

Red John Pumped Storage Hydro Scheme

Volume 5, Appendix 16.3: Model
Input Data

ILI (Highlands PSH) Ltd.

November 2018

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Seckin Basturk	Tim Britton	Debbie Preston	Catherine Anderson
Acoustic Consultant	Principal Acoustic Consultant	Principal Acoustic Consultant	Associate Director

Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
1	November 2018	Submission	CA	Catherine Anderson	Associate Director

Distribution List

<u># Hard Copies</u>	<u>PDF Required</u>	<u>Association / Company Name</u>

Table of Contents

Appendix 16.3 Model Input Data 1

Tables

Table 16.1 List of Construction Activities and Construction Plant 1

© 2018 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Appendix 16.3 Model Input Data

Table 16.1 List of Construction Activities and Construction Plant

Construction activity	Plant	Sound power level L_w dB(A)	No. of plant	On-time (hrs per 10hr day)	Overall L_w dB(A)	Reference
Construction works	Road sweeper	104	1	10	104	BS5228 Table C.4, no. 90
Mobilisation						
Construction of access roads – site clearance	Harvester	111	3	8	115	BS5228 Table C.5, no. 14
	Chainsaw	114	5	7	119	BS5228 Table D.2, no. 14
	Forestry Wagon	117	5	6	122	BS5228 Table C.9, no. 22
Construction of access roads – road surfacing	Excavator	110	5	7	115	BS5228 Table D.3, ave no.s 34-40
	Dozer	113	3	8	117	BS5228 Table D.9, no. 1
	Roller	118	4	3	119	BS5228 Table C.5, no. 19
	Grader	114	3	8	118	BS5228 Table D.9, no. 10
Headpond construction						
Headpond works	HGV	113	8	7	120	BS5228 Table D.3, no. 112
	Loader	110	6	8	117	BS5228 Table C.10, no. 4
	Excavator	110	8	9	119	BS5228 Table D.3, ave no.s 34-40
	Conveyor belt – field rollers	81	1	10	81	BS5228 Table C.10, no. 23
	Conveyor belt – drive unit	105	1	10	105	BS5228 Table C.10, no. 20
	Generator	102	4	10	108	BS5228 Table C.4, no. 84
	Pump	92	4	10	98	Manufacturer's data **
Site clearance	Harvester	111	4	8	116	BS5228 Table C.5, no. 14
	Chainsaw	114	6	7	120	BS5228 Table D.2, no. 14
	Forestry Wagon	117	5	6	122	BS5228 Table C.9, no. 22
Embankment excavation works	Rigid Dump Truck	113	10	9	123	BS5228 Table C.9, no. 23
	Excavator	114	10	9	124	BS5228 Table D.3, no. 39
	Hydraulic Breaker	113	8	10	122	BS5228 Table C.9, no. 12

Construction activity	Plant	Sound power level L_w dB(A)	No. of plant	On-time (hrs per 10hr day)	Overall L_w dB(A)	Reference
Embankment excavation works (cont.)	Dozer	114	5	9	121	BS5228 Table D.3, no. 29
	Loader	110	6	8	117	BS5228 Table C.10, no. 4
	Drill rig	114	5	8	120	BS5228 Table C.6, no. 35
	Crusher	118	5	9	125	BS5228 Table C.9, no. 14
	Screener	109	3	9	113	BS5228 Table C.10, no. 14
	Excavator	110	3	8	114	BS5228 Table D.3, ave no.s 34-40
Trench excavation	Hydraulic Breaker	113	8	10	122	BS5228 Table C.9, no. 12
	Excavator	114	10	9	124	BS5228 Table D.3, no. 39
Embankment construction works	Dozer	114	5	9	121	BS5228 Table D.3, no. 29
	Loader	110	6	8	117	BS5228 Table C.10, no. 4
	Crusher	118	5	9	125	BS5228 Table C.9, no. 14
	Screener	109	3	9	113	BS5228 Table C.10, no. 14
Landscape embankment construction	Excavator	110	8	9	119	BS5228 Table D.3, ave no.s 34-40
Inlet/outlet works	Excavator	110	5	8	116	BS5228 Table D.3, ave no.s 34-40
	Mobile crane	103	5	7	108	BS5228 Table C.4, no. 52
Tailpond Inlet / Outlet structure construction						
Tailpond works	Excavator	110	5	8	116	BS5228 Table D.3, ave no.s 34-40
	Marine Vessel	104	4	10	110	GW-TM* no CNP 061
	Generator	102	9	10	112	BS5228 Table C.4, no. 84
	Pump	92	4	10	98	Manufacturer's data **
Temporary works in Loch Ness	Piling rig	119	2	10	122	BS5228 Table D.4, no. 10
	Mobile crane	103	2	7	104	BS5228 Table C.4, no. 52
TBM preparation	Drill rig	114	3	8	118	BS5228 Table C.6, no. 35
Tunnel construction						
Tunnelling works	Concrete batching plant	108	1	10	108	BS5228 Table D.6, no. 11
	Hiab	105	6	9	112	BS5228 Table C.4, no. 53
Access tunnel	Generator	102	5	10	109	BS5228 Table C.4, no. 84
Construction tunnel	Drill rig	114	8	8	122	BS5228 Table C.6, no. 35
	Generator	102	4	10	108	BS5228 Table C.4, no. 84

Construction activity	Plant	Sound power level L_w dB(A)	No. of plant	On-time (hrs per 10hr day)	Overall L_w dB(A)	Reference
Construction tunnel (cont.)	Ventilation fans	102	2	10	105	BS5228 Table C.4, no. 84
	Underground loader	119	4	10	125	BS5228 Table C.9, no. 8
	Underground dumper	117	8	10	126	BS5228 Table C.9, no. 22
Waterways tunnel construction	Generator	102	5	10	109	BS5228 Table C.4, no. 84
	Conveyor belt – field rollers	66	1	10	66	BS5228 Table C.10, no. 23
	Conveyor belt – drive unit	105	1	10	105	BS5228 Table C.10, no. 20
TBM Decommissioning	Paver	105	2	9	108	BS5228 Table C.5, no. 31
Hauling – Material delivery on access corridors						
Hauling	Dump truck	109	10	9	119	BS5228 Table C.5, no. 16
	Tipper	107	8	9	116	BS5228 Table C.8, no. 20
	Tractor	108	6	8	115	BS5228 Table C.4, no. 74
	Concrete Jaeger	105	10	8	114	BS5228 Table C.4, no. 21

* *The Government of the Hong Kong, Environmental Protection Department (1996). 'Technical Memorandum on Noise From Construction Work Other Than Percussive Piling'.*

** *Manufacturer's data for a typical pump that would be used in construction works. Selwood S300: https://www.selwood.co.uk/sites/default/files/selwood_pump_rental_catalogue_-_2018.pdf*

