PLANT RISK ASSESSMENT REPORT

SECTION 1: PLANT IDENTIFICATION

Report Number:	201-36	Assessment Date:	25th January 2013
Company:	Wacker Neuson	Plant Type:	DPU7060Fe
Assessment Purpose:	☐ Operational risks associated with the plant as it stands – On site		
	☐ Operational risks associated with the plant as it stands – Desk top analysis		
	☐ Access Systems		
	☐ Modification/s		
	☒ Other : Group assessment of plant type		
Assessed by:	Darren Husson – VEHTEC Pty Ltd		

SECTION 2: PLANT SUMMARY

Preamble:

This Wacker Neuson Vibroplate is designed specifically for shallow trench work, with a standard base width of 600mm and extension plates available taking the width to 800mm. The unit is operated from a paired remote control with the DPU7060Fe stopping should the operator come too close, loose line of sight control or release the remote control joysticks. Standing at approx. 800mm tall, the plant has an operating weight of approx. 615 kg.

This document is intended to highlight Occupational Health Safety and Welfare related risks that may present during on site set up and operation and has been conducted in accordance with the Work Health and Safety Act 2012 (SA).

Is the plant designed for its intended use?	☒ **Yes** ☐ **No**	*Final Sign off by Employer/Owner user - All actions/recommendations complete*
Has the plant been modified from the original design?	☐ **Yes** ☒ **No**	
Is the plant in good working condition?	☒ **Yes** ☐ **No**	Name: _____ Position:_____
Is action required before the plant can be safely used?	☐ **Yes** ☒ **No**	
Has the required action / remedy been undertaken?	☐ **Yes** ☐ **N/A**	Signed: _____Date:_____








Photographs are for illustrative purposes only. Functions and specifications may change without notice.

SECTION 3: RISK ANALYSIS LIKELIHOOD AND CONSEQUENCES

Table 1. Measure of Likelihood (L)		
Level	**Description**	**Detail**
A	Almost Certain	The event is expected to occur in most circumstances
B	Likely	The event will probably occur in most circumstances
C	Moderate	The event should occur at some time
D	Unlikely	The event could occur at some time
E	Rare	The event may occur only in exceptional circumstances

Table 2. Measure of Consequences or Impact (C)		
Level	**Description**	**Detail**
1	Insignificant	No injuries, low financial loss
2	Minor	First Aid treatment, on site release immediately contained, medium financial loss
3	Moderate	Medical treatment required, on site release contained with outside assistance, high financial loss
4	Major	Extensive injuries, loss of production capability, off site release with no detrimental effects, major financial loss
5	Catastrophic	Death, toxic release off site with detrimental effect, huge financial loss

Table 3. Risk Analysis Matrix (Risk)					
	Consequences				
Likelihood	Insignificant **1**	Minor **2**	Moderate **3**	Major **4**	Catastrophic **5**
A (Almost certain)	**S**	**S**	**H**	**H**	**H**
B (Likely)	**M**	**S**	**S**	**H**	**H**
C (Moderate)	**L**	**M**	**S**	**H**	**H**
D (Unlikely)	**L**	**L**	**M**	**S**	**H**
E (Rare)	**L**	**L**	**M**	**S**	**S**

*Only hazards with a risk deemed higher than 'low' need to be controlled

Legend:

- **H**= High risk, detailed research and management planning required.
- **S**= Significant risk, senior management attention needed. Continuous review.
- **M**= Moderate risk, management responsibility. Periodic review
- **L**= low risk, manage by routine procedures. Periodic review to ensure risk does not increase.

SECTION 4: HAZARD IDENTIFICATION

Hazard Item N°	Hazard Item Observation Detail	Hazard	L	C	Risk
1	**Plant in its current state has potential to cause injury/illness due to:**				
1.1	Entanglement	No			
1.2	Puncturing	No			
1.3	Cutting	No			
1.4	Stretching	No			
1.5	Stabbing	No			
1.6a	Trapping **(Plant tipping over or in direction of operator when operated in steep/uneven terrain)**	**Yes**	**D**	**4**	**S**
1.6b	**(Operator or bystander feet caught in compaction action)**	**Yes**	**E**	**4**	**S**
1.7	Abrasion **(Incorrect control by operator. Plant is designed to cut out if distance between remote & plant is less than 2 metres)**	**Yes**	**D**	**2**	**L**
1.8	Engulfment **(Plant tipping over or in direction of operator when operated in steep/uneven terrain)**	**Yes**	**E**	**4**	**S**
1.9a	Crushing **(Plant tipping over or in direction of operator when operated in steep/uneven terrain)**	**Yes**	**D**	**4**	**S**
1.9b	**(Operator or bystander feet caught in compaction action)**	**Yes**	**E**	**4**	**S**
1.10	Shearing	No			
1.11	Tearing	No			
1.12	Asphyxiation	No			
1.13	Slips, Trips	No			
1.14	Falls	No			
1.15	Falling Objects	No			
1.16	Expelled Parts	No			
2	**Plant in its current or intended state has the potential to create a hazardous condition due to:**				
2.1	Pressured Content **(Burst hydraulics line – lines are well protected within base units design)**	No			
2.2	Explosion **(Battery generates explosive gases – no smoking near battery. Correct battery charging procedures to be employed)**	**Yes**	**D**	**2**	**L**
2.3	Radiation	No			
2.4	Vapour **(Designed for open area during operation, exhaust well vented)**	No			
2.5	Dust **(Open operation – susceptible to dust from product being compacted) (Exposure to be controlled by the Employer/Owner SOP)**	**Yes**	**B**	**1**	**M**
2.6	Moisture **(When operated in rainy conditions, risk to be assessed per job) (Exposure to be controlled by the Employer/Owner SOP)**	**Yes**	**C**	**1**	**L**
2.7	Gases **(Refer 2.4)**	No			
2.8	Fire **(When refuelling the compactor)**	Yes	**D**	4	S
2.9	Vibration **(Plant designed to vibrate – no operator contact when in operation)**	No			
2.10	Electricity	No			
2.11	Friction	N/A			
2.12	Ice Formation	N/A			

2.13	RF Interference **(Possibility that another device signal could cause interference)**	**Yes**	**E**	**3**	**M**
2.14	Hot and Cold Parts **(Engine when performing maintenance checks, checks to be undertaken when plant is cold. Never open radiator cap when plant is hot)**	**Yes**	**E**	**2**	**L**
2.15	Temperature Extremes **(Open air operational environment, subject to employers internal policies)**	No			
2.16	Noise (Low dB levels) **(Decals on plant indicate 109dB - Use of noise attenuating PPE should be considered mandatory) (Employer/Owner responsibility)**	**Yes**	**A**	**3**	**S**
		Yes / No / N/A			
3	Manual handling requirements have been assessed as acceptable	N/A			
4	Repetitive, forceful, awkward, sustained movements have been minimised/ eliminated	N/A			
5	The current guard (s) and their condition are adequate for this plant **(Designed for application)**	Yes			
6	Is the guarding appropriate for all work requirements **(Designed for application)**	Yes			
7	Operator controls are located for ease of use by operators **(Remote control held by operator)**	Yes			
8	Operator controls are identified and marked appropriately	Yes			
9	Emergency stops are clearly marked **(Emergency stop buttons are identified and stated within operators manual)**	Yes			
10	Emergency stops are located at the most likely place (s) for emergency use **(External activation on plant – However unit will also stop moving automatically if certain safety functions are triggered)**	Yes			
11	The power source of the plant has been designed, constructed, installed, protected, maintained as to minimise the risk of harm to employees **(Plant to be maintained as per Operators manual)**	Yes			
12	There is provision to lock out the plant, and dissipate energy	Yes			
13	Access platforms/ladders/handrails are provided	N/A			
14	Access to moving parts from the platform can be performed safely	N/A			
15	Access platforms/ladders/handrails provide secure, non-slipping access	**N/A**			
16	Lighting is adequate for plant operation, maintenance and cleaning at any time **(To be considered as part of the JSA)**	**N/A**			
17	Noise levels have been assessed as below 85dB(A) **(Operators control remotely) (Noise level at compactor 109dB. Noise attenuating PPE is required) (Employers/Owners responsibility)**	**No**	**D**	**3**	**M**
18	Personal Protective Equipment (PPE) has been provided for safe operation of this plant **(Employer/Owner responsibility)**	N/A			
19	PPE requirements are signposted **(Employer/Owner responsibility dependant on internal management policies)**	No			
20	There is provision for safe cleaning of this plant (NB availability of cleaning devices)	N/A			
21	Safe access to areas to be cleaned has been provided	N/A			
22	There is provision for easy and safe scrap removal	N/A			
23	The plant has the potential to jam/block **(Compaction plate is hydraulically controlled, in the advent of a hose burst or the system may jam)**	**Yes**	**D**	**3**	**M**
24	A safe system of work has been established to remove jam/blockage	N/A			
25	Safe system of work has been established for any sample retrieval	N/A			
26	There is adequate provision to properly service and routinely grease and oil the plant **(Plant to be maintained by appropriately trained personnel)**	Yes			
27	Safe systems of work have been established for hazards associated with any necessary maintenance of the plant **(Employer/Owner responsibility)**	N/A			
28	The rigidity and stability of the plant and supporting structure is adequate. **(Plant to be operated within constraints as outlined within the Operators Manual)**	Yes			

29	The environment in which the plant is situated has been assessed for its interrelationship with this plant as acceptable **(Employer/Owner Responsibility)**	N/A			
30	Ventilation and/or other air flow needs are adequate	Yes			
31	Static electricity hazards have been assessed and controlled	N/A			
32	Workplace substances associated with the use of the plant have been assessed	N/A			
33	Authorised entry systems for the plant and surrounds have been established	N/A			
34	The upstream and downstream effects of malfunction or unscheduled stoppage of the plant have been considered **(Employer/Owner Responsibility)**	N/A			

SECTION 5: RISKS AND CONTROLS

<table>
<tr><th colspan="5">Summary of Hazards Identified and solution(s) to adequately manage the respective risk.</th></tr>
<tr><th>Hazard Item No</th><th>Level of Risk</th><th colspan="3">Action Required / Comments</th></tr>
<tr><td rowspan="4">1.6a
1.6b
1.8
1.9a
1.9b</td><td rowspan="4">Significant</td><td rowspan="4">Hazard
Operator or bystander being trapped engulfed or crushed by incorrect use.

Comments
The Operators manual has strict guidelines about the use of the vibratory plate.

Controls
Compactor location must be assessed for its suitability prior to operation. The plant is only to be operated within a designated Work Zone Traffic management (WZTM) area and clear of bystanders. All operators are to be completely familiar with the operator’s instruction manual. The compactor is never to be left running unattended.
The plant can only be operated by remote control. The plant will automatically stop movement and vibration should the operator be too far away (>20m), too close to the machine (<1-2m), loose line of sight or the operator release the joystick controls.

Operation is to only be on inclines <15° with the operator to be positioned on the uphill side of slope at all times.

Revised Risk Assessment
With the above controls in place the risk is considered controlled.</td><td>Action Required</td><td colspan="3">Nil</td></tr>
<tr><td>Responsible Person</td><td>Operator</td><td>Due Date</td><td></td></tr>
<tr><td>Actioned by: (Name & Date)</td><td colspan="3"></td></tr>
<tr><td>Verified by: (Name & Date)</td><td colspan="3"></td></tr>
</table>

2.5 2.16 17	Moderate	Significant	Hazard Dust and Noise Comments The plant operates above safe working levels. Controls Suitably rated PPE is to be worn by the operator at all time when using the machine. Use of appropriate noise attenuating PPE is mandatory for operation. Dust suppression equipment should be considered prior to operation. Revised Risk Assessment With the above controls in place the risk is considered controlled.	Action Required	Nil		
				Responsible Person	Operator	Due Date	
				Actioned by: (Name & Date)			
				Verified by: (Name & Date)			
2.8	Significant		Hazard Fire Comments Refuelling of the compactor immediately after use. Controls Always allow the compactor to cool before refuelling. Wipe up any spillage before operating. Ensure that the fuel cap is correctly secured and tight before recommencing operation. Consideration should be given to having an appropriate fire extinguisher in proximity when refuelling. Revised Risk Assessment With the above controls in place the risk is considered controlled.	Action Required	Nil		
				Responsible Person	Operator	Due Date	
				Actioned by: (Name & Date)			
				Verified by: (Name & Date)			

2.13	Moderate	Hazard Radio Frequency (RF) Interference Comments The remote control operates on a range of radio frequencies and other devices operating on the same RF could cause the machine to behave in a dangerous manner. Controls The operator is to fully function test the plant prior to operational deployment. If it is found that another device is operating on the same frequency then the operator shall change the frequency as per operator manual instruction. Revised Risk Assessment With the above controls in place the risk is considered controlled.	Action Required	Nil		
			Responsible Person	Operator	Due Date	
			Actioned by: (Name & Date)			
			Verified by: (Name & Date)			
23	Moderate	Hazard Jam/block. Comments Only to be used for compaction within a Work Zone Traffic Management (WZTM) designated area. In the advent of a mechanical or hydraulic fault the compactor may suddenly stop or act erratically. Controls Jam/blocks to be cleared as per the Operators Manual. Operators are not to place body or limbs under the compaction plate without isolating the power completely. Clearing of jam/block is only to be undertaken by trained operator or maintenance staff. Revised Risk Assessment With the above controls in place the risk is considered controlled.	Action Required	Nil		
			Responsible Person	Operator	Due Date	
			Actioned by: (Name & Date)			
			Verified by: (Name & Date)			

SECTION 5: CONTROL MEASURES AND TRAINING

Control Measures

Pre-Operation	A Standard Operating Procedure (SOP) should be developed for the correct use of the plants' systems prior to deployment. Complete familiarisation of the Operators Manual and all systems shall be considered Mandatory. The plant is intended for relatively flat ground deployment only and for specific compaction activities.
Modifications	Any modification to the factory unit should be strongly considered to ensure that it will not have any detrimental effect to the stability, safety or operation of the plant. Modifications should only be undertaken by suitably qualified or experienced persons.
Attachments	Only OEM attachments (or those authorised by the OEM) should be used on the plant. Non authorised attachments may affect the safety and stability of the plant when in operation.
Transportation	When transporting the DPU7060, designated lifting point is fitted and indentified. Operator's manual details how to safely lift the DPU7060.
Operational Risk	This risk assessment does not negate the requirement of the operator/supervisor to conduct an operational risk assessment of this piece of plant for its intended use and its interface with the operators and the suitability of this piece of plant to integrate and complete the required task. This document has been prepared with due care, however cannot be considered complete given the limited knowledge of the intended operational environment for which the plant has been selected.
Work Zone Traffic Management	This risk assessment has been prepared with the knowledge that effective Work Zone Traffic Management (WZTM) systems will be employed in line with AS1742.3, WH&S Act 2012 (SA), WH&S Regulations 2012 (SA), Road Traffic Act 1961 and internal Standard Operating Procedures.
Continuous Review	This document is not intended to be static, nor is it intended to be considered complete for all situations. This document forms the basis to allow the Employer/Owner of the asset to have an informed position. A system of continuous review should be embraced in line with Management Policies.

Operator Competencies

Formal Qualifications:	Must comply with the regulations enforced by the WorkSafe authority within the state that the plant is being operated.
Competency Assessed Skills:	Skills must comply with the requirements of the guidelines established by the relevant state based WorkSafe authority and assessed by the state WorkSafe body's authorised assessor.
General Training Instruction:	On the job training by experienced trainer or operator
Experience:	As appropriate and assessed (as above)
Standard Work Procedure (s):	To be developed by the client/user

SECTION 6: PLANT INSPECTIONS, MAINTENANCE AND TESTING

Inspection, Maintenance and Testing Requirements	Frequency
Manufacturers Operator and Service manuals as supplied with the plant	Refer Operator Manual
Servicing and Maintenance	As per Manufacturers guidelines
Daily checks as per operators handbook	Daily before use

**This is not a definitive list and may need to be revised over time*