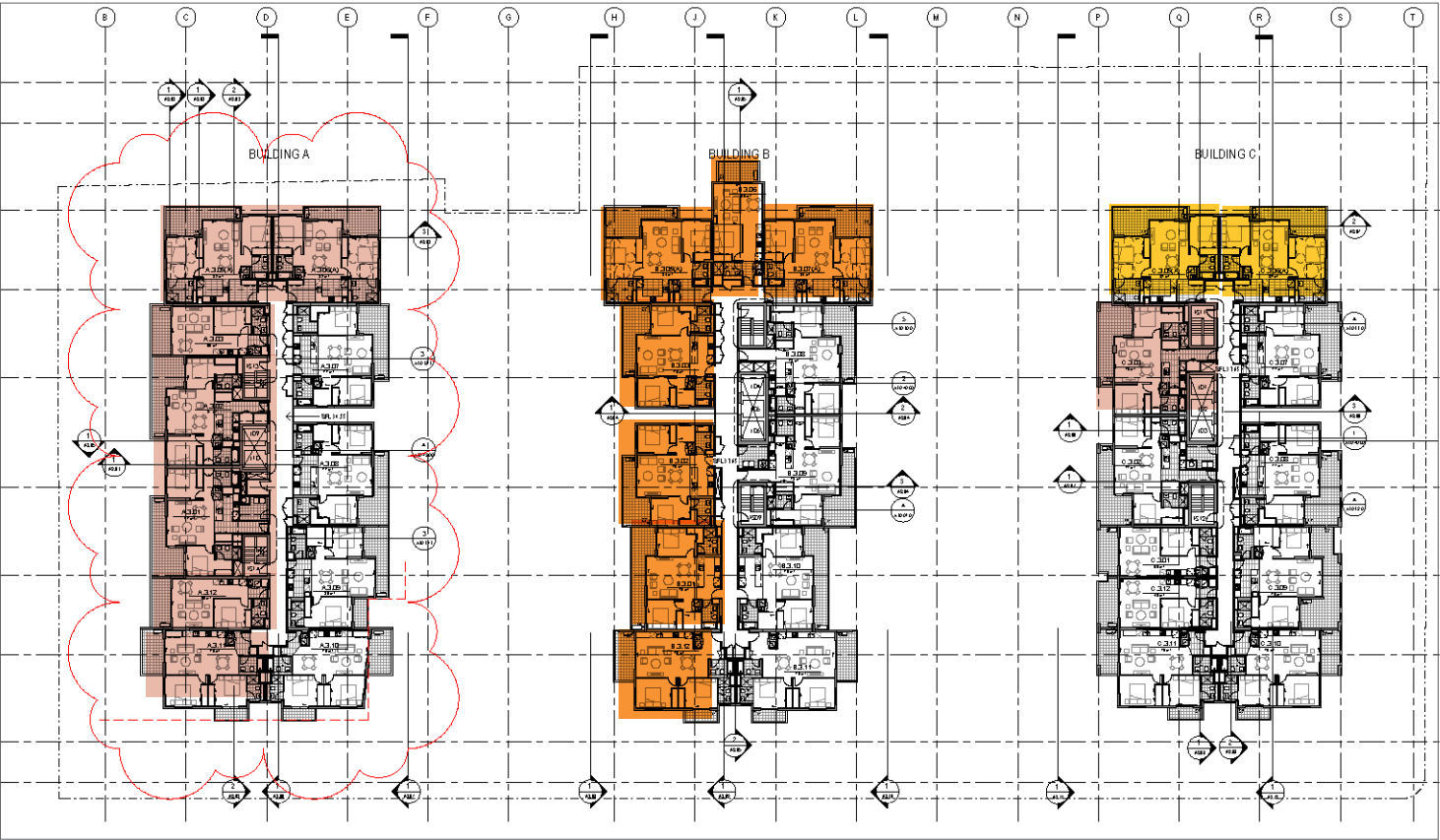
Level 1



Level 2

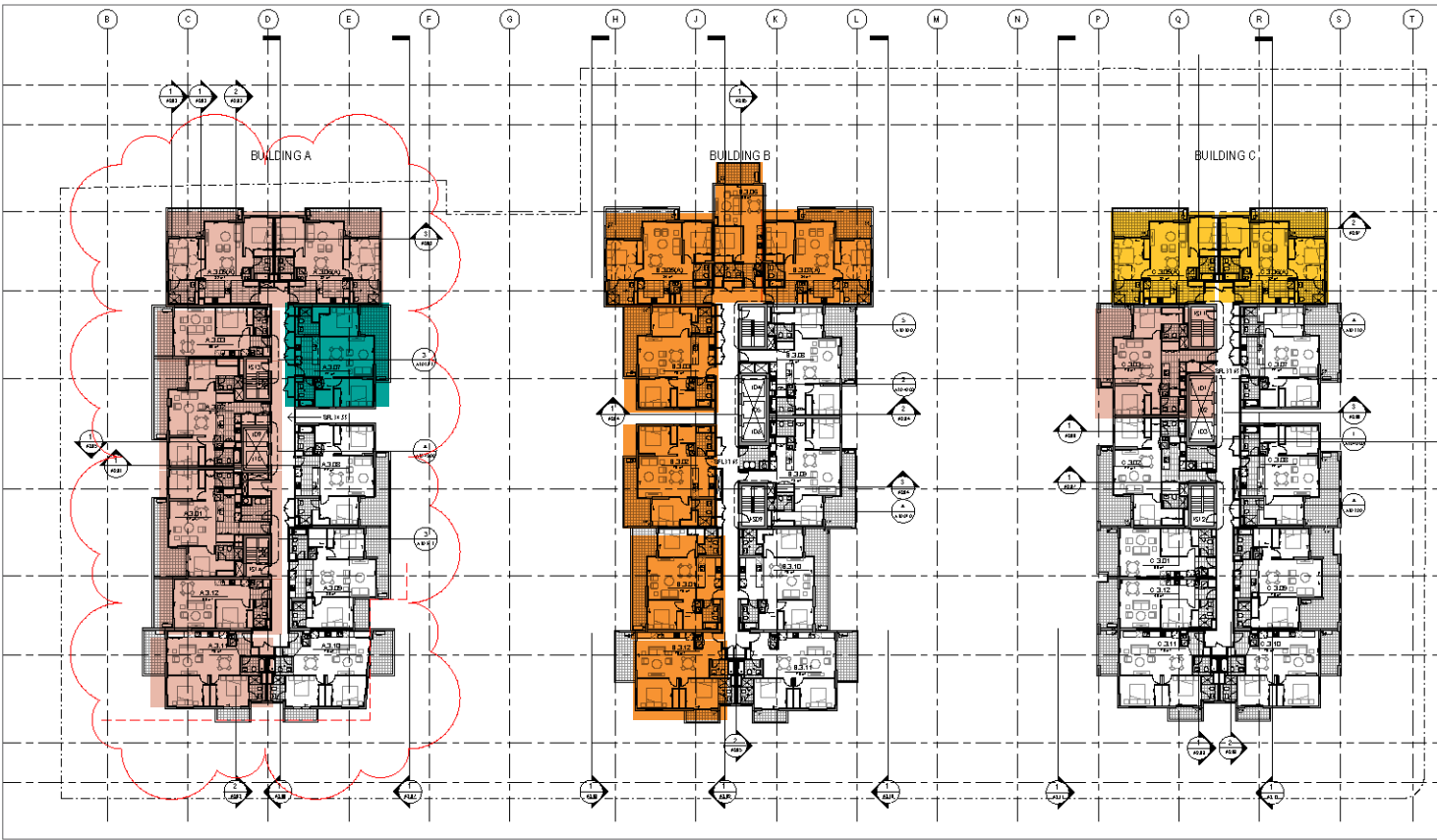


Level 3

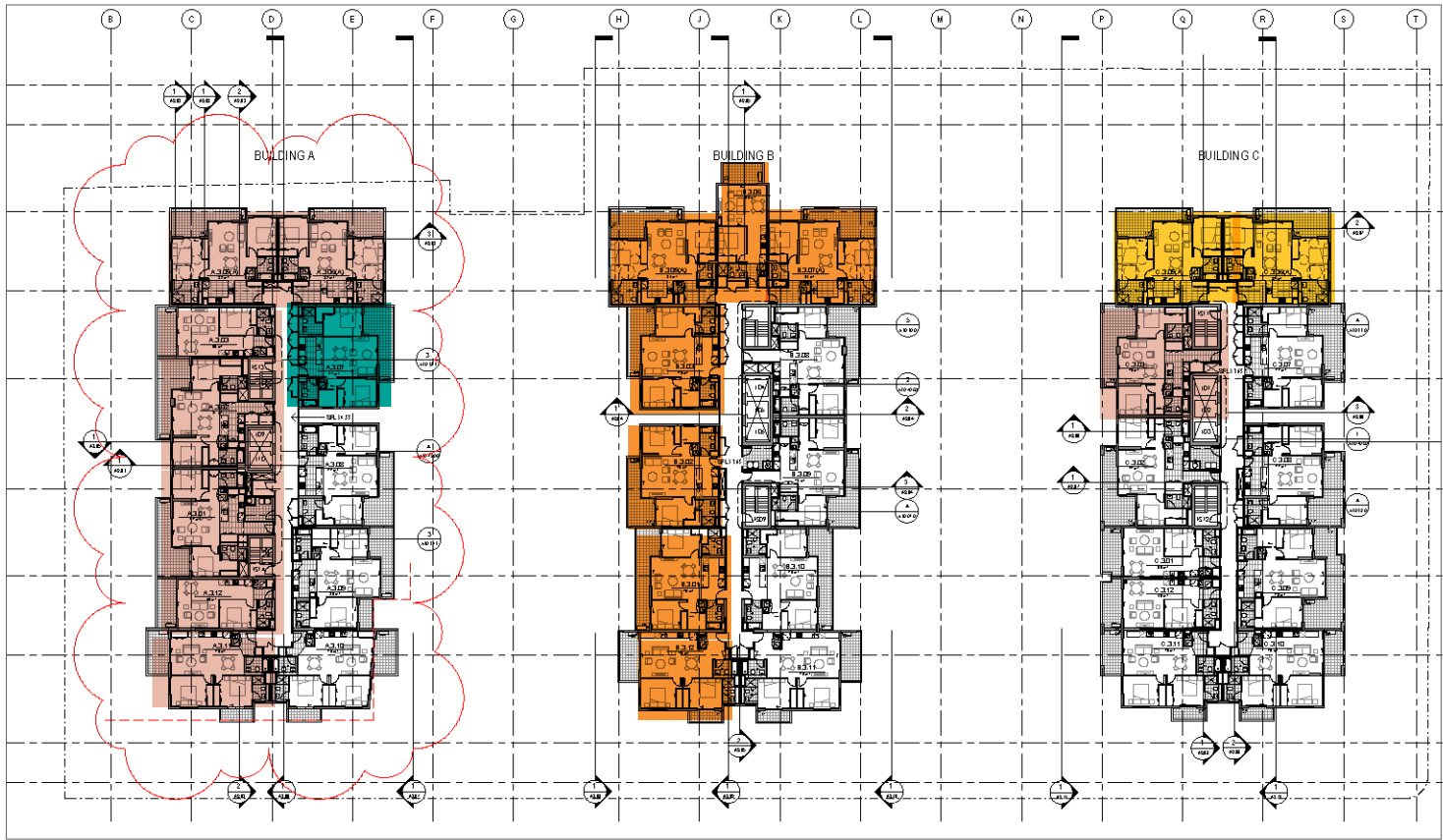


11.30am - 1.30pm 12.30 - 2.30pm 1pm - 3pm

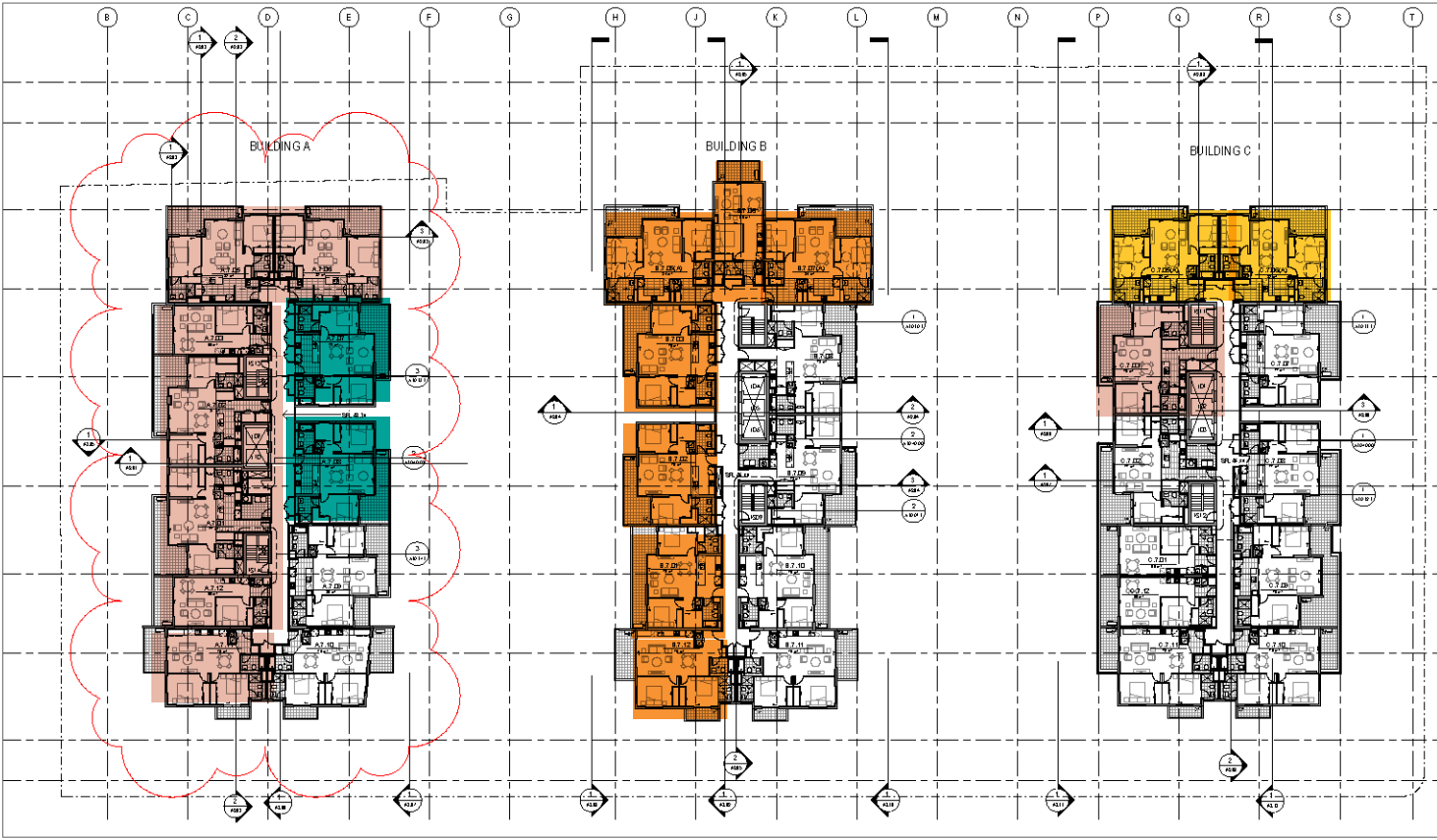
Level 5



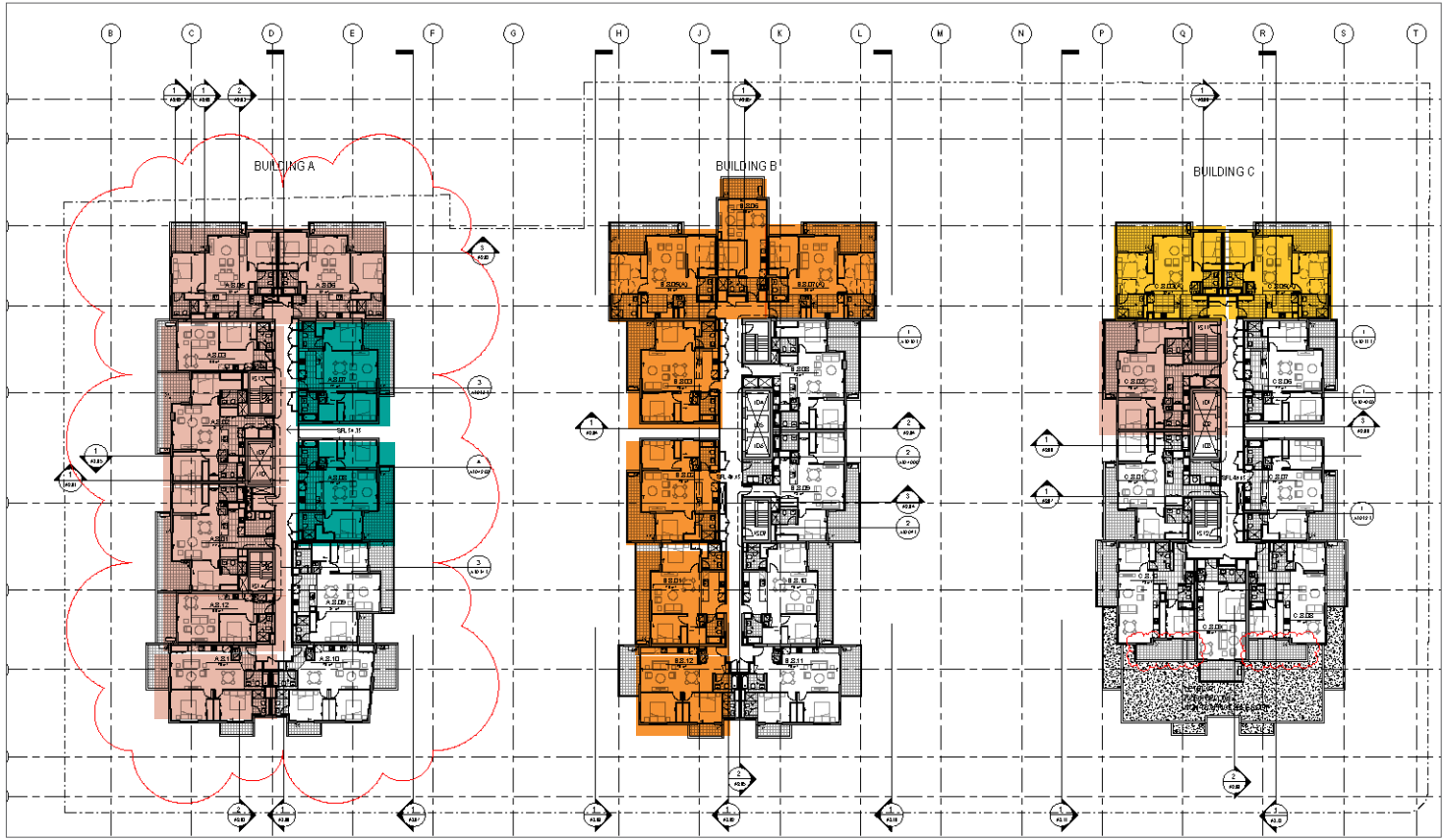
Level 6



Level 7

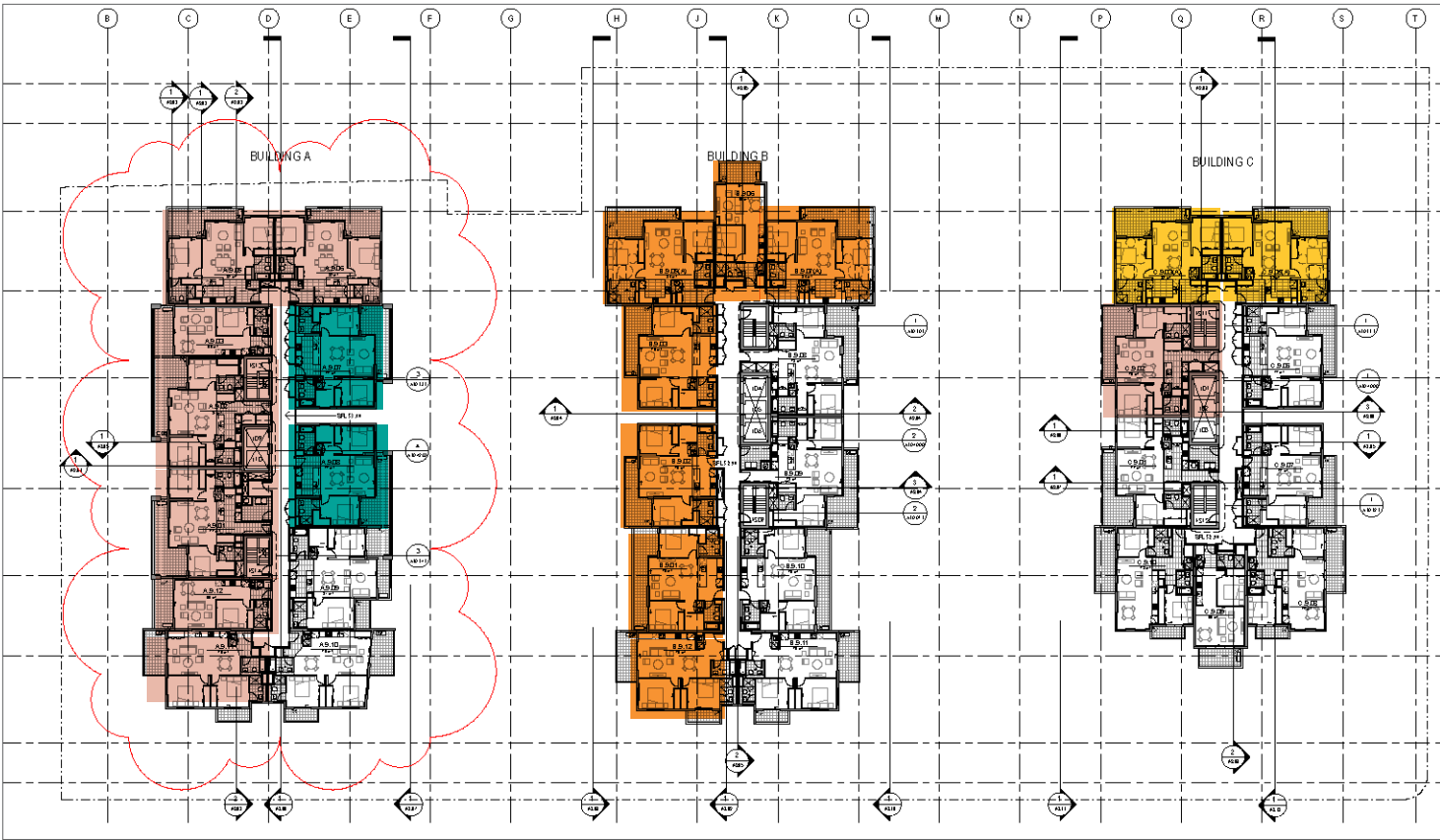


Level 8

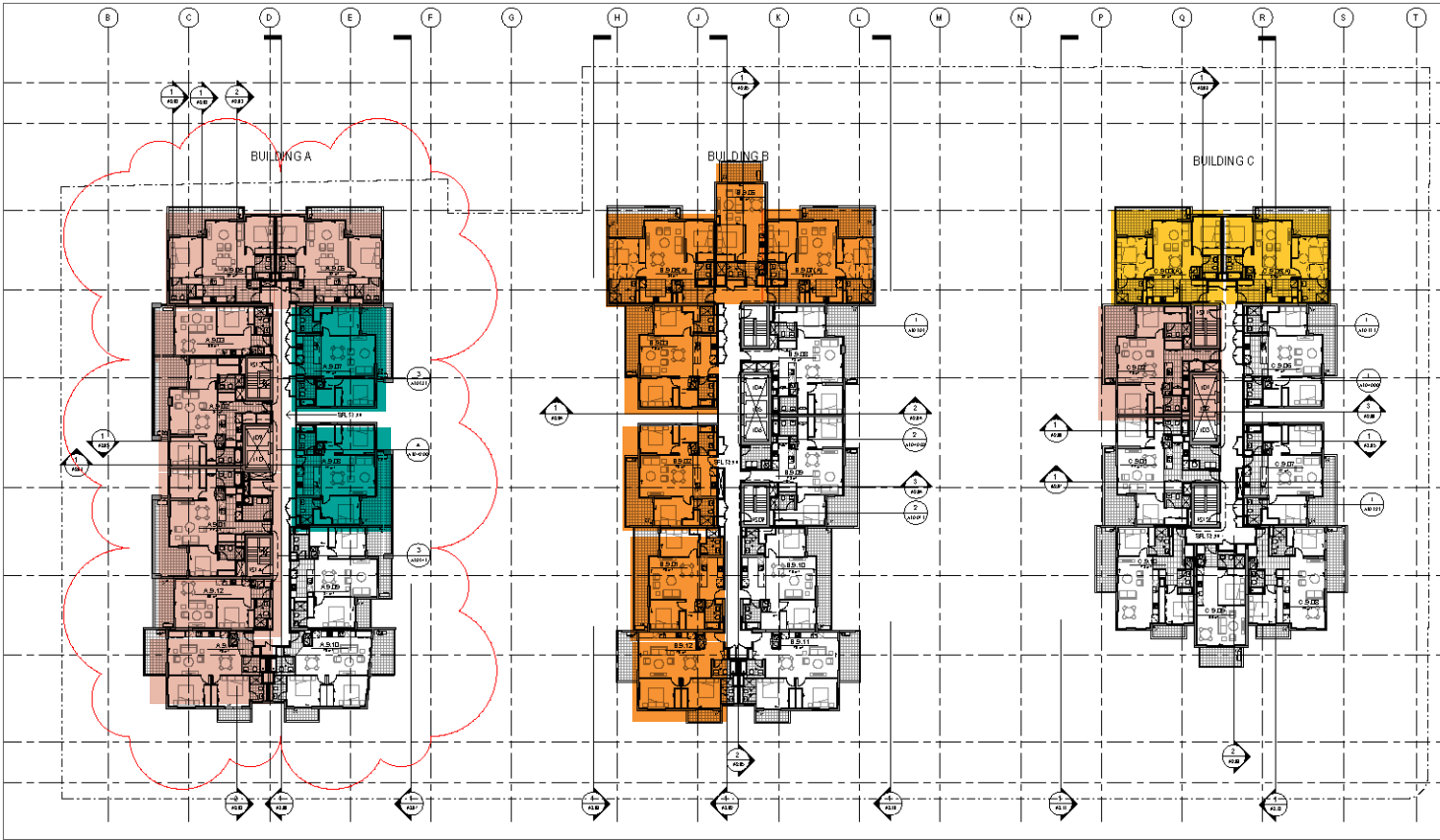


9am - 11am 12.30 - 2.30pm
11.30am - 1.30pm 1pm - 3pm

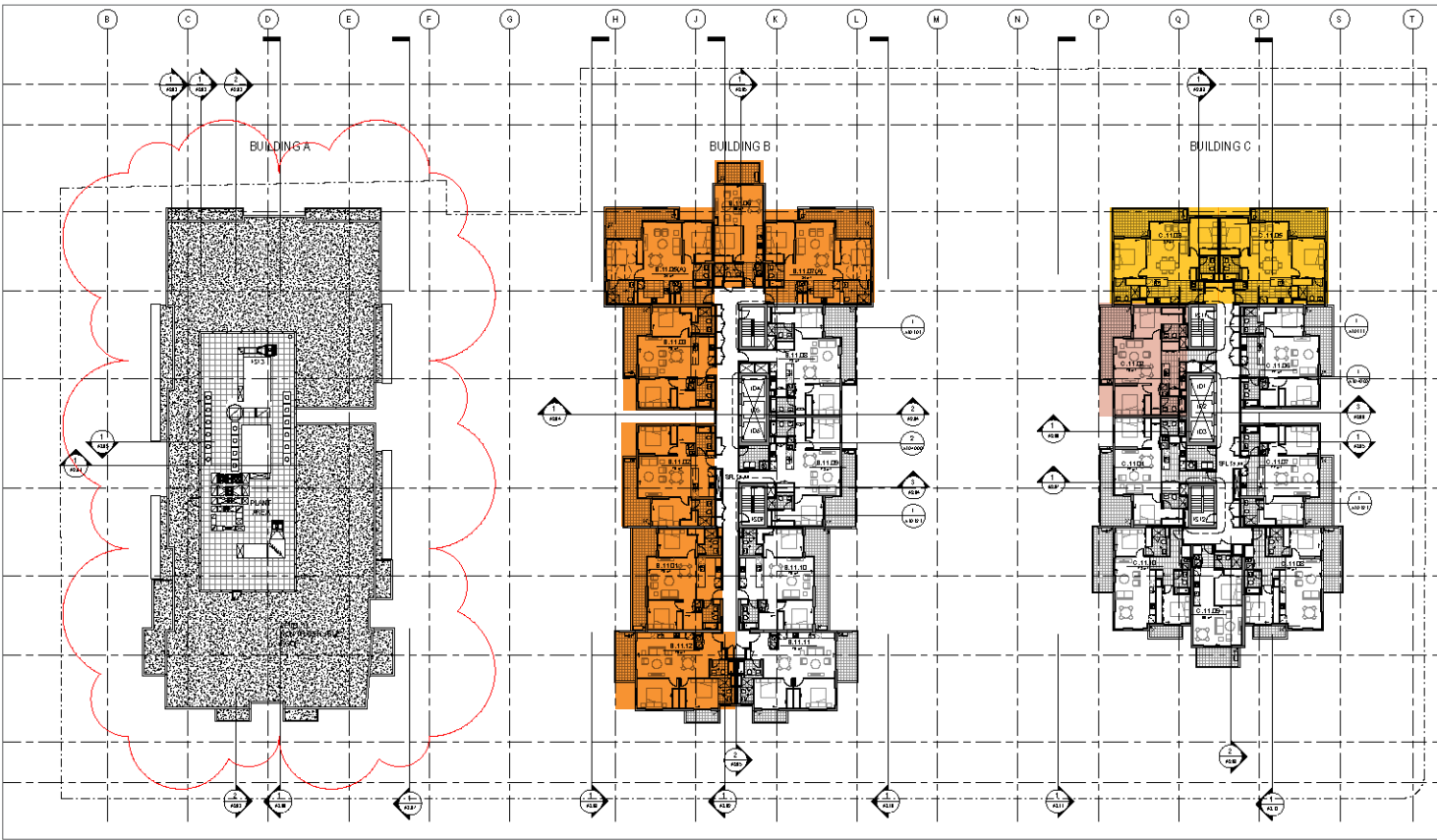
Level 9



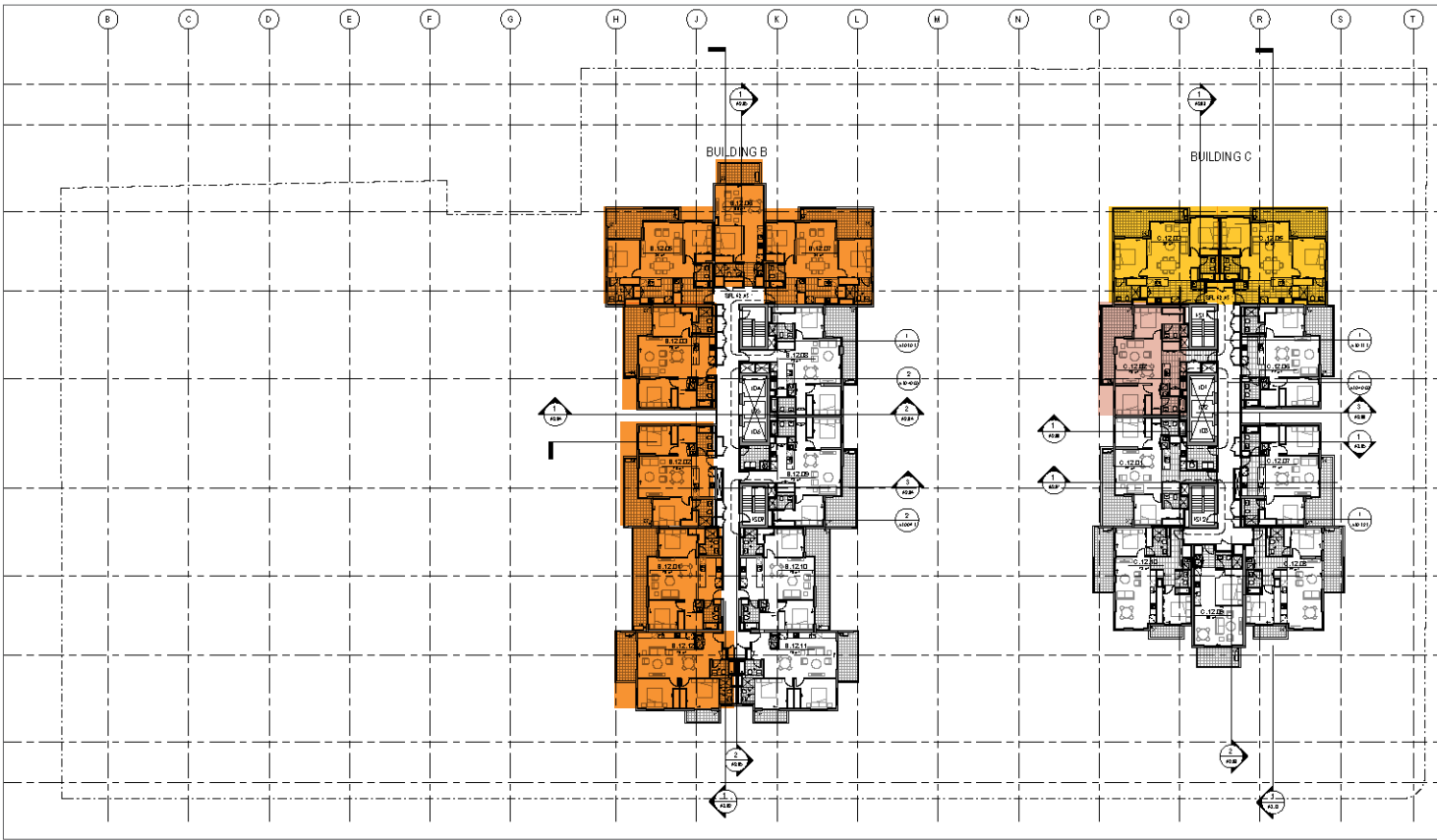
Level 10



Level 11

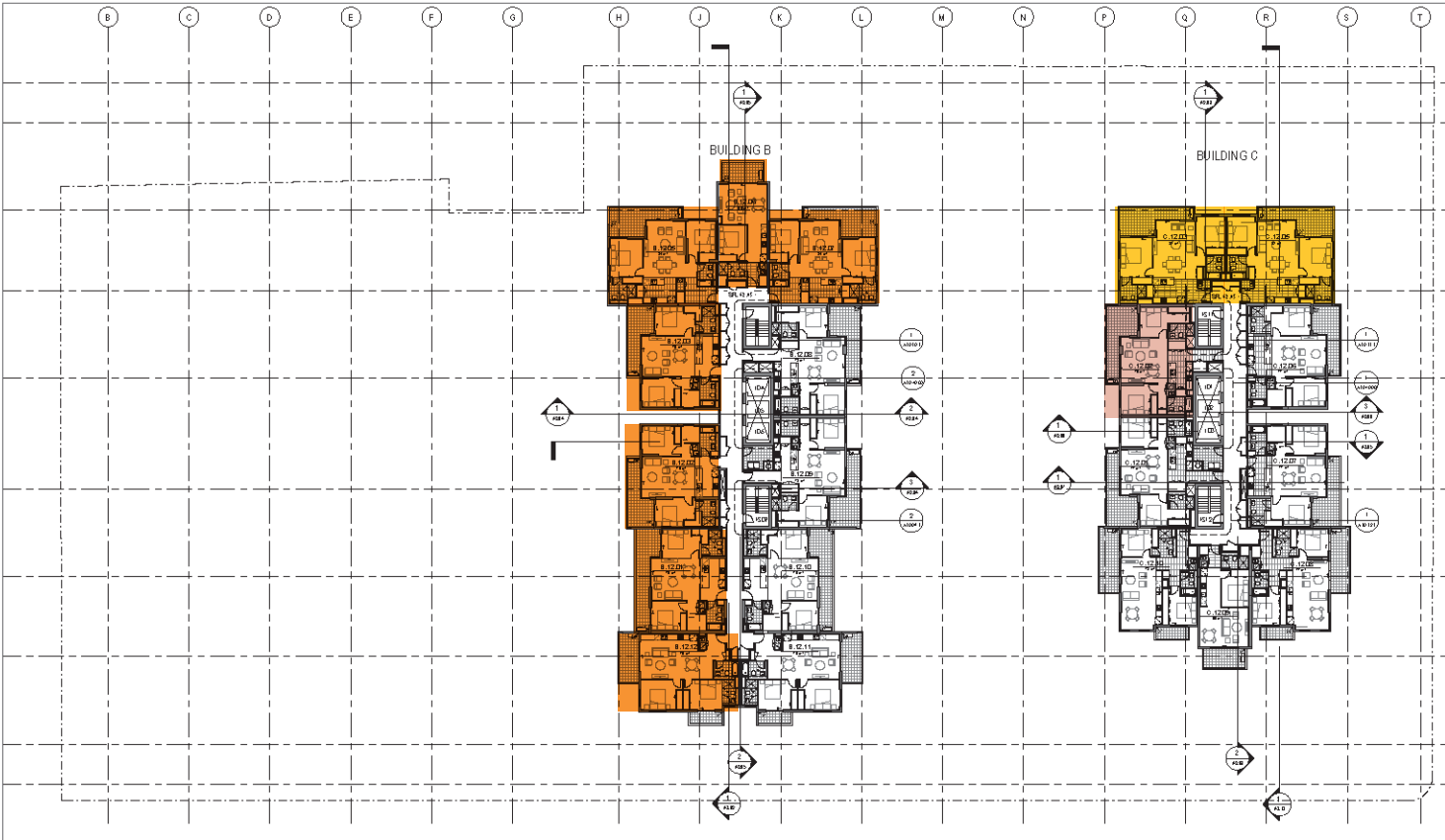


Level 12

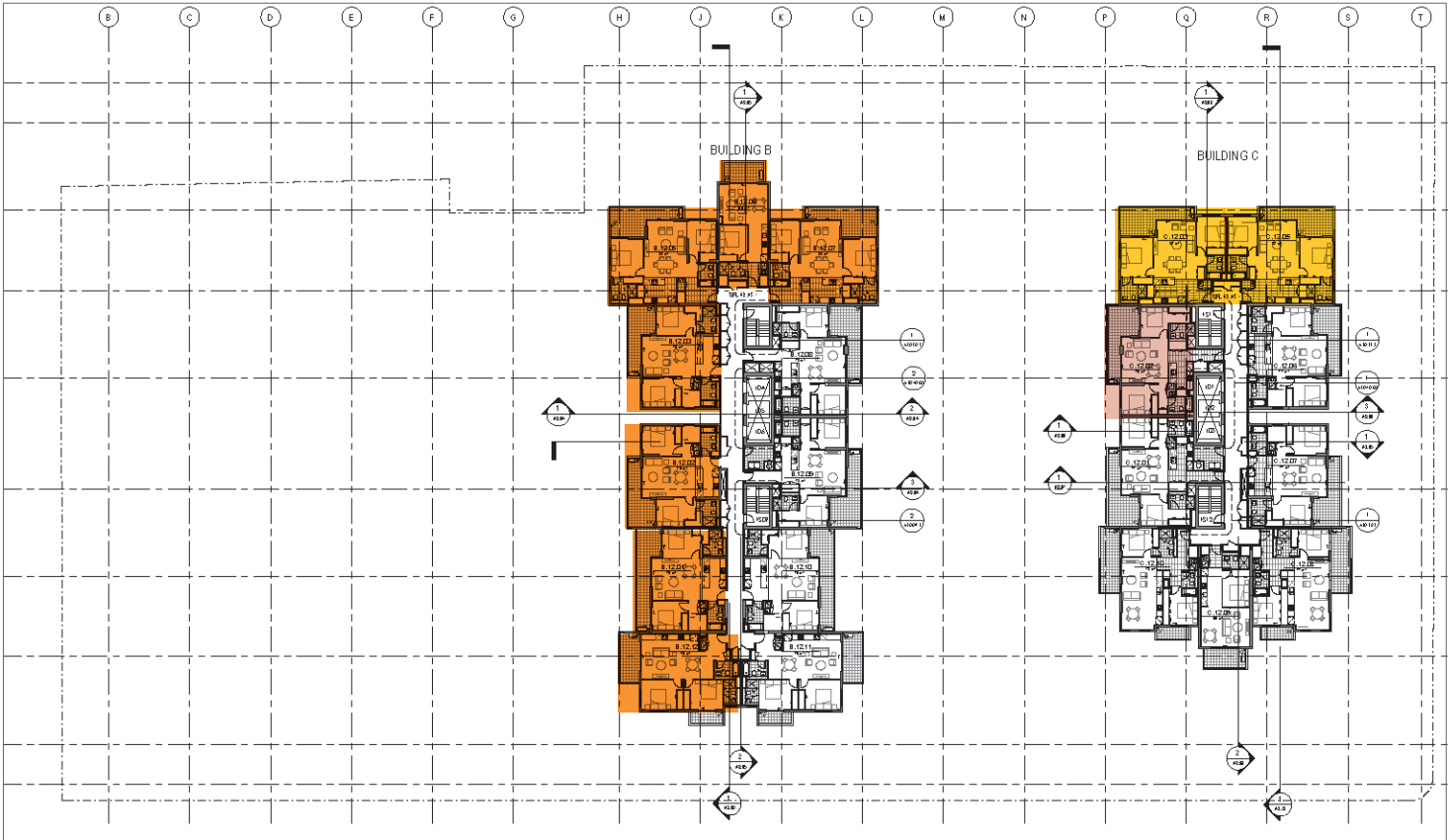


9am - 11am 12.30 - 2.30pm
11.30am - 1.30pm 1pm - 3pm

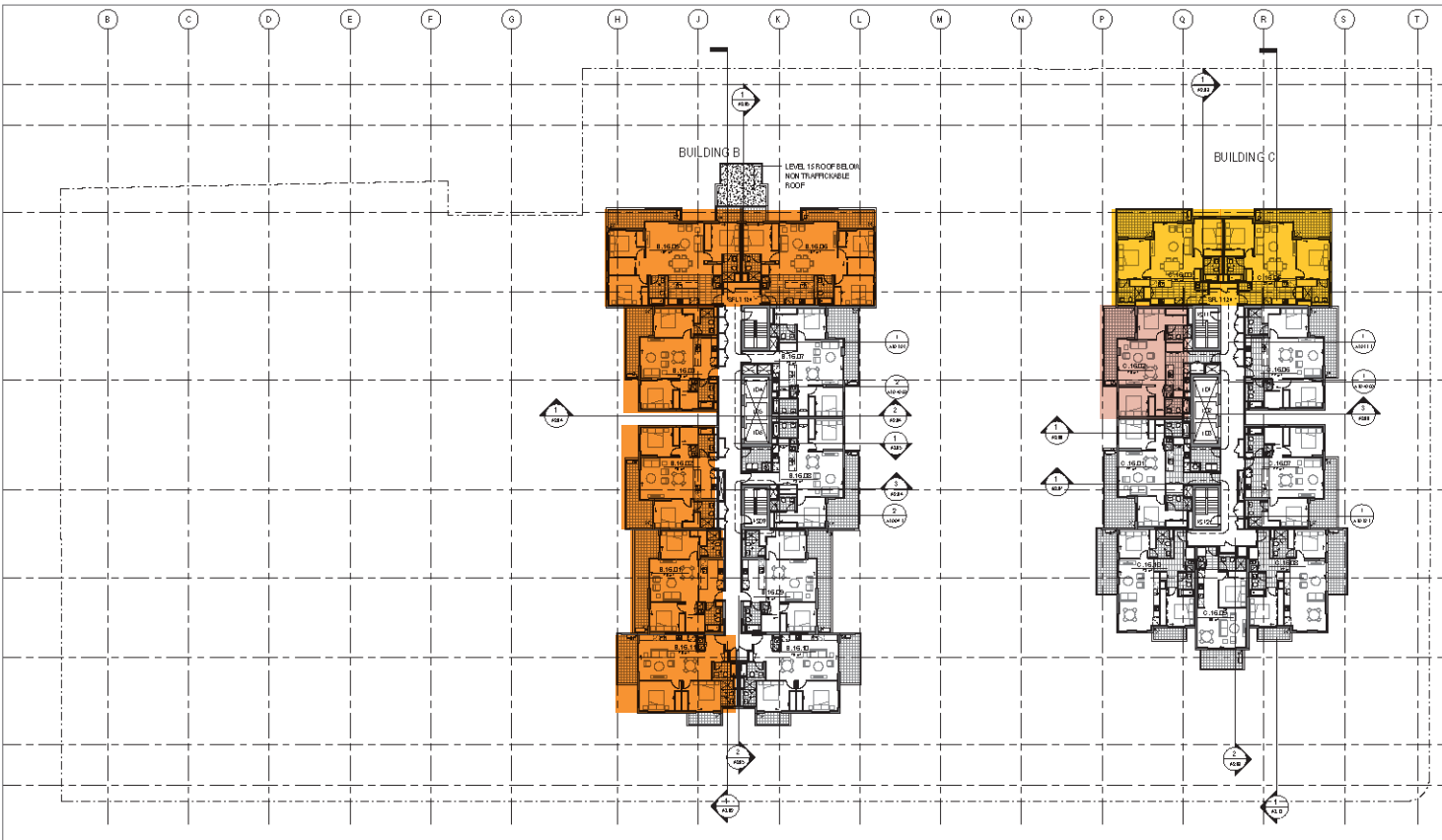
Level 13



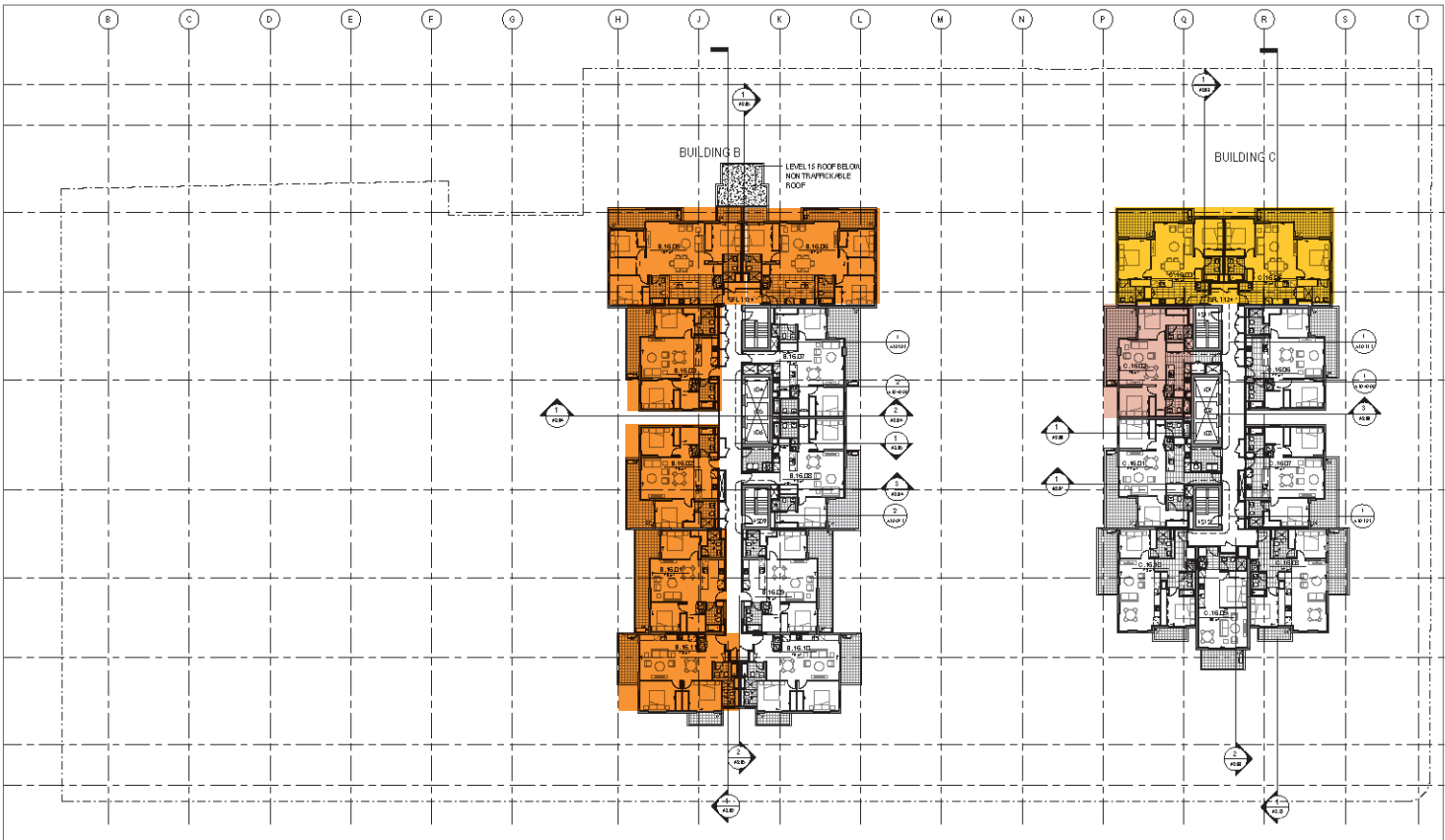
Level 15



Level 16

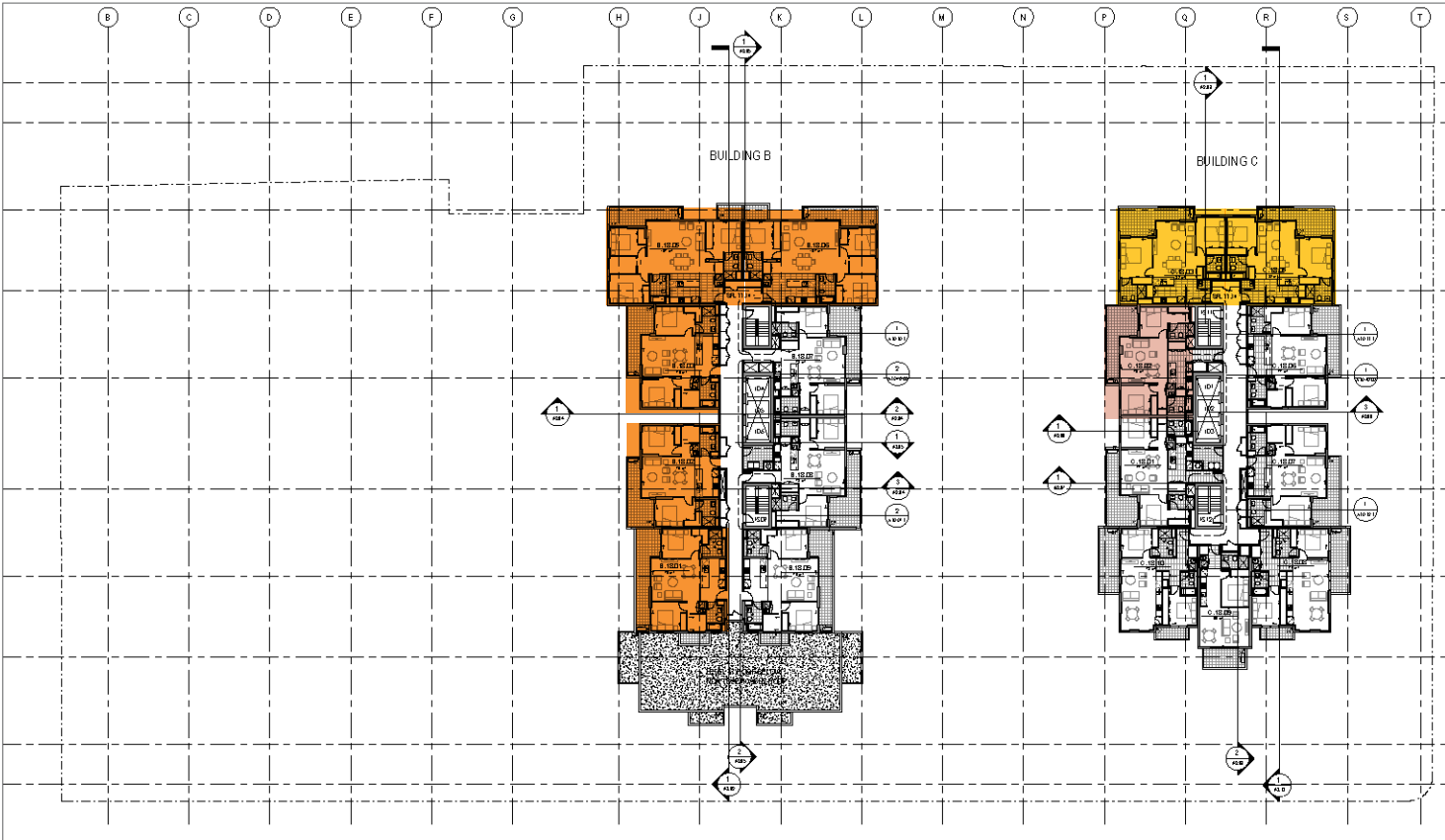


Level 17

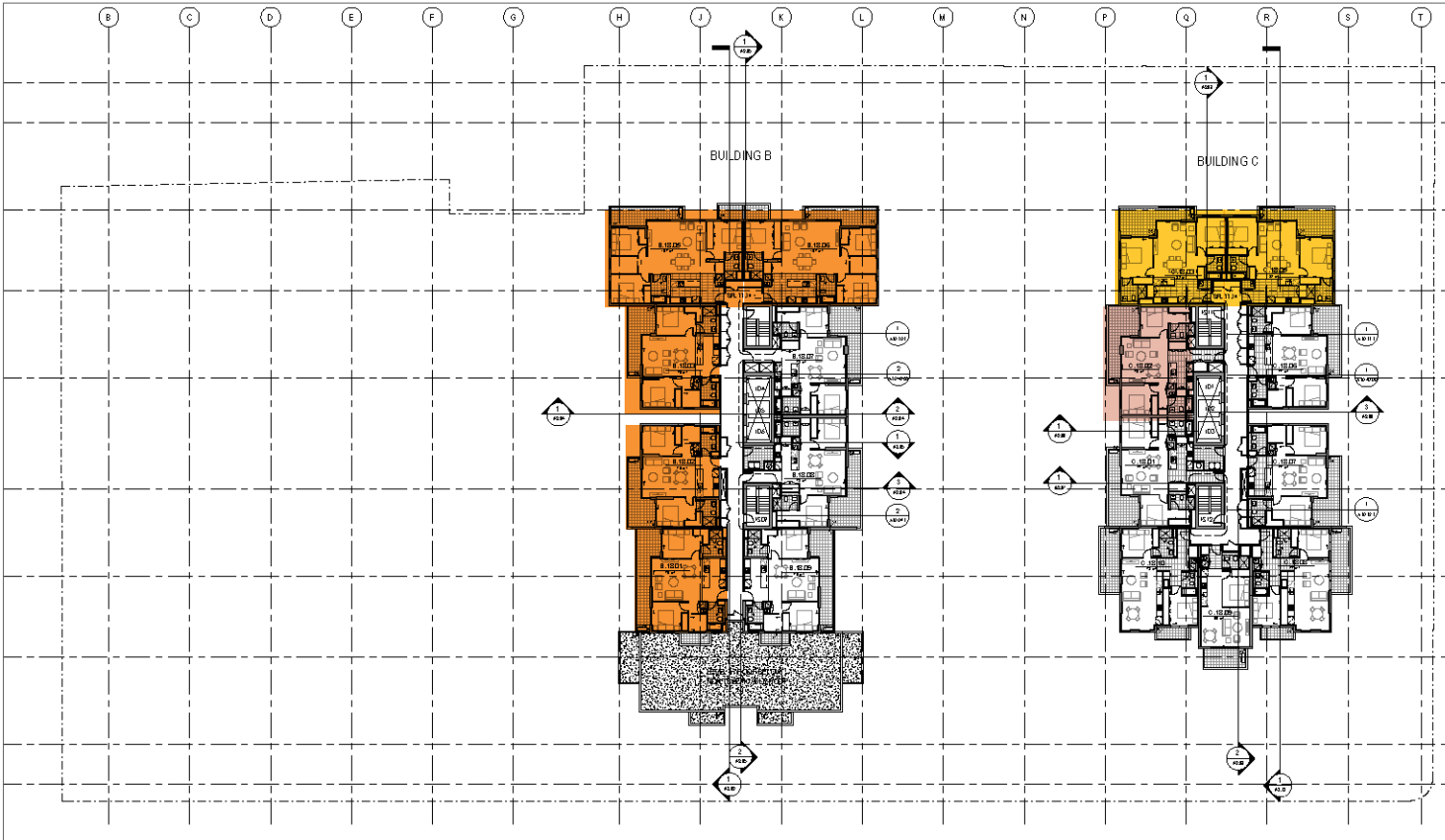


12.30 - 2.30pm
11.30am - 1.30pm
1pm - 3pm

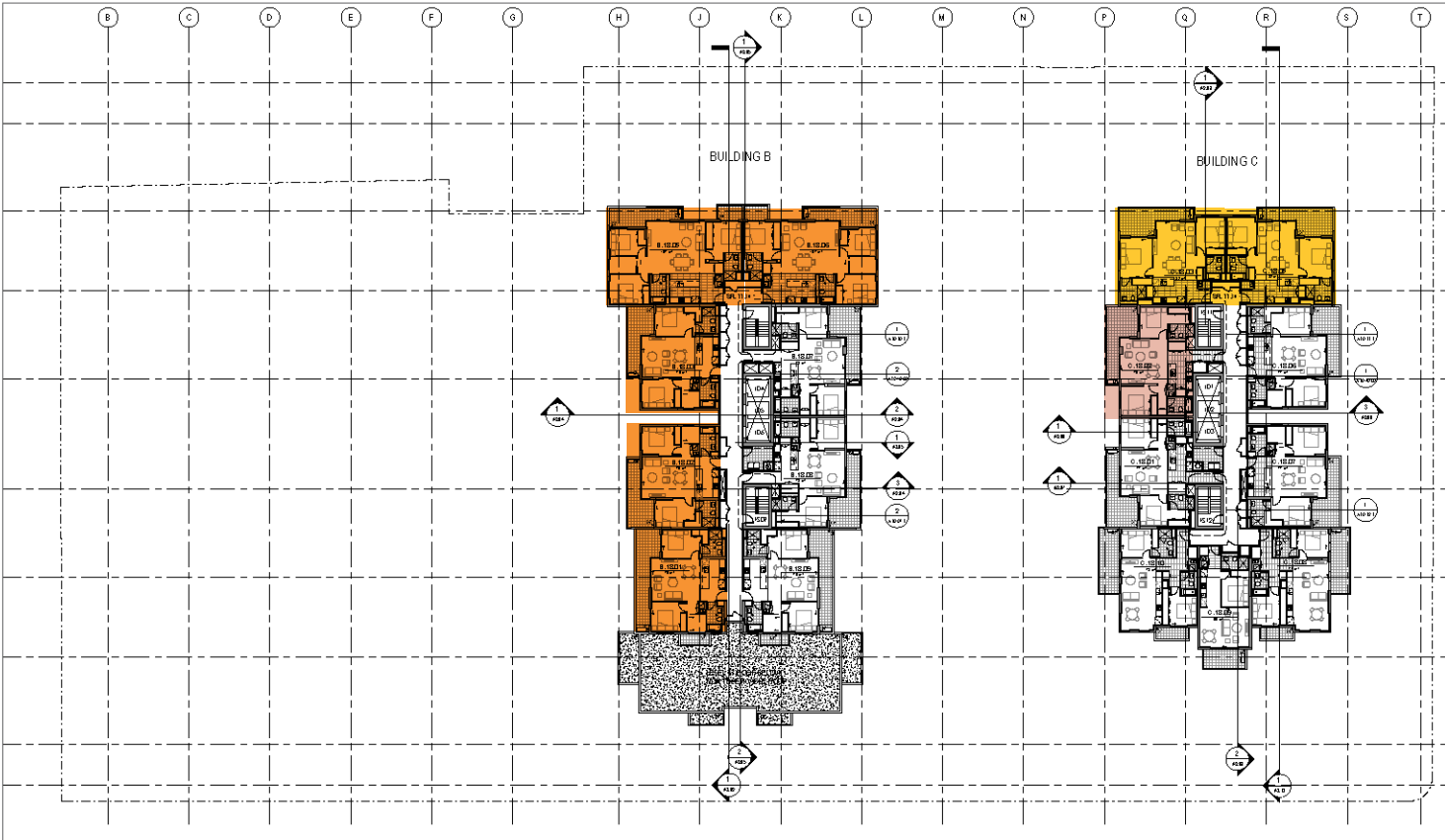
Level 18



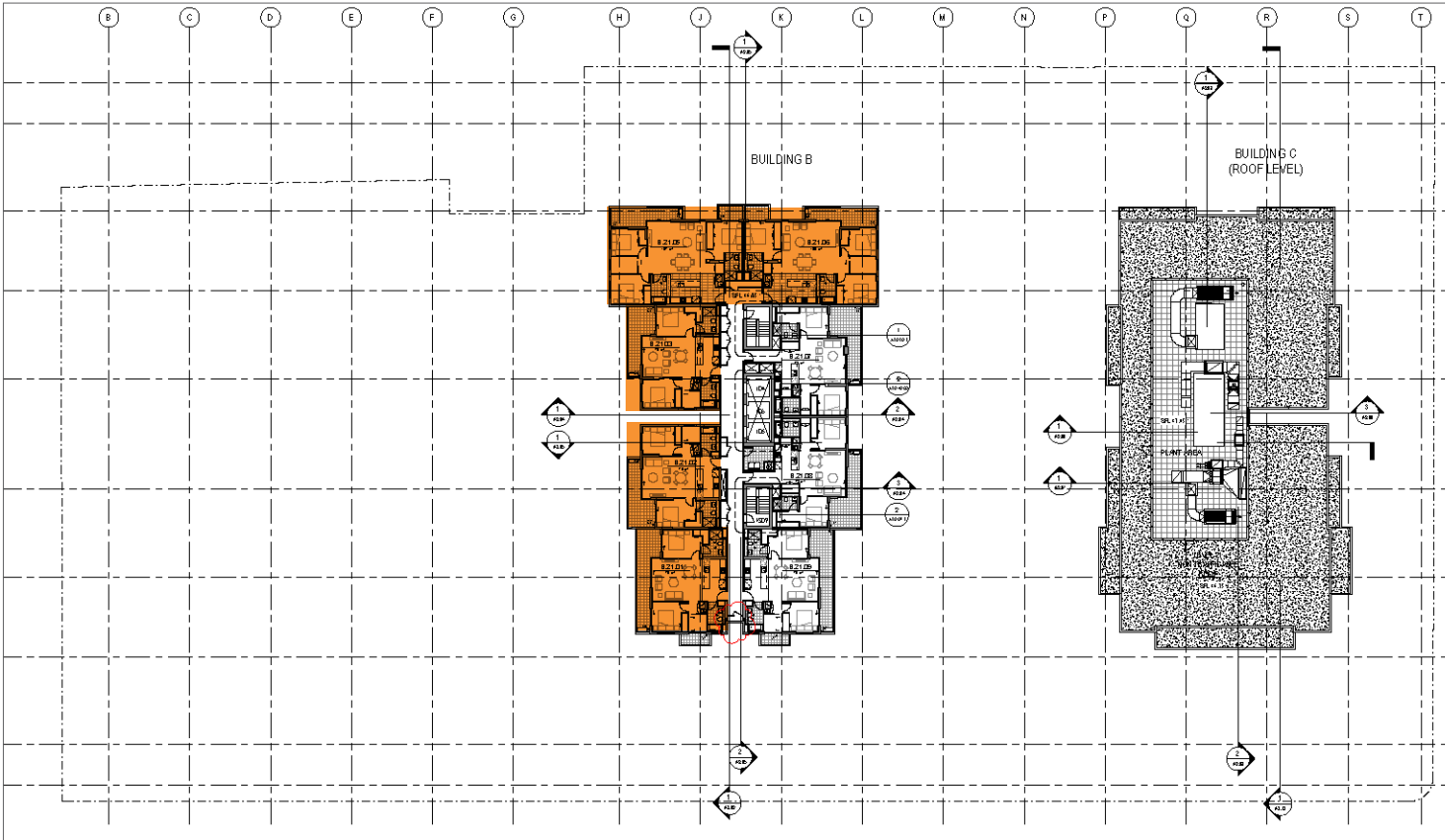
Level 19



Level 20



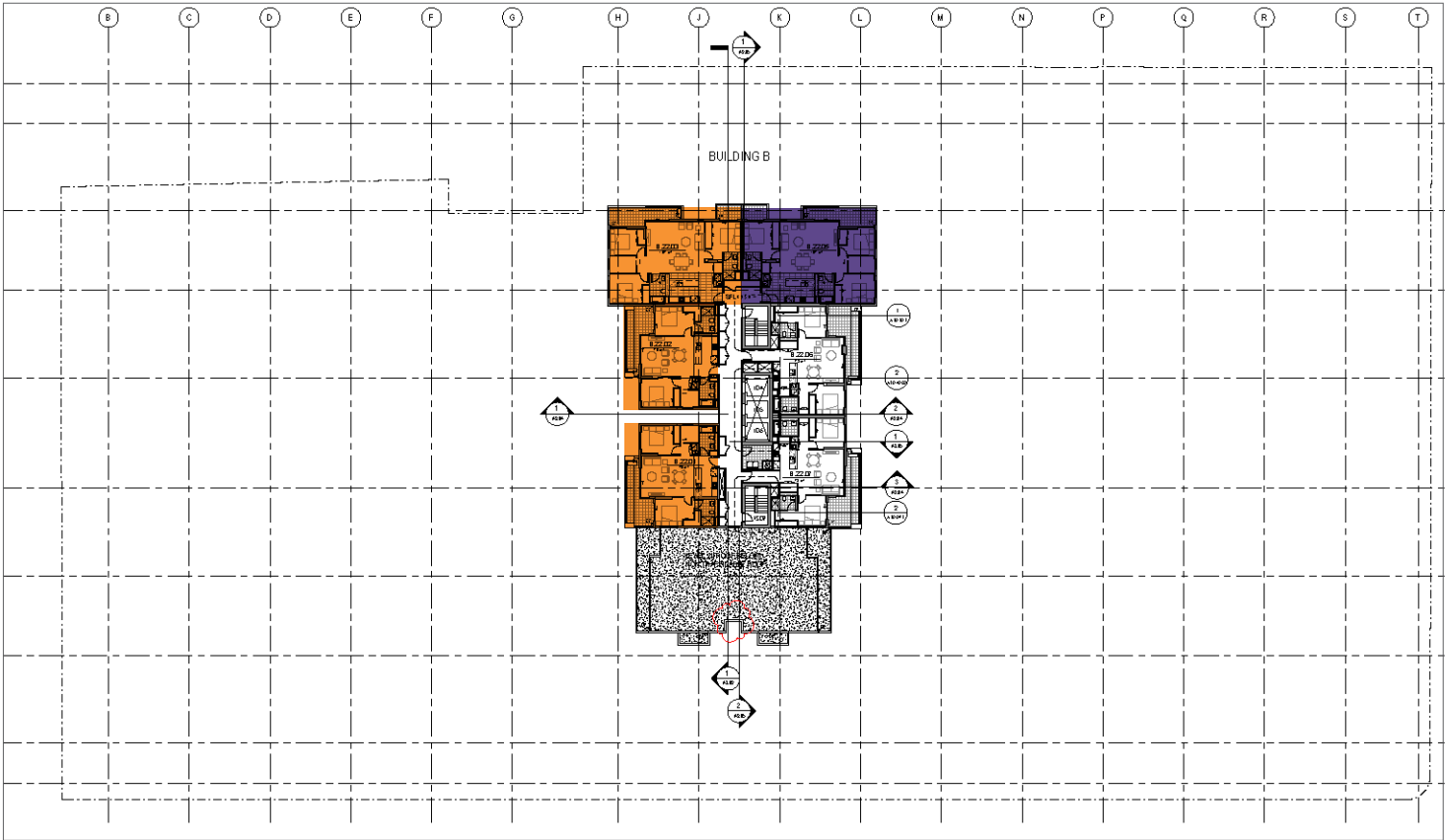
Level 21



Level 22

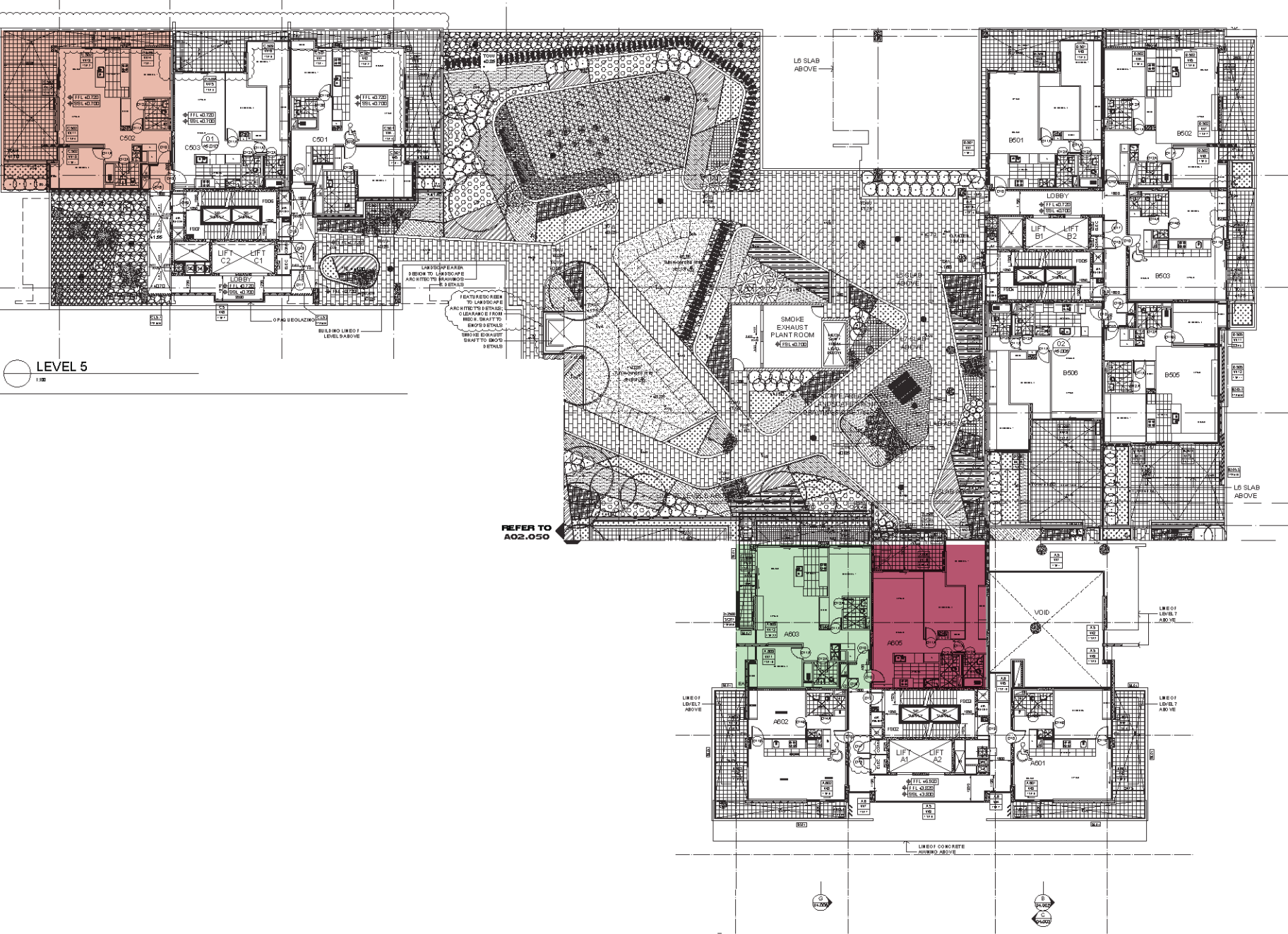


Level 23



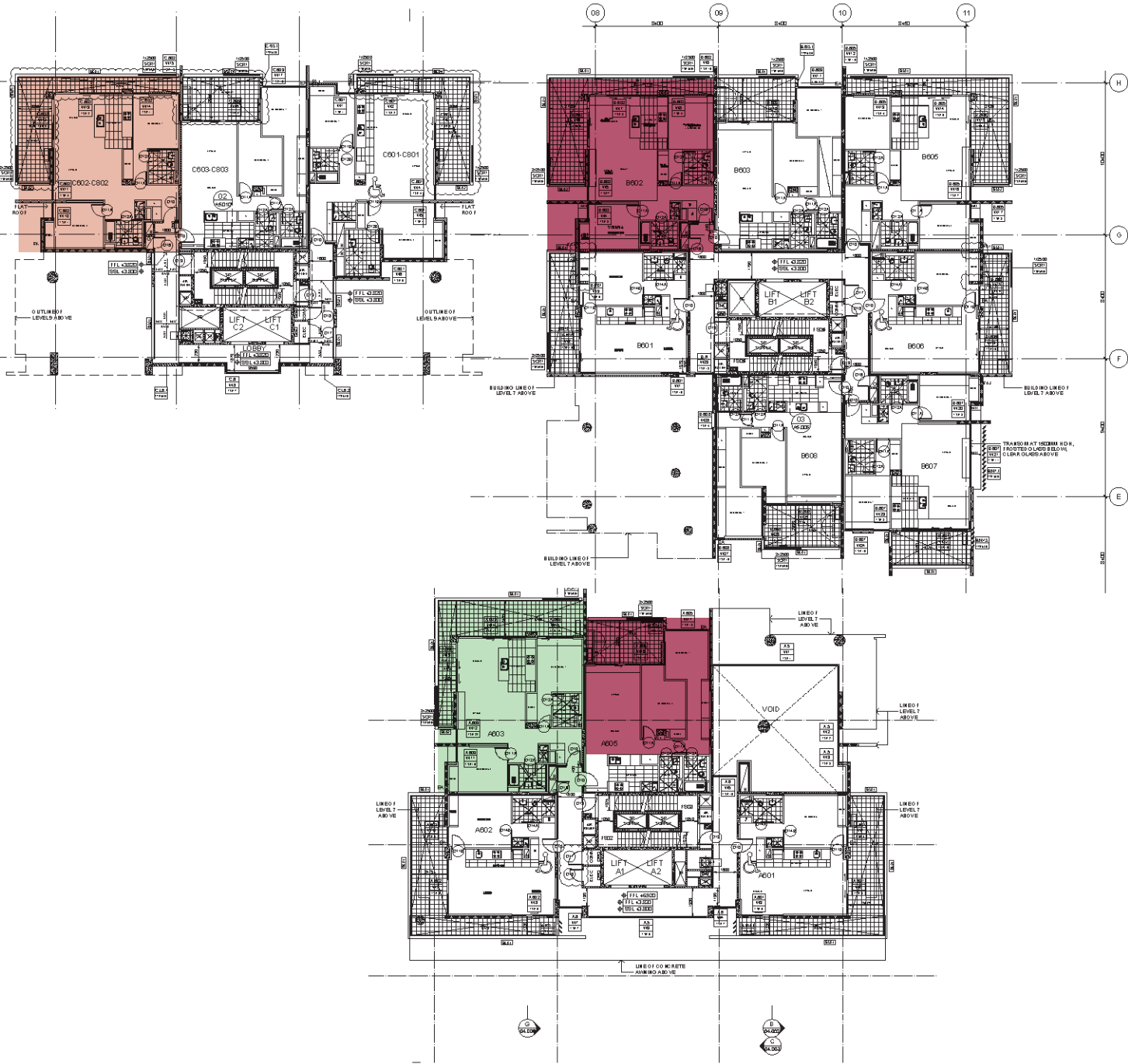
12pm-2pm 12.30 - 2.30pm

Option 4: Complying with maximum FSR and heights achievable - Emerald Square
Level 5



10.30am - 12.30pm
11am - 1pm
1pm - 3pm

Level 6



Level 7



Level 9



1pm - 3pm

Level 10



Level 11

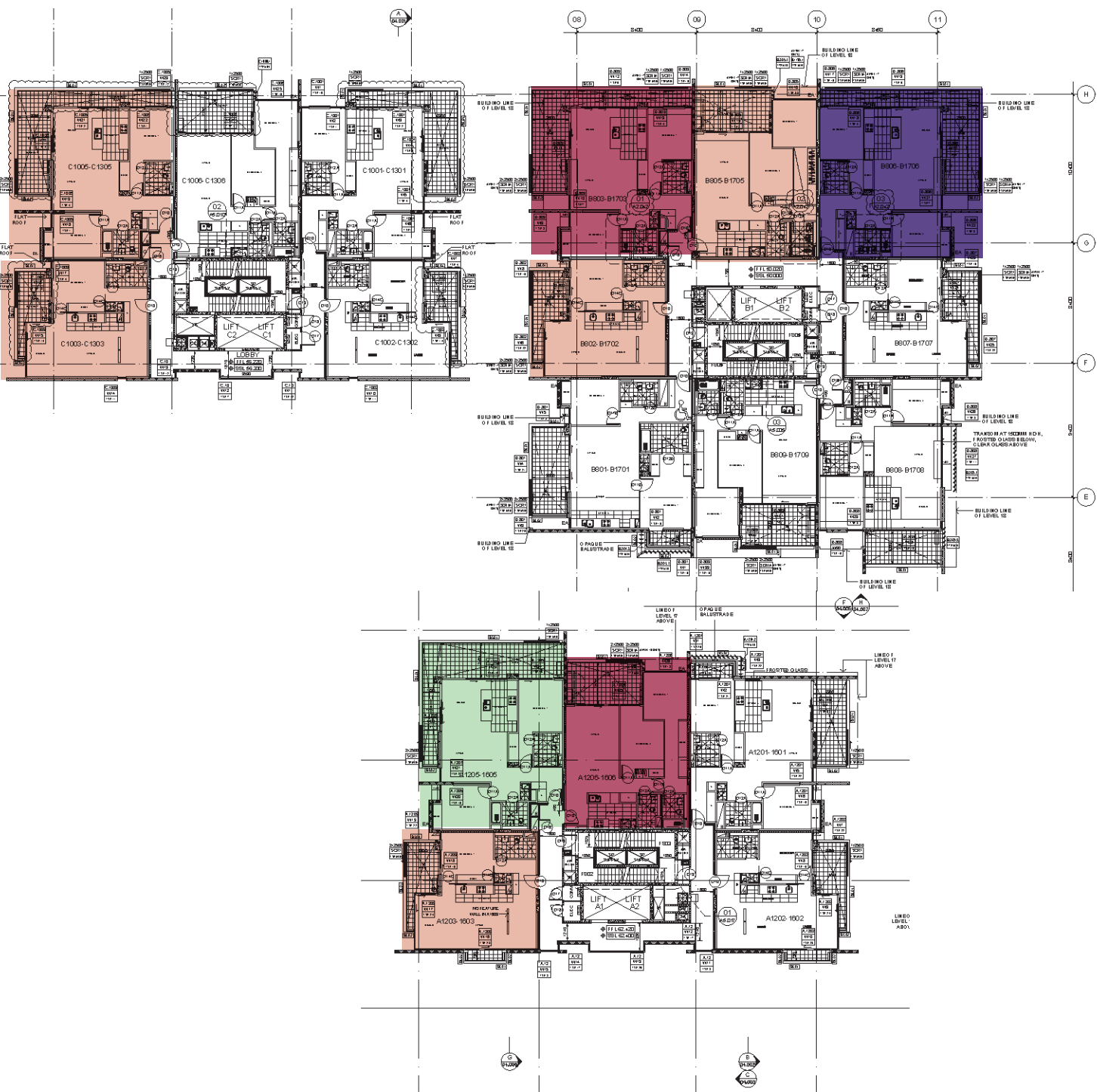


10.30am - 12.30pm
11am - 1pm
1pm - 3pm

Level 12



Level 13

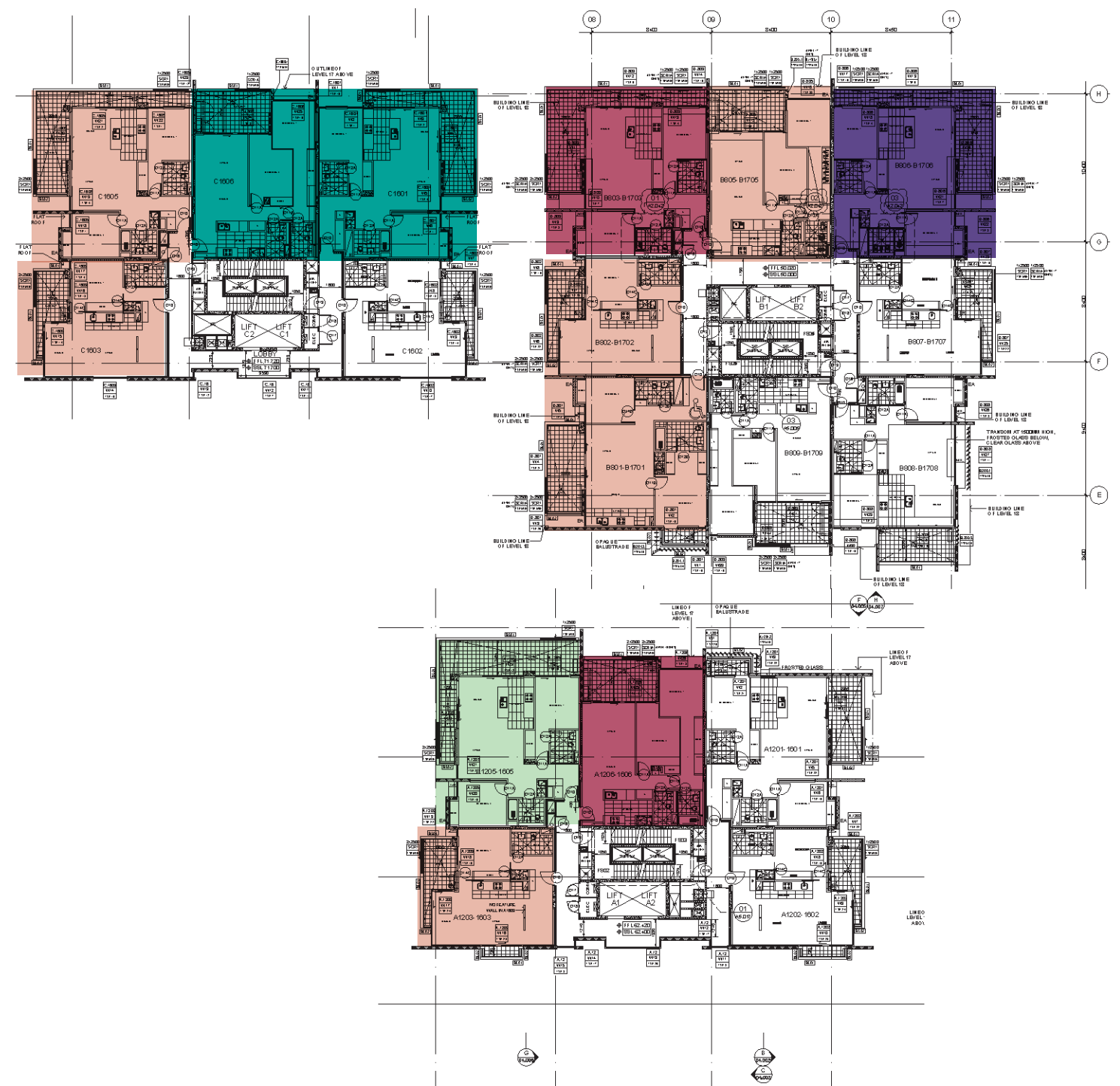


10.30am - 12.30pm 10-am - 12pm
11am - 1pm 1pm - 3pm

Level 15



Level 16



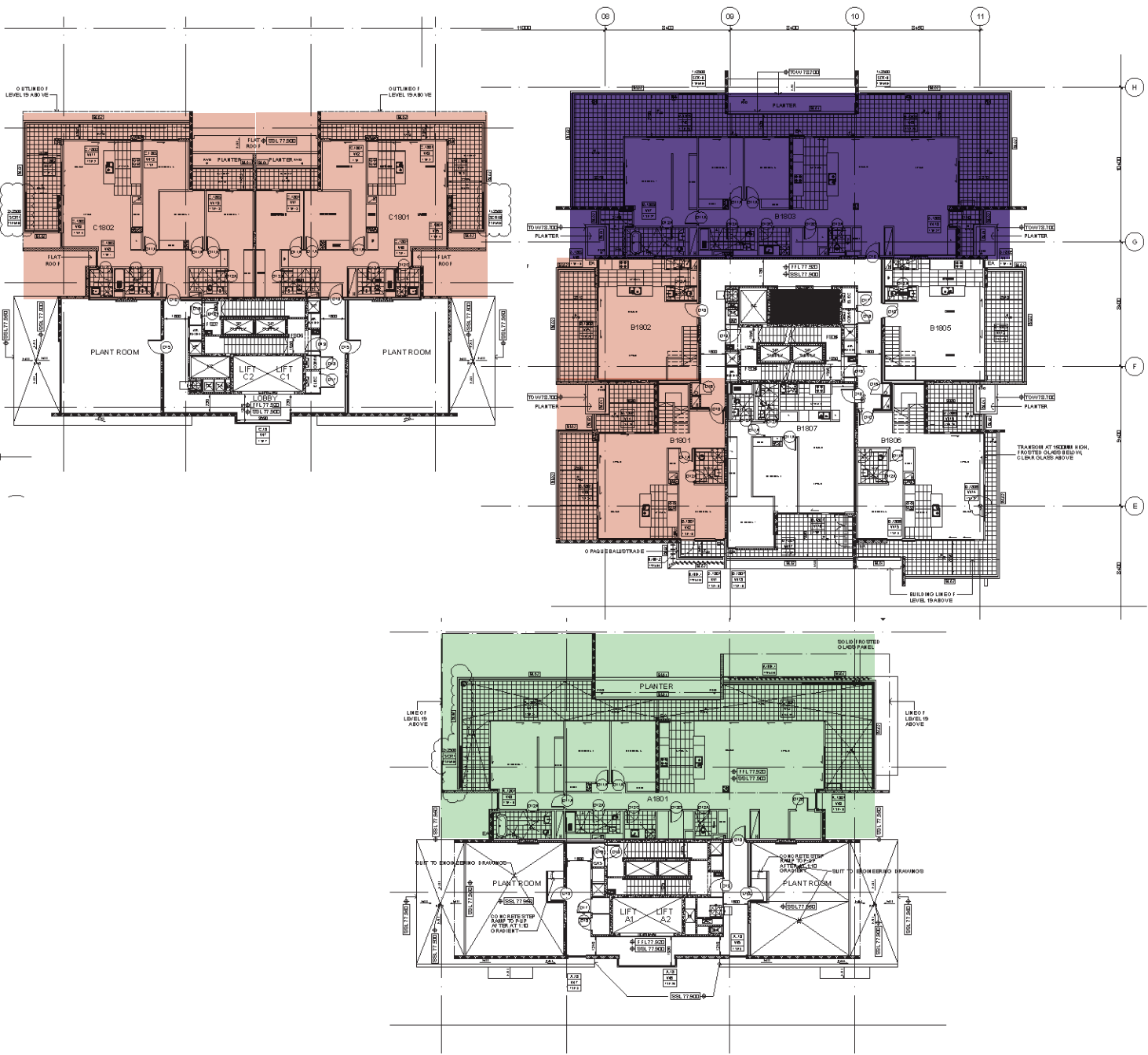
10.30am - 12.30pm
 10-am - 12pm

11am - 1pm
 1pm - 3pm

Level 17

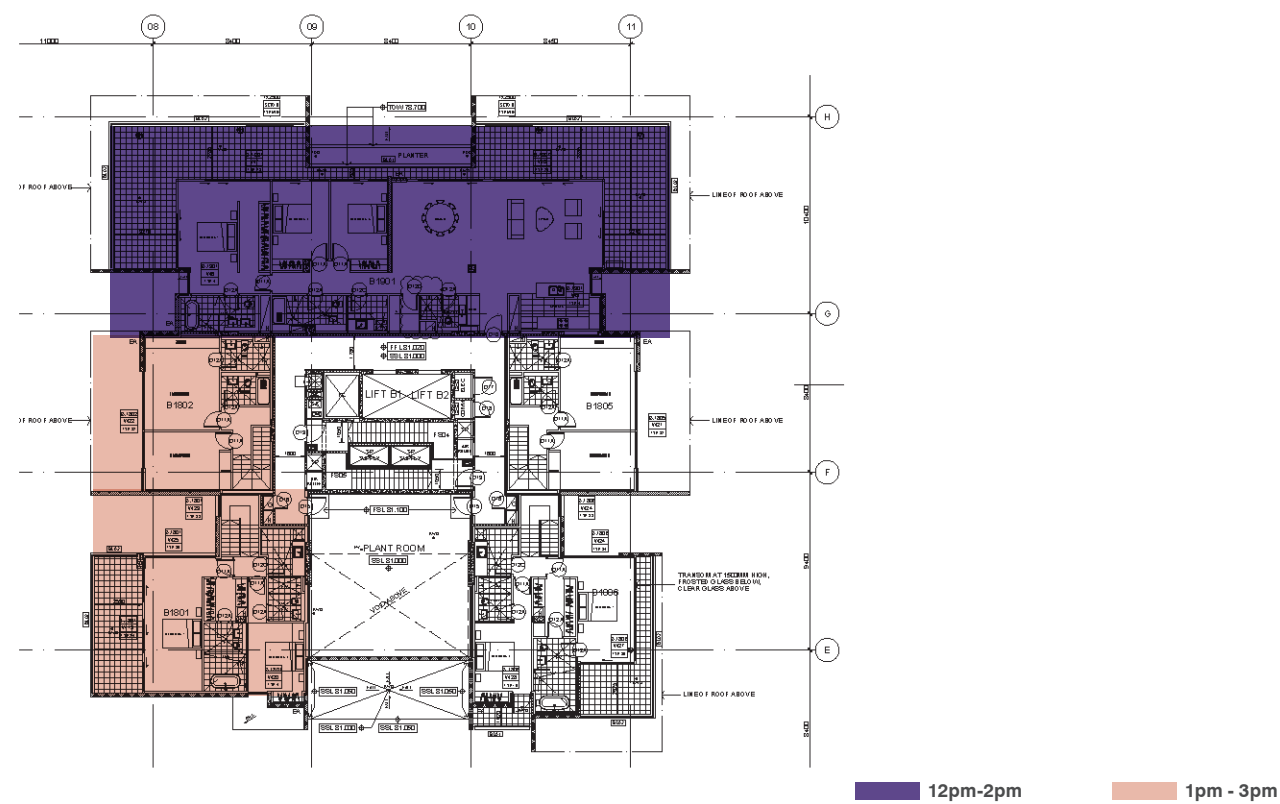


Level 18

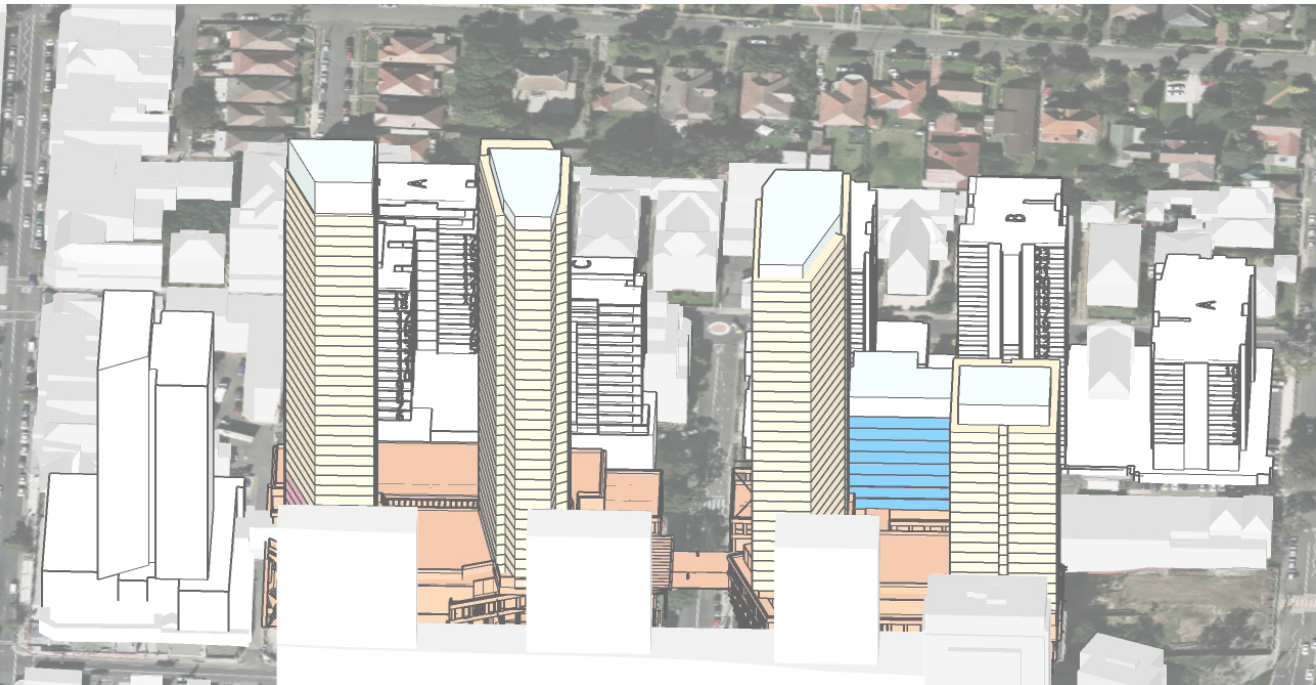


10.30am - 12.30pm 10-am - 12pm
11am - 1pm 1pm - 3pm

Level 19



Scenario 5: Solar access as achieved under the 2018 PP



Purpose of scenario

Scenario 5 tests the solar impact the 2018 scheme has on Emerald Square and Burwood Grand in accordance to the proposed control changes. It includes Burwood Central DA approved building.

Key findings

In consideration to the complying scheme the VPA scheme causes minor additional solar impact of a further 6% to Emerald Square and improves Burwood Grand by 4%.

Key statistics:

FSR:

- 10.54:1

HOB:

- Podium- 14m
- Tower A- 144m
- Tower B- 135m
- Tower C- 123m
- Tower D-76.5m

Solar access:

Emerald Square

- Achieves 36% impacting 6% further than the complying scheme (12 apartments)

Burwood Grand

- Achieves 57% improving 4% further than the complying scheme (22 apartments)

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	279	491
Emerald Square	76	210
	355	701
		51%

Solar testing summary

Scenario 5: Solar access as achieved under the updated PP

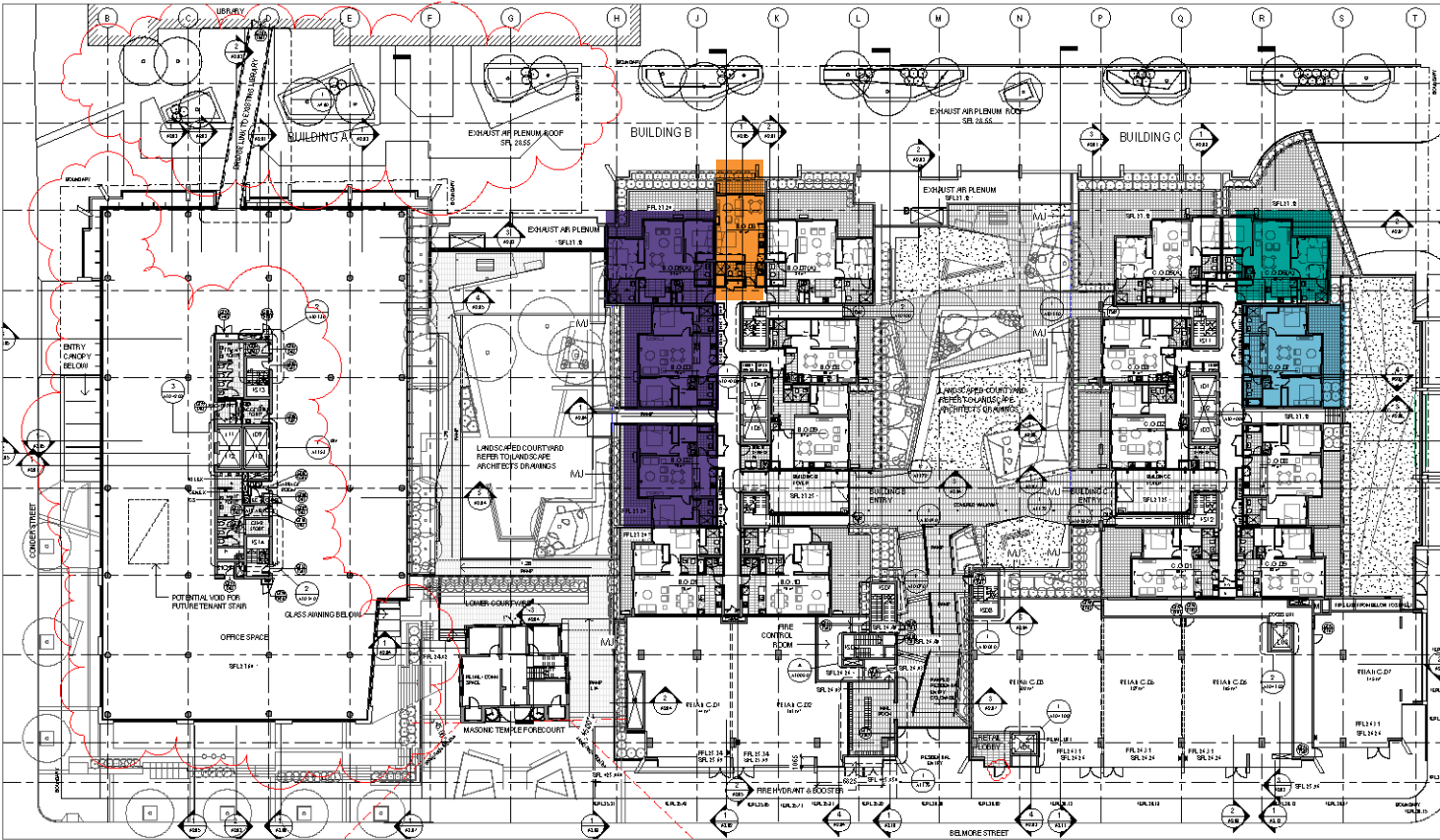
Burwood Grand

Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Total
A	> 2 hours sun	Office space		7	7	7	7	9	9	9	9													64
	Total apartments		11	11	11	11	11	11	11	11	11													88
			64%	64%	64%	64%	82%	82%	82%	82%														
B	> 2 hours sun	4	4	4	4	6	6	6	6	6	7	7	7	7	7	6	6	5	5	5	5	5	5	123
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	6	6	218
		44%	31%	36%	36%	55%	55%	55%	55%	55%	64%	64%	64%	64%	64%	60%	60%	63%	63%	63%	63%	83%	83%	
C	> 2 hours sun	2	2	2	2	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6				92
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9	9				185
		25%	14%	18%	18%	36%	36%	45%	56%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%				
Total >2hrs of sun																							279	57%
Total apartments																							491	

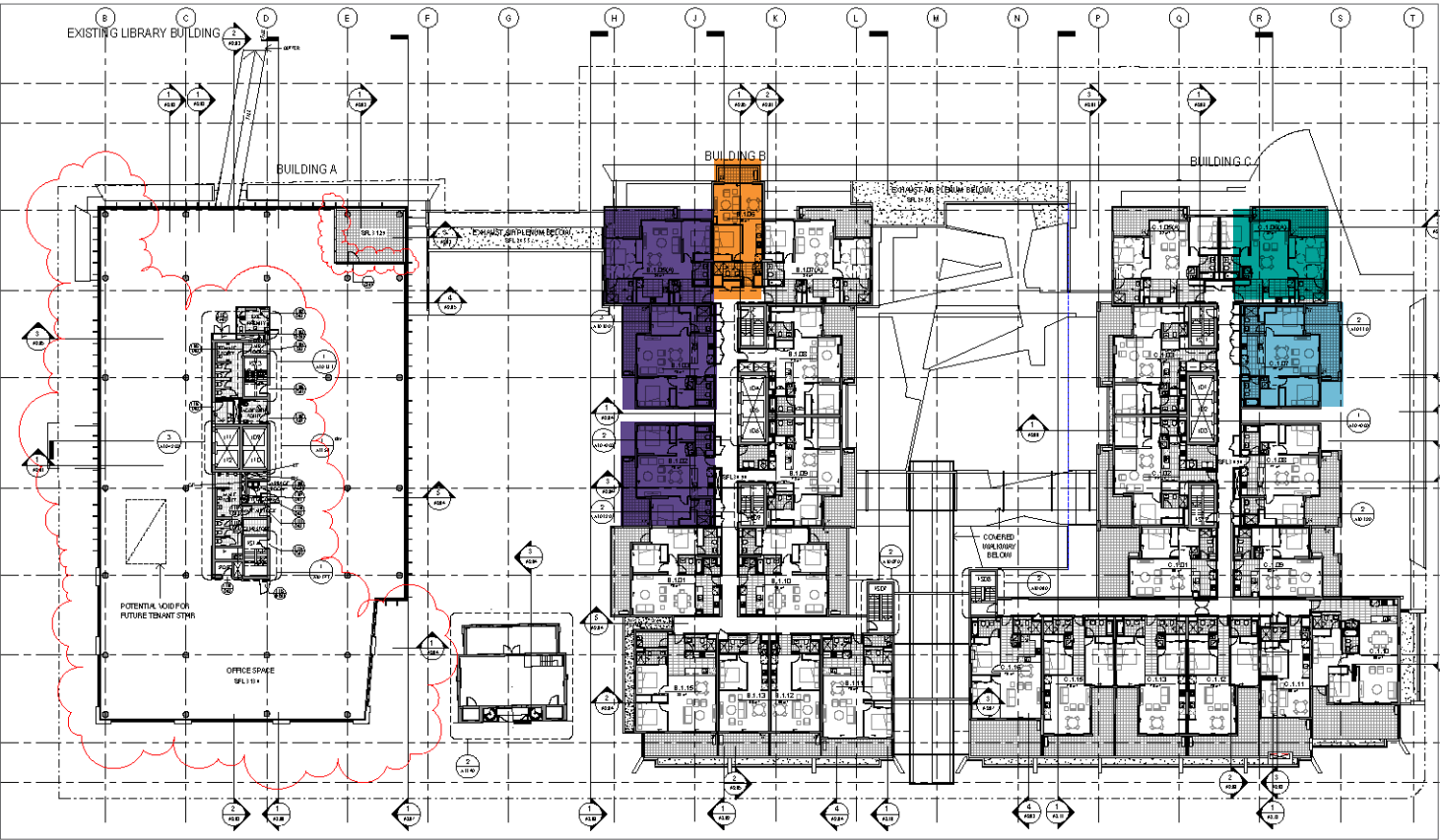
Emerald Square

		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total		
A	> 2 hours sun	Non-residential podium				0	0	0	0	0	0	1	1	2	2	2	2	1		11		
	Total aparments					4	4	5	5	5	5	5	5	5	5	5	5	5	4	1		58
						0%	0%	0%	0%	0%	0%	20%	20%	40%	40%	40%	40%	40%	50%	100%		
B	> 2 hours sun	Non-residential podium				1	2	2	2	2	2	2	2	2	2	2	2	3	1	27		
	Total aparments					5	7	8	8	8	8	8	8	8	8	8	8	8	6	1		99
						20%	29%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	50%	100%	
C	> 2 hours sun	Non-residential podium				3	3	3	3	3	3	3	3	3	3	3	3	2		38		
	Total aparments					3	3	3	3	5	5	5	5	5	5	5	5	4	2		53	
						100%	100%	100%	100%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	75%	100%	
Total >2hrs of sun																		76	36%			
Total apartments																		210				

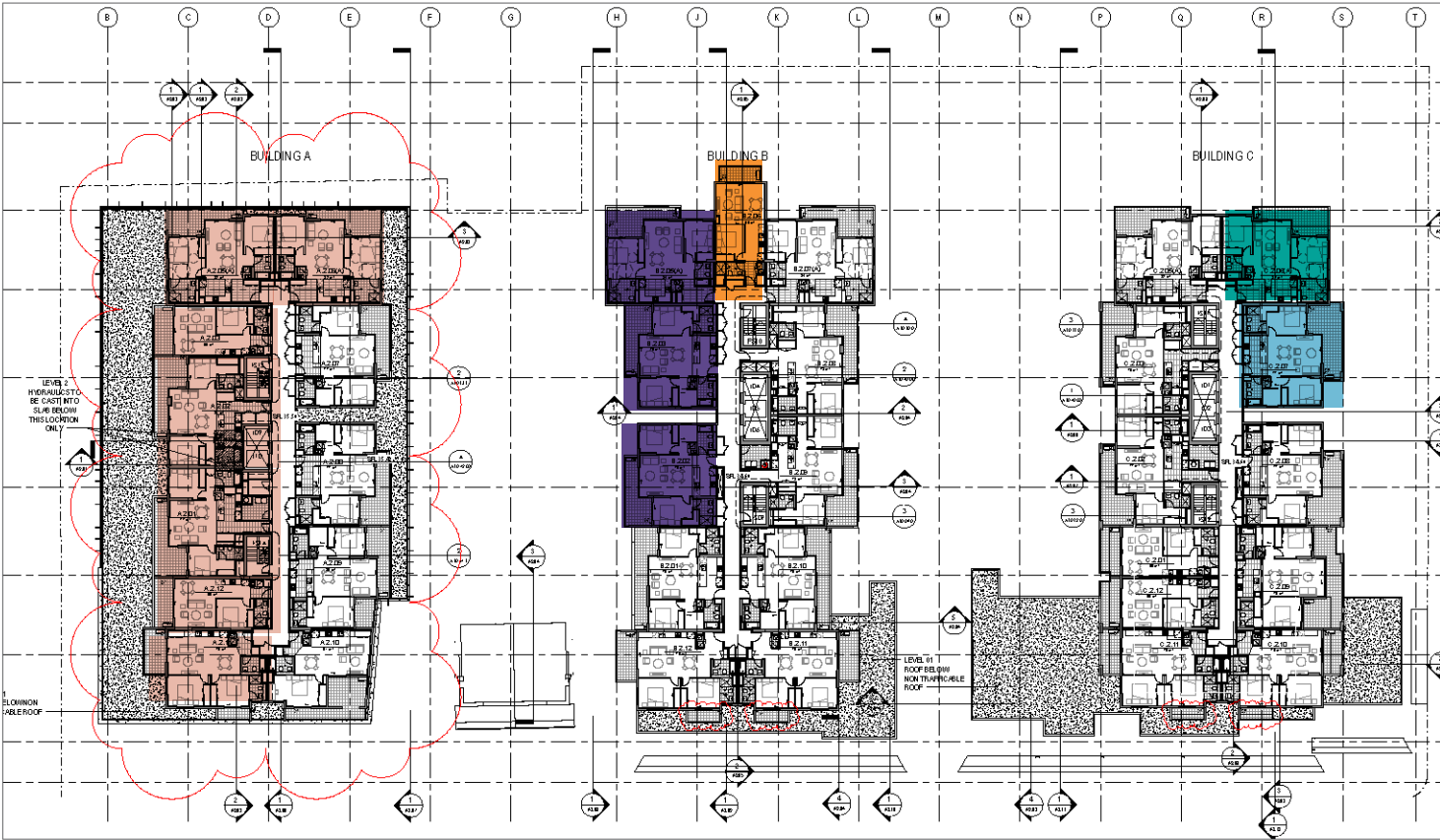
Option 5: Solar access as achieved under the updated PP - Burwood Grand
Ground level



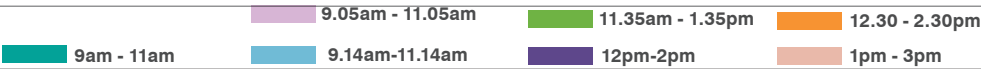
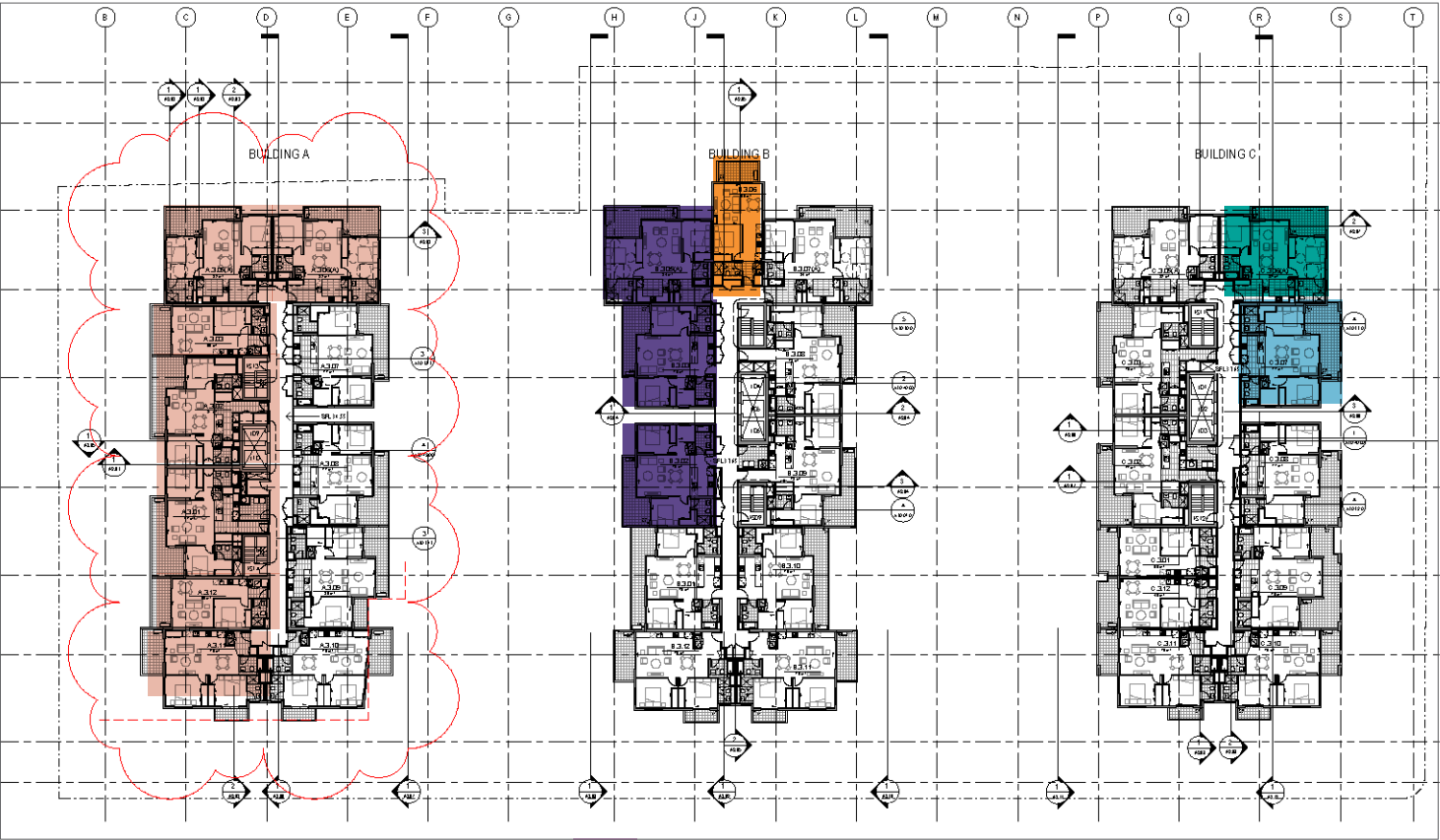
Level 1



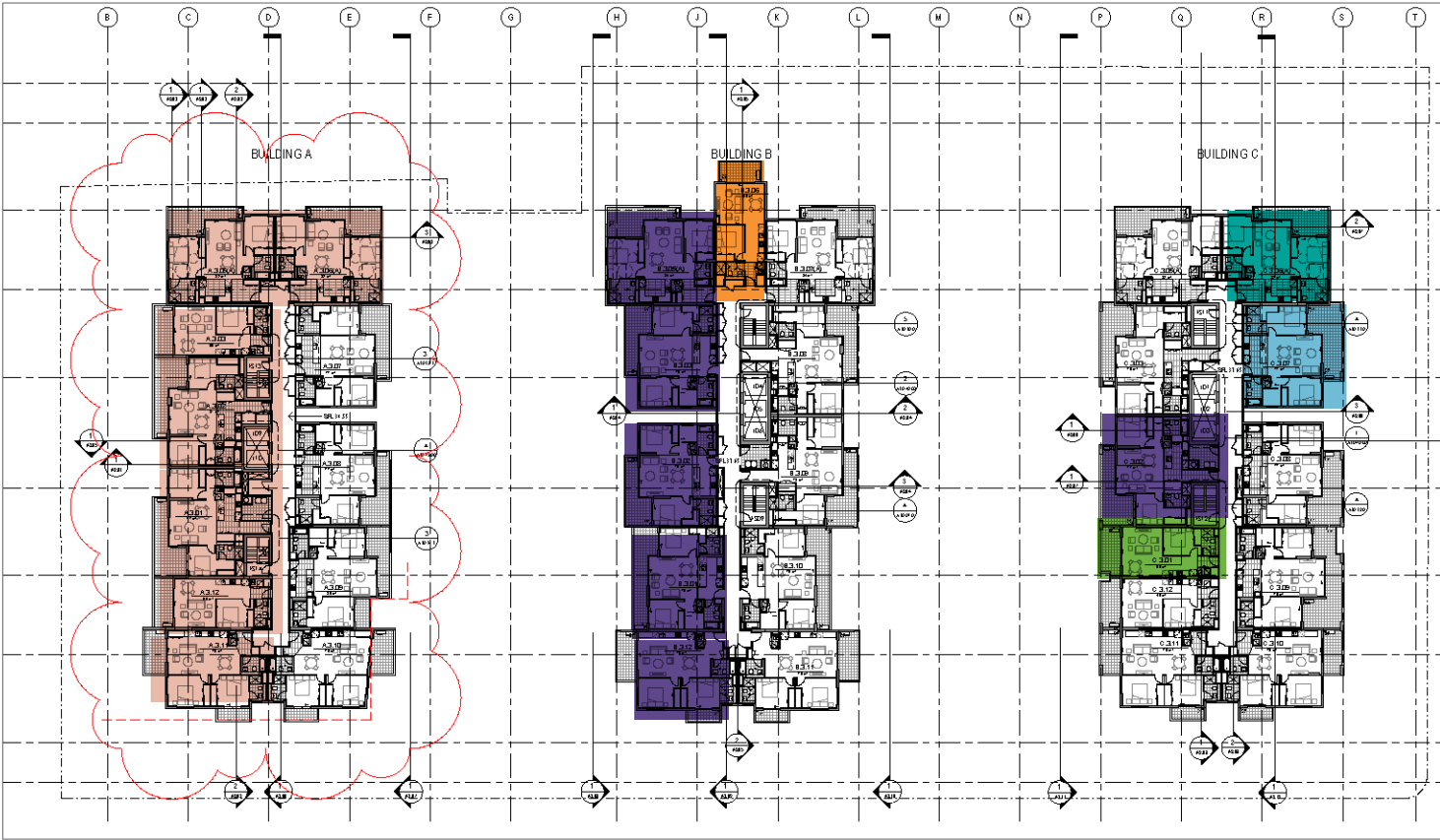
Level 2



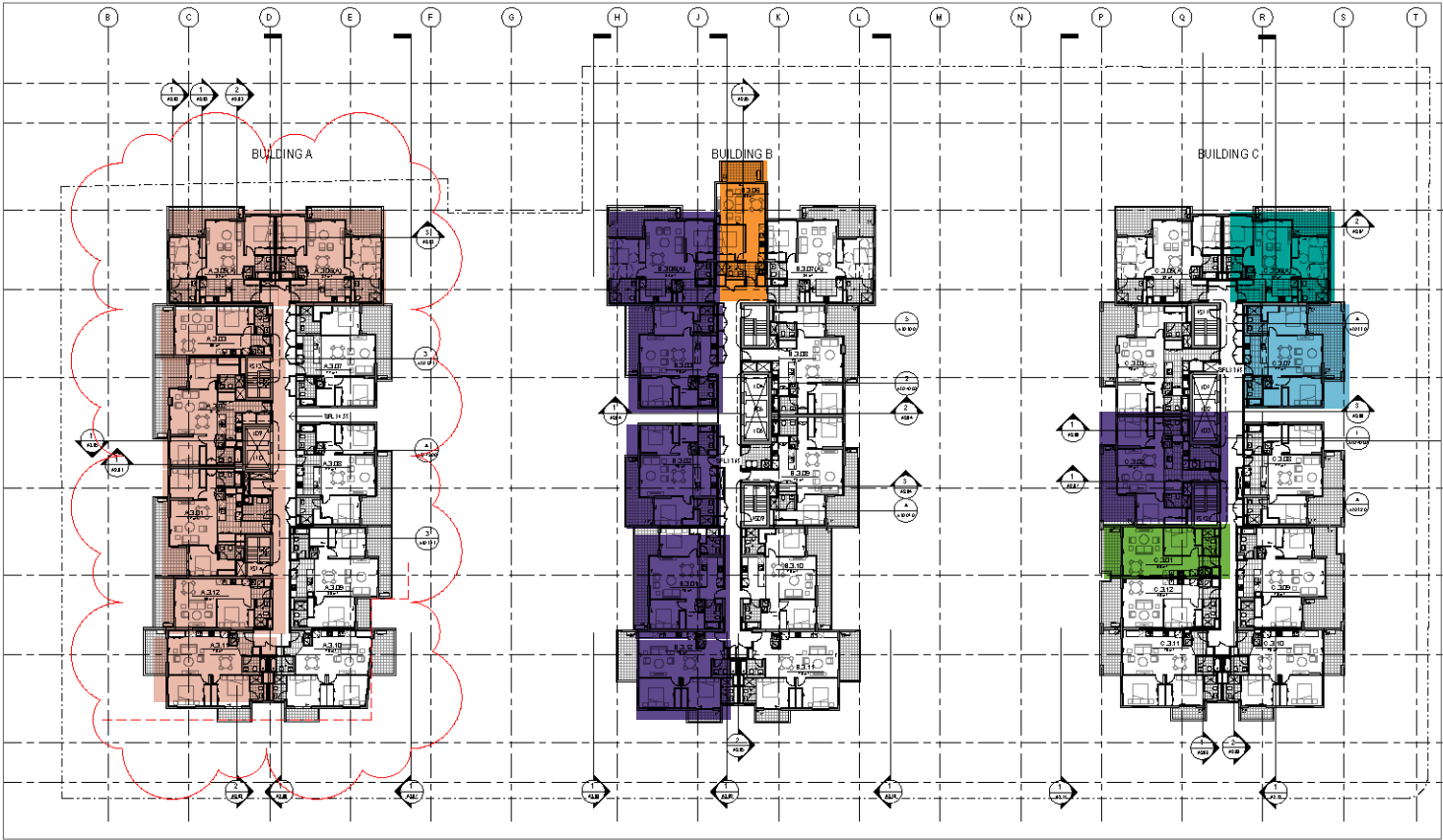
Level 3



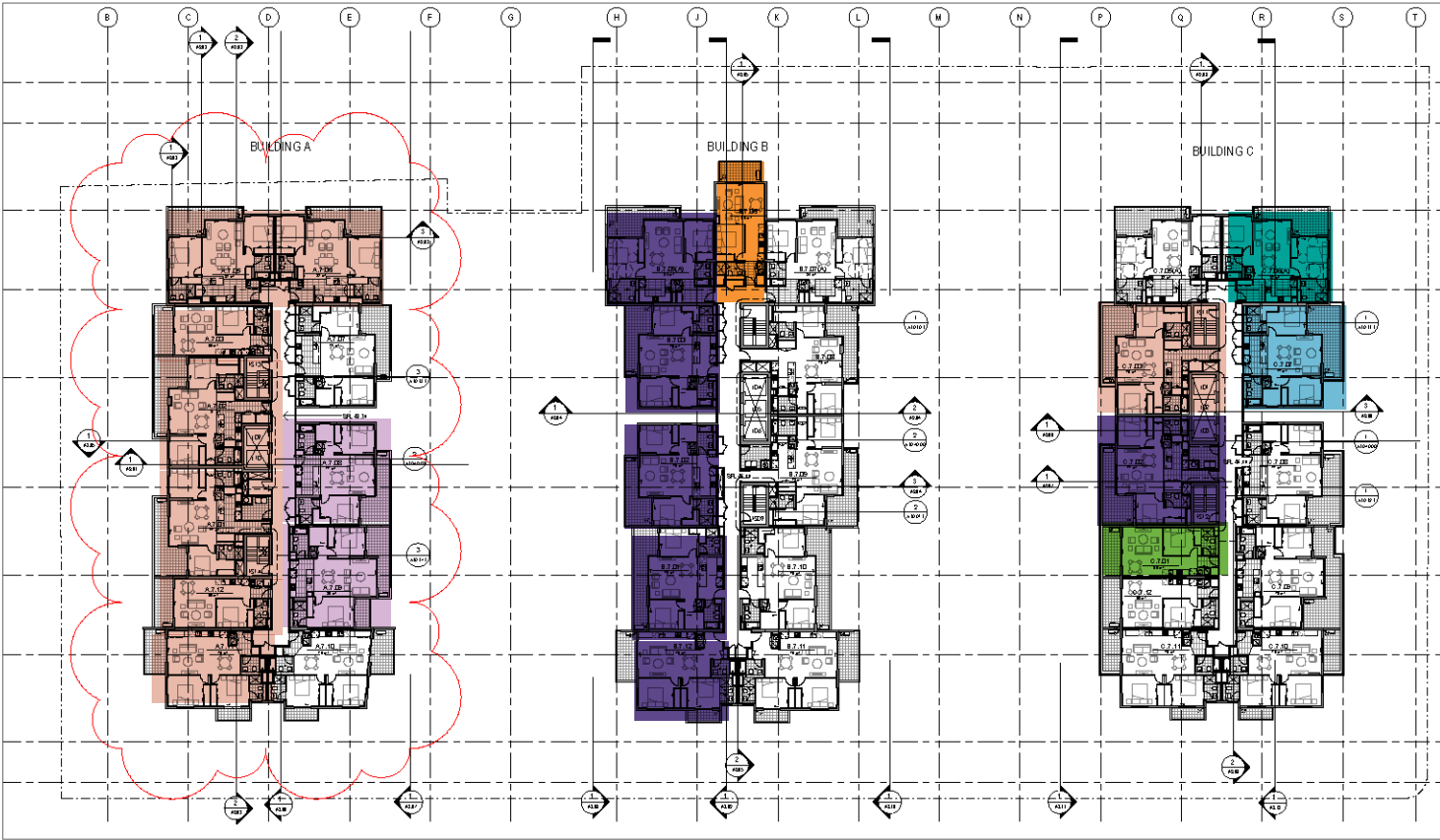
Level 5



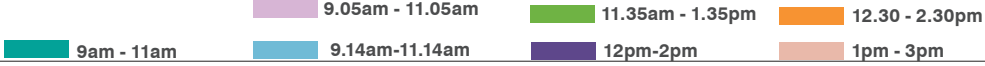
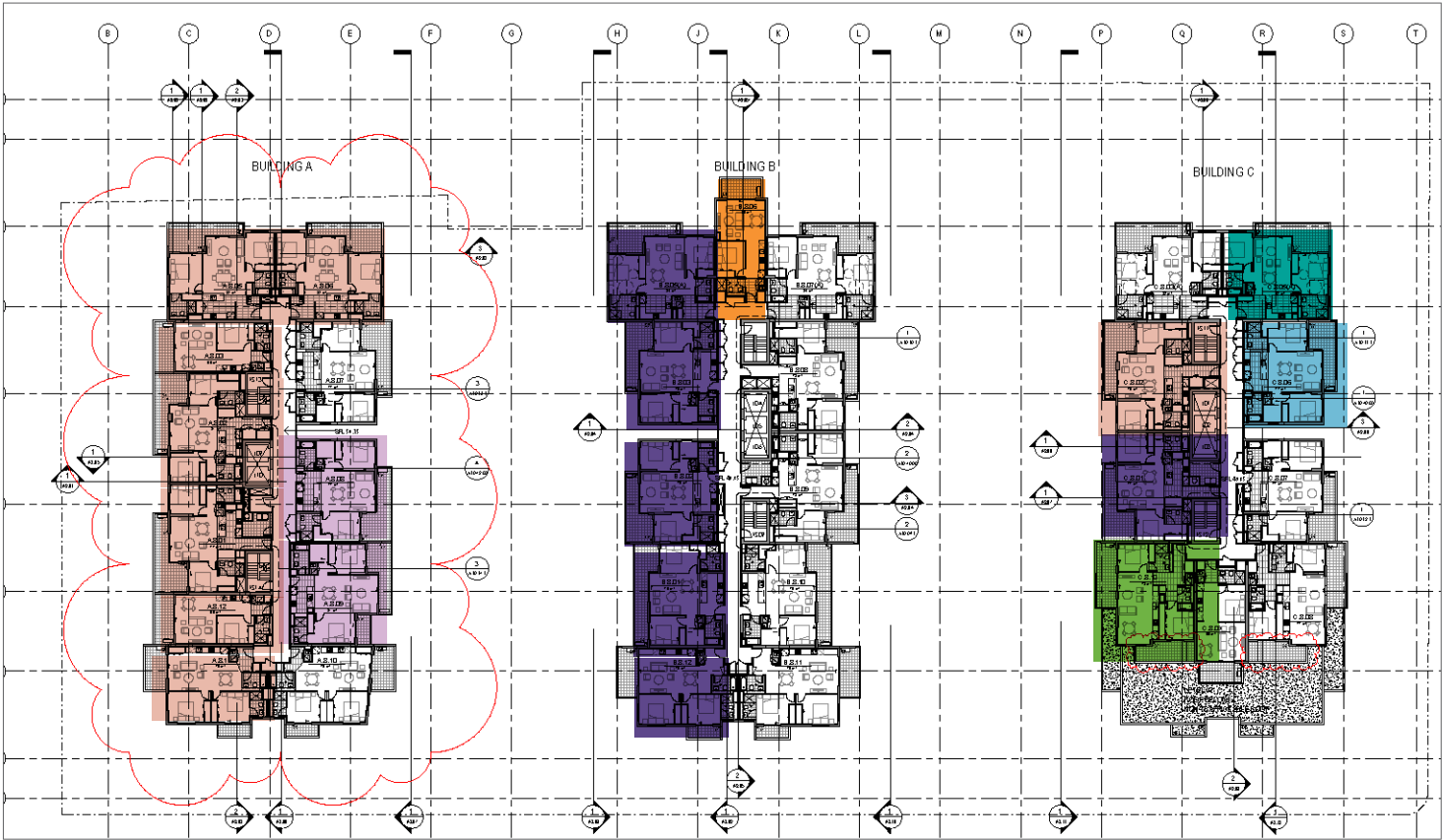
Level 6



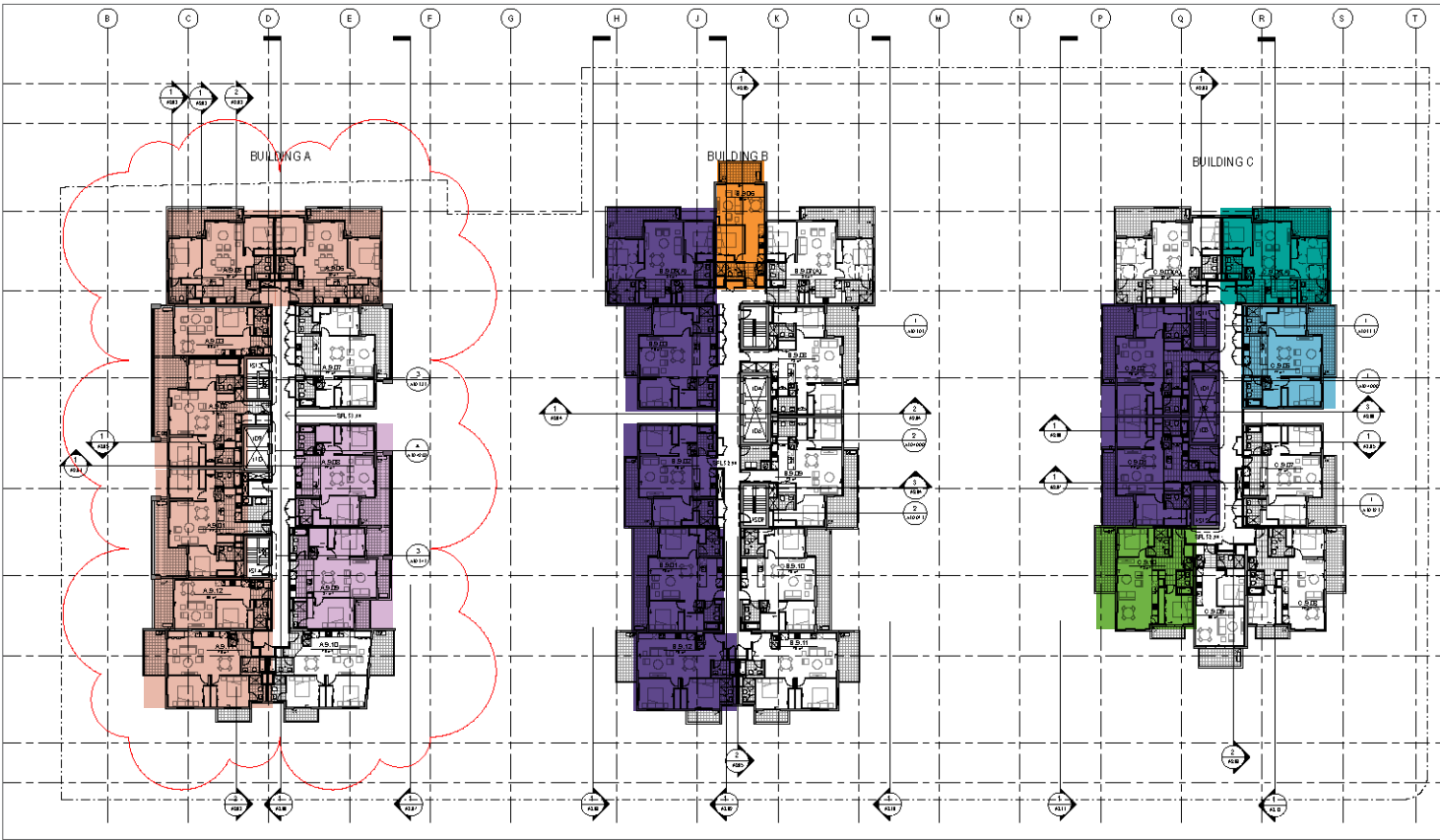
Level 7



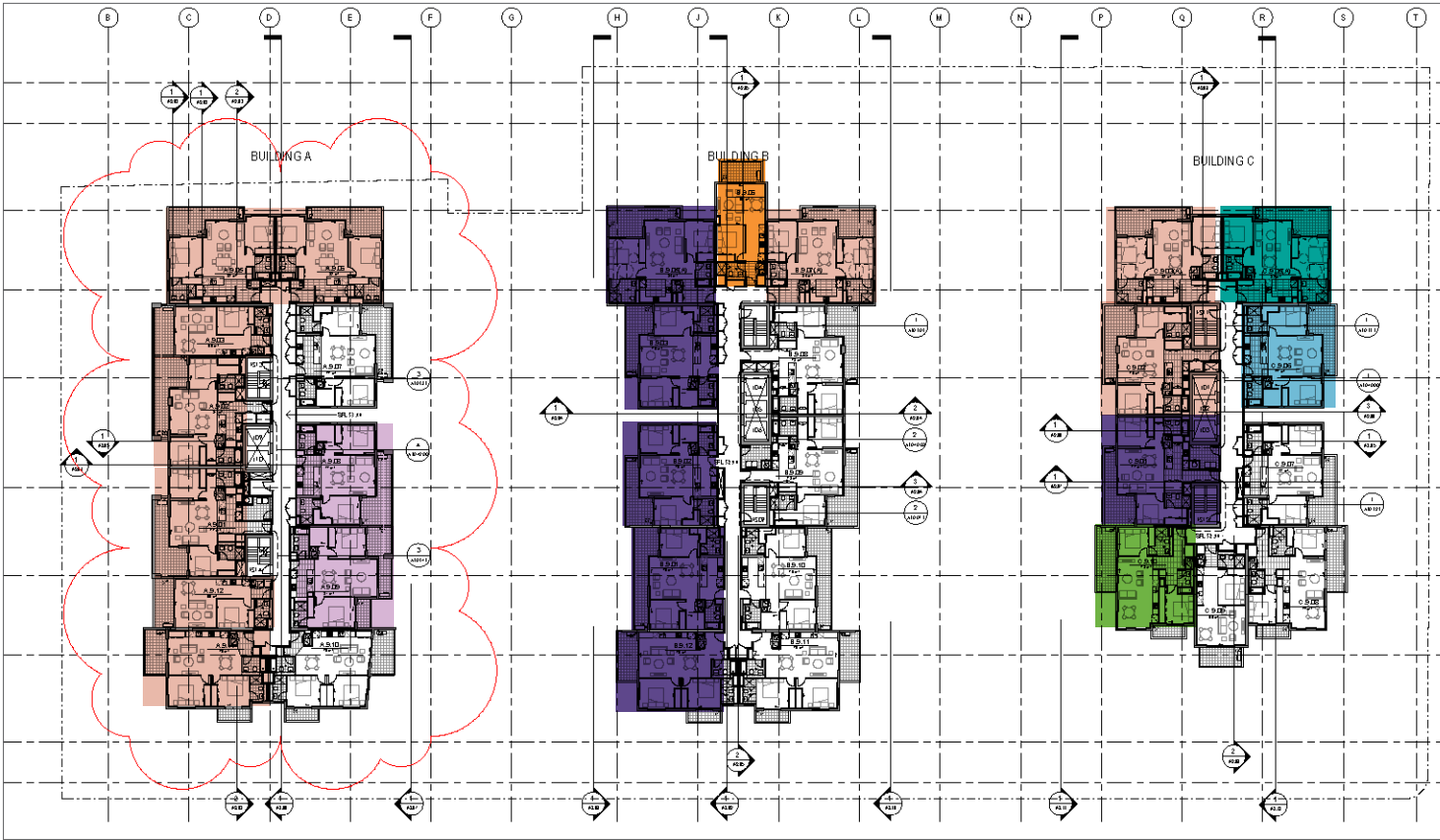
Level 8



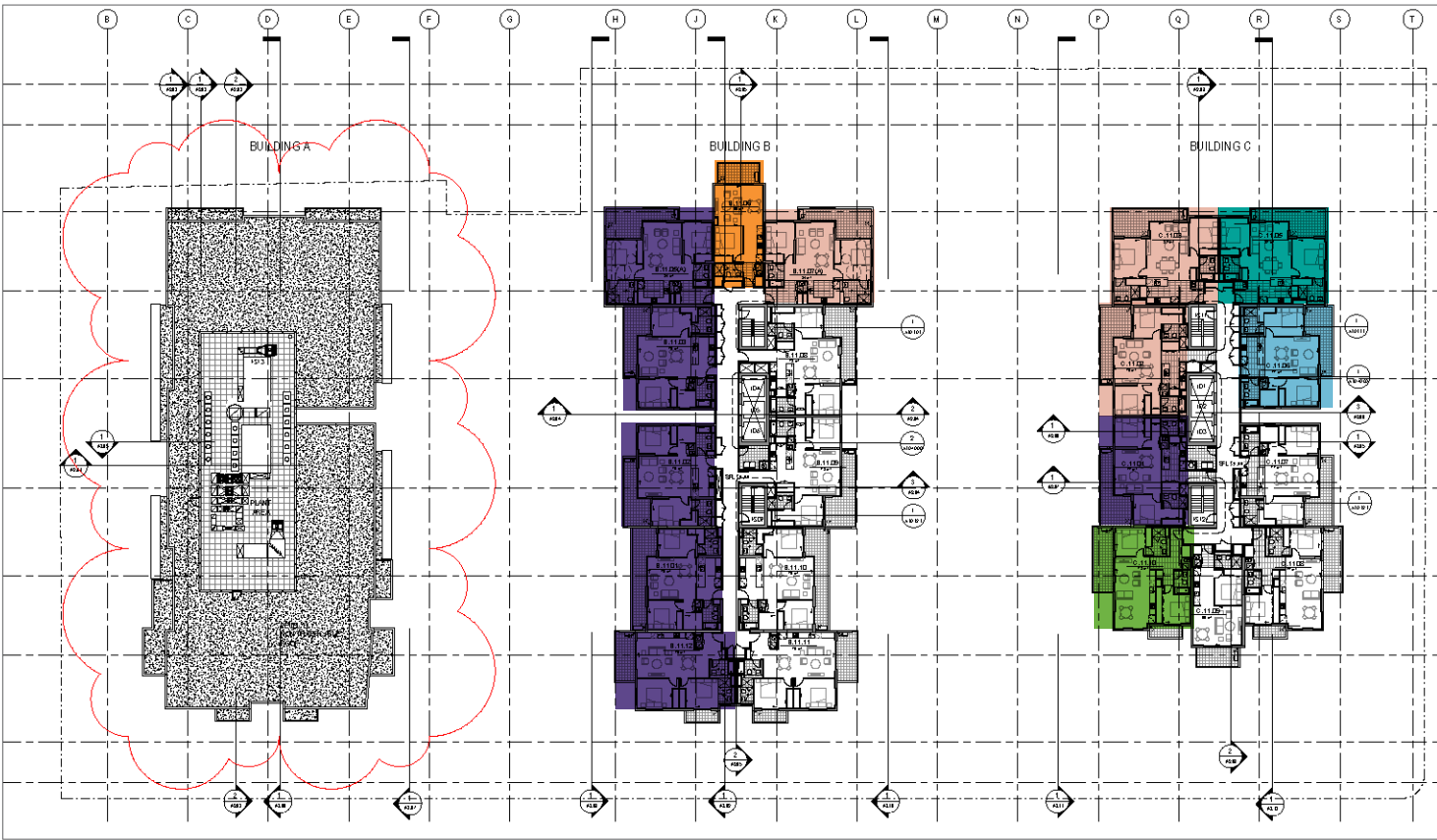
Level 9



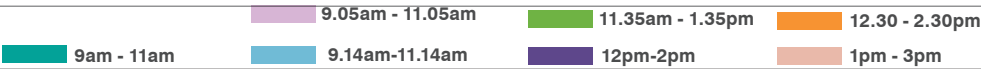
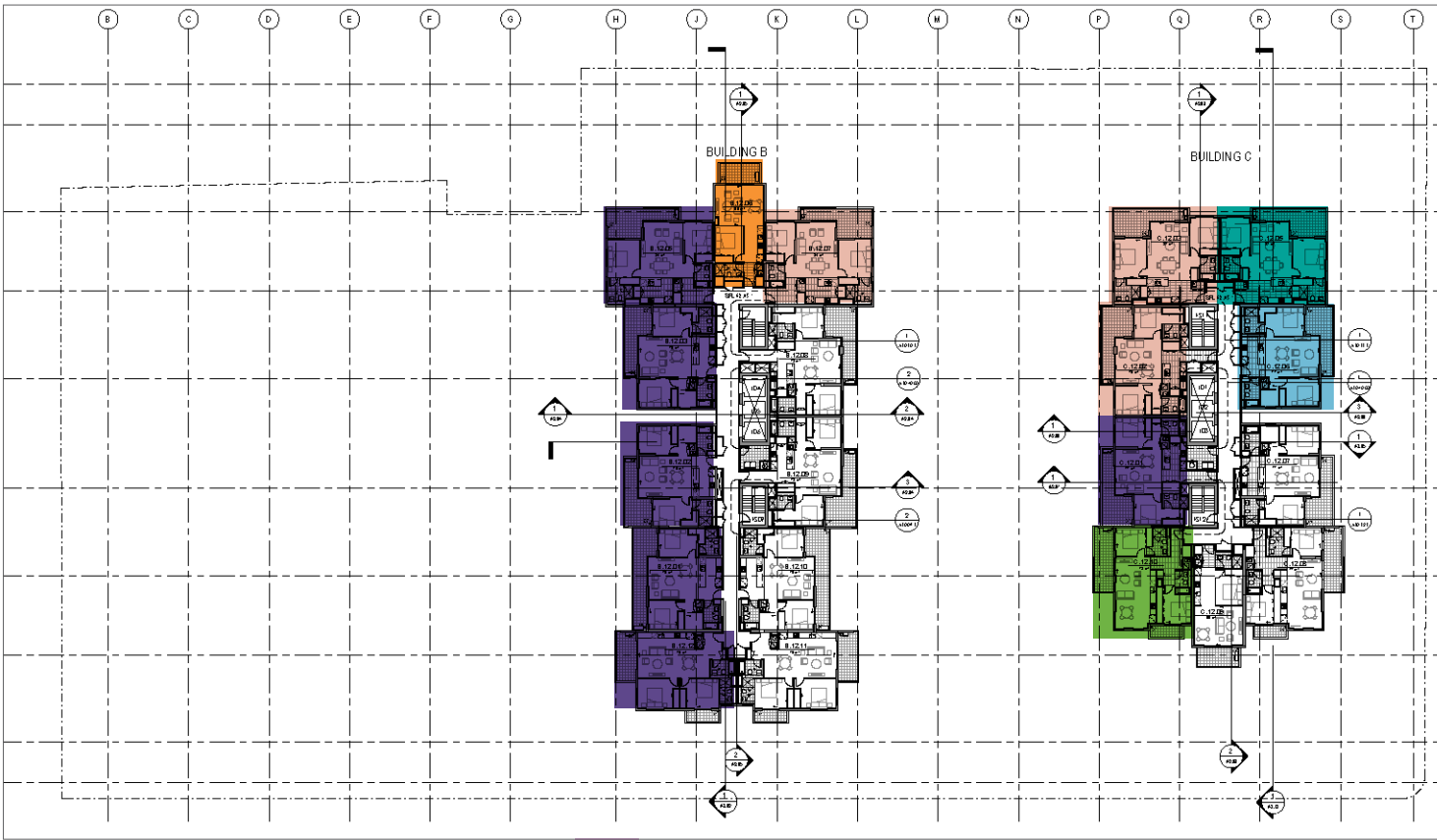
Level 10



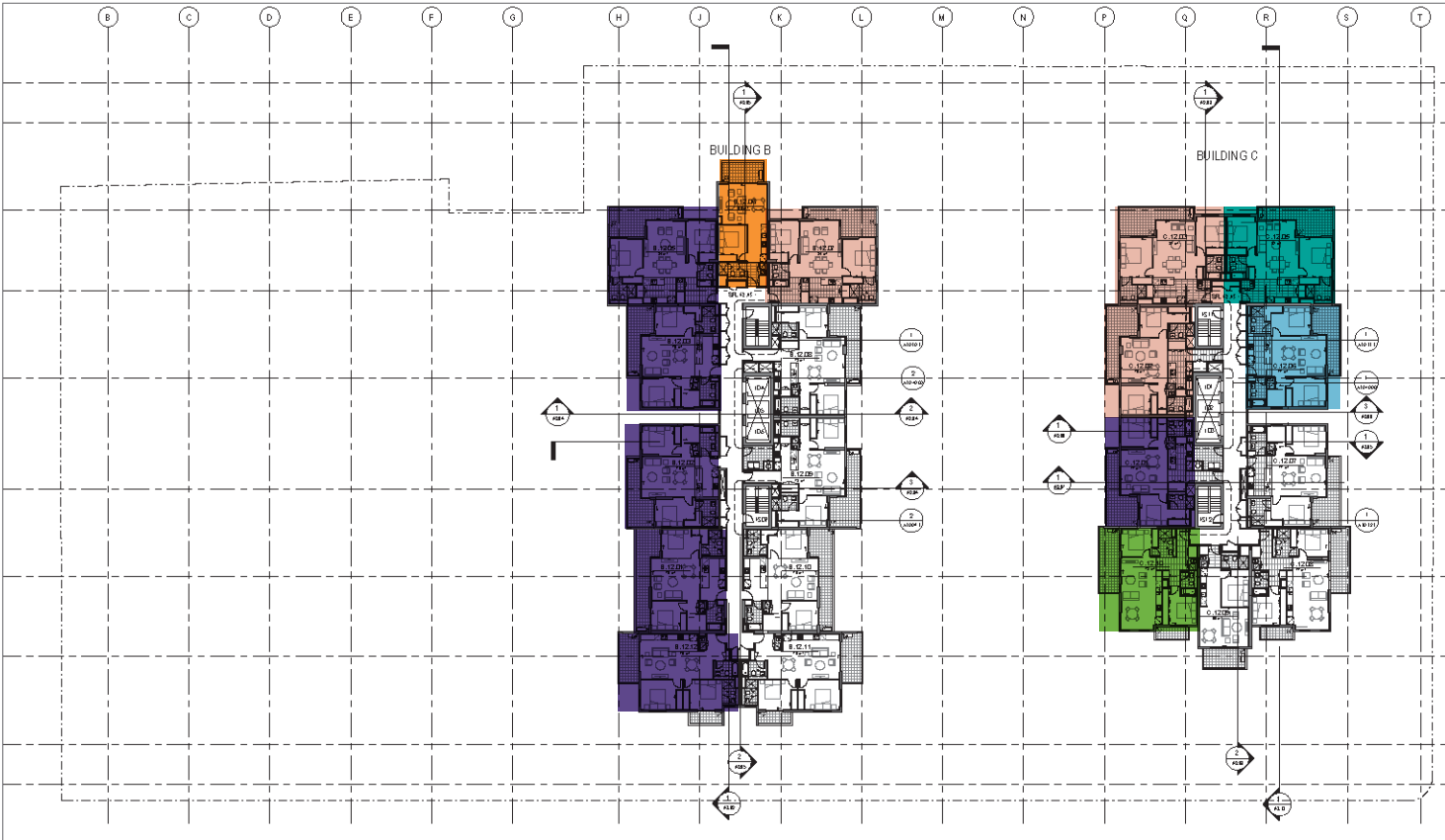
Level 11



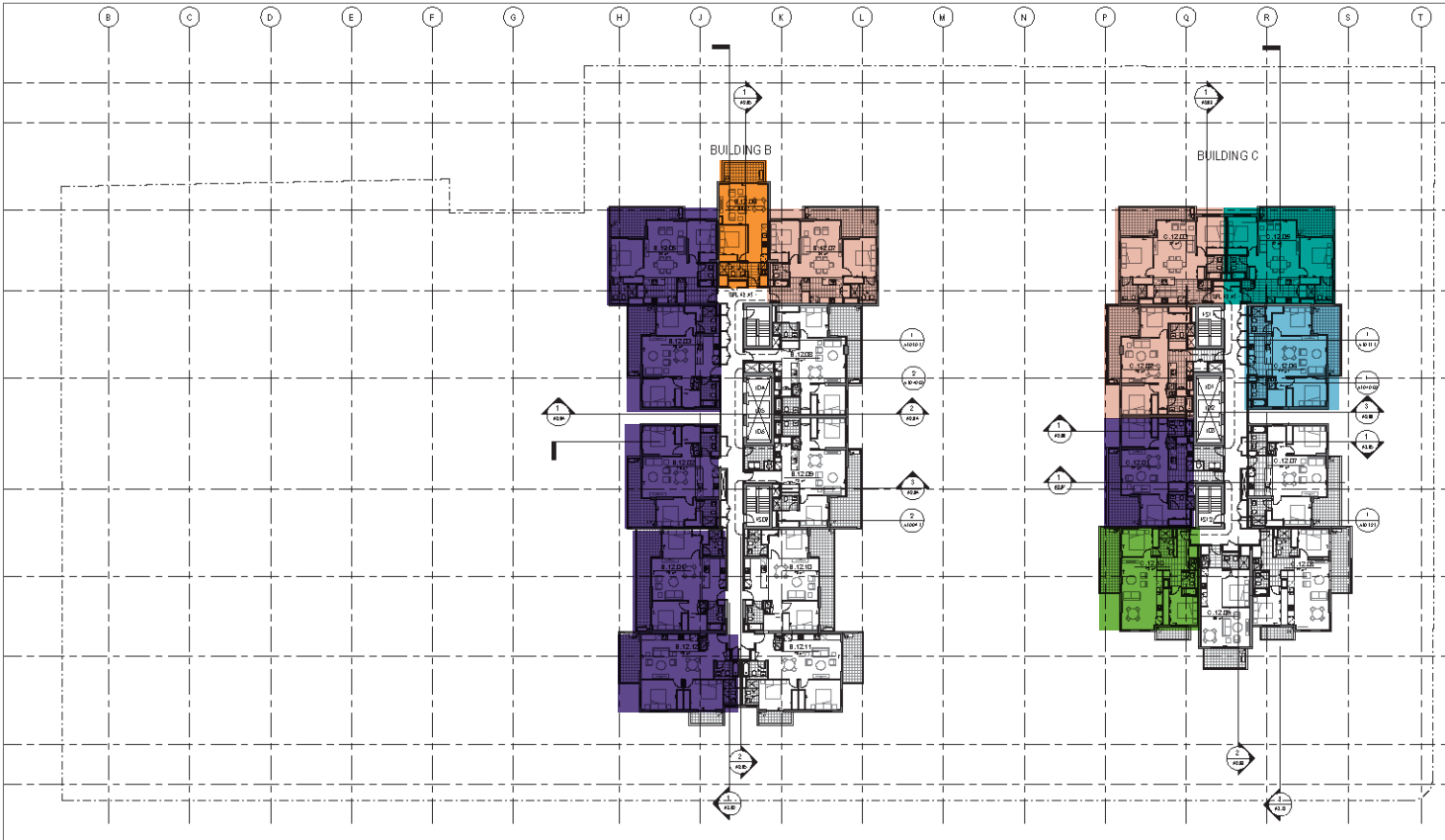
Level 12



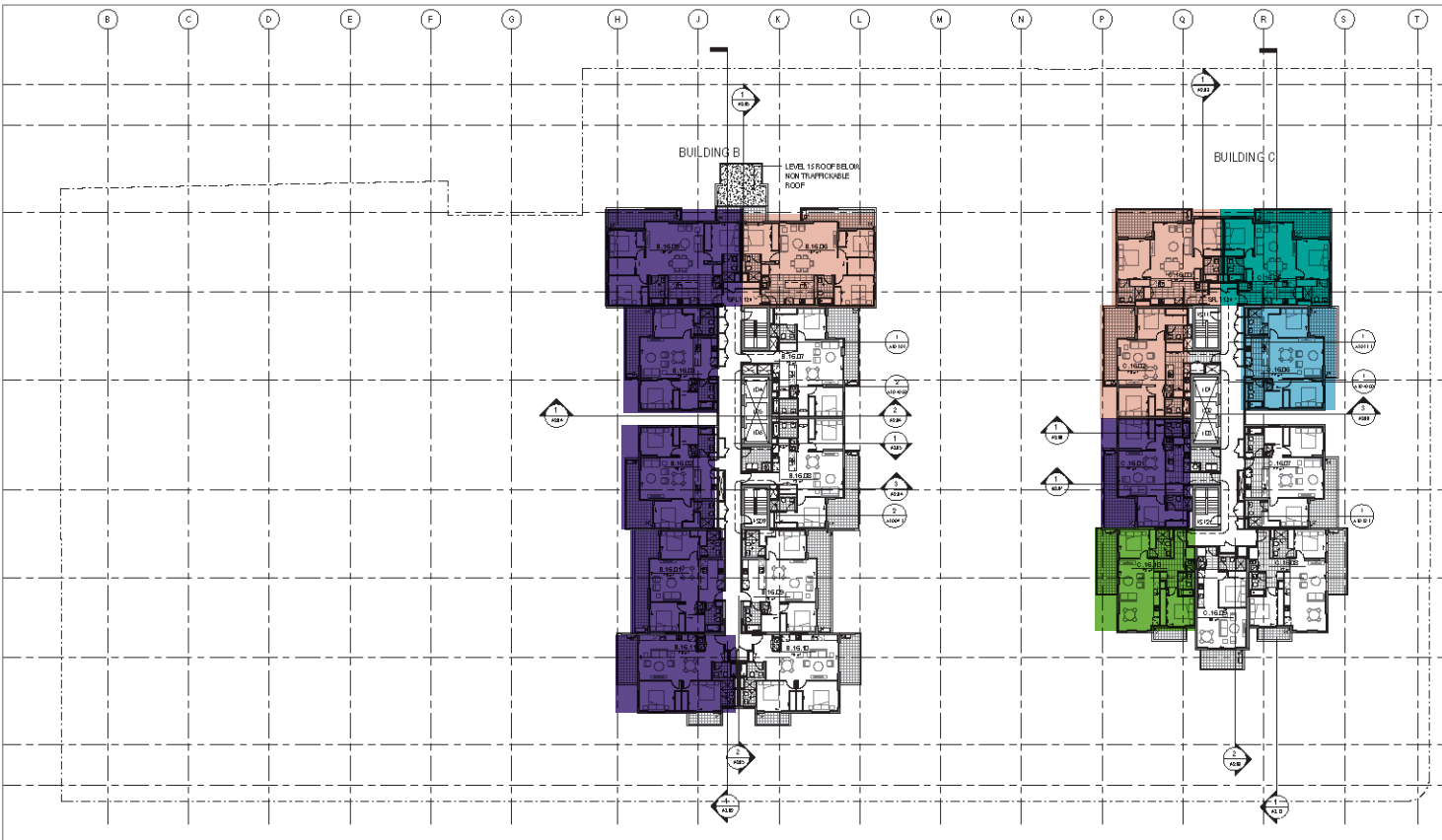
Level 13



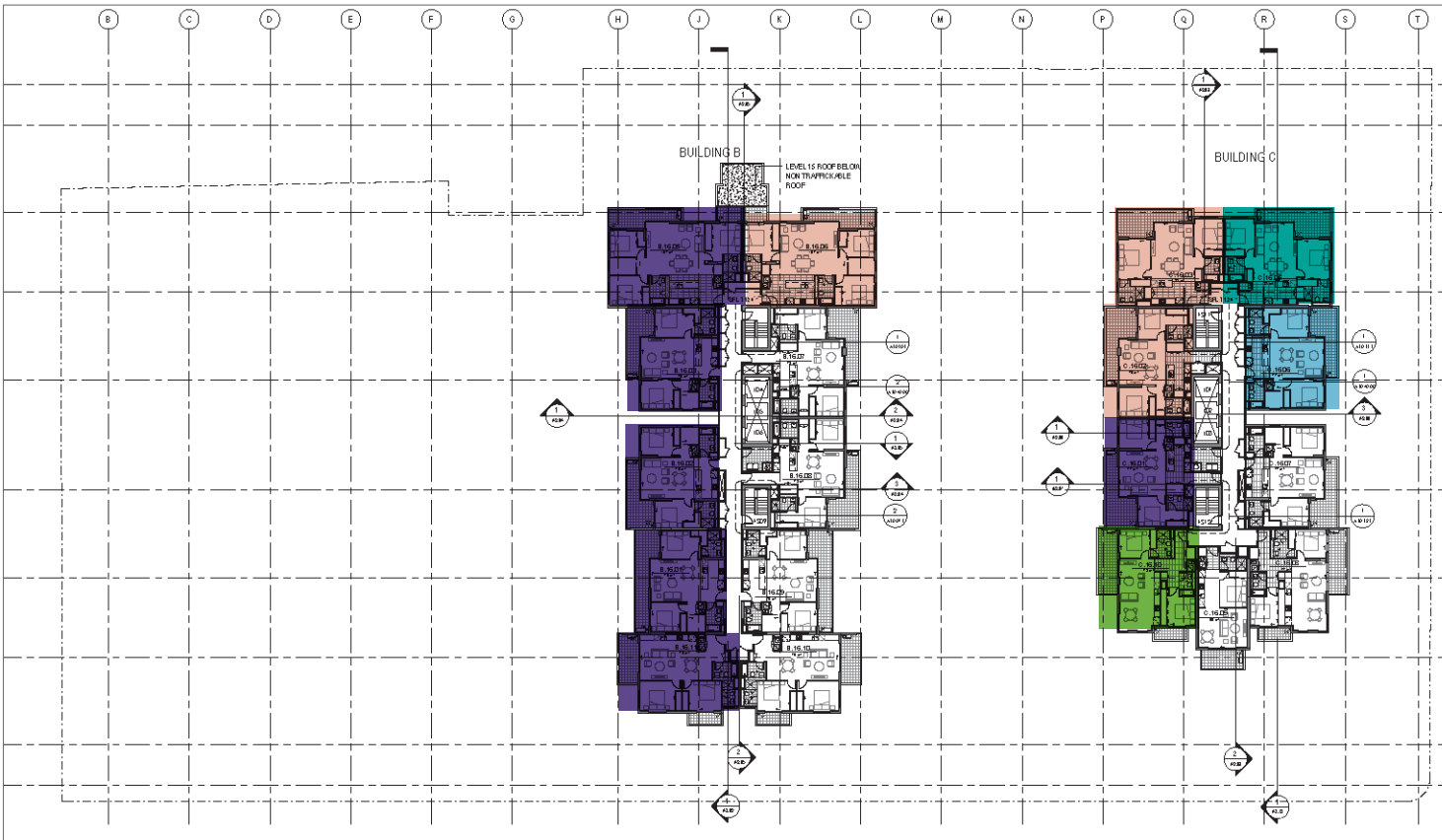
Level 15



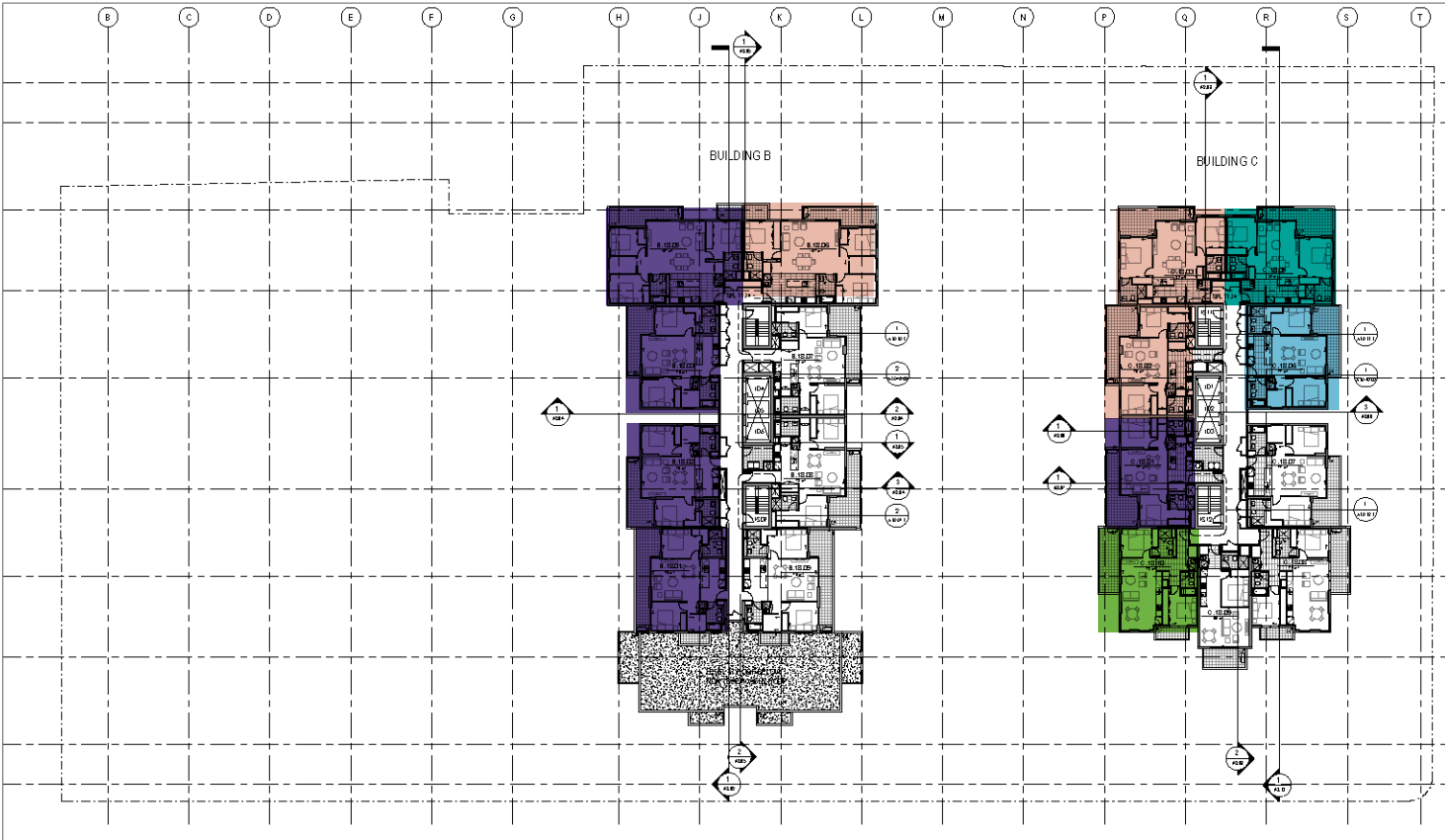
Level 16



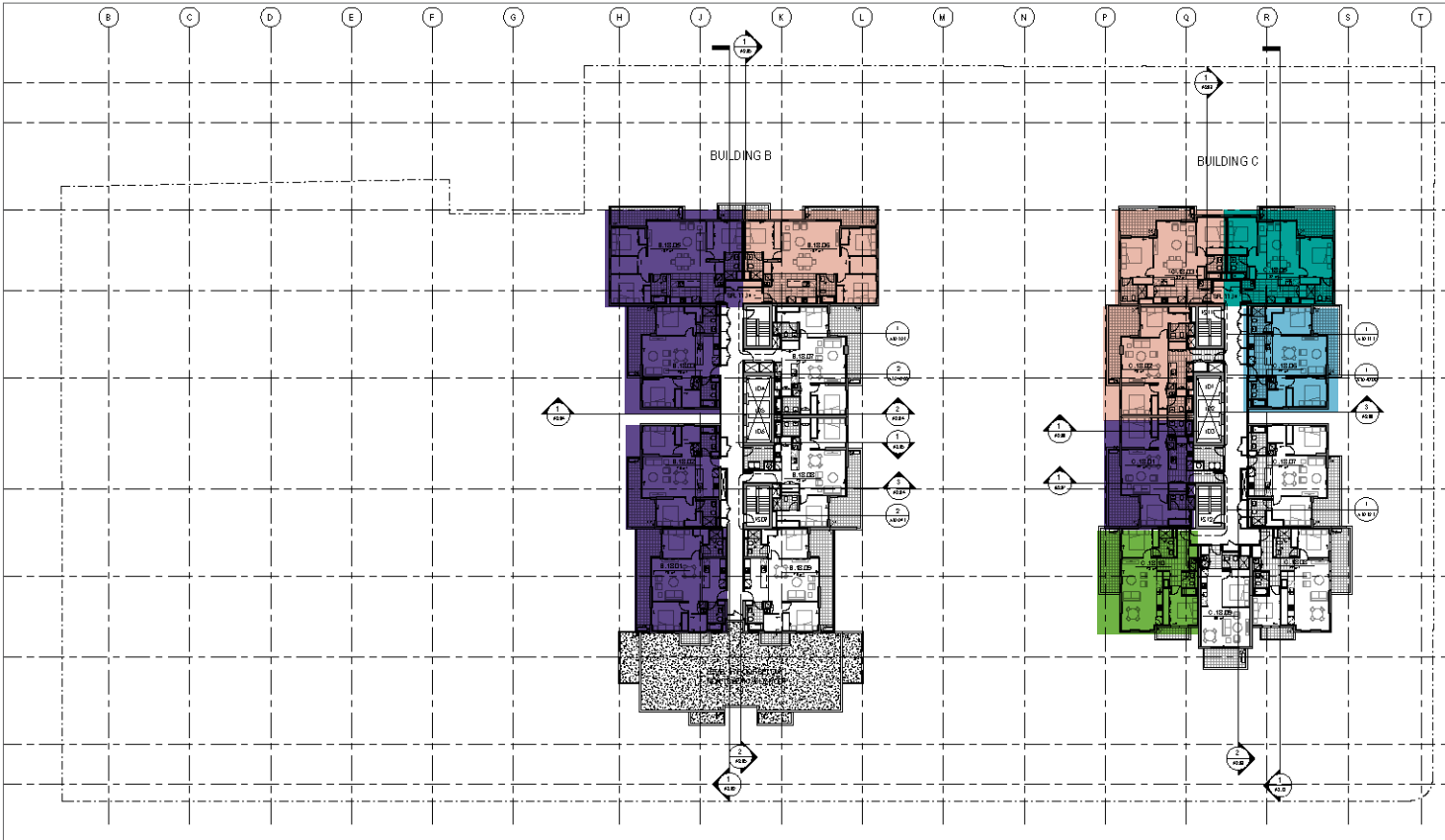
Level 17



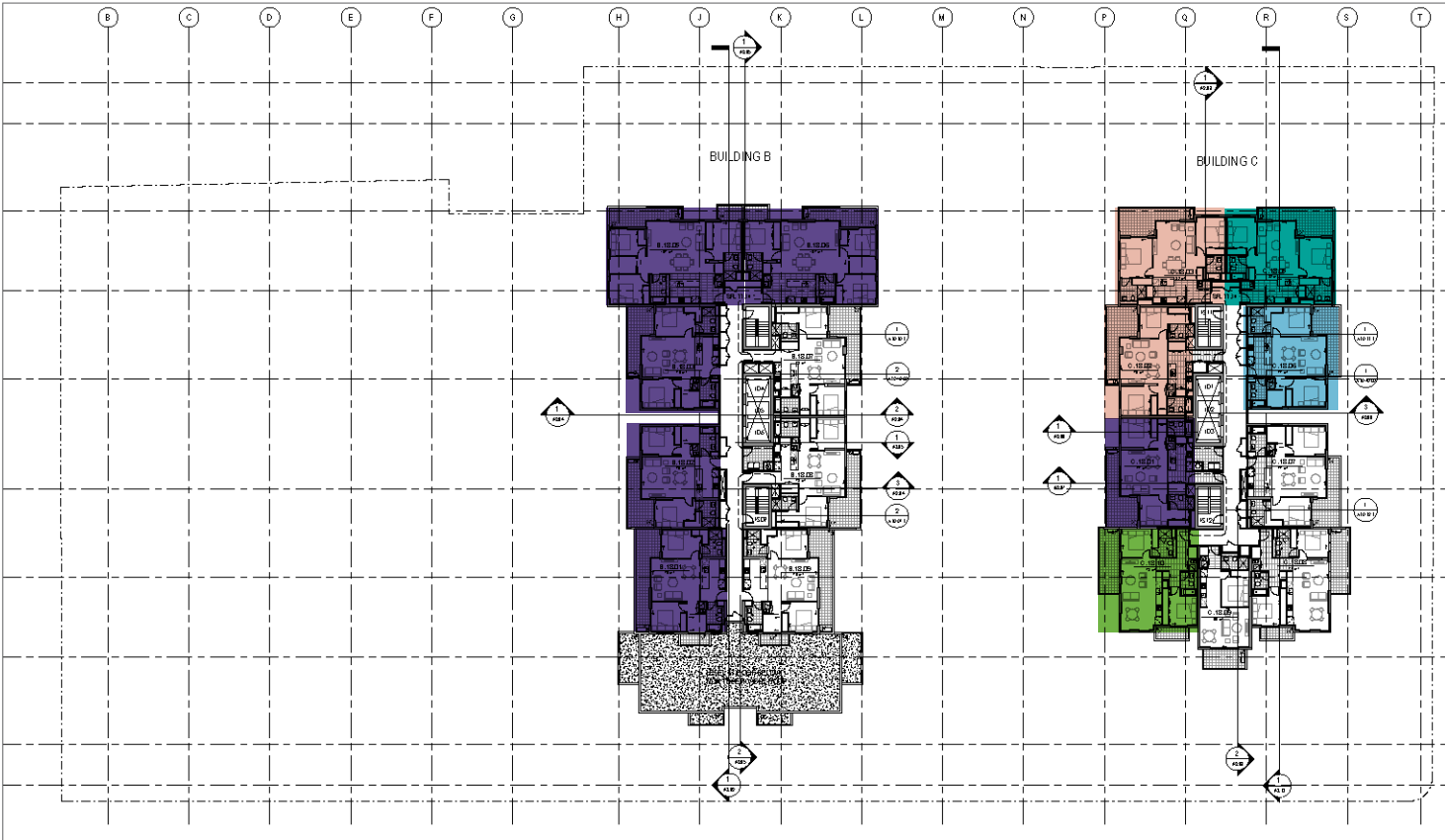
Level 18



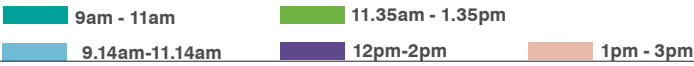
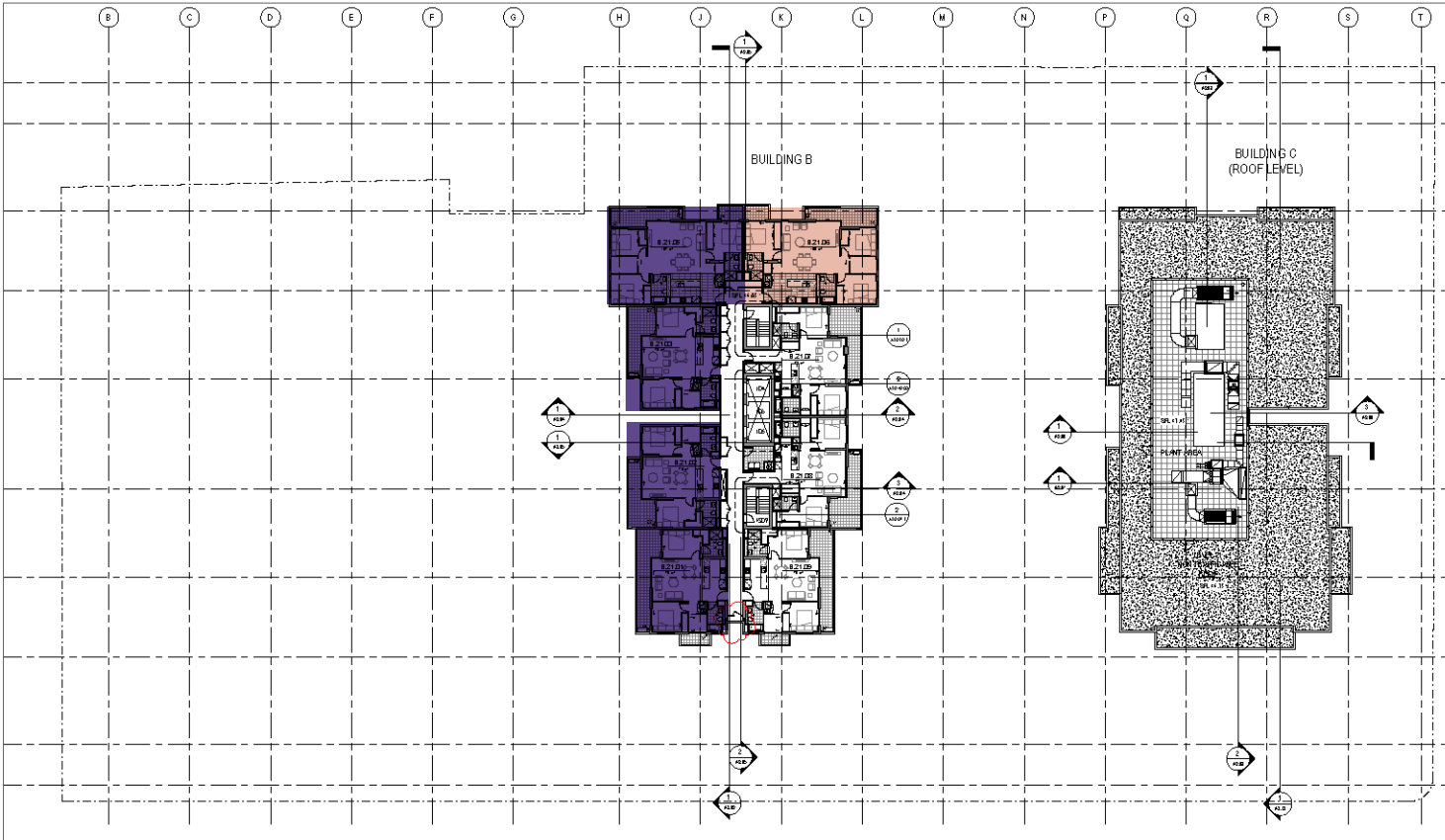
Level 19



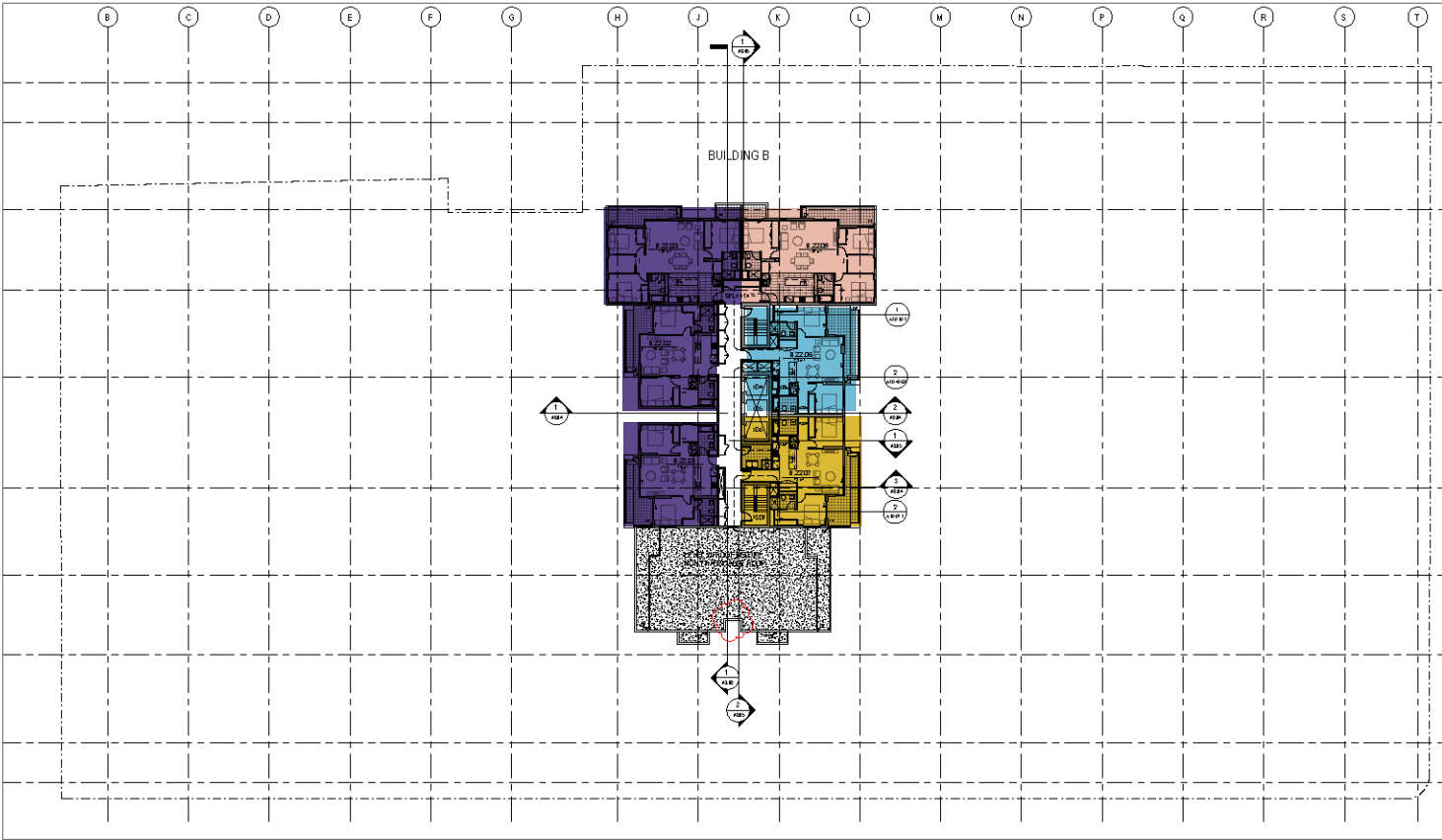
Level 20



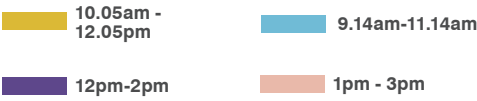
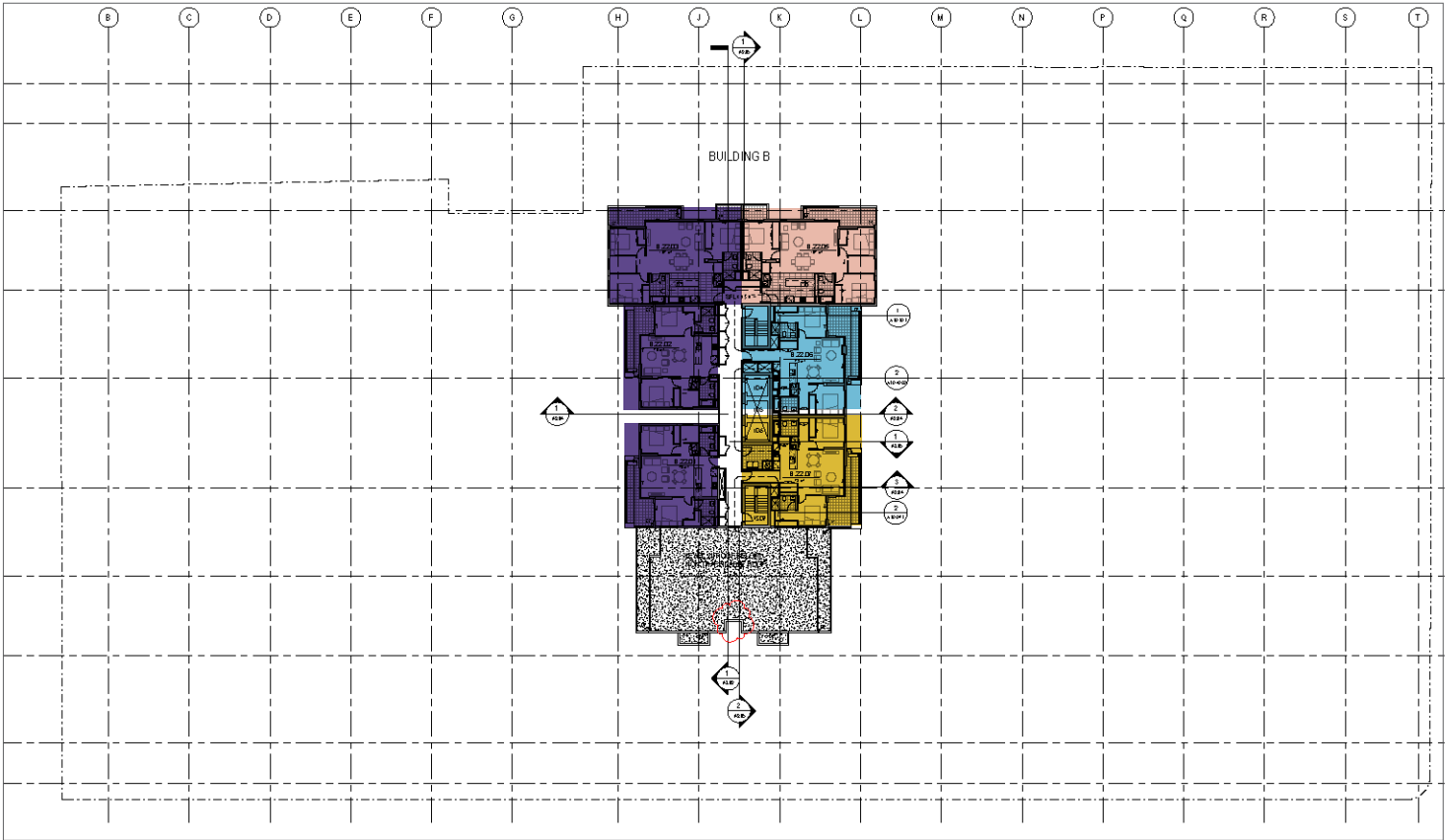
Level 21

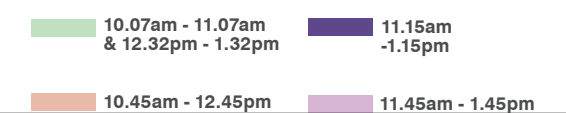


Level 22



Level 23

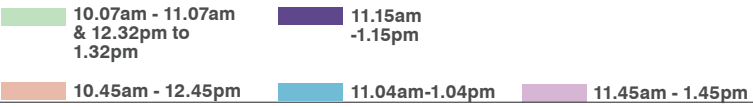




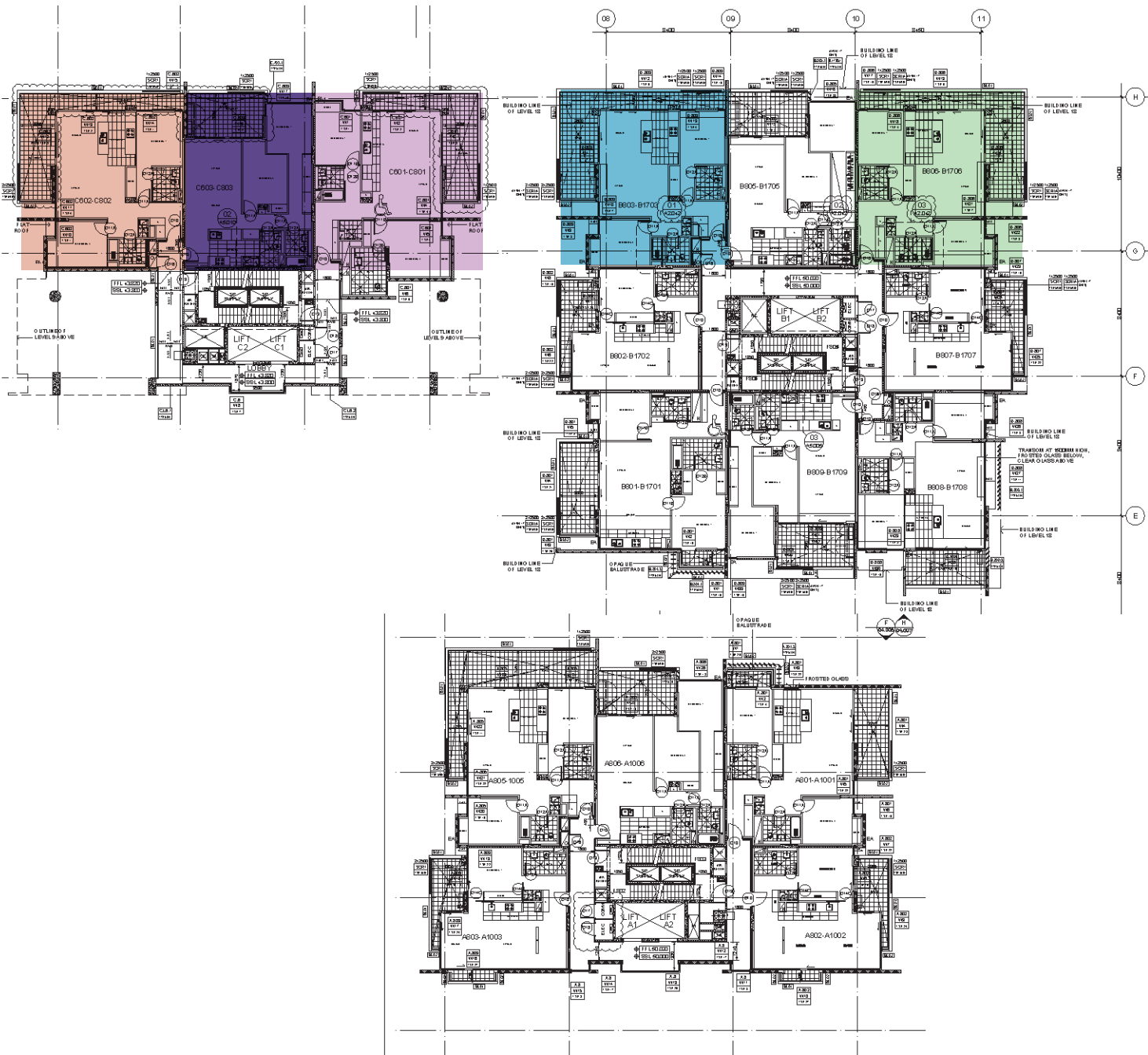
Level 6



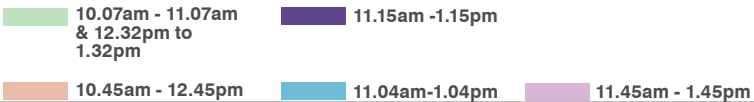
Level 7



Level 8



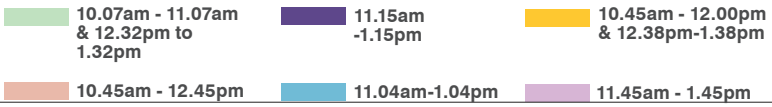
Level 9



Level 10



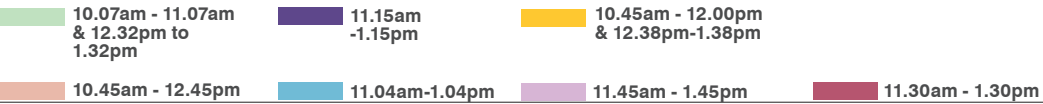
Level 11



Level 12



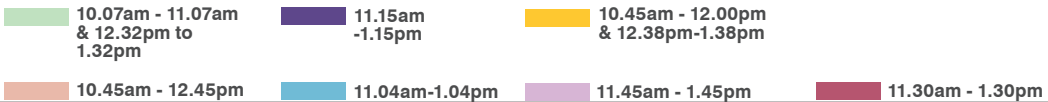
Level 13



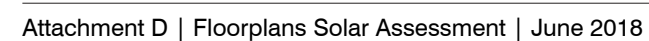
Level 15



Level 16



Level 18





Scenario 6: Solar access as achieved to amended PP



Purpose of scenario

Scenario 5 tests the solar impact the amended PP has on Emerald Square and Burwood Grand in accordance to the proposed control changes. It includes Burwood Central DA approved building.

Key findings

The 2019 amended Planning Proposal achieves a better solar access outcome to both Emerald Square and Burwood Grand with both developments achieving +50% solar access during the winter solstice (June 21).

Key statistics:

FSR:

- Total 10.54:1
- resi 7.16:1
- non-resi 3.37:1
-

HOB:

- Podium- 14m
- Tower A- 144m
- Tower B- 79m
- Tower C- 136m
- Tower D-116m

Solar access:

Emerald Square

- Achieves 52%

Burwood Grand

- Achieves 53%

Solar Access of combined Burwood Grand + Emerald Square

	>2hours	Total
Burwood Grand	265	499
Emerald Square	110	210
	375	709
		53%

Solar testing summary

Scenario 5: Solar access as achieved under the updated PP

Burwood Grand

Building ID		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22	Level 23	Level 24	Level 25	Total
A	>2 hours sun	Office space		7	7	7	7	7	7	7	7															56
	Total apartments			11	11	11	11	11	11	11	11															88
B	>2 hours sun	5	5	5	5	7	7	7	7	7	7	7	7	7	7	6	6	5	5	5	5	6	6	3	4	141
	Total apartments	9	13	11	11	11	11	11	11	11	11	11	11	11	11	10	10	8	8	8	8	6	6	4	4	226
C	>2 hours sun	2	2	2	2	2	2	2	2	2	4	4	4	4	4	6	6	6	6	6						68
	Total apartments	8	14	11	11	11	11	11	9	9	9	9	9	9	9	9	9	9	9	9						185
		25%	14%	18%	18%	18%	18%	18%	22%	22%	44%	44%	44%	44%	44%	67%	67%	67%	67%	67%						

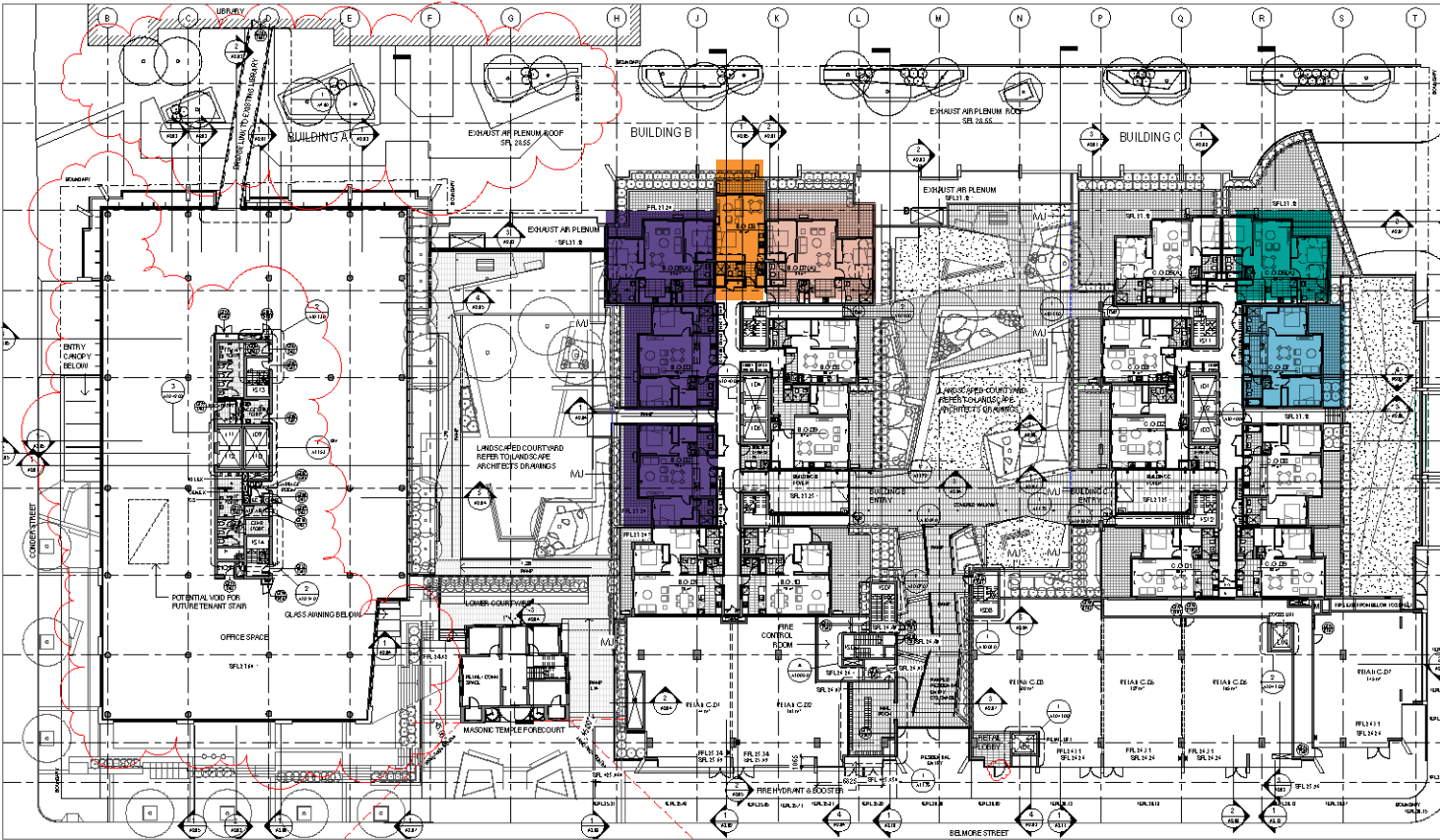
Total >2hrs of sun	265	53%
Total apartments	499	

Emerald Square

		Ground	Level 1	Level 2	Level 3	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 15	Level 16	Level 17	Level 18	Level 19	Total
A	>2 hours sun	Non-residential podium			1	1	2	2	2	2	2	2	3	3	3	3	3	1		28
	Total apartments				4	4	5	5	5	5	5	5	5	5	5	5	4	1		58
B	>2 hours sun	Non-residential podium			1	2	2	2	2	3	3	4	5	5	5	5	5	5	1	45
	Total apartments				5	7	8	8	8	8	8	8	8	8	8	8	8	6	1	99
C	>2 hours sun	Non-residential podium			3	3	3	3	3	3	3	3	3	3	3	3	2	2		37
	Total apartments				3	3	3	3	5	5	5	5	5	5	5	5	4	2		53
					100%	100%	100%	100%	60%	60%	60%	60%	60%	60%	60%	60%	50%	100%		

Total >2hrs of sun	110	52%
Total apartments	210	

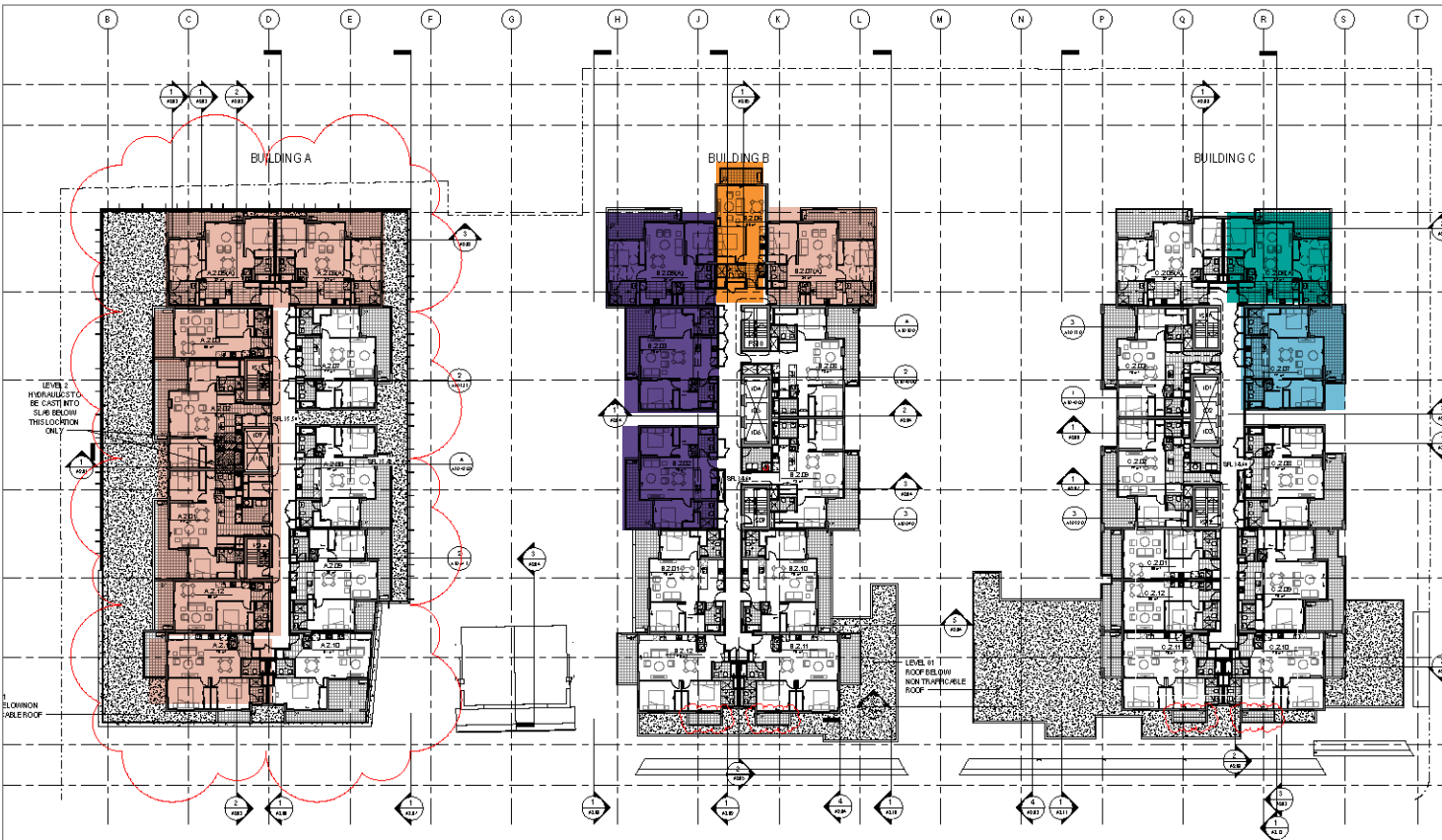
Option 5: Solar access as achieved under the updated PP - Burwood Grand
Ground level



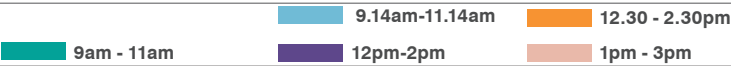
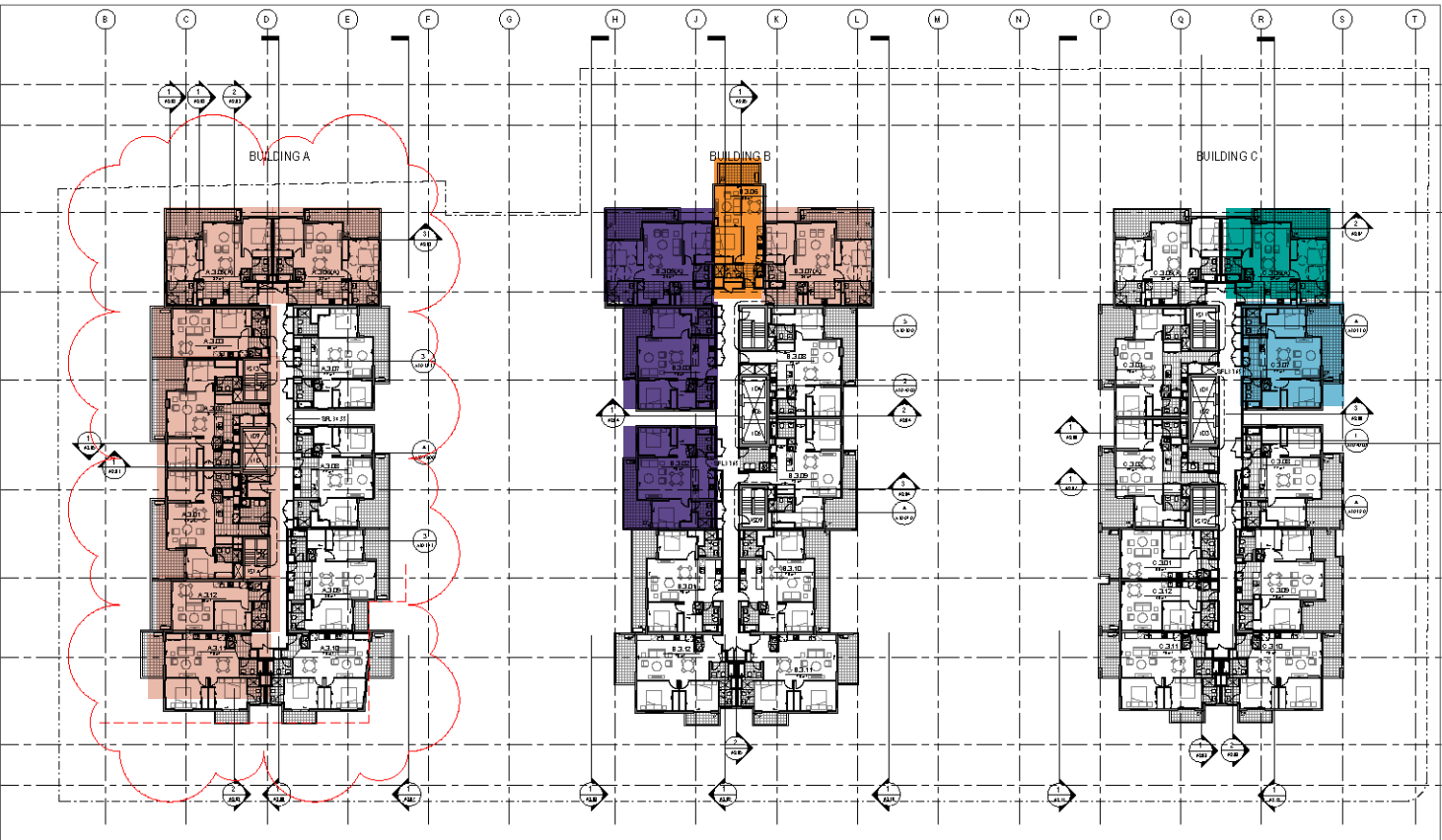
Level 1



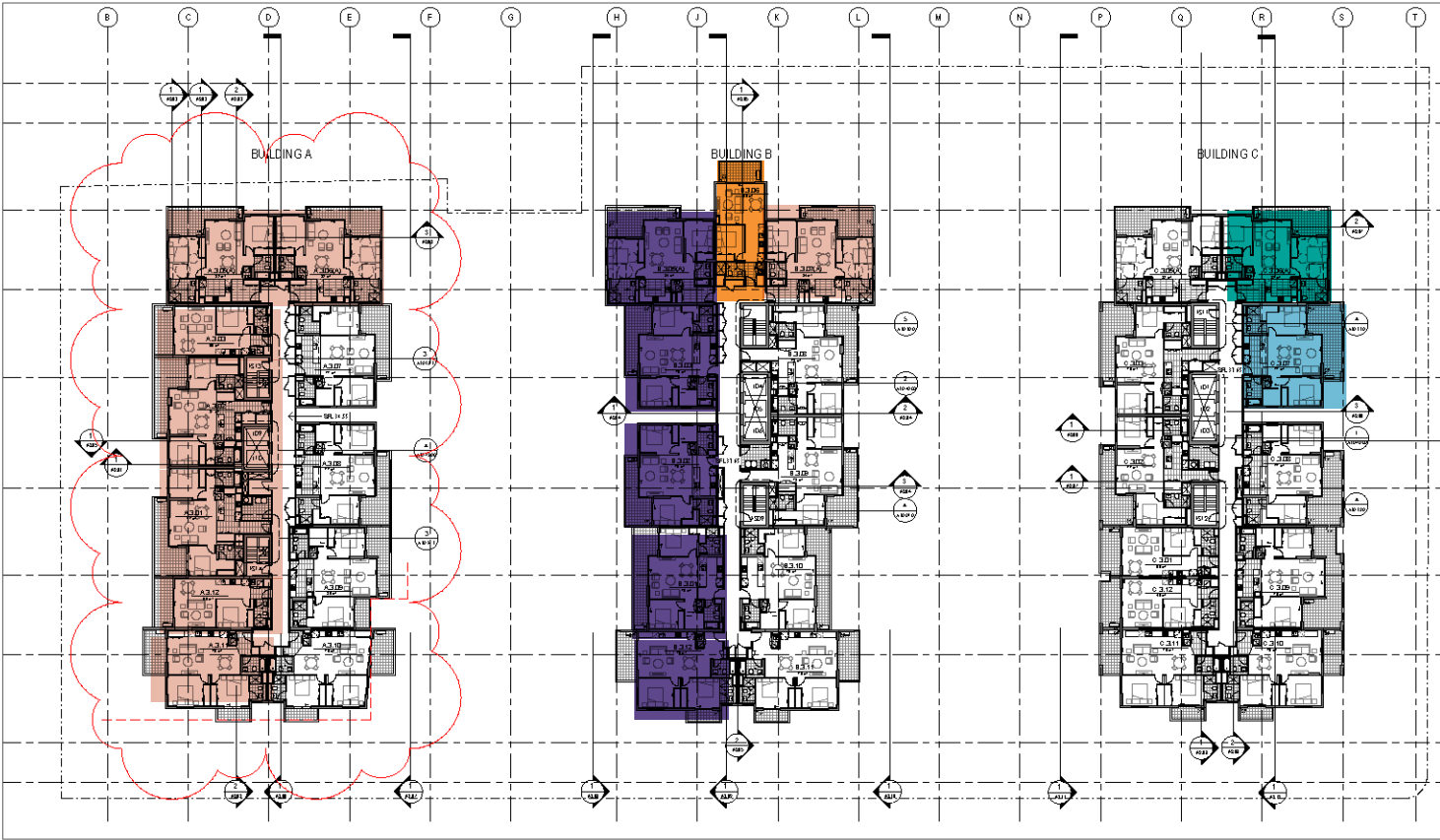
Level 2



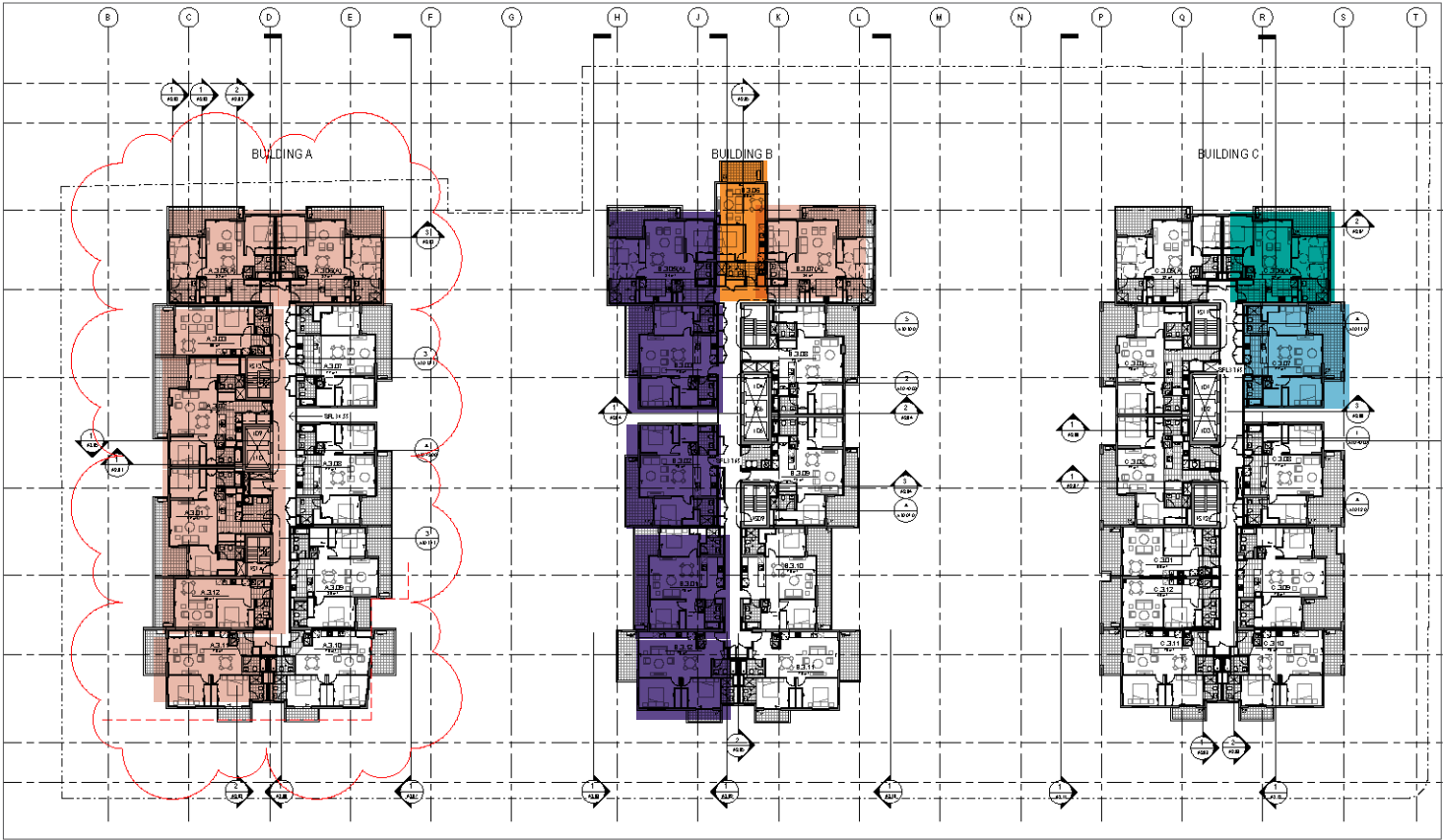
Level 3



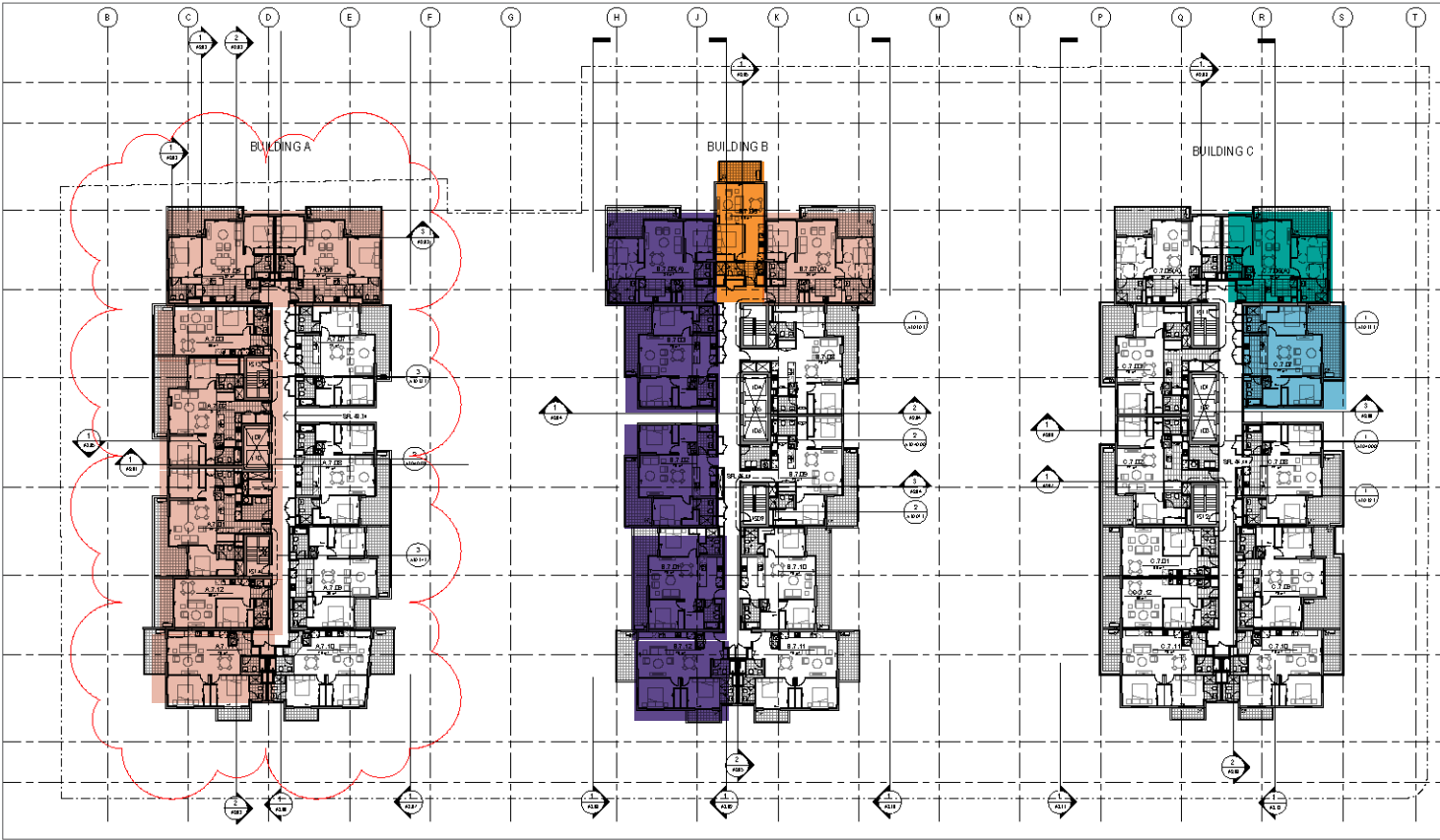
Level 5



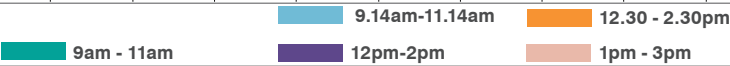
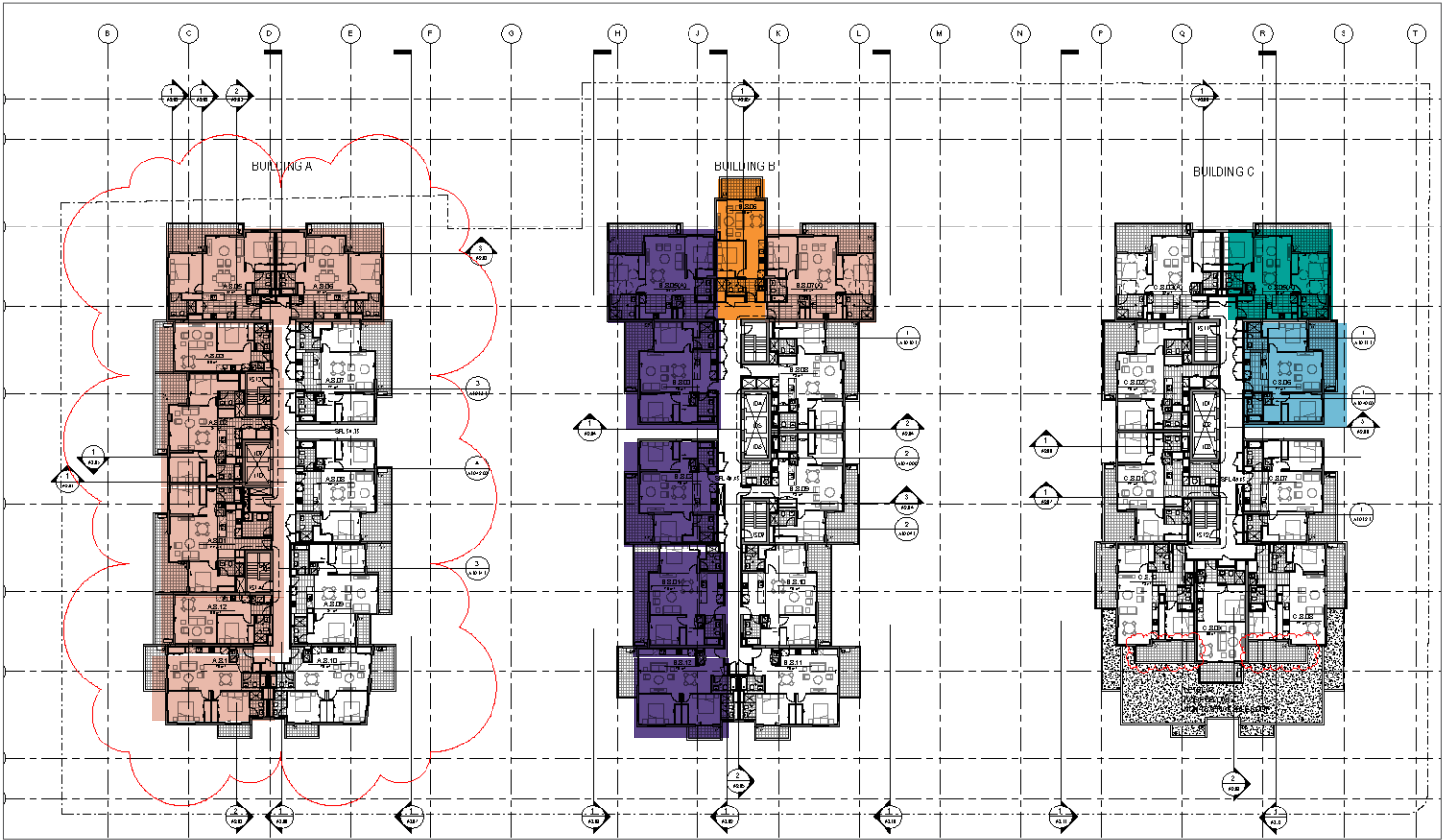
Level 6



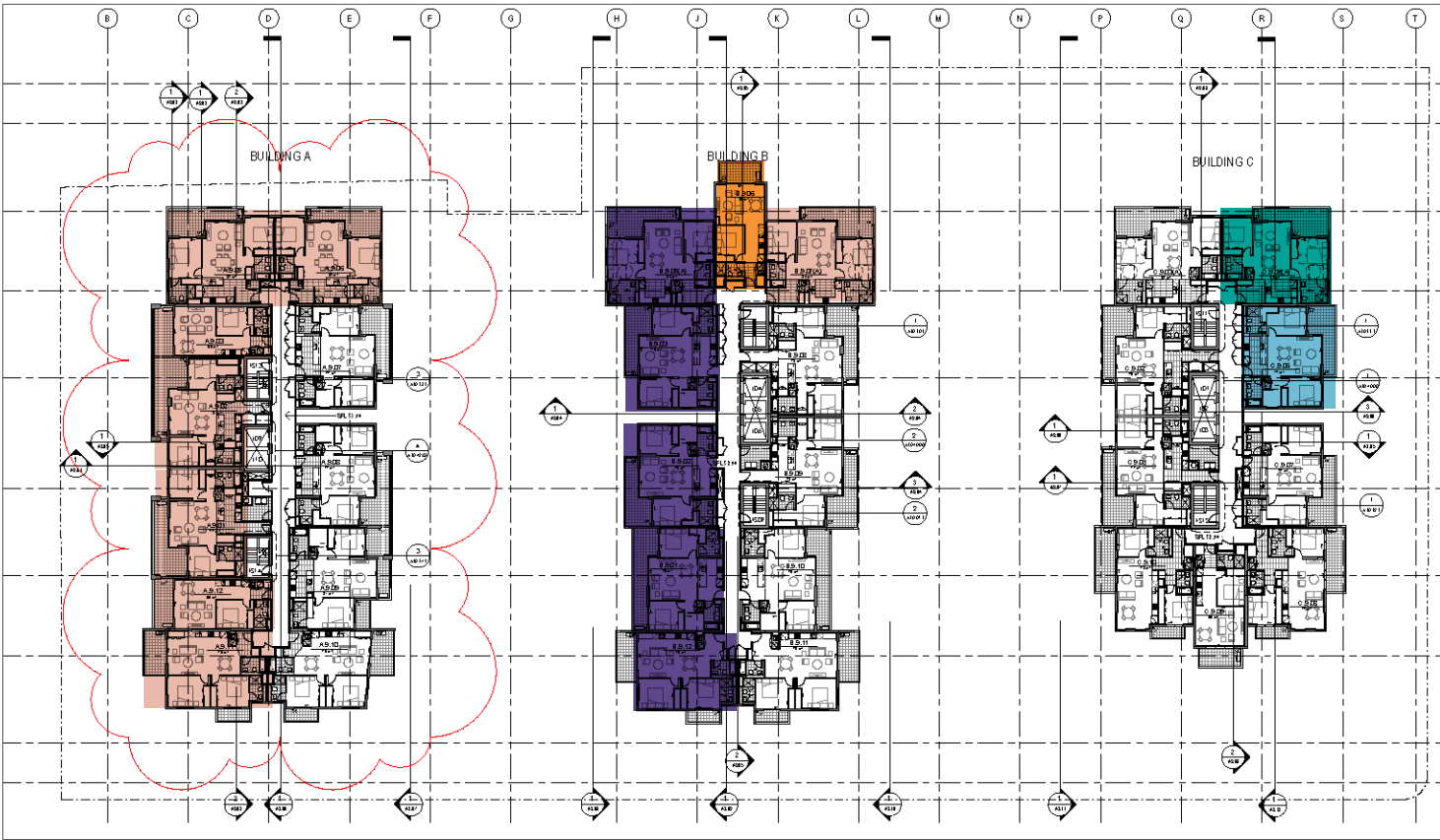
Level 7



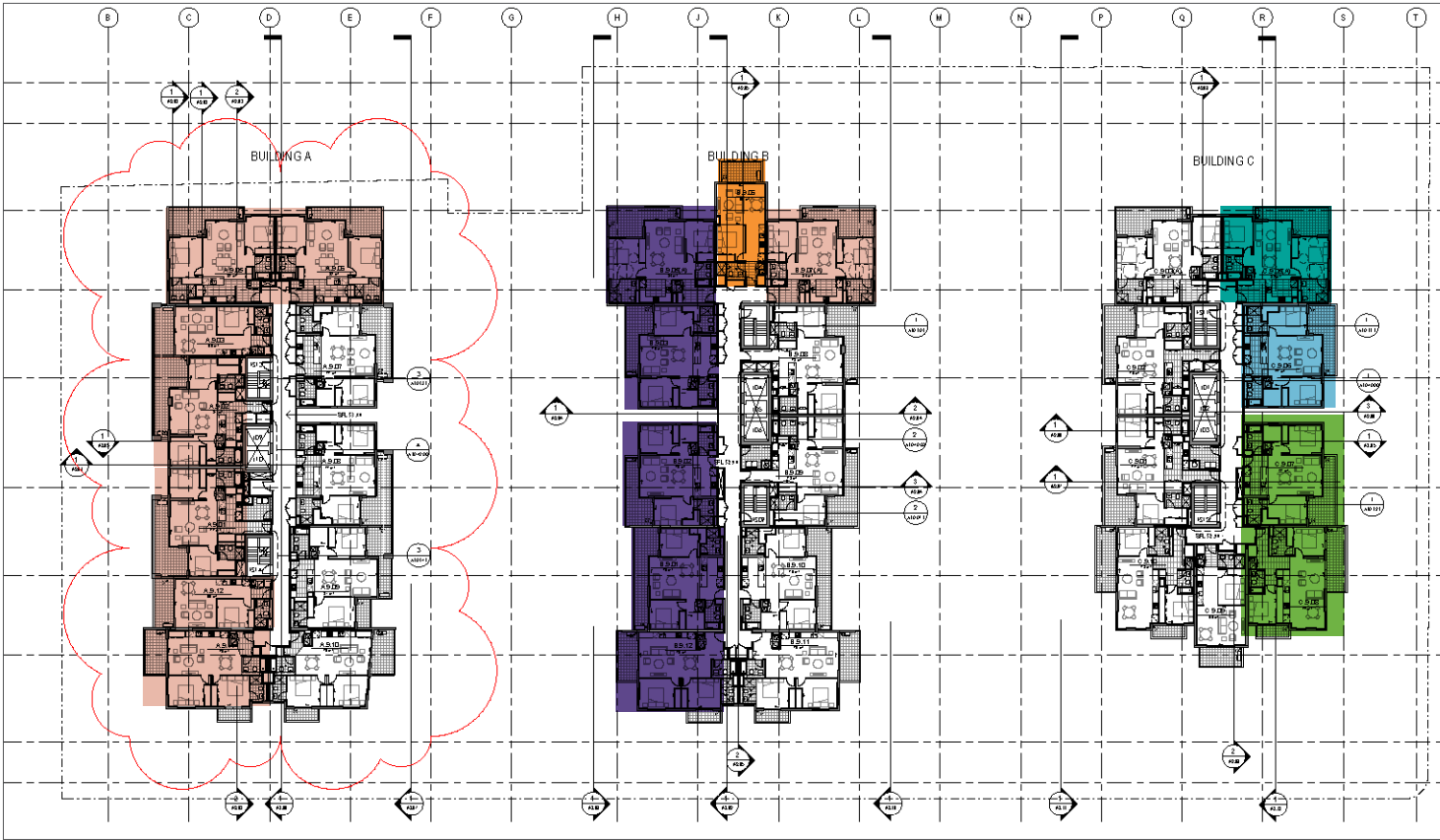
Level 8



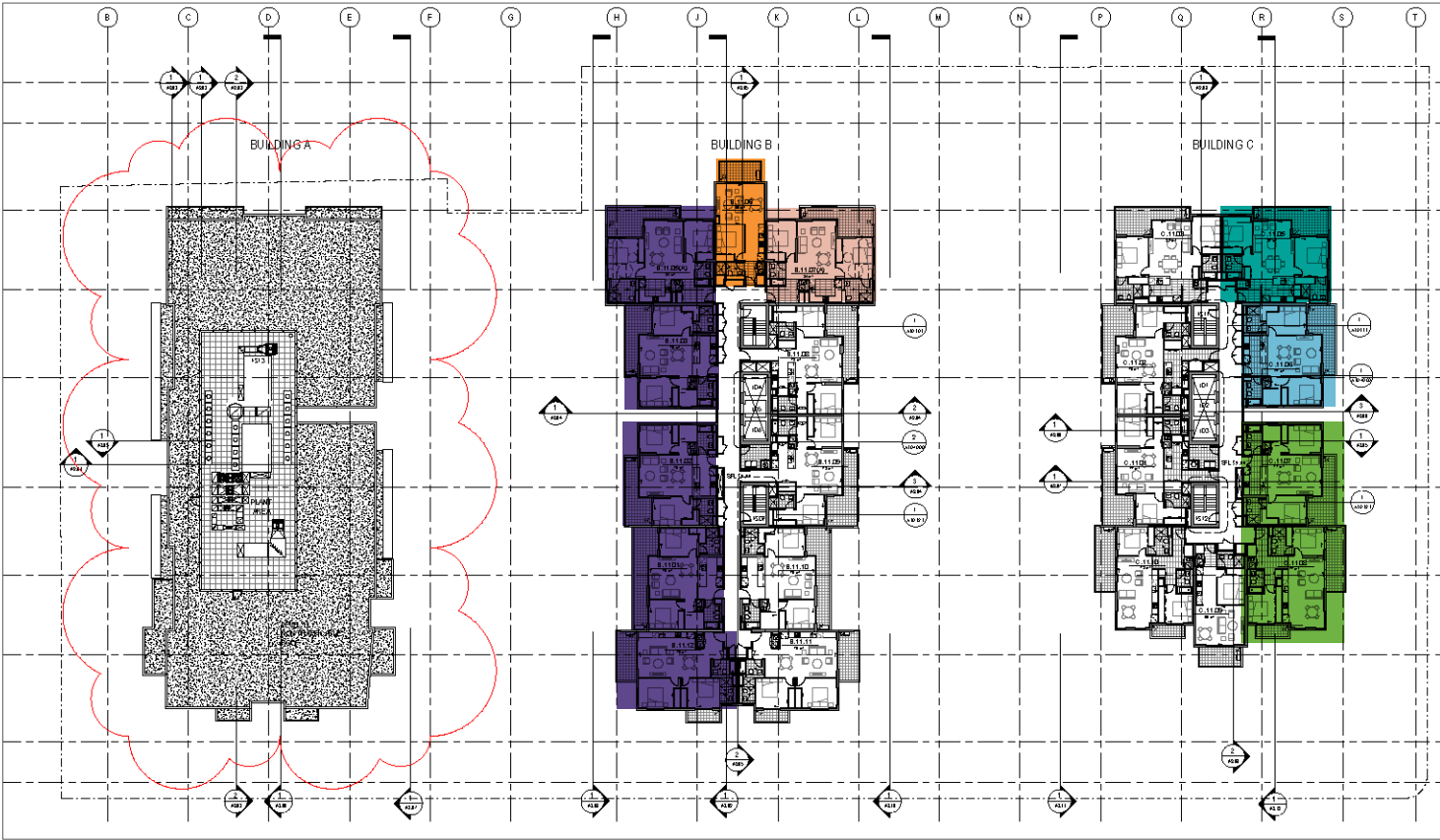
Level 9



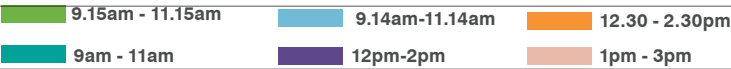
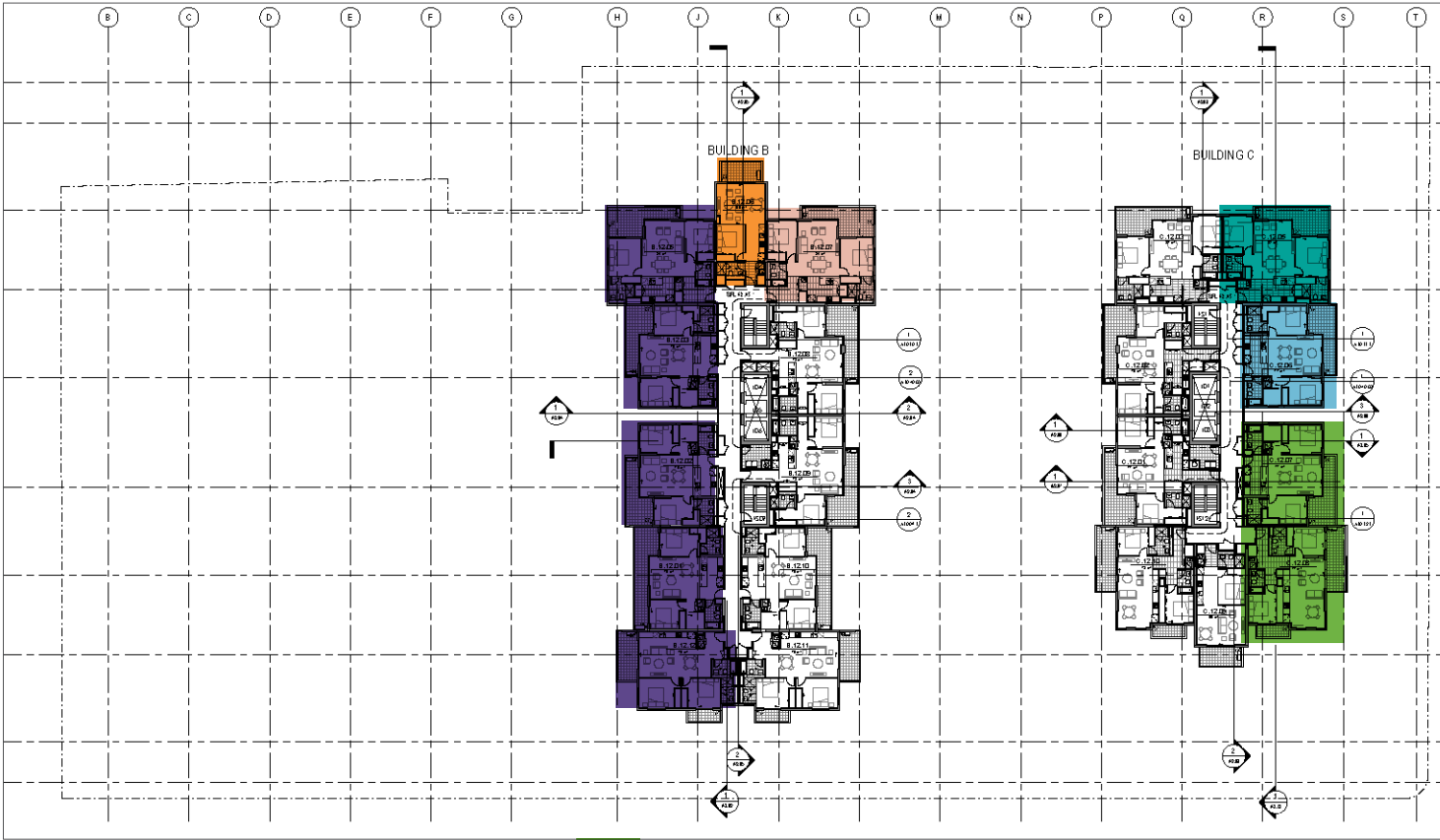
Level 10



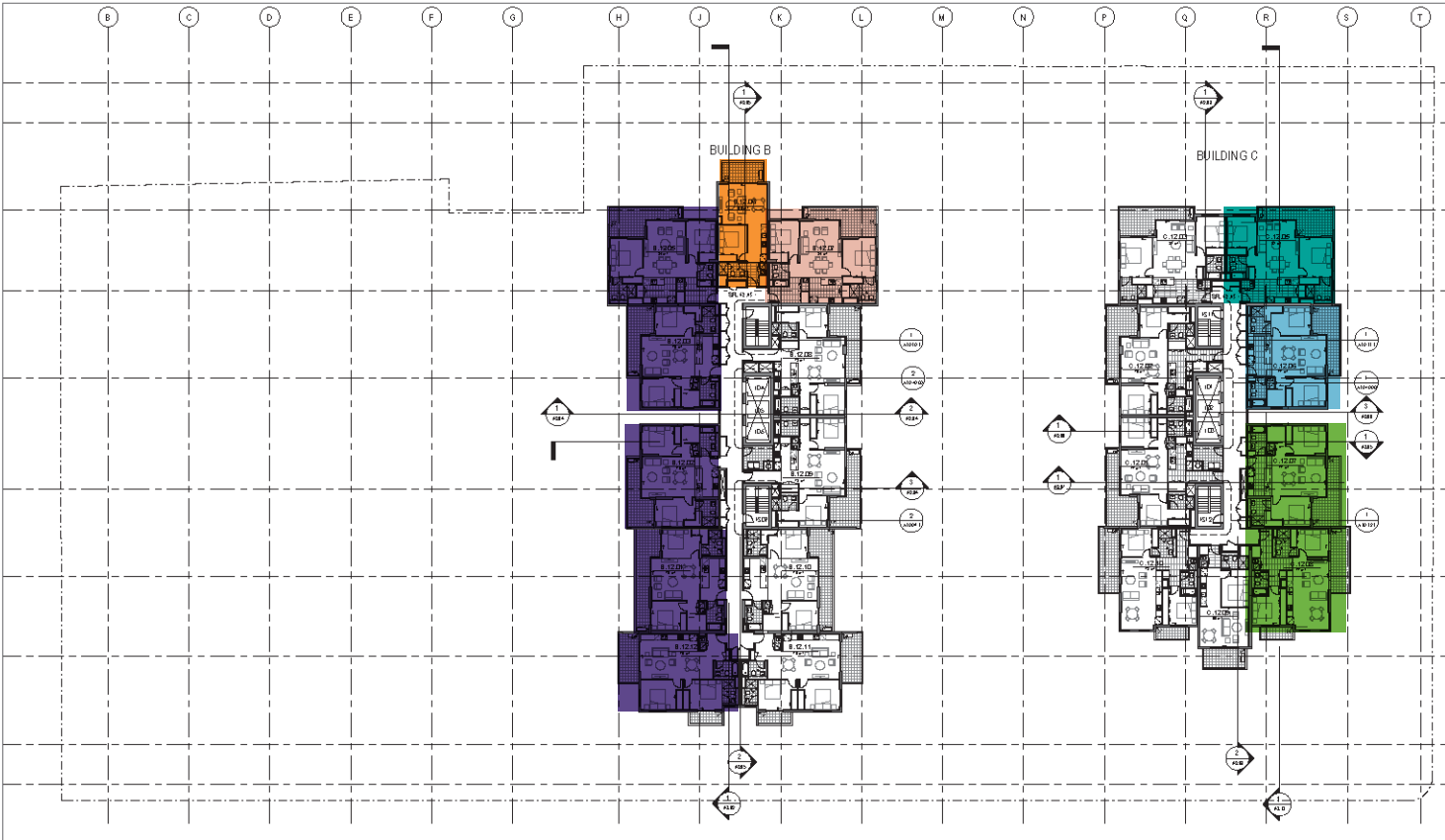
Level 11



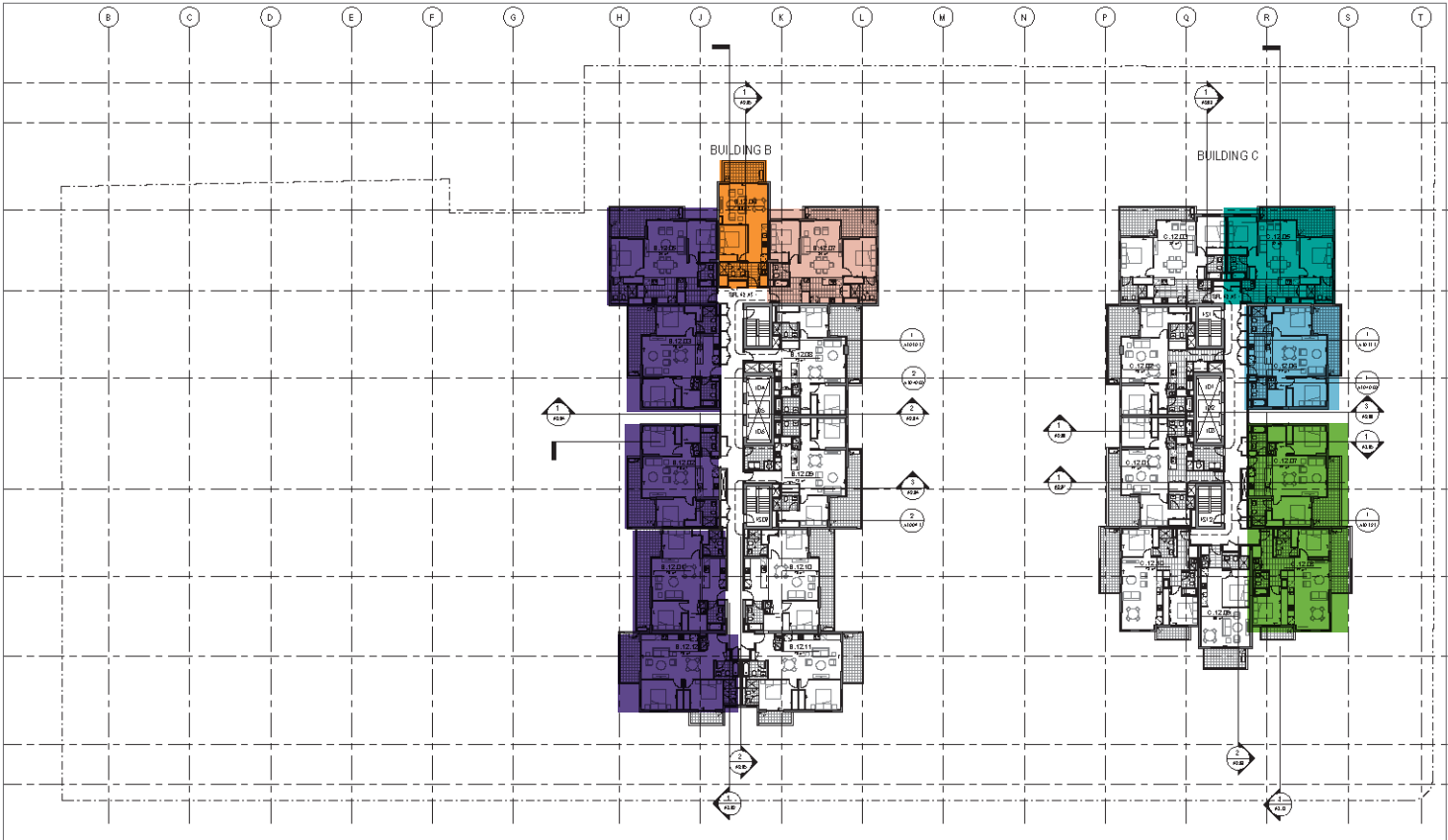
Level 12



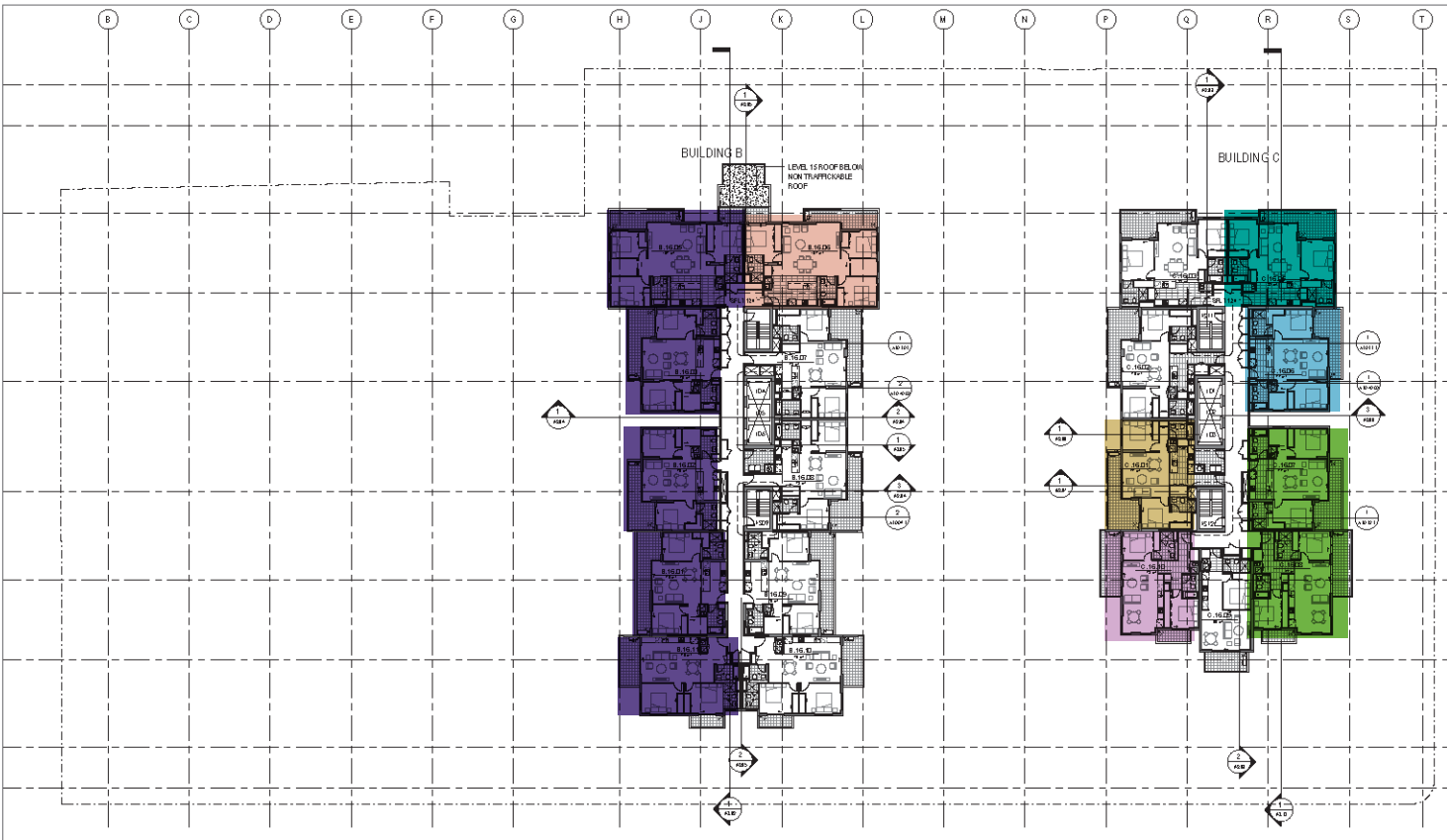
Level 13



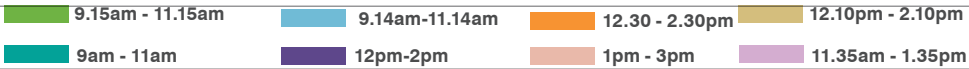
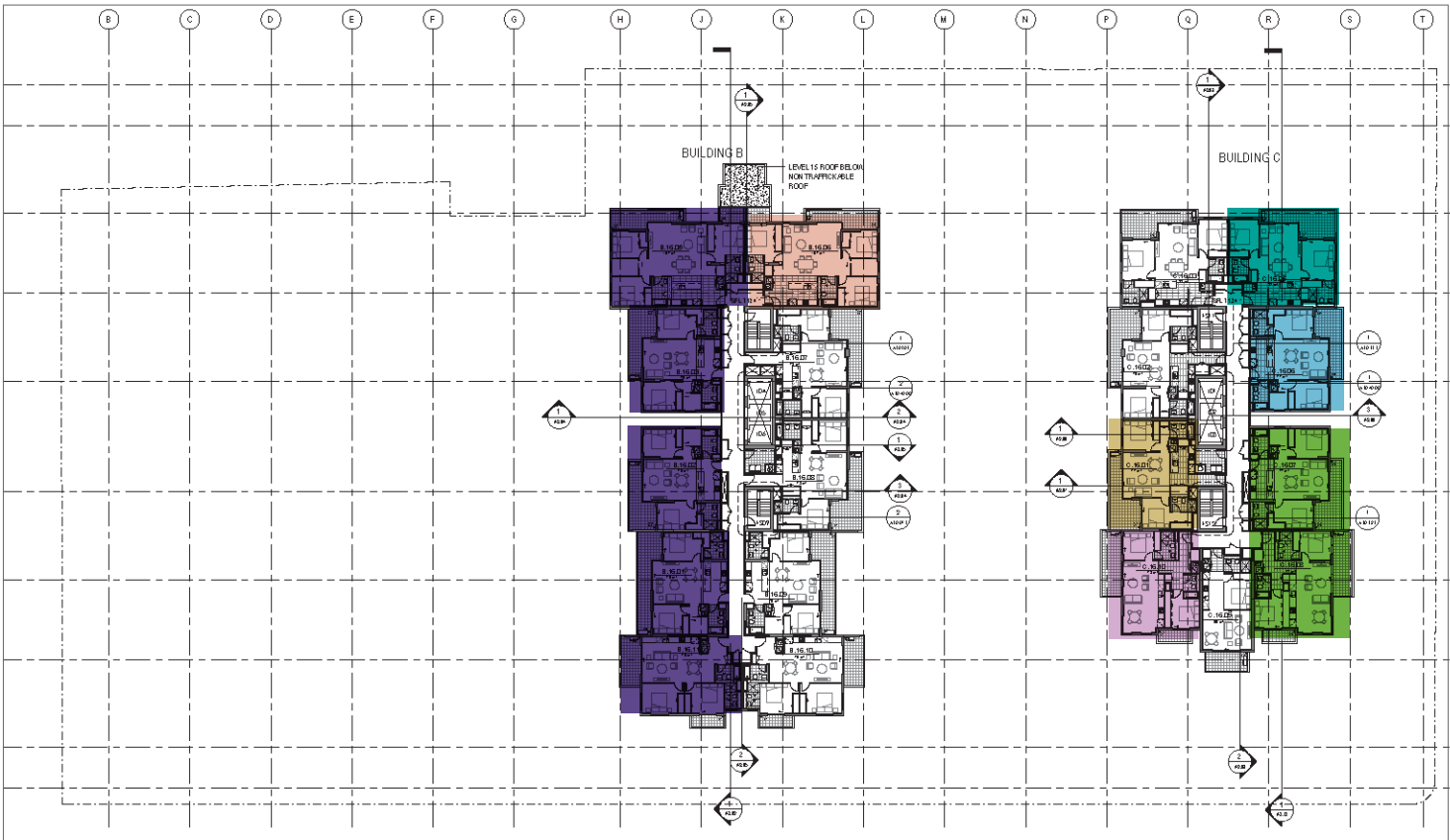
Level 15



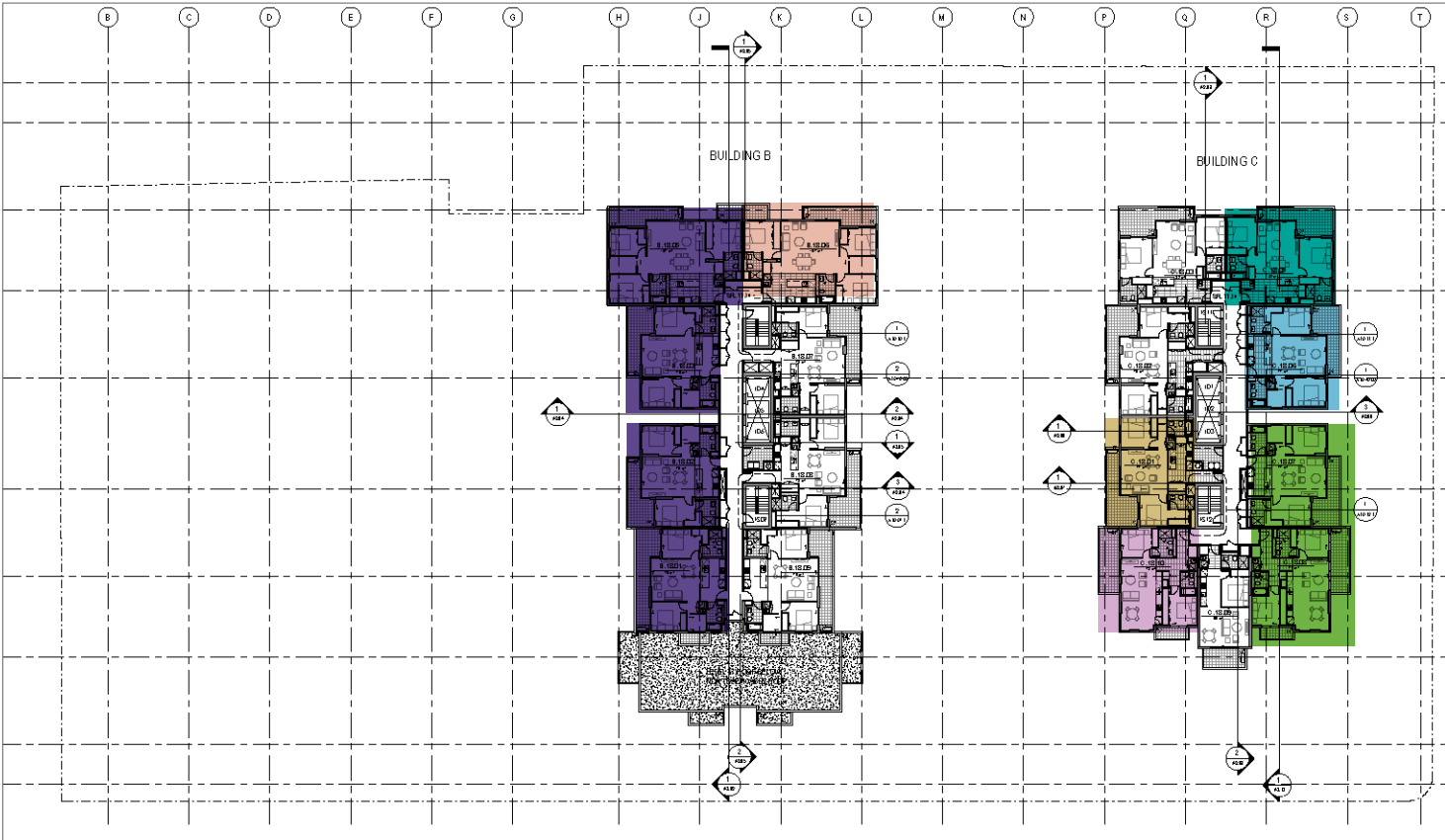
Level 16



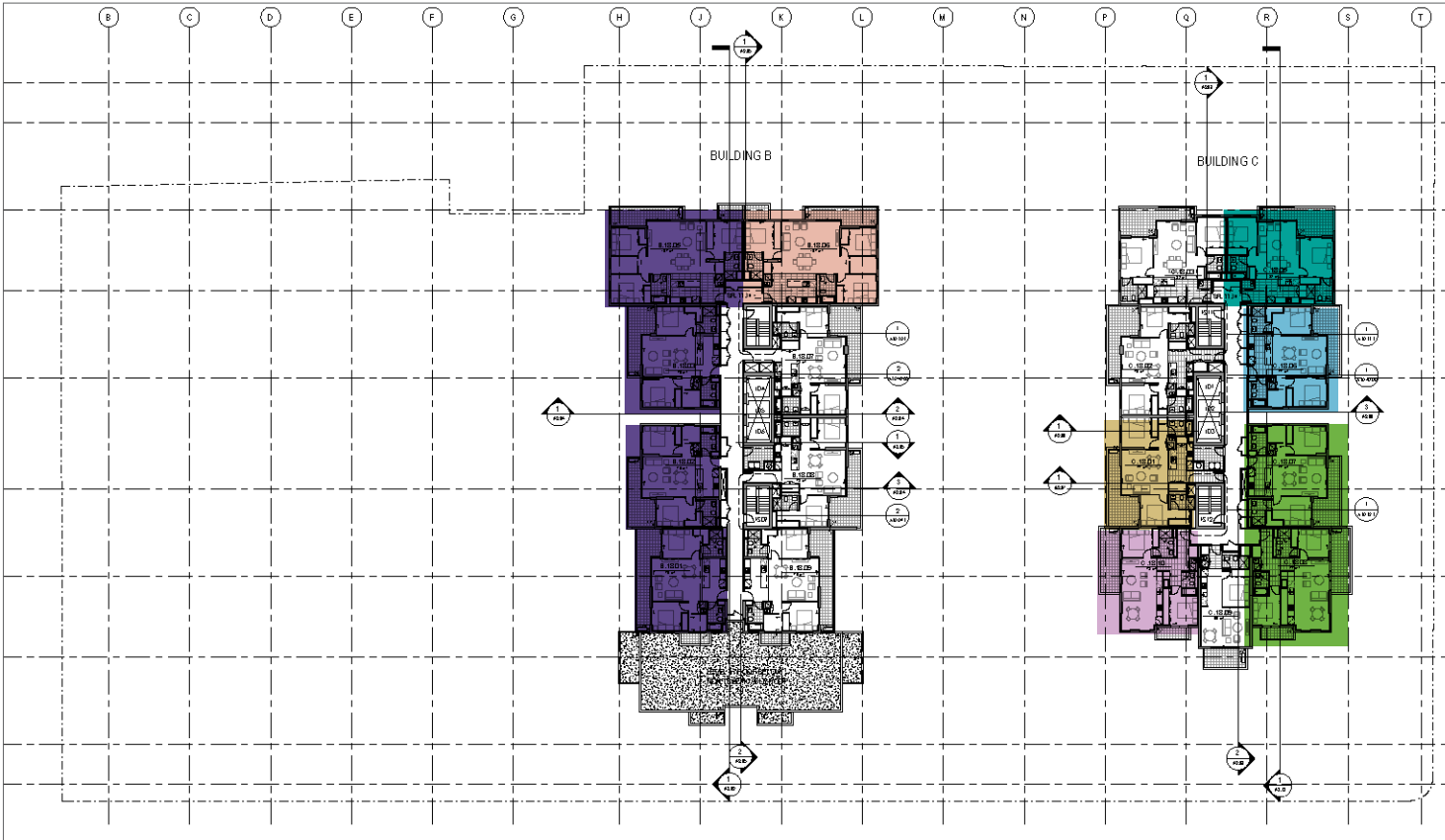
Level 17



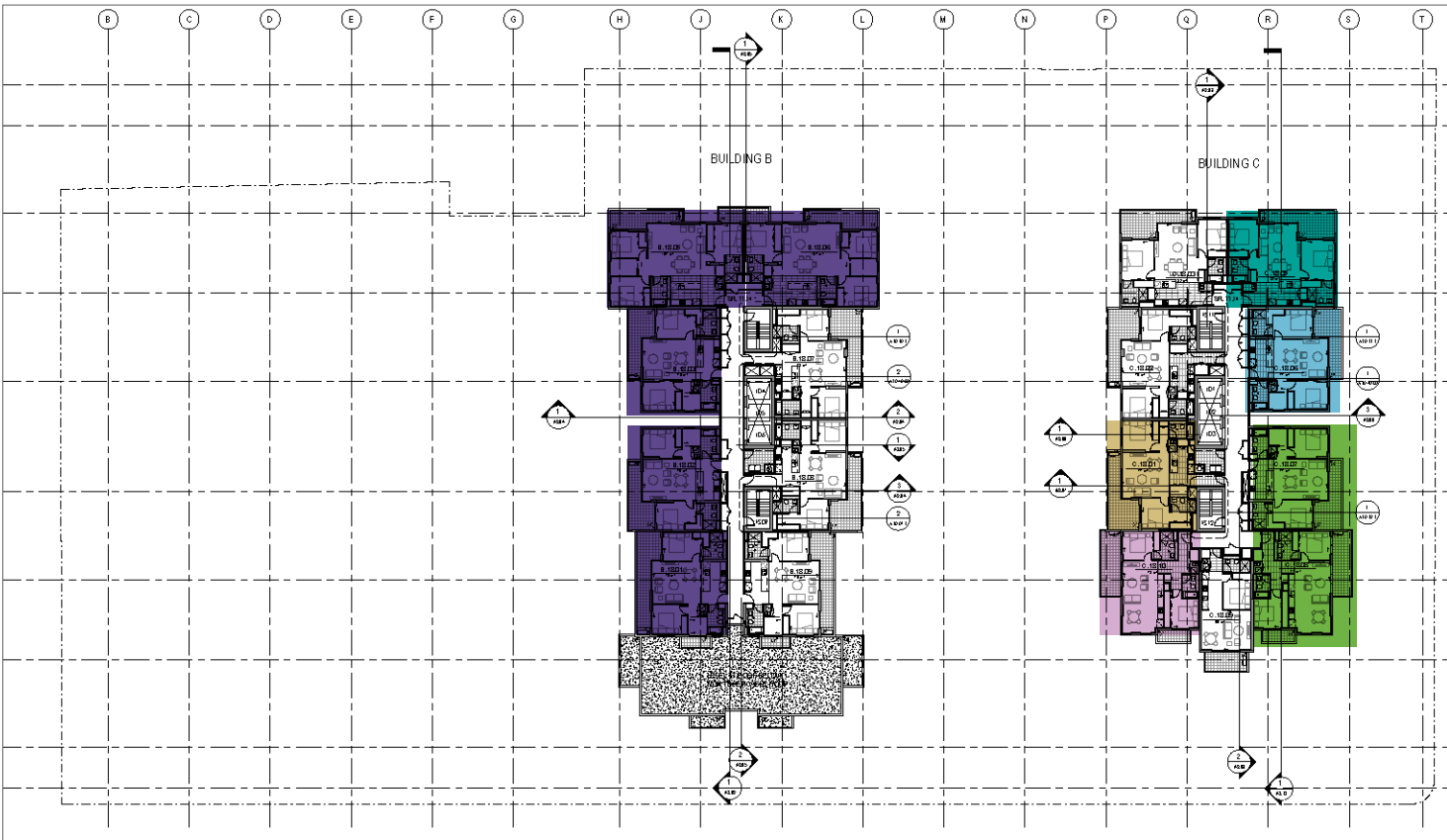
Level 18



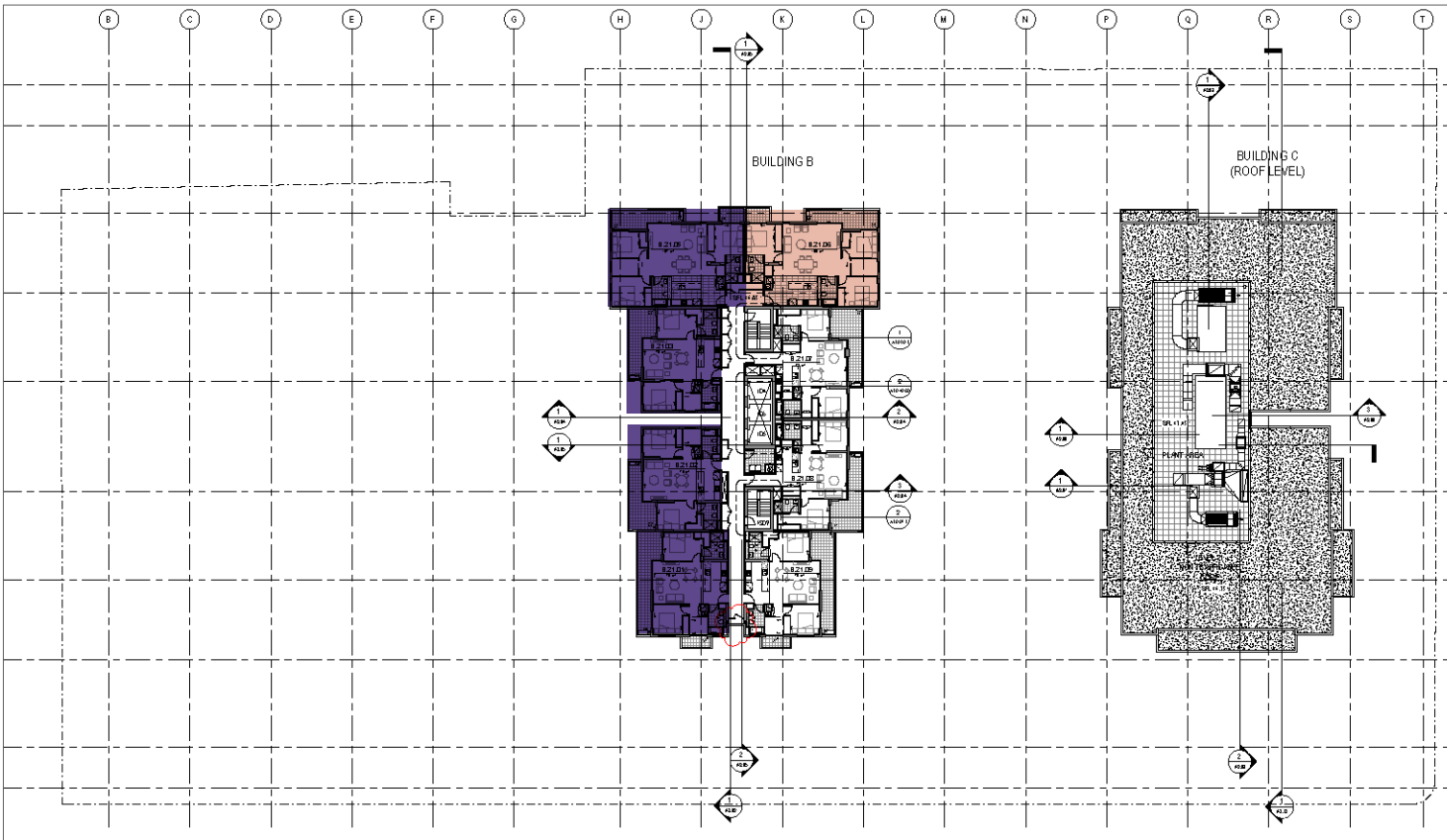
Level 19



Level 20



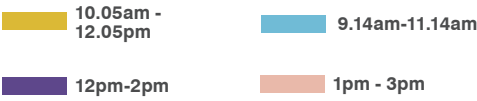
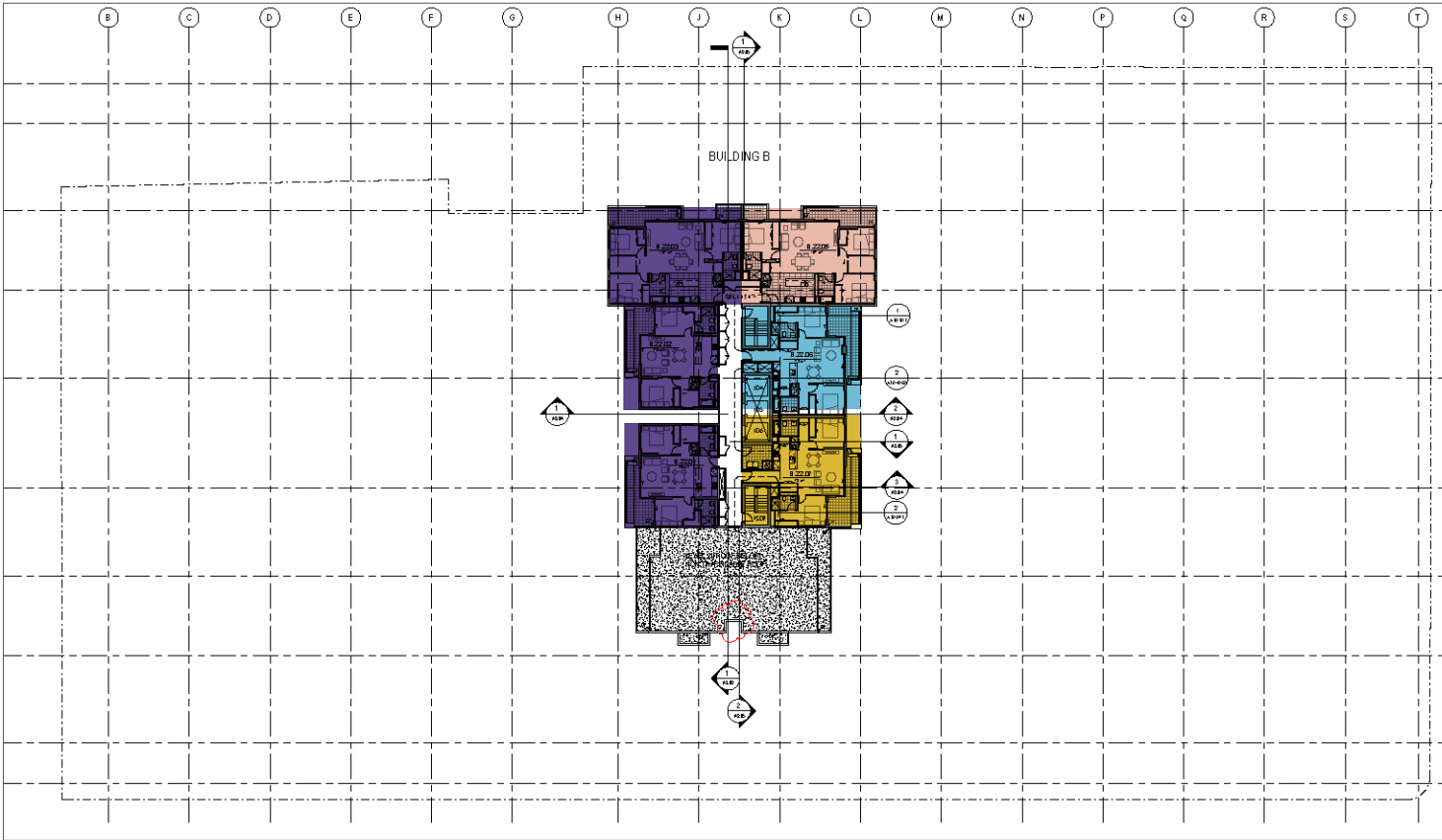
Level 21



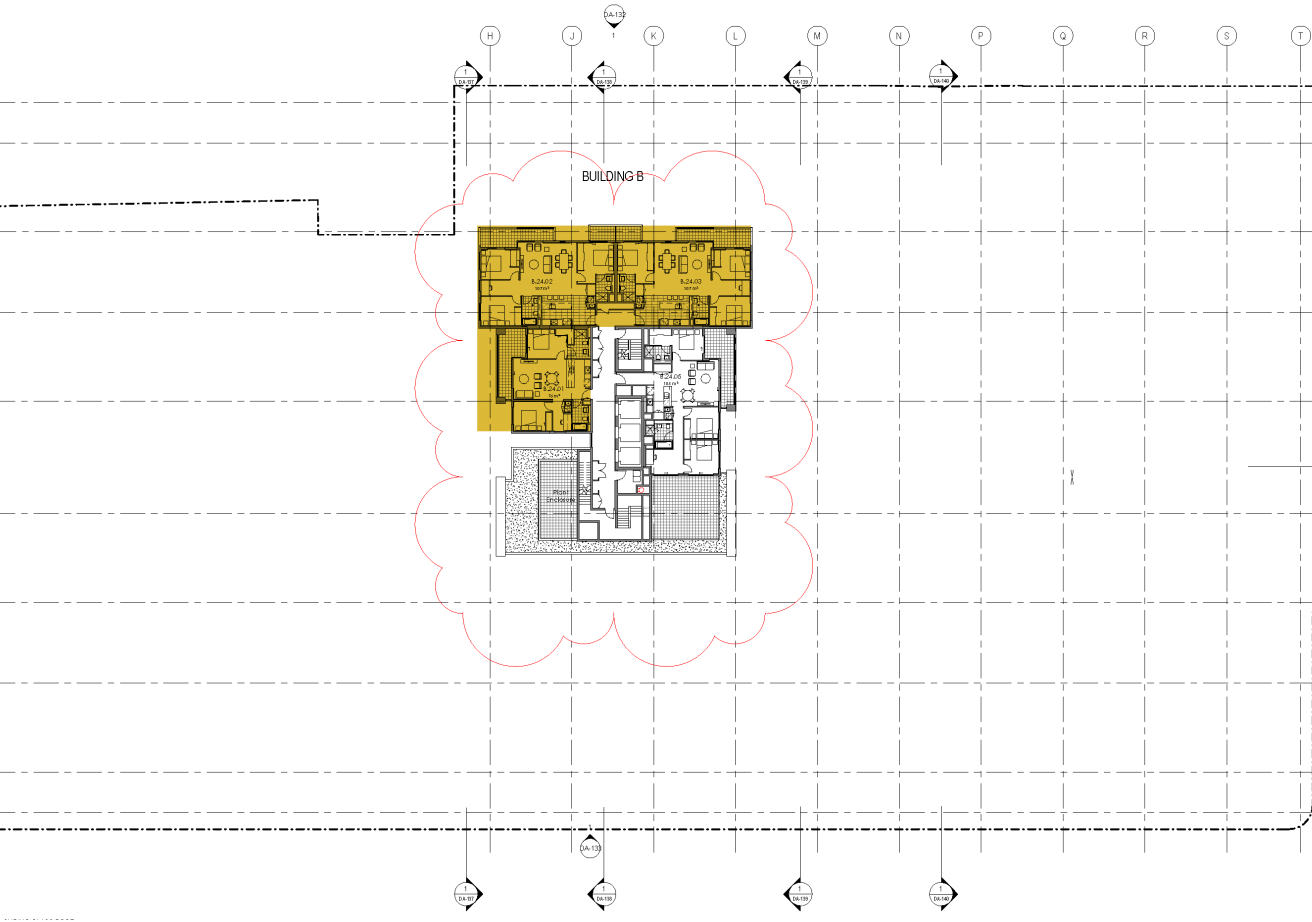
Level 22



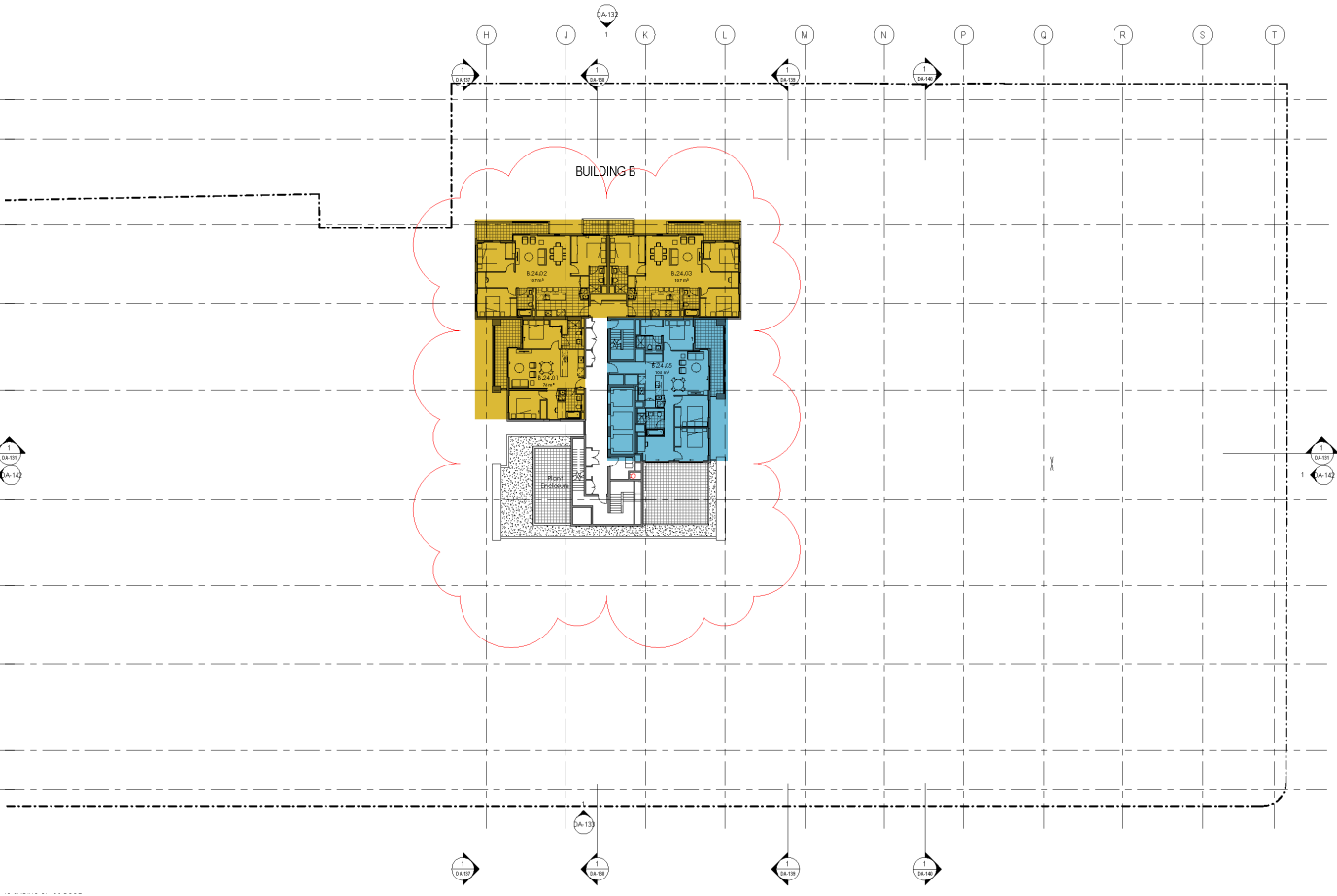
Level 23



Level 24

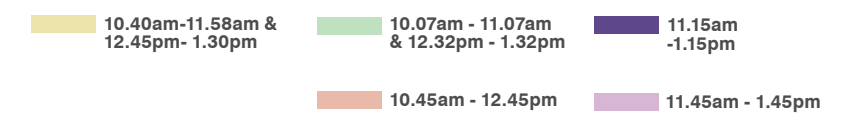


Level 25



1:00pm - 3pm 10:05am-12:05am

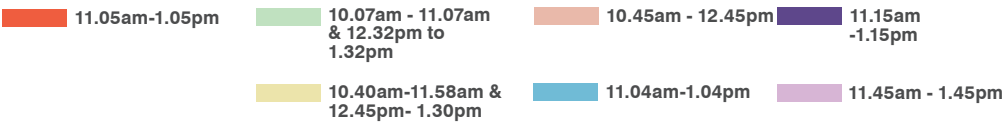
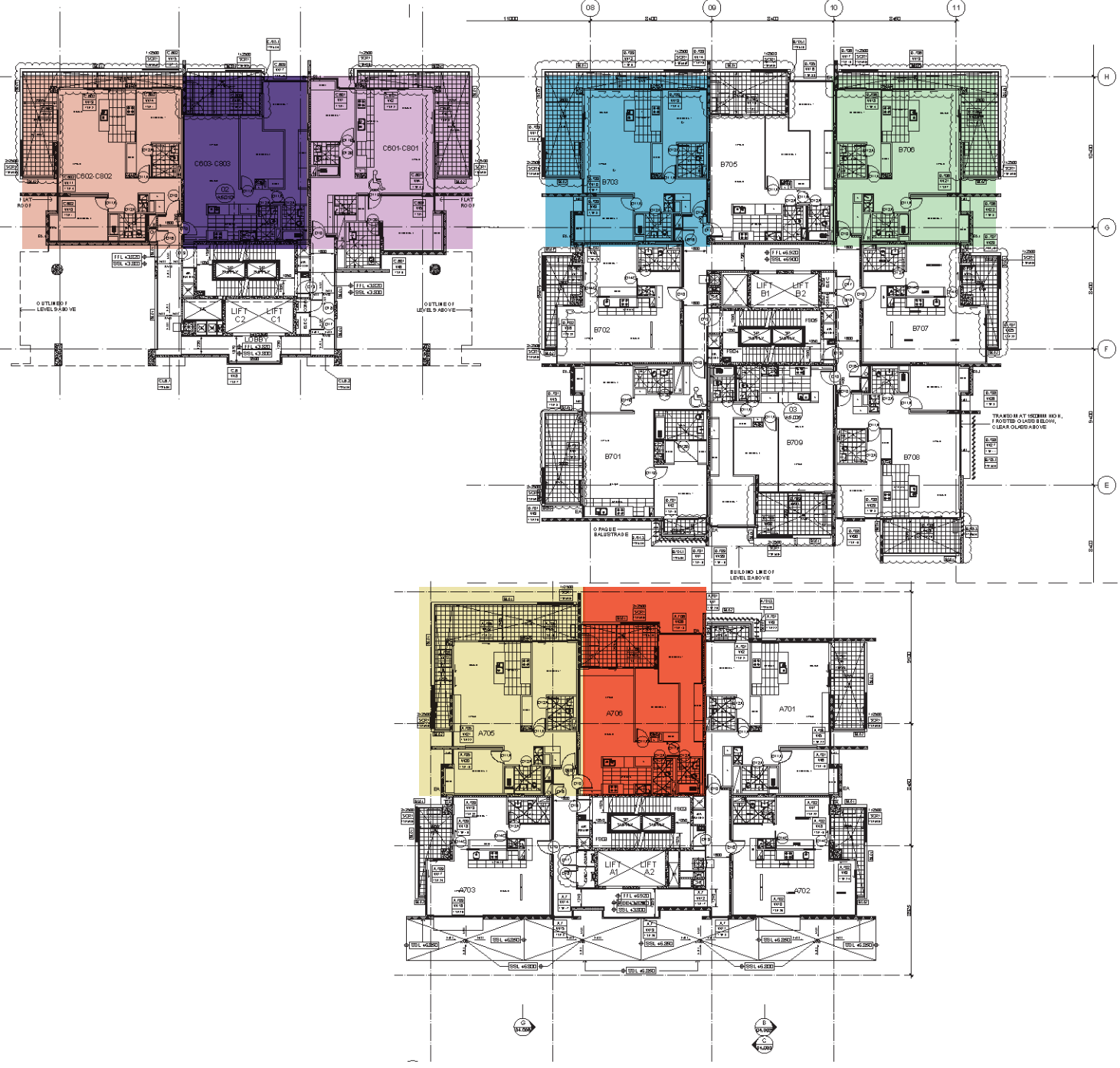
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Level 6



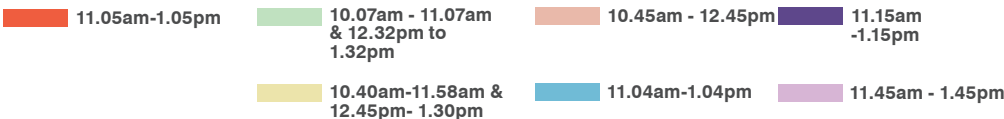
Level 7



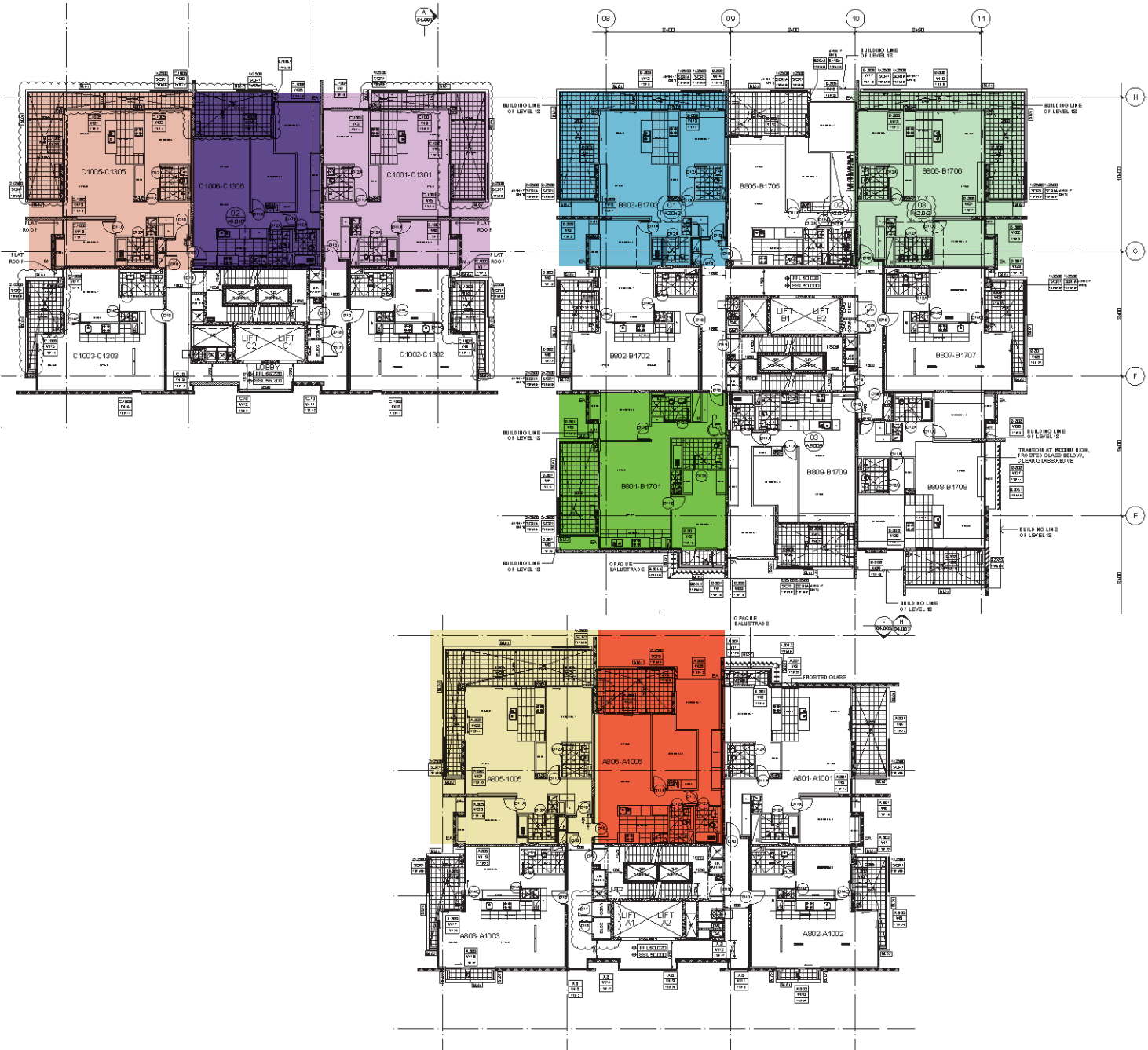
Level 8



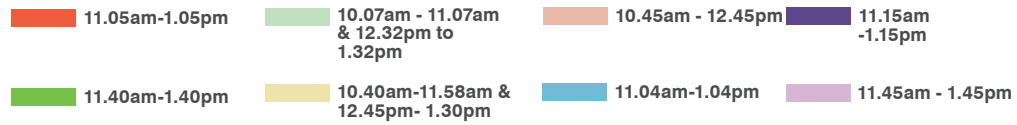
Level 9



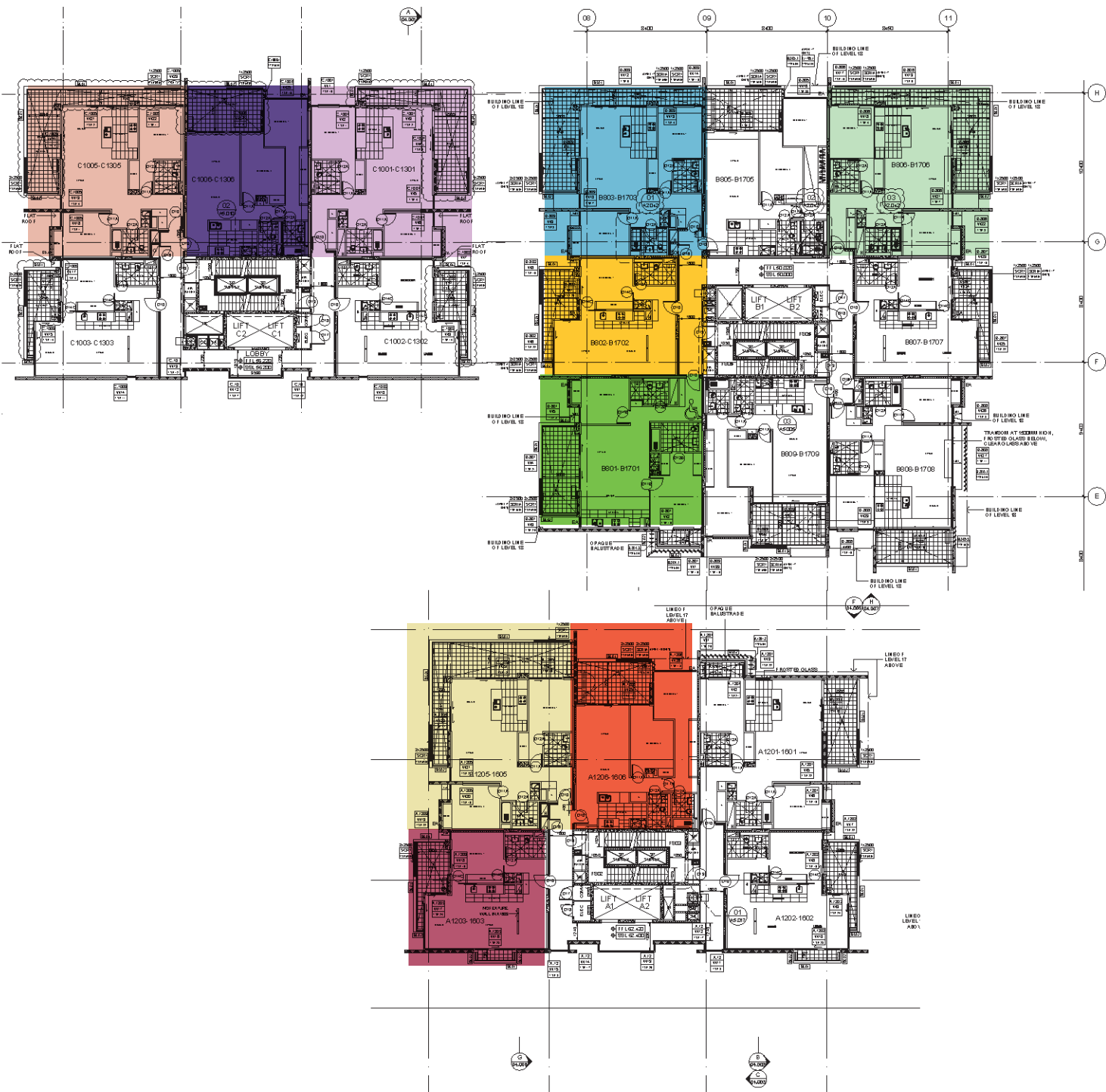
Level 10



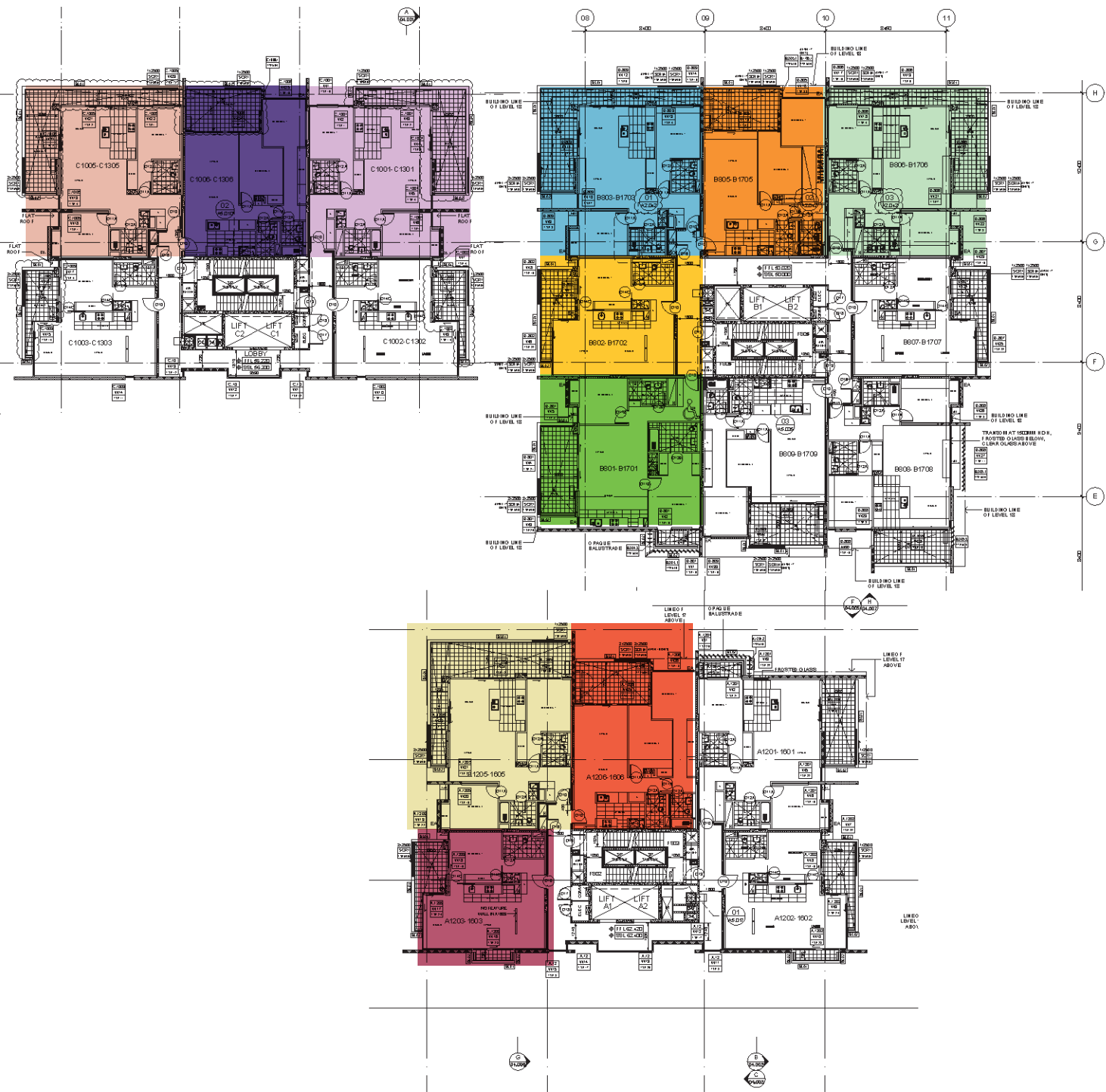
Level 11



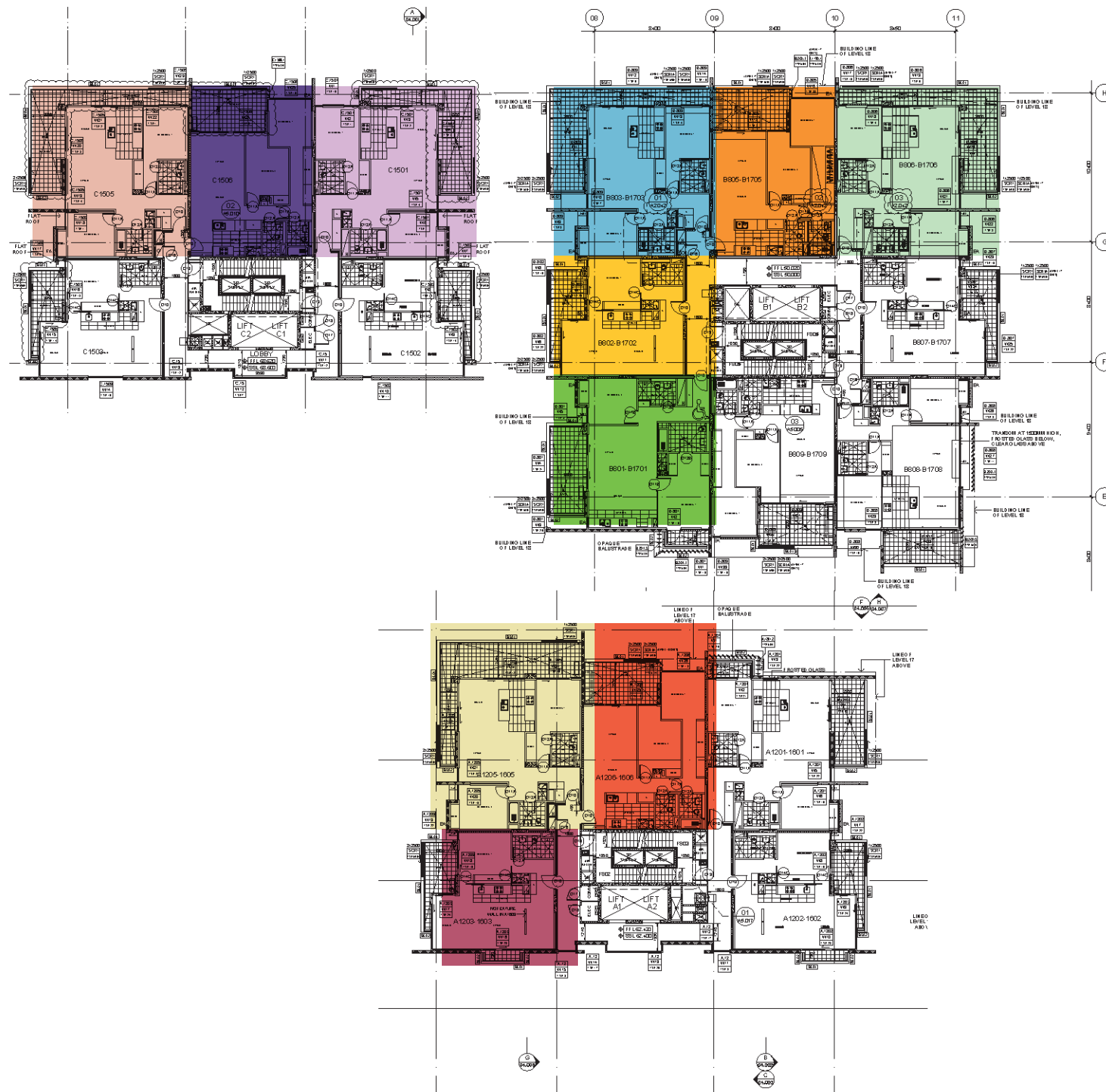
Level 12



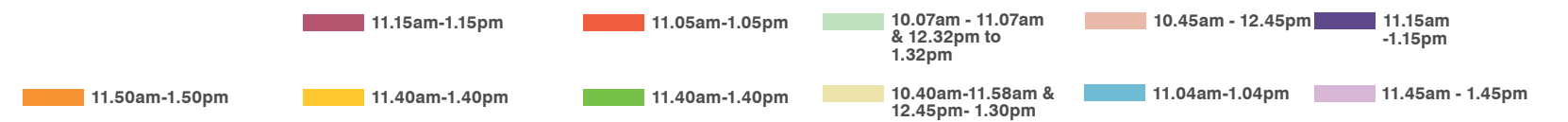
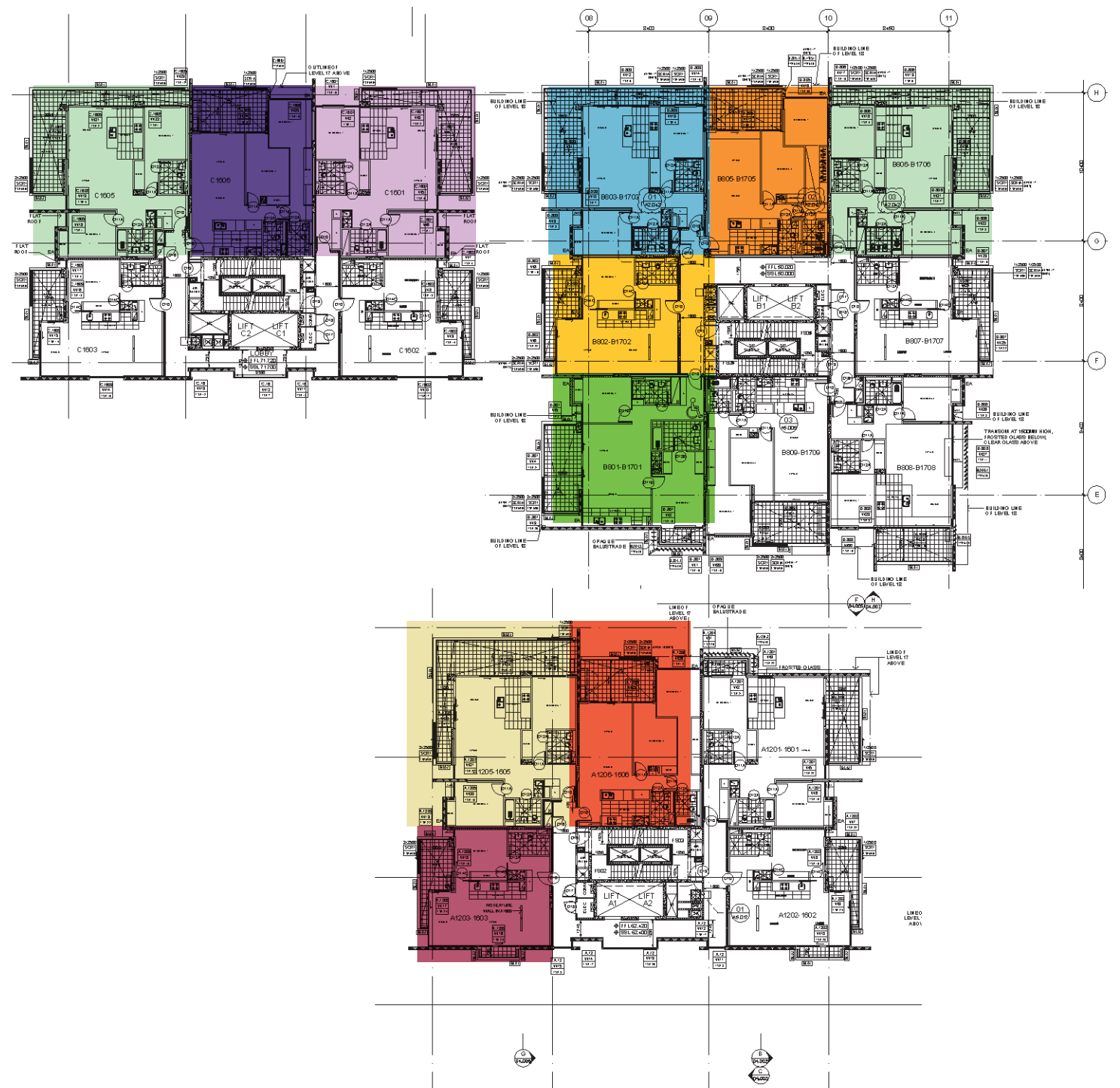
Level 13



Level 15



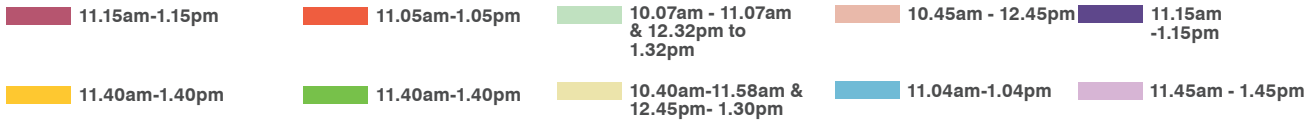
Level 16



Level 17



Level 18



Level 19

