Appendix 12.3 Construction Noise for OHL

12. Construction Noise and Vibration for Overhead Line

12.1 Construction Activities

12.1.1 The below table identifies which activities will be undertaken for each aspect of the project. It is currently not certain which towers will use raft/pad & column techniques or micropile/rock anchor for tower foundations and therefore predictions have been undertaken for both types at all tower locations. The same plant will be used for tower foundations as for foundations being installed for the substations.

Table 1 Identification of construction activity for each aspect of the project

	Construction Activity	Proposed New-build (WB Route) OHL	Proposed Uprated (ZG, XX, XR Routes) OHL	Proposed CB Route removal	Proposed AA undergrounding	Easterhouse Substation	Newarthill Substation	Wishaw Substation	Distribution Line diversion works
1	Construction of Access Arrangements	Y	Y	N	Y	N	N	N	N
2	Establishment of Construction Compounds	Y	Y	N	N	N	N	N	N
3a	Installation of tower foundation (raft/pad & column)	Y	Y	N	Y	Y	Y	Y	N
3b	Installation of tower foundations (micropile/ rock anchor)	Y	Y	N	Y	Y	Y	Y	N
4	Erection of Towers	Y	Y	N	Y	N	N	N	N
5	Conductor Stringing and Wiring	Y	Y	N	Y	N	N	N	N

6	Dismantling of Existing Routes	N	N	Y	Y	N	N	N	Y
7	Removal and Reinstatement of Temporary Works	Y	Y	N	N	Y	Y	Y	N
8	Bellmouth construction	Y	Y	N	N	N	N	N	N
9	Site clearance and de-vegetation	Y	Y	N	N	Y	Y	Y	N
10	Site clearance and demobilisation	Y	Y	N	N	Y	Y	Y	N

12.2 Plant Lists

12.2.1 The below plant lists have been used in the construction noise assessments.

Table 2Construction of Access Arrangements Plant List

1. Construction of Access Arrangements							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C2.7	70	1	50	0	-3	67
Articulated dump truck (tipping fill)	C2.32	74	1	30	0	-5	69
Tracked semi-mobile crusher	C9.15	96	1	10	0	-10	86
						Total	**86**

Table 3 Establishment of Construction Compounds Plant List

2. Establishment of Construction Compounds							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C5.18	80	1	50	0	-3	77

Dumper	C4.4	76	1	50	0	-3	73
Lorry with lifting boom	C4.53	77	1	10	0	-10	67
Bulldozer	C5.15	83	1	40	0	-4	79
Vibratory roller	C5.20	75	1	20	0	-7	68
						Total	**82**

Table 4 Installation of Tower Foundation (raft/pad & column) Plant List

3a. Installation of Tower Foundation (raft/pad&column)							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C4.17	71	1	50	0	-3	68
Concrete pump + cement mixer truck (discharging)	C4.24	67	1	100	0	0	67
						Total	**71**

Table 5 Installation of Tower Foundations (micropile/ rock anchor) Plant List

3b. Installation of Tower Foundations (micropile/ rock anchor)							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C4.17	71	1	50	0	-3	68
Vibratory roller	C5.21	80	1	25	5	-11	69
Piling	C3.9	63	1	50	0	-3	60
Diesel generator	C4.76	61	1	50	0	-3	58
Concrete pump + cement mixer truck (discharging)	C4.24	67	1	100	0	0	67
						Total	**73**

Table 6 Erection of Towers Plant List

4. Erection of Towers							
Plant	Plant Ref	L_p (at 10 m) dB(A)	No. of Plant Items	On-Time %	Screening (dB)	Total Correction (dB)	Total L_p (at 10 m) dB(A)
Telescopic handler	C4.54	79	1	20	0	-7	72
Lifting platform	C4.57	67	1	20	0	-7	60
						Total	**72**

Table 7 Conductor Stringing and Wiring Plant List

5. Conductor Stringing and Wiring							
Plant	Plant Ref	L_p (at 10 m) dB(A)	No. of Plant Items	On-Time %	Screening (dB)	Total Correction (dB)	Total L_p (at 10 m) dB(A)
Telescopic handler	C4.54	79	4	50	0	3	82
Wheeled mobile crane (idling)	C5.38	66	1	20	0	-7	59
Lifting platform	C4.57	67	1	10	0	-10	57
Tractor (towing equipment)	C4.74	80	1	10	0	-10	70
						Total	**82**

Table 8 Dismantling and Undergrounding of Existing Routes Plant List

6. Dismantling and Undergrounding of Existing Routes							
Plant	Plant Ref	L_p (at 10 m) dB(A)	No. of Plant Items	On-Time %	Screening (dB)	Total Correction (dB)	Total L_p (at 10 m) dB(A)
Tracked excavator	C2.29	79	2	50	0	0	79
Dumper	C4.4	76	2	50	0	0	76
Wheeled mobile telescopic crane	C4.38	78	1	25	0	-6	72

Petrol hand-held circular saw	C4.70	91	1	20	5	-12	79
Tractor (towing equipment)	C4.74	80	1	20	0	-7	73
						Total	**84**

Table 9 Removal and Reinstatement of Temporary Works Plant List

7. Removal and Reinstatement of Temporary Works							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C5.18	80	1	50	0	-3	77
Lorry with lifting boom	C4.53	77	1	10	0	-10	67
						Total	**77**

Table 10 Bellmouth Construction Plant List

8. Bellmouth construction							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C2.29	79	1	50	0	-3	76
Dumper	C4.4	76	1	50	0	-3	73
Vibratory roller	C5.20	75	1	25	0	-6	69
Asphalt paver (+ tipper lorry)	C5.30	75	1	50	0	-3	72
Petrol hand-held circular saw	C4.70	91	1	20	5	-12	79
						Total	**82**

Table 11 Site Clearance and de-vegetation Plant List

9. Site clearance and de-vegetation							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Hand-held circular saw (cutting paving slabs)	C4.73	84	2	1	0	-17	67
Powertools	C4.69	85	2	30	5	-7	78
Tracked excavator	C4.17	71	1	30	0	-5	66
Diesel generator	C4.86	65	2	100	0	3	68
Woodchipper	SCHALL, emission data catalog 2023	86	1	5	0	-13	73
						Total	**80**

Table 12 Site clearance and demobilisation Plant List

11. Site clearance and demobilisation							
Plant	**Plant Ref**	**L_p (at 10 m) dB(A)**	**No. of Plant Items**	**On-Time %**	**Screening (dB)**	**Total Correction (dB)**	**Total L_p (at 10 m) dB(A)**
Tracked excavator	C6.12	74	1	20	0	-7	67
Dumper	C4.4	76	1	15	0	-8	68
						Total	**70**