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**Appendix A14.2**  
**Construction Plant Noise**  
**Assessment Assumptions**

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# 1. APPENDIX A14.2: CONSTRUCTION PLANT NOISE ASSESSMENT ASSUMPTIONS

## 1.1 Impact distances

In accordance with the assessment methodology construction noise impacts may potentially constitute a significant effect where a major or moderate magnitude of impact is identified. In the absence of specific baseline noise levels, the assessment has been based upon the Category A values from Table 1-1, which represents the most onerous assessment category for determining likely significant construction noise effects, specifically:

**Table 1-1 BS 5228-1 Example of Thresholds of Potential Significant Effect.**

Assessment Category & Threshold Value Period ( $L_{Aeq}$ )	Construction Noise Threshold (CNT) (dB)		
	Category A	Category B	Category C
Daytime (07:00 – 19:00hrs) and Saturdays (07:00 – 13:00hrs)	65	70	75
Evenings & Weekends (19:00 – 23:00hrs weekdays) (13:00 – 23:00hrs Saturdays) (07:00 – 23:00hrs Sundays)	55	60	65
Night-time (23:00 to 07:00hrs)	45	50	55
Notes	Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.	Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.	Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

For example, during the daytime a moderate impact is therefore identified at a level greater than 65dB(A), and a major impact is identified at a level greater than 70dB(A) during the daytime.

## 1.2 Plant assumptions – All Zones

### 1.2.1 Site clearance

The plant required for site clearance activities will vary depending on the location, and will include, but not be limited to, the plant items in Table 1-2.

**Table 1-2 Plant for site clearance**

Equipment	Data Source	Activity	Sound Power Level dB(A)	% on time
Tracked excavator	BS 5228-1:2009 Table C.2:5	Clearing Site	104	30
Tracked excavator (idling)	BS 5228-1:2009 Table C.2:6	Clearing Site	104	60
Dozer	BS 5228-1:2009 Table C.2:1	Clearing Site	103	20
Woodchipper	Manufacturers datasheet	QuadTrak 160 Chipping wood	116	20
Mulcher	Manufacturers datasheet	BE TMS 2300 Mulcher	115	20
Chainsaw	Manufacturers datasheet	Stihl MS461 Chainsaw	117	15
Stump grinder	Manufacturers datasheet	Barreto 30SG Stump Grinder	107	20
Tractor with front end loader	BS 5228-1:2009 Table C.4:14 Wheeled Backhoe loader	Distribution of Material	95	90
Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	Delivery / Removal of Material	109	10
Vibratory Roller	BS 5228-1:2009 Table C.4:53	Rolling and Compaction	105	10
Lorry with lifting boom	BS 5228-1:2009 Table C.4:53	Lifting material	105	10

The distance where a moderate or major impact is predicted, is shown in Table 1-3.

**Table 1-3 Site clearance – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Site Clearance	63m - 112m	<63m
Site Clearance (excluding Tree felling and Processing activities)	25m - 45m	<25m

<sup>1</sup> Drive-by maximum sound level

## 1.2.2 Permanent way - Track lowering and horizontal alignment

The permanent way works comprise track lowering and changes to the horizontal alignment. Track lowering will be required at Overbridges OBB39, OBB44 and OBB55 in Zone C and Overbridge OBB78 in Zone D. In some cases, the track lowering will be nominal, and the most practical solution may be to reduce the track ballast by the required amount as outlined in Chapter 5 (Construction Strategy). Further details on track alignment can be found in Chapter 4 (Description of Proposed Development) and Chapter 5 (Construction Strategy) in Volume 2 of this EIAR. Table 1-4 presents the plant required for track lowering and horizontal alignment. Not all the stages outlined in Table 1-4 are applicable to all locations where track lowering or horizontal alignment changes are proposed. The full list of activities where changes in the track alignment occur were assessed for completeness.

**Table 1-4 Construction plant for track lowering and horizontal alignment**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant on time
Advanced Enabling & Utility Works, Site Preparation Works	HGV	Average of BS 5228-1:2009 Table C.11:4-20	109	10
	Skip wagon <sup>1</sup>	BS 5228-1:2009 Table C.8:21	106	80
Rail cutting	Rail cutting machine	BS 5228-1:2009 Table C.4:73	112	10
Removal of old track panels	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Crane on Truck	BS 5228-1:2009 Table C.4:53	105	20
Removal of degraded ballast	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
Excavation of the formation until desired level	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
Extension of first ballast layer, levelling and compaction	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
	Wheeled Loader	BS 5228-1:2009 Table C.4:13	99	80

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant on time
	Grader <sup>1</sup>	BS 5228-1:2009 Table C.6:31	115	10
	Medium Roller	BS 5228-1:2009 Table C.5:24	112	20
Laid preassemble track panels and connect them with provisional joints	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	80
	Truck mounted crane	BS 5228-1:2009 Table C.4:53	105	80
Extension of second ballast layer, tamping and dynamic stabilization	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
	Tamper	Estimate	112	10
Welding joints and second stabilization	Welding equipment	BS 5228-1:2009 Table C.3:31	101	20
	Tamper	Estimate	112	10

The distance where a moderate or major impact is predicted, is shown in Table 1-5.

**Table 1-5 Track lowering and horizontal alignment – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact			
	Day		Night	
	Moderate impact	Major impact	Moderate impact	Major impact
Advanced Enabling & Utility Works, Site Preparation Works	16m - 28m	<16m	224m - 398m	<224m
Rail cutting	22m - 40m	<22m	187m - 333m	<187m
Removal of old track panels	19m - 33m	<19m	251m - 446m	<251m
Removal of degraded ballast	25m - 45m	<25m	235m - 418m	<235m
Excavation of the formation until desired level	24m - 42m	<24m	518m - 921m	<518m
Extension of first ballast layer, levelling and compaction	52m - 92m	<52m	206m - 367m	<206m
Laid preassemble track panels and connect them with provisional joints	21m - 37m	<21m	325m - 577m	<325m
Extension of second ballast layer, tamping and dynamic stabilization	32m - 58m	<32m	241m - 429m	<241m
Welding joints and second stabilization	24m - 43m	<24m	224m - 398m	<224m

### 1.2.3 Construction compounds

Site enabling works at the Construction Compounds have been modelled and Table 1-6 presents the likely plant required as part of the activity. This phase of works is expected to last up to one month. It is expected that the duration for most site compounds will be less than that as some of the locations are relatively clean, have limited growth and undulation. Nonetheless, the intensity of the activity will vary over this period.

**Table 1-6 Construction plant for site compounds**

Equipment	Data Source	Activity	Sound Power Level dB(A)	% on-time
Tracked excavator	BS 5228-1:2009 Table C.2:5	Clearing Site	104	70
Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	Delivery / Removal of Material	109	5
Dump truck (tipping fill)	BS 5228-1:2009 Table C.2:30	Tipping Fill	107	30
Lorry with lifting boom	BS 5228-1:2009 Table C.4:53	Lifting material	105	20
Dozer	BS 5228-1:2009 Table C.5:12	Spreading Chipping and Fill	105	30
Vibratory Roller	BS 5228-1:2009 Table C.5:28	Rolling and Compaction	105	10

The distance where a moderate or major impact is predicted, is shown in Table 1-7.

**Table 1-7 Construction compounds – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Construction compounds	42m - 75m	<42m

Once the site compounds have been established, they will be used to provide office and welfare facilities for site staff. The Construction Compounds will also provide facilities for material storage, laydown and maintenance of construction plant, and potential fabrication areas. In general, the noise emissions from these activities will be less than that associated with the site enabling works.

### 1.2.4 Substations

A total of eight electrical substations are required for the Proposed Development. The substations will comprise a secured, fenced compound surrounding a building which will house all the necessary electrical switching and feeding equipment. Further details on the substations are contained in Chapter 4 (Description of the Proposed Development). Table 1-8 presents a list of the likely plant/equipment to be used during the construction of substations.

**Table 1-8 Construction plant for substations**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
Site Preparation	Tracked excavator	BS 5228-1:2009 Table C.2:7	98	70
	Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	109	5
	Dozer	BS 5228-1:2009 Table C.2:13	107	50
Preparation of Hardstanding's and Paving Areas	Tracked excavator	BS 5228-1:2009 Table C.2:19	106	70
	Dump truck (tipping fill)	BS 5228-1:2009 Table C.2:30	107	30
	Dozer	BS 5228-1:2009 Table C.5:12	105	50
	Vibratory roller	BS 5228-1:2009 Table C.5:21	108	20
	Grader <sup>1</sup>	BS 5228-1:2009 Table C.6:31	115	10
Concrete Pours	Concrete mixer truck (discharging) & concrete	BS 5228-1:2009 Table C.4:28	103	70
	Poker vibrator	BS 5228-1:2009 Table C.4:34	97	20
	Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	109	5
	Truck mounted concrete pump and boom arm	BS 5228-1:2009 Table C.4:30	108	70
General Works	Wheeled mobile crane	BS 5228-1:2009 Table C.4:43	98	10
	Telescopic handler	BS 5228-1:2009 Table C.4:54	107	60
	Angle grinder (grinding steel)	BS 5228-1:2009 Table C.4:93	109	10
	Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	109	5
	Diesel generator	BS 5228-1:2009 Table C.4:78	94	100
	Lifting platform	BS 5228-1:2009 Table C.4:57	95	80
	Mini tracked excavator	BS 5228-1:2009 Table C.4:67	102	50
Surface Paving	Road lorry (full) <sup>1</sup>	BS 5228-1:2009 Table C.6:21	109	5
	Grader <sup>1</sup>	BS 5228-1:2009 Table C.6:31	115	10

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
	Tracked excavator	BS 5228-1:2009 Table C.5:35	103	50
	Road roller	BS 5228-1:2009 Table C.5:19	108	60
	Asphalt paver (+ tipper lorry) <sup>1</sup>	BS 5228-1:2009 Table C.5:32	112	10
	Vibratory roller (not vibrating)	BS 5228-1:2009 Table C.5:23	111	60
	Road sweeper	BS 5228-1:2009 Table C.4:90	104	10

The distance where a moderate or major impact is predicted, is shown in Table 1-9.

**Table 1-9 Substation construction – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Site Preparation	33m - 58m	<33m
Preparation of Hardstanding's and Paving Areas	57m - 101m	<57m
Concrete Pours	45m - 79m	<45m
General Works	42m - 75m	<42m
Surface Paving	75m - 133m	<75m

### 1.2.5 Grid Connections

A total of eight electrical substations are required for the Proposed Development. Each substation will be supplied from two independent 38kV circuits. The works will involve laying underground cables (UGC), comprising a 38kV electricity connection in the existing road and across greenfield sites. For some of the proposed substations horizontal directional drilling will be required to cross below the railway (UTX) to complete the route into the proposed substations. Table 1-10 presents a list of the likely plant/equipment to be used during installation of the underground cables.

**Table 1-10 Construction plant for installation of underground cabling**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
Installation of Underground Cabling	Road sweeper	BS 5228-1:2009 Table C.4:90	104	10
	Mini excavator with hydraulic breaker	BS 5228-1:2009 Table C.5:2	111	30
	Vibratory roller	BS 5228-1:2009 Table C.5:27	95	30

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
	Wheeled excavator	BS 5228-1:2009 Table C.5:34	98	50
	Hand-held circular saw (petrol)	BS 5228-1:2009 Table C.5:36	115	10
	Dump truck (tipping fill)	BS 5228-1:2009 Table C.2:30	107	10
	Vibratory plate (petrol)	BS 5228-1:2009 Table C.2:41	108	40
	Directional drilling	BS 5228-1:2009 Table C.3:5	106	50

The distance where a moderate or major impact is predicted, is shown in Table 1-11.

**Table 1-11 Installation of underground cabling – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Installation of Underground Cabling	63m - 112m	<63m

### 1.2.6 OHLE

In sections where piled foundations are required, the piles will be constructed using road-rail vehicles. Once the piles have been installed, then masts and overhead wires are installed. Table 1-12 presents a list of the likely plant/equipment to be used during construction and installation of OHLE infrastructure.

**Table 1-12 Construction plant for OHLE installation**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant on time
Advanced Enabling & Utility Works, Site Preparation Works	Chain Saw	BS 5228-1:2009 Table C.4:73	112	20
	HGV	Average of BS 5228 1:2009 Table C.11:4-20	109	5
Foundation construction (Rotary Auger Piling)	Pile Boring Rig	BS 5228-1:2009 Table C.3:14	112	50
	Concrete Pump	BS 5228-1:2009 Table C.4:25	110	10
	Concrete Mixer Truck	BS 5228-1:2009 Table C.4:20	108	10
	Concrete Vibrator	BS 5228-1:2009 Table C.4:34	97	5
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant on time
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
	360 Excavator (20t)	BS 5228-1:2009 Table C.2:21	99	50
Foundation construction (Steel driven Piling)	Hydraulic Hammer rig	BS 5228-1:2009 Table C.3:1	117	40
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
	360 Excavator (20t)	BS 5228-1:2009 Table C.2:21	99	50
Foundation construction (DTHH Piling)	Vibratory pile driver (Moavax or similar) or DTHH piling	BS 5228-1:2009 Table C.3:1 Van Elle Klem709 manufacturer data	117	40
	Compressor	BS 5228-1:2009 Table C.2:21	100	50
	Compressor	BS 5228-1:2009 Table C.2:21	100	50
	Road-Rail Excavator	BS 5228-1:2009 Table C.2:21	99	90
	Articulated Dump Truck	BS 5228-1:2009 Table C.4:2	106	30
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	60
	360 Excavator (20t)	BS 5228-1:2009 Table C.2:21	99	60
Installation of support structures, including masts and cantilevers	Crane on Truck	BS 5228-1:2009 Table C.4:53	105	30
	Mini-Digger	BS 5228-1:2009 Table C.4:67	102	50
	Welding Equipment	BS 5228-1:2009 Table C.3:31	101	30
	Generator	BS 5228-1:2009 Table C.6:39	93	80
	Saw	BS 5228-1:2009 Table C.4:73	112	10
Installation of contact wire	Diesel platform (idling)	BS 5228-1:2009 Table C.4:60	98	35
	Diesel Platform (on-power)	BS 5228-1:2009 Table C.4:59	106	10

The distance where a moderate or major impact is predicted, is shown in Table 1-13.

**Table 1-13 OHLE installation – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Major impact	Moderate impact
Advanced Enabling & Utility Works, Site Preparation Works	34m - 60m	<34m
Foundation construction (Rotary Auger Piling)	60m - 108m	<60m
Foundation construction (Steel driven piles)	88m - 156m	<88m
Foundation construction (DTHH piling)	86m - 153m	<86m
Installation of support structures, including masts and cantilevers	35m - 62m	<35m
Installation of contact wire	18m - 32m	<18m

### 1.2.7 Signalling

Signal gantries are proposed for use in stations or in areas with more than two tracks, such as Clongriffin or Malahide and the installation of these has the potential to generate high levels of noise albeit for a short duration. Further details can be found in Chapter 4 (Description of the Proposed Development) and Chapter 5 (Construction Strategy) in Volume 2 of this EIAR. Table 1-14 presents a list of the likely plant/equipment to be used during construction and installation of signal gantries.

**Table 1-14 Typical Construction Plant for Construction and Installation of Signal Gantries**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
Concrete Bored Pile Foundation	Mini Piling Rig	BS 5228-1:2009 Table C.3:17	104	60
	Excavator	BS 5228-1:2009 Table C.2:19	106	20
	Tracked Excavator (idling)	BS 5228-1:2009 Table C.2:20	96	50
	Dumper	BS 5228-1:2009 Table C.4:4	104	20
	Dumper (idling)	BS 5228-1:2009 Table C.4:5	91	50
	Truck mounted concrete pump and boom arm	BS 5228-1:2009 Table C.4:30	108	20
	Poker vibrator	BS 5228-1:2009 Table C.4:34	97	10
Installation of support structures including masts and cantilevers	Truck mounted Crane	BS 5228-1:2009 Table C.4:53	105	20
	Angle grinder (grinding steel)	BS 5228-1:2009 Table C.4:93	109	10

Activity	Equipment	Data Source	Sound Power Level dB(A)	% on time
	Diesel generator	BS 5228-1:2009 Table C.4:78	94	100
	Lifting platform	BS 5228-1:2009 Table C.4:57	95	30
	Mini tracked excavator	BS 5228-1:2009 Table C.4:67	102	40
	Welding-equipment	BS 5228-1:2009 Table C3.31	101	20

The distance where a moderate or major impact is predicted, is shown in Table 1-15.

**Table 1-15 Signalling installation – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) where unscreened activities are equal to a moderate or major impact			
	Day		Night	
	Major impact	Moderate impact	Major impact	Moderate impact
Advanced Enabling & Utility Works, Site Preparation Works	<37m	37m - 66m	<209m	209m - 372m
Foundation construction (Rotary Auger Piling)	<29m	29m - 52m	<163m	163m - 290m

### 1.2.8 Roads

The road works comprise the removal of the existing surface, profiling and shaping of the road and construction of the road pavement. Table 1-16 presents the likely plant associated with this activity. This phase of works is expected to last several weeks at any location, but it will vary in activity level.

**Table 1-16 Plant for road works**

Equipment	Data Source	Activity	Sound Power Level dB(A)	% on time
Road Planer	BS 5228-1:2009 Table C.5:7	Road Planing	110	90
Wheeled excavator	BS 5228-1:2009 Table C.5:11	Removing broken road surface	101	90
Road lorry (full)	BS 5228-1:2009 Table C.6:21	Distribution of Material	109	10
Grader	BS 5228-1:2009 Table C.6:31	Levelling road	115	50
Tracked excavator	BS 5228-1:2009 Table C.5:35	Trenching	103	30
Tracked excavator (idling)	BS 5228-1:2009 Table C.2:20	Trenching	96	60

Equipment	Data Source	Activity	Sound Power Level dB(A)	% on time
Road roller	BS 5228-1:2009 Table C.5:19	Rolling and Compaction	108	80
Asphalt paver (+ tipper lorry)	BS 5228-1:2009 Table C.5:32	Paving	112	80
Vibratory roller (not vibrating)	BS 5228-1:2009 Table C.5:23	Rolling and Compaction	111	20
Road sweeper	BS 5228-1:2009 Table C.4:90	Sweeping and dust suppression	104	10

The distance where a moderate or major impact is predicted, is shown in Table 1-17.

**Table 1-17 Road works – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Major impact	Moderate impact
Road works	<69m	69m-122m

## 1.3 Plant assumptions – Zone A

### 1.3.1 Internal modifications to Fairview Depot.

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-18 which presents the likely plant associated with the modifications to the depot during the Construction Phase.

**Table 1-18 Construction plant for internal modifications to Fairview depot**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
New cleaning platforms, walkway and services	Crane on Truck	BS 5228 Table C.4:53	105	60
	Road-Rail Excavator	BS 5228 Table C.2:21	99	60
	Welding-Rig and Hand tools	BS 5228 Table C.3:31	101	30
	Hand-held circular saw (petrol-cutting concrete)	BS 5228 Table C.4:70	119	10

The distance where a moderate or major impact is predicted, is shown in in Table 1-19.

**Table 1-19 Site clearance – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Major impact	Moderate impact
New cleaning platforms, walkway and services	<58m	58m - 103m

## 1.4 Plant assumptions – Zone B

### 1.4.1 Howth Junction and Donaghmede Station Works

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-20 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-20 Construction plant for Howth junction and Donaghmede station works**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Demolition & Site Preparation	Breaker mounted on excavator	BS 5228 Table C.1:9	118	40
	Tracked excavator	BS 5228 Table C.2:7	98	40
	Wheeled backhoe loader	BS 5228 Table C.2:8	96	70
	Dump truck	BS 5228 Table C.2:30	107	70
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Hand-held circular saw	BS 5228 Table C.4:70	119	10
	Diesel generator	BS 5228 Table C.4:76	89	100
	Roller	BS 5228 Table C.2:38	102	10
	Telescopic handler	BS 5228 Table C.4:55	99	60
	Road sweeper	BS 5228 Table C.4:90	104	40
Utility diversions where required	Wheeled backhoe loader	BS 5228 Table C.2:8	96	60
	Mini tracked excavator	BS 5228 Table C.3:20	96	60
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
Remove OHLE where required	Angle grinder (Grinding steel)	BS 5228 Table C.4:93	109	10
	MEWP	BS 5228 Table C.4:57	95	60
	Telescopic handler	BS 5228 Table C.2:35	99	50
Piling (maybe using micro piling rigs)	Mini piling rig	BS 5228 Table C.3:18	103	60
	Tracked excavator	BS 5228 Table C.2:7	98	60
	Articulated dump truck	BS 5228 Table C.4:2	106	60
	Tracked mobile crane	BS 5228 Table C.4:50	99	50
	Compressor	BS 5228 Table C.3:19	103	90

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Concreting operations	Concrete mixer	BS 5228 Table C.4:27	107	70
	Concrete pump	BS 5228 Table C.4:28	103	70
	Mobile crane	BS 5228 Table C.4:43	98	65
	Concrete vibrator	BS 5228 Table C.4:34	97	50
Precast platform unit installation	Mobile Crane	BS 5228 Table C.4:43	98	65
Tie-in to existing platform	Hand-held circular saw	BS 5228 Table C.4:70	119	20
	Electric percussion drill	BS 5228 Table C.4:69	113	20
Cable ducts and drainage	Wheeled backhoe loader	BS 5228 Table C.2:8	96	60
	Mini tracked excavator	BS 5228 Table C.3:20	96	60
	Dump truck	BS 5228 Table C.2:30	107	60
Permanent fencing	Mini tracked excavator	BS 5228 Table C.3:20	96	60
	Telescopic handler	BS 5228 Table C.4:55	99	50
Platform shelter erection	Mobile Crane	BS 5228 Table C.4:43	98	60
	Drill	BS 5228 Table C.4:69	113	20
Benches and lighting	Telescopic handler	BS 5228 Table C.4:55	99	60
	Drill	BS 5228 Table C.4:69	113	20
Reinstate OHLE	MEWP	BS 5228 Table C.4:57	95	65
	Telescopic handler	BS 5228 Table C.4:55	99	20
Landscaping	Plate Vibrator	BS 5228 Table C.2:41	108	10
	Vibratory Roller	BS 5228 Table C.2:39	102	20
	Asphalt paver	BS 5228 Table C.5:30	104	50
	Dump truck	BS 5228 Table C.2:30	107	60
	Mini tracked excavator	BS 5228 Table C.3:20	96	50

The distance where a moderate or major impact is predicted, is shown in Table 1-27.

**Table 1-21 Howth junction and Donaghmede station works – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Demolition & Site Preparation	111m - 198m	<111m
Utility diversions where required	16m - 28m	<16m
Remove OHLE where required	21m - 37m	<21m
Piling (maybe using micro piling rigs)	44m - 78m	<44m
Concreting operations	42m - 75m	<42m
Precast platform unit installation	11m - 20m	<11m

Tie-in to existing platform	79m - 141m	<79m
Cable ducts and drainage	33m - 59m	<33m
Permanent fencing	14m - 25m	<14m
Platform shelter erection	37m - 66m	<37m
Benches and lighting	38m - 67m	<38m
Reinstate OHLE	11m - 19m	<11m
Landscaping	41m - 74m	<41m

### 1.4.2 Clongriffin Station turnback

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-22 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-22 Construction plant for Clongriffin station works**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Demolition & Site Preparation	Breaker mounted on excavator	BS 5228 Table C.1:9	118	40
	Tracked excavator	BS 5228 Table C.2:7	98	40
	Wheeled backhoe loader	BS 5228 Table C.2:8	96	70
	Dump truck	BS 5228 Table C.2:30	107	70
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Hand-held circular saw	BS 5228 Table C.4:70	119	10
	Diesel generator	BS 5228 Table C.4:76	89	100
	Roller	BS 5228 Table C.2:38	102	10
	Telescopic handler	BS 5228 Table C.4:55	99	60
Road sweeper	BS 5228 Table C.4:90	104	40	
Reinforced concrete retaining wall structure	Concrete mixer	BS 5228 Table C.4:27	107	70
	Concrete pump	BS 5228 Table C.4:28	103	70
	Mobile crane	BS 5228 Table C.4:43	98	60
	Concrete vibrator	BS 5228 Table C.4:34	97	50
Earthworks	Tracked excavator	BS 5228 Table C.2:7	98	60
	Roller	BS 5228 Table C.2:38	102	60
	Dump truck	BS 5228 Table C.2:30	107	60
	Small bulldozer	BS 5228 Table C.5:15	111	60
Placement of new track and crossover to the south of Clongriffin station and installation of new turnouts	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dumper	BS 5228 Table C.4:4	104	60
	Track mounted crane	BS 5228 Table C.4:53	105	20
	Tamper	Estimate	112	10

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
	Hand-held circular saw	BS 5228 Table C.4:70	119	10

The distance where a moderate or major impact is predicted, is shown in Table 1-23

**Table 1-23 Clongriffin station – impact distance**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Demolition & Site Preparation	111m - 198m	<111m
Reinforced concrete retaining wall structure	79m - 141m	<79m
Earthworks	61m - 109m	<61m
Placement of new track and crossover to the south of Clongriffin station and installation of new turnouts	62m - 110m	<62m

### 1.4.3 Construction of UBB19C

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-24 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-24 Construction plant for UBB19C**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Enabling works	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dump truck	BS 5228 Table C.4:4	104	60
	Pneumatic breaker	BS 5228 Table C.1:7	121	10
Foundations, piers and abutments	Pile Boring Rig	BS 5228 Table C.3:14	112	60
	Concrete Pump	BS 5228 Table C.4:28	103	10
	Concrete Mixer Truck	BS 5228 Table C.4:27	107	20
	360 Excavator (20t)	BS 5228 Table C.2:21	99	60
	Articulated Dump Truck	BS 5228 Table C.4:2	106	70
Deck reconstruction	Articulated Dump Truck	BS 5228 Table C.4:2	106	70
	Large Mobile Crane	BS 5228 Table C.4:43	98	20
	Concrete mixer Truck	BS 5228 Table C.4:27	107	20
Finishing works incl. earthworks	Excavator	BS 5228 Table C.2:7	98	60
	Dump truck	BS 5228 Table C.2:30	107	60
	Bulldozer	BS 5228 Table C.2:1	103	50
	Vibratory roller	BS 5228 Table C.2:39	102	50

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Asphalt paver	BS 5228 Table C.5:30	104	30

The distance where a moderate or major impact is predicted, is shown in Table 1-25.

**Table 1-25 Construction of UBB19C – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Enabling works	69m - 122m	<69m
Foundations, piers and abutments	66m - 118m	<66m
Deck reconstruction	35m - 63m	<35m
Finishing works incl. earthworks	44m - 79m	<44m

#### 1.4.4 New Malahide turnback

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-26 which presents the likely plant associated with the works to the station during construction.

**Table 1-26 Construction plant for Malahide turnback**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Installation of modular reinforced earth wall	Lorry mounted crane	BS 5228 Table C4:53	105	70
	Tracked excavator	BS 5228 Table C.2:7	98	70
	Concrete Mixer Truck	BS 5228 Table C.4:27	107	20
	Vibratory Roller	BS5228 Table C 2-39	102	40
	HGVs	Average of BS 5228 Table C.11:4-20	109	5
Excavation and Slope stabilisation works	Soil nailing rig	BS5228 Table C 3-16	107	30
	Concrete mixer	BS 5228 Table C.4:27	107	30
	Concrete pump	BS 5228 Table C.4:28	103	30
	Mobile crane	BS 5228 Table C.4:43	98	60
	Tracked excavator	BS 5228 Table C.2:7	98	55
Earthworks	Tracked excavator	BS 5228 Table C.2:7	98	60
	Roller	BS 5228 Table C.2:38	102	60
	Dump truck	BS 5228 Table C.2:30	107	60
	Small bulldozer	BS 5228 Table C.5:15	111	60
Placement of new track	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dumper	BS 5228 Table C.4:4	104	60

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
	Track mounted crane	BS 5228 Table C.4:53	105	20
	Tamper	Estimate	112	10
	Hand-held circular saw	BS 5228 Table C.4:70	119	10

The distance where a moderate or major impact is predicted, is shown in Table 1-27.

**Table 1-27 New Malahide turnback – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Installation of modular reinforced earth wall	39m - 68m	<39m
Excavation and Slope stabilisation works	37m - 66m	<37m
Earthworks	54m - 97m	<54m
Placement of new track	58m - 103m	<58m

#### 1.4.5 Modification of UBB30 Malahide Viaduct

##### 1.4.5.1 OHLE support at Pier 3 Malahide

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-28 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-28 Construction plant for OHLE Support at Pier 3 Malahide**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Cut back existing pedestrian guardrail and finish off with new vertical and cut back existing hold-down bolts	Hand-held circular saw	BS 5228 Table C.4:70	119	10
	Angle grinder (Grinding steel)	BS 5228 Table C.4:93	109	10
Drill and grout in new anchor bars	Drill	BS 5228 Table C.4:69	113	65
	Mixer	BS 5228 Table C.4:18	103	50
Install OHLE post	Track mounted crane	BS 5228 Table C.4:53	105	60
	MEWP	BS 5228 Table C.4:57	95	60

The distance where a moderate or major impact is predicted, is shown in Table 1-29.

**Table 1-29 OHLE support at pier 3 Malahide – impact distance**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact

Cut back existing pedestrian guardrail and finish off with new vertical and cut back existing hold-down bolts	53m - 93m	<53m
Drill and grout in new anchor bars	66m - 118m	<66m
Install OHLE post	26m - 46m	<26m

#### 1.4.5.2 OHLE support at piers 6 and 9

Further OHLE support is required at piers 6 and 9. It is planned that these works will be done over weekend possessions along with several weeks of preparatory work in daytime working hours for the gantry foundations. The gantries could then be erected during possessions or engineering hours as part of the wider OHLE gantry erection works.

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-30 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-30 Construction plant for OHLE support at piers 6 and 9**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Remove track and sleepers	Road rail excavator	BS 5228 Table C.2:21	99	65
	Hand-held circular saw	BS 5228 Table C.4:70	119	10
	Angle grinder (Grinding steel)	BS 5228 Table C.4:93	109	10
	Road rail dump truck	BS 5228 Table C.4:4	104	65
Remove ballast material	Road rail excavator	BS 5228 Table C.2:21	99	65
	Road rail dumper	BS 5228 Table C.4:4	104	65
Remove pedestrian guardrail	Hand-held circular saw	BS 5228 Table C.4:70	119	10
	Angle grinder (Grinding steel)	BS 5228 Table C.4:93	109	10
	Road rail excavator	BS 5228 Table C.2:21	99	65
Break down concrete nib	Road rail excavator	BS 5228 Table C.2:21	99	65
	Hand breaker	BS 5228 Table C.1:7	121	10
	Breaker attachment	BS 5228 Table C.1:9	118	20
Clean out deck joints and reseal, place elastomeric strips and mastic asphalt layer	Road rail dumper	BS 5228 Table C.4:4	104	20
Install concrete precast slabs	Track crane	BS 5228 Table C.4:53	105	65
	Road rail excavator	BS 5228 Table C.2:21	99	65
Reinstall pedestrian handrail	Drill	BS 5228 Table C.4:69	113	50
Reinstall services, ballast material, track	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dump truck	BS 5228 Table C.4:4	104	60

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
and sleepers	Track crane	BS 5228 Table C.4:53	105	20
	Tamper	Estimate	112	10

The distance where a moderate or major impact is predicted, is shown in Table 1-31.

**Table 1-31 OHLE support at piers 6 and 9 – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Remove track and sleepers	59m - 104m	<59m
Remove ballast material	26m - 46m	<26m
Remove pedestrian guardrail	54m - 96m	<54m
Break down concrete nib	90m - 160m	<90m
Clean out deck joints and reseal, place elastomeric strips and mastic asphalt layer	13m - 22m	<13m
Install concrete precast slabs	29m - 51m	<29m
Reinstall pedestrian handrail	56m - 100m	<56m
Reinstall services, ballast material, track	36m - 65m	<36m

## 1.5 Plant assumptions – Zone C

### 1.5.1 Modifications of UBB36 Rogerstown Viaduct

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-32 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-32 Construction plant for UBB36 Rogerstown viaduct works**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Masonry wingwall demolition	Road rail excavator	BS 5228 Table C.2:21	99	70
	Breaker attachment	BS 5228 Table C.1:9	118	35
	Road rail dump truck	BS 5228 Table C.4:4	104	60
Vertical anchor bars drilling and grouting	Drill	BS 5228 Table C.4:69	113	50
	Mixer	BS 5228 Table C.4:18	103	40
Reinforced concrete support wall pouring with drilled bars	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dump truck	BS 5228 Table C.4:4	104	60
	Mixer	BS 5228 Table C.4:18	103	20
Install OHLE post	Track crane	BS 5228 Table C.4:53	105	60

The distance where a moderate or major impact is predicted, is shown in Table 1-33

**Table 1-33 UBB36 Rogerstown viaduct works – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Masonry wingwall demolition	87m - 155m	<87m
Vertical anchor bars drilling and grouting	58m - 104m	<58m
Reinforced concrete support wall pouring with drilled bars	27m - 49m	<27m
Install OHLE post	24m - 44m	<24m

### 1.5.2 Modification of UBB56 Balbriggan Viaduct

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-34 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-34 Construction plant for UBB56 Balbriggan viaduct modification**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Replace existing pedestrian spans	Large Mobile Crane	BS 5228 Table C.4:43	98	90
	Hand Breaker	BS 5228 Table C.5:6	123	10

The distance where a moderate or major impact is predicted, is shown in Table 1-35.

**Table 1-35 UBB56 Balbriggan viaduct modification – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Replace existing pedestrian spans	56m - 100m	<56m

## 1.6 Plant assumptions – Zone D

### 1.6.1 Modification of UBB72 Laytown Viaduct

The viaduct has four piers along its length with two new OHLE proposed gantries being installed on piers A and D. The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-36 which presents the likely plant associated with the works to the viaduct during the Construction Phase.

**Table 1-36 Construction plant for UBB72 Laytown viaduct works**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Scaffolding Installation	Drill	BS 5228 Table C.4:69	113	50
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
Removal of existing guardrail and end plate supports	Angle grinder (Grinding steel)	BS 5228 Table C.4:93	109	10
	Handheld circular saw	BS 5228 Table C.4:70	119	10
Connection plates added to existing transverse beams and piers	Welding gear	BS 5228 Table C.3:31	101	50
	Drill	BS 5228 Table C.4:69	113	50
OHLE structure assembly	Track crane	BS 5228 Table C.4:53	105	60
	Telescopic handler	BS 5228 Table C.4:55	99	60
Reinstate parapets	Telescopic handler	BS 5228 Table C.4:55	99	10
	Drill	BS 5228 Table C.4:69	113	10

The distance where a moderate or major impact is predicted, is shown in Table 1-37.

**Table 1-37 UBB72 Laytown viaduct works – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Scaffolding Installation	57m - 101m	<57m
Removal of existing guardrail and end plate supports	53m - 93m	<53m
Connection plates added to existing transverse beams and piers	58m - 103m	<58m
OHLE structure assembly	27m - 49m	<27m
Reinstate parapets	26m - 46m	<26m

## 1.7 Plant assumptions – Zone E

### 1.7.1 Reconstruction of OBB80/80A/80B Railway Terrace Bridge (triple span)

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-38 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-38 Construction plant for OBB80/80A/80B railway terrace bridge**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Enabling works	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Road rail excavator	BS 5228 Table C.2:21	99	60

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
	Road rail dump truck	BS 5228 Table C.4:4	104	60
Demolition	Tracked excavator	BS 5228 Table C.2:7	98	60
	Breaker attachment	BS 5228 Table C.1:9	118	35
	Dust suppression	BS 5228 Table C.4:91	106	30
	Dump truck	BS 5228 Table C.2:30	107	60
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Road planer	BS 5228 Table C.5:7	110	10
	Pneumatic breaker	BS 5228 Table C.5:6	121	20
Foundations, piers and abutments	Pile Boring Rig	BS 5228 Table C.3:14	112	60
	Concrete Pump	BS 5228 Table C.4:28	103	10
	Concrete Mixer Truck	BS 5228 Table C.4:27	107	20
	360 Excavator (20t)	BS 5228 Table C.2:21	99	60
	Articulated Dump Truck	BS 5228 Table C.4:2	106	40
Deck reconstruction	Articulated Dump Truck	BS 5228 Table C.4:2	106	40
	Large Mobile Crane	BS 5228 Table C.4:43	98	20
	Concrete mixer Truck	BS 5228 Table C.4:27	107	20
Finishing works incl. earthworks	Excavator	BS 5228 Table C.2:7	98	60
	Dump truck	BS 5228 Table C.2:30	107	60
	Bulldozer	BS 5228 Table C.2:1	103	60
	Vibratory roller	BS 5228 Table C.2:39	102	50
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Asphalt paver	BS 5228 Table C.5:30	104	30

The distance where a moderate or major impact is predicted, is shown in Table 1-39.

**Table 1-39 OBB80/80A/80B Railway Terrace Bridge – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) where unscreened activities are equal to a moderate or major impact			
	Day		Night	
	Major impact	Moderate impact	Major impact	Moderate impact
Enabling works	<27m	27m - 48m	<85m	85m - 152m
Demolition	<130m	130m - 231m	<410m	410m - 729m
Foundations, piers and abutments	<64m	64m - 113m	<201m	201m - 357m
Deck reconstruction	<29m	29m - 52m	<93m	93m - 165m
Finishing works incl. earthworks	<45m	45m - 80m	<143m	143m - 254m

## 1.7.2 Widening of UBK01 Dublin Road Bridge

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-40 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-40 Construction plant for UBK01 Dublin Road bridge**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Enabling works	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dump truck	BS 5228 Table C.4:4	104	60
Demolition	Tracked excavator	BS 5228 Table C.2:7	98	60
	Breaker attachment	BS 5228 Table C.1:9	118	35
	Dust suppression	BS 5228 Table C.4:91	106	30
	Dump truck	BS 5228 Table C.2:30	107	60
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Road planer	BS 5228 Table C.5:7	110	10
	Pneumatic breaker	BS 5228 Table C.1:7	121	20
Foundations, piers and abutments	Pile Boring Rig	BS 5228 Table C.3:14	112	60
	Concrete Pump	BS 5228 Table C.4:28	103	10
	Concrete Mixer Truck	BS 5228 Table C.4:27	107	20
	360 Excavator (20t)	BS 5228 Table C.2:21	99	60
	Articulated Dump Truck	BS 5228 Table C.4:2	106	40
Deck reconstruction	Articulated Dump Truck	BS 5228 Table C.4:2	106	40
	Large Mobile Crane	BS 5228 Table C.4:43	98	20
	Concrete mixer Truck	BS 5228 Table C.4:27	107	20
Finishing works incl. earthworks	Excavator	BS 5228 Table C.2:7	98	60
	Dump truck	BS 5228 Table C.2:30	107	60
	Bulldozer	BS 5228 Table C.2:1	103	60
	Vibratory roller	BS 5228 Table C.2:39	102	50
	Lorry <sup>1</sup>	BS 5228 Table C.2:34	108	5
	Asphalt paver	BS 5228 Table C.5:30	104	30

The distance where a moderate or major impact is predicted, is shown in Table 1-41.

**Table 1-41 UBK01 Dublin Road bridge – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) where unscreened activities are equal to a moderate or major impact			
	Day		Night	
	Major impact	Moderate impact	Major impact	Moderate impact
Enabling works	<27m	27m - 48m	<85m	85m - 152m
Demolition	<130m	130m - 231m	<410m	410m - 729m
Foundations, piers and abutments	<64m	64m - 113m	<201m	201m - 357m
Deck reconstruction	<29m	29m - 52m	<93m	93m - 165m
Finishing works incl. earthworks	<45m	45m - 80m	<143m	143m - 254m

### 1.7.3 Span replacement of OBB81 Drogheda Station footbridge

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-42 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-42 Construction plant for OBB81 Drogheda station footbridge**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Lift bridge	Large mobile crane	BS 5228 Table C.4:43	97.8	50
	MEWP	BS 5228 Table C.4:57	95.2	40

The distance where a moderate or major impact is predicted, is shown in Table 1-43.

**Table 1-43 OBB81 Drogheda station footbridge – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Lift bridge	12m - 21m	<12m

### 1.7.4 Construction of platform 4 (Drogheda Freight Sidings) and associated trackwork

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-44 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-44 Construction plant for Platform 4 (Drogheda Freight Sidings)**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Removal of BEMU walkway, cable trough and retaining wall	Road rail excavator	BS 5228 Table C.2:21	99	60
	Hand breaker	BS 5228 Table C.5:6	121	35
	Breaker attachment	BS 5228 Table C.1:9	118	20
	Road rail dumper	BS 5228 Table C.4:4	104	60
Construction of new retaining wall	Tracked Excavator	BS 5228 Table C.5:26	105	60
	Dumper	BS 5228 Table C.4:4	104	60
	Crawler Mounted Rig	BS 5228 Table C.3:22	108	60
	Wheeled telescopic crane	BS 5228 Table C.4:39	105	40
	Truck mounted concrete pump + boom arm	BS 5228 Table C.4:30	108	20
	Lorry with lifting boom	BS 5228 Table C.4:53	105	20
Ballast sleepers and track laying, new cable trough and walkway	Road rail excavator	BS 5228 Table C.2:21	99	60
	Road rail dump truck	BS 5228 Table C.4:4	104	60
	Track crane	BS 5228 Table C.4:53	105	20
	Tamper	Estimate	112	10
New platform construction	Concrete Mixer Truck	BS 5228 Table C.4:20	108	20
	Breaker mounted on Excavator	BS 5228 Table C.1:9	118	30
	Mini-Digger	BS 5228 Table C.4:67	102	60
	Concrete Vibrator	BS 5228 Table C.4:34	97	10
Ductwork pipework and cabling installation	Wheeled backhoe loader	BS 5228 Table C.2:8	96	60
	Mini tracked excavator	BS 5228 Table C.3:20	96	60
	Dump truck	BS 5228 Table C.2:30	107	60
Construction of raised concourse area	Articulated Dump Truck	BS 5228 Table C.4:2	106	60
	Large Mobile Crane	BS 5228 Table C.4:43	98	20
	Concrete mixer Truck	BS 5228 Table C.4:27	107	20
New facilities installation (ticketing gates, fencing, waiting areas)	Crane	BS 5228 Table C.4:43	98	20
	Generator	BS 5228 Table C.6:39	93	80
	Welding Equipment	BS 5228 Table C.3:31	101	30
	HGV <sup>1</sup>	Average of BS Table C.11:4-20	109	5
	Mini-Digger	BS 5228 Table C.4:67	102	60

The distance where a moderate or major impact is predicted, is shown in Table 1-45.

**Table 1-45 Platform 4 (Drogheda Freight Sidings) – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Removal of BEMU walkway, cable trough and retaining wall	136m - 242m	<136m
Construction of new retaining wall	57m - 102m	<57m
Ballast sleepers and track laying, new cable trough and walkway	36m - 65m	<36m
New platform construction	82m - 146m	<82m
Ductwork pipework and cabling installation	33m - 59m	<33m
Construction of raised concourse area	33m - 59m	<33m
New facilities installation (ticketing gates, fencing, waiting areas)	25m - 45m	<25m

### 1.7.5 Works on Light Maintenance Roads and Under Frame Cleaning (UFC) facility within the station

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-46 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-46 Construction plant for Depot light maintenance roads and UFC facility**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
OHLE installation	MEWP	BS 5228 Table C.4:57	95	60
	Track crane	BS 5228 Table C.4:53	105	60
Depot Protection System installation	Telescopic handler	BS 5228 Table C.4:55	99	10
	Angle grinder (grinding steel)	BS 5228 Table C.4:93	109	10
	Diesel generator	BS 5228 Table C.4:78	94	100
Train door replacement	Crane on Truck	BS 5228 Table C.4:53	105	30
	Road-Rail Excavator	BS 5228 Table C.2:21	99	60
	Welding-Rig and Hand tools	BS 5228 Table C.3:31	101	30
	Hand-held circular saw (petrol-cutting concrete)	BS 5228 Table C.4:70	119	10
Installation of Under Frame Cleaning screen	Welding-Rig and Hand tools	BS 5228 Table C.3:31	101	30
	Hand-held circular saw (petrol-cutting concrete)	BS 5228 Table C.4:70	119	10

The distance where a moderate or major impact is predicted, is shown in Table 1-47.

**Table 1-47 Depot light maintenance roads and UFC facility – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
OHLE installation	26m - 46m	<26m
Depot Protection System installation	19m - 34m	<19m
Train door replacement	56m - 99m	<56m
Installation of Under Frame Cleaning screen	51m - 91m	<51m

### 1.7.6 Drogheda Depot External Civils Works

The tasks and plant will vary depending on the day and construction activities will include but not be limited to plant items in Table 1-48 which presents the likely plant associated with the works to the station during the Construction Phase.

**Table 1-48 Construction plant for Drogheda depot external civil works**

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
Vegetation clearance	Saw	BS 5228 Table C.4:73	112	20
	Articulated Dump Truck	BS 5228 Table C.4:2	106	90
	Mini-Digger	BS 5228 Table C.4:67	102	90
	HGV <sup>1</sup>	Average of BS 5228 Table C.11:4-20	109	20
Earthworks	Tracked excavator	BS 5228 Table C.2:7	98	80
	Roller	BS 5228 Table C.2:38	102	80
	Dump truck	BS 5228 Table C.2:30	107	80
	Small bulldozer	BS 5228 Table C.5:15	111	80
Lay drainage, ballast and track	Mini digger	BS 5228 Table C.4:67	102	90
	Articulated dump truck	BS 5228 Table C.4:2	106	90
	HGV <sup>1</sup>	Average of BS 5228 Table C.11:4-20	109	20
New walkways installation	Crane on Truck	BS 5228 Table C.4:53	105	60
	Road-Rail Excavator	BS 5228 Table C.2:21	99	90
	Welding-Rig and Hand tools	BS 5228 Table C.3:31	101	30
	Hand-held circular saw (petrol-cutting concrete)	BS 5228 Table C.4:70	119	20
New cleaning facilities installation	Crane on Truck	BS 5228 Table C.4:53	105	60
	Road-Rail Excavator	BS 5228 Table C.2:21	99	90
	Welding-Rig and Hand tools	BS 5228 Table C.3:31	101	30

Activity	Equipment	Data Source	Sound Power Level dB(A)	% Plant On time
	Hand-held circular saw (petrol-cutting concrete)	BS 5228 Table C.4:70	119	20

The distance where a moderate or major impact is predicted, is shown in Table 1-49.

**Table 1-49 Drogheda depot external civil works – impact distances**

Activity	Distance where the Predicted Noise Level $L_{Aeq}$ (dB) in the unscreened case is equal to a moderate or major impact	
	Moderate impact	Major impact
Vegetation clearance	45m - 80m	<45m
Earthworks	56m - 100m	<56m
Lay drainage, ballast and track	42m - 75m	<42m
New walkways installation	77m - 137m	<77m
New cleaning facilities installation	75m - 133m	<75m