

Aviva Studios

Noise egress testing 10-12-2023

Receptor proposal

Level Acoustics & Vibration

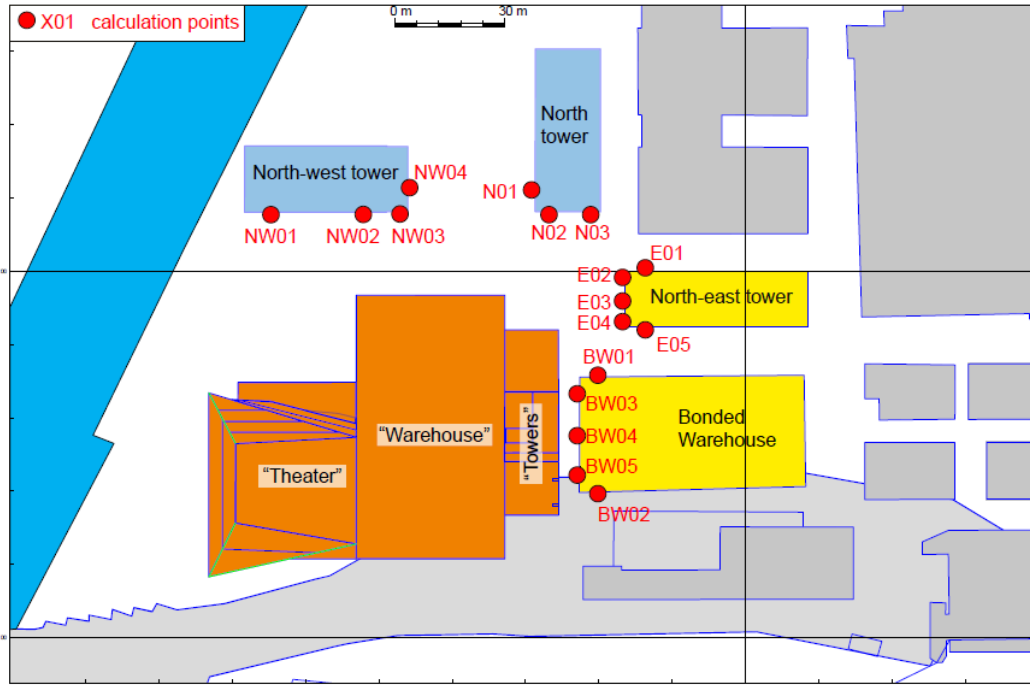


Figure 5: Factory and surrounding buildings (incl. immission calculation points (red dots) at all relevant heights)

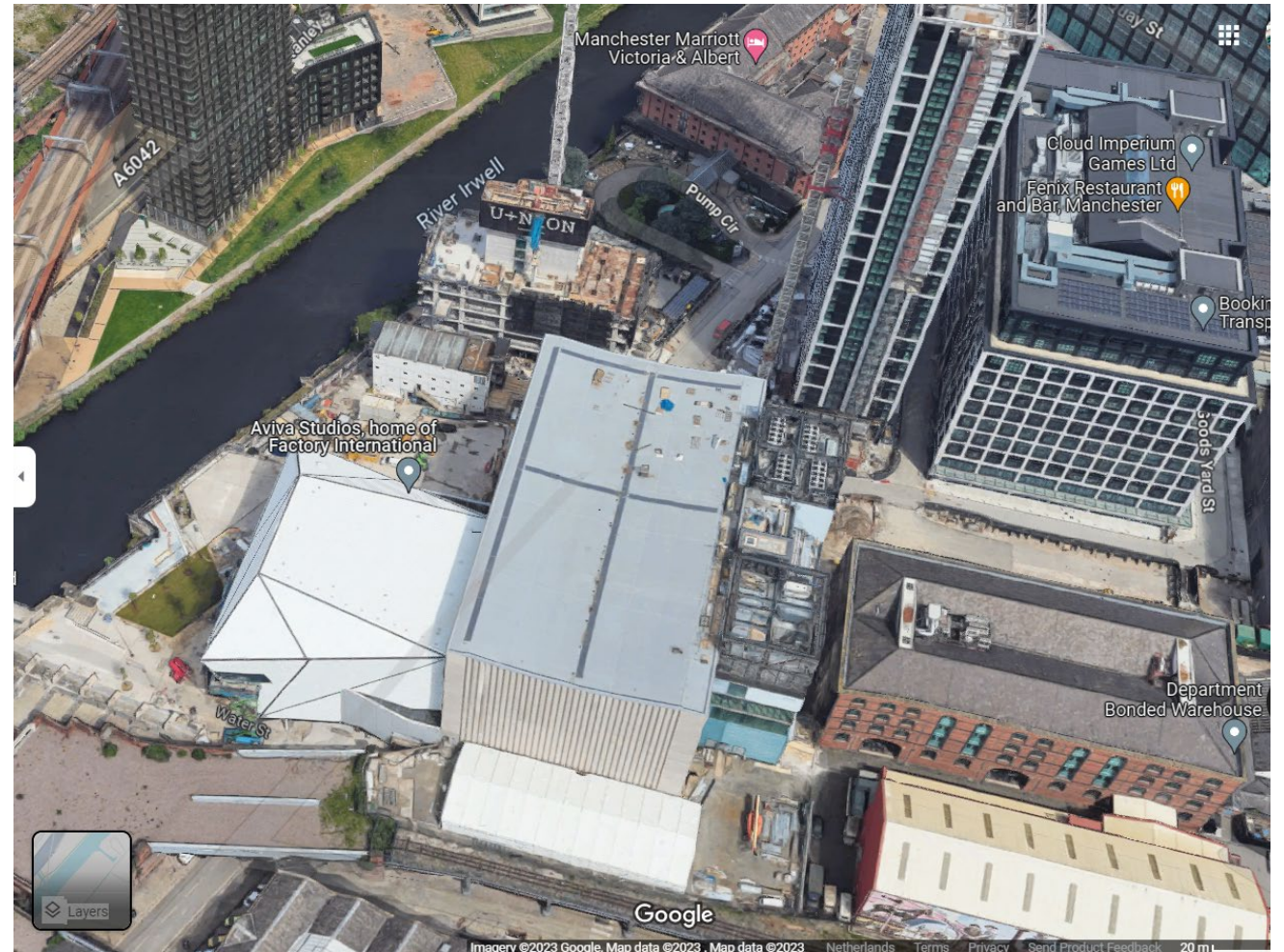


Figure 5 shows the receptors used in the calculation model (MF-LAV-XX-XX-RP-YA-01-0039-T06). For the three towers noise levels were calculated at heights 10, 30, 50, 70, 90 and 110 m. For the Bonded warehouse noise levels are calculated at the 10 and 20 m height.

The tables below show the calculated results from the calculation model. For the residential towers, the south facades of the NW and N towers are most exposed to sound (both music and MEP).

For the office, MEP noise is expected the loudest in the center and south side of the alley.

Table 3: overview maximum overall noise immission values $L_{pA,i}$

Building	calc. point	Music					
		L_p 63 Hz		L_p 125 Hz		L_{pA} max	
		day	night	day	night	day	night
		dB	dB	dB	dB	dB(A)	
North-west tower	NW01	45	45	42	42	29	29
	NW02	46	46	41	41	28	28
	NW03	47	47	40	40	28	28
	NW04	46	46	38	38	25	25
North tower	N01	47	47	38	38	26	26
	N02	51	51	42	42	30	30
	N03	52	52	43	43	31	31
East tower	E01	45	45	35	35	23	23
	E02	55	55	45	45	33	33
	E03	55	55	45	45	33	33
	E04	56	56	46	46	34	34
	E05	55	55	45	45	32	32
Bonded Warehouse	BW01	57	57	46	46	34	34
	BW02	55	55	47	47	34	34
	BW03	64	64	54	54	42	42
	BW04	65	65	55	55	43	43
	BW05	62	62	53	53	40	40
criteria (day/night)		52	52	46	46	45	38

Building	calc. point	MEP	
		L_{pA} max	
		day	night
		dB(A)	dB(A)
North-west tower	NW01	42	42
	NW02	40	40
	NW03	40	40
	NW04	36	36
North tower	N01	38	38
	N02	40	40
	N03	41	41
East tower	E01	26	26
	E02	42	42
	E03	42	42
	E04	43	43
	E05	41	41
Bonded Warehouse	BW01	37	37
	BW02	46	46
	BW03	50	50
	BW04	56	56
	BW05	52	52
criteria (day/night)		50	43

Bonded warehouse is not a noise sensitive receptor but will be measured for reference

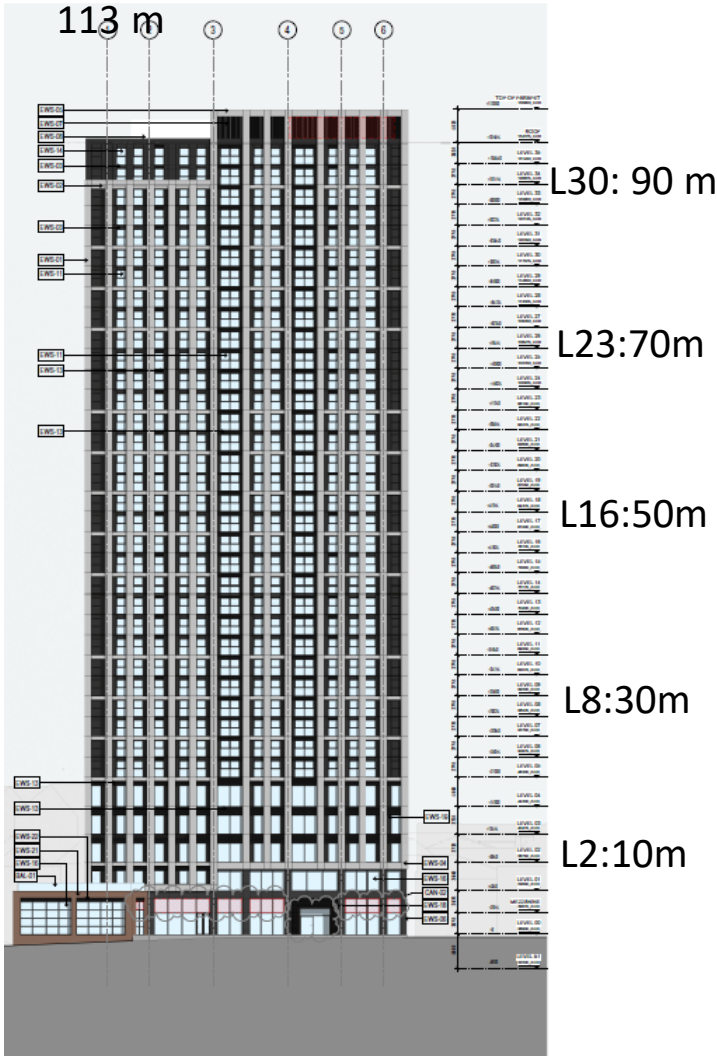
Table 4: overview maximum overall noise immission values $L_{pA,max}$ [dB(A)]

Building	calc. point	Emergency	
		L_{pA} max	
		day	night*
		dB(A)	dB(A)
North-west tower	NW01	44	44
	NW02	46	46
	NW03	47	47
	NW04	46	46
North tower	N01	47	47
	N02	49	49
	N03	49	49
East tower	E01	36	36
	E02	50	50
	E03	52	52
	E04	52	52
	E05	51	51
Bonded Warehouse	BW01	46	46
	BW02	48	48
	BW03	56	56
	BW04	55	55
	BW05	54	54
criteria (day/night)		63	58

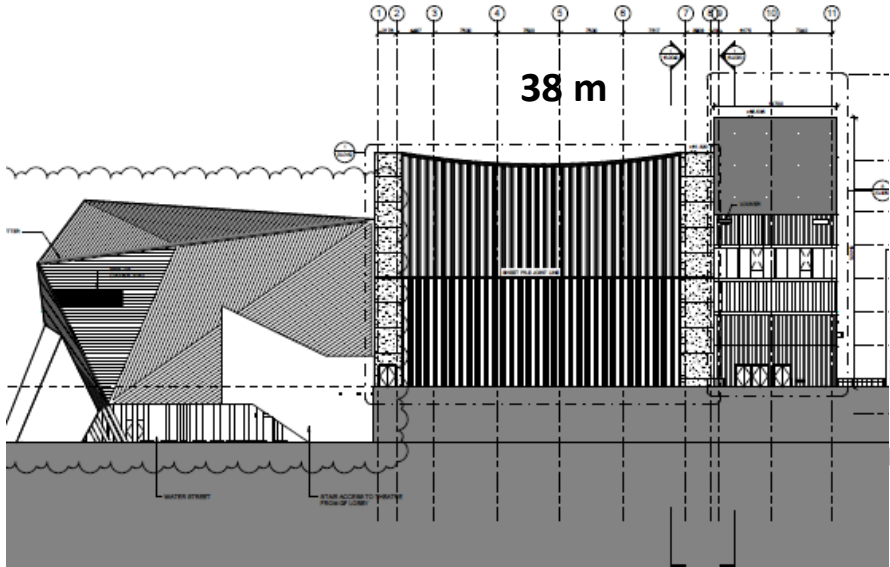
* The generator will be tested during daytime. In case the generator should run during nighttime the breakout noise levels are the same as those for daytime.

The sections below show the height of Aviva Studios compared to the Renaker Towers. The Heights 10, 30, 50 and 70 m are most likely receiving most of the noise on the south facades and need to be measured.

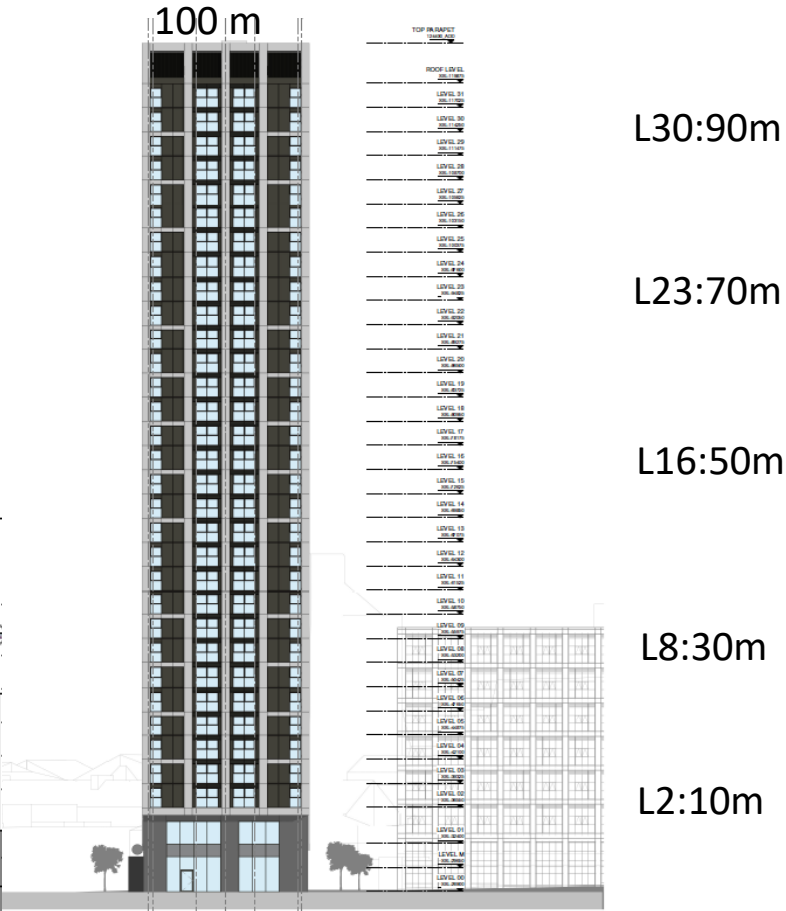
North-West tower

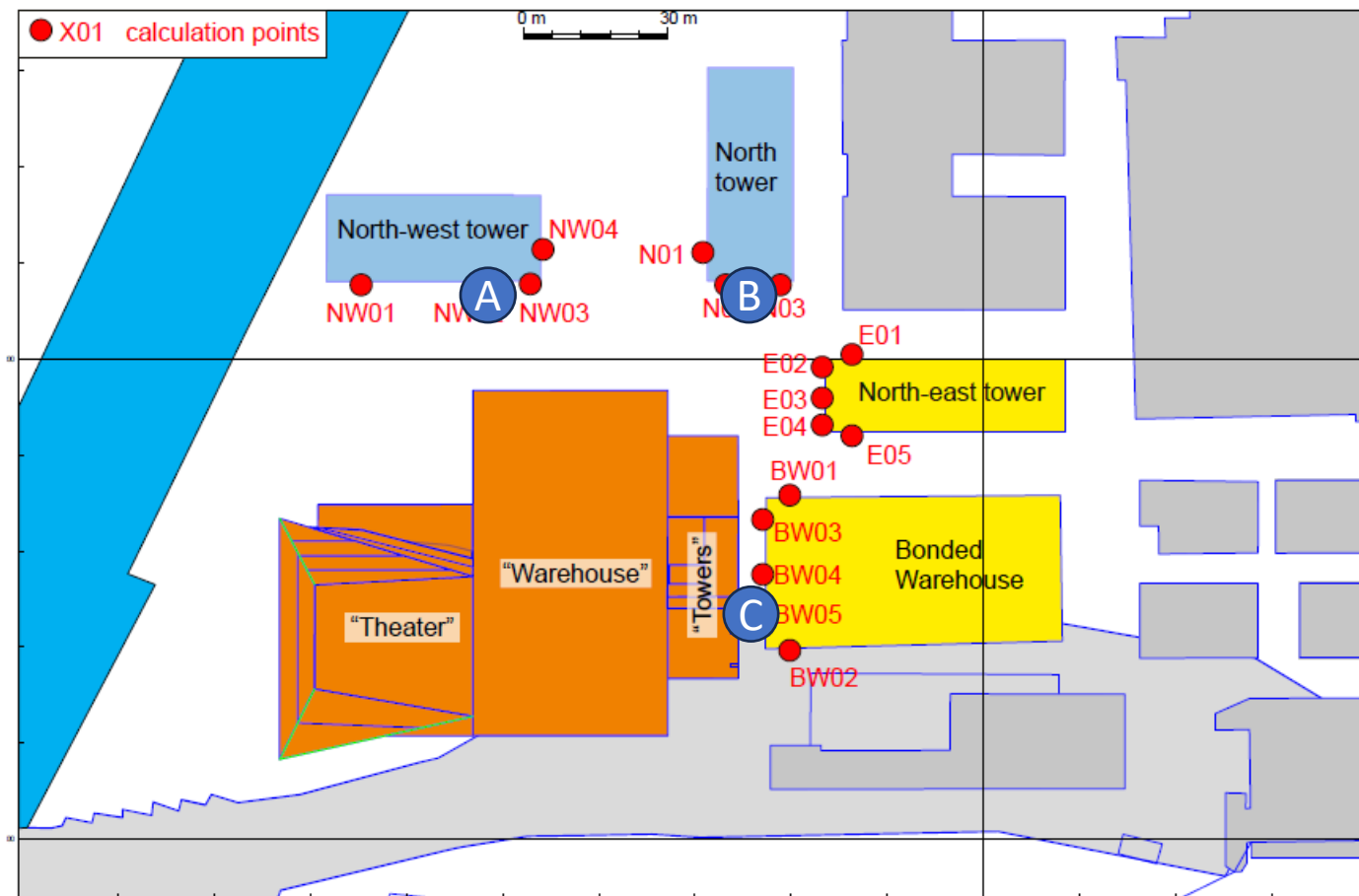


Aviva Studios

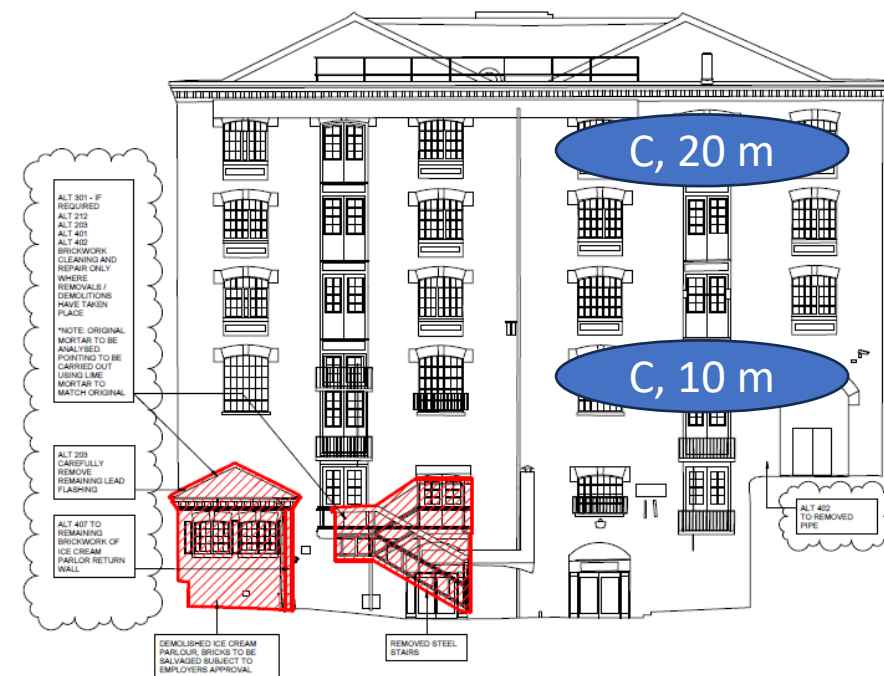


North tower





Bonded warehouse west facade



Based on the above analyses, we propose the following **10 receptor locations*** for the testing of WH music noise egress and MEP noise egress (* number is limited because each test takes 10 minutes per receptor for music emission):

- A: NW tower, south façade, east section closest to the Warehouse
- B: N tower , south façade, middle section
- C: Bonded Warehouse, for reference` (MEP only)

(10, 30, 50 and 70 m = Level 2, 8, 16, 23)
 (10, 30, 50 and 70 m = Level 2, 8, 16, 23)
 (+/- 10 and 20 m = Level 2 and 5)