SCHEDULE 08 – Public Safety Plan



AMHERST ISLAND WIND FARM

CONTRACT-SPECIFIC PUBLIC SAFETY PLAN

Windlectric

May 2017



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1.0 INTRODUCTION

This document shall constitute the Pennecon Heavy Civil Limited (PHCL) Public Safety Plan for the Amherst Island Wind Farm Project. The content of this plan shall apply to all Pennecon Heavy Civil Limited employees, subcontractors and any visitors to the site. Copies of the Pennecon Heavy Civil Limited Public Safety Plan may be made available as required and will be available on the project site.

1.1 Objective

The objective of this Public Safety Management Plan (PSMP) is to describe the requirements for PHCL and its contractors in managing public safety. The PSMP applies to all work sites and all activities associated with construction of the Project.

Each contractor must:

- · Conduct a public safety risk assessment as described below; and
- Implement appropriate mitigation measures.

Contractor Public Safety Management Plans will be provided to local authorities.

1.2 Responsibility

The Pennecon Heavy Civil Limited Management team, appointed to oversee the work, holds the primary responsibility for the development and execution of this plan. All employees and subcontractors are responsible for fulfilling the requirements of the Plan.

2.0 RISK ASSESSMENT

PHCL will provide its understanding of hazards to the public associated with Project construction, in particular hazards resulting from:

- Turbine Access Road Construction
- Post Construction Remediation
- Dock Access Road Construction
- Road Maintenance
- Collection system installation
- Turbine Offloading and Travel
- General Trucking Activities
- Batch Plant Operations



- General Construction
- Excavation activities
- Blasting activities
- Emergency Response
- Barge Activities
- Laydown Activities
- Crane Travel and erection
- Turbine Erection

Each contractor must consider the information provided by PHCL, and their own knowledge of the site and construction activities in conducting a risk assessment and in implementing appropriate mitigation measures.

The risk assessment will be based on the steps described below.

Appendix A provides the public safety risks and associated activities that PHCL has identified to date.

2.1 Risk Ranking

Risk ranking consists of a combination of likelihood and consequence. Likelihood refers to the possibility that members of the public will suffer an injury from the activity. Consequence refers to the severity of injury as a result of the worst probable outcome. Because the likelihood of an incident resulting in a minor injury is higher than the likelihood of an incident resulting in a serious injury, as consequences rise, likelihood goes down. Because the final risk ranking is achieved by multiplying the likelihood score by the consequence score, reducing either likelihood or consequence will reduce the total risk score.



+	Hazard Severity					
	<u> </u>				verity .	
		Negligible injury, no absence from work. No damage to equipment or the environment.	Minor injury requiring first aid treatment. Minor damage to equipment or environment	3 Injury leading to a lost time incident. Equipment damage and environmental impact moderate.	4 Involving a single death or serious injury. Major damage to equipment. Severe impact on environment with significant restitution costs.	5 Multiple deaths. Production shutdown. Major pollution with long term implications and high restitution costs.
	A freak combination of factors would be required for an incident to result. Not credible, i.e. the team have never heard of event occurring in industry.	1	2	3	4	5
JCe	A rare combination of factors would be required for an incident to result. Concewable, but would require multiple failures of systems and controls.	2	4	6	8	10
od of Occurrence	3 Could happen when additional factors are present but otherwise unlikely to occur. Less than average, i.e. easy to put forward a scenario for incident but considered unlikely.	3	6	9	12	15
Likelihood	4 Not certain to happen but an additional factor may result in an incident. More than average, i.e. the team do not have direct knowledge but suspect that event may have occurred and represents a credible scenario.	4	8	12	16	20
	5 Almost in evitable that an incident would result. Likely to occur and the team have knowledge of a similar event.	5	10	15	20	25

2.2 Risk Levels

Determining the risk level of each activity follows a three part process.

- 1. Incident Likelihood and Incident Consequence ratings are determined by examining the "as is" condition of each activity within a component area with respect to identifiable hazards with no risk reduction measures in place.
- 2. The overall risk level of the activity being examined is then determined by multiplying the Likelihood and Consequence ratings together.
- 3. New or modified risk reduction measures are then applied and Likelihood and consequence ratings are reassessed with the additional measures.

The above three steps are repeated for each activity within the component area until sufficient risk reduction measures are implemented to eliminate or to significantly reduce initial high risk levels to medium or low.

High	15 to 25
Medium	8 to 12



Low	1 to 6
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2.3 Risk Mitigation

Each contractor must take into account the results of the risk assessment and identify the appropriate mitigation measures. The contractor will employ the following hierarchy (in order of priority) to identify and implement appropriate mitigation measures prior to the commencement of relevant construction activities:

- 1. Elimination of exposure: Exclude the public from dangerous areas through the use of effective means, such as fencing, gates and barricades
- 2. Substitution of different procedures: e.g., changes to construction procedures
- 3. Engineering: e.g., Innovative barricades, modification of equipment, lighting
- 4. Administration: e.g., Public education, effective signage
- 5. Protection of persons: e.g., security patrol, video surveillance

Selection of the appropriate risk reduction measure will depend upon the nature and degree of risk each safety hazard represents to the public. The practicability and effectiveness of implementation and the site-specific conditions must be taken into account in the choice of risk reduction measures used.

2.4 Public Notifications

Public Notification must be in accordance with the Construction Communications Plan.



Construction Activities	Public Activities/Conc erns	Risk	Mitigation	Reference Document
Turbine Access Road Construction	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	 Interaction between bicyclist and construction equipment results in personal injury. 	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site 	Traffic Management PlanOperations PlanCommunications Plan



Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	 construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. 	- Traffic Management Plan - Operations Plan - Communications Plan
Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area. 	 Traffic Management Plan Operations Plan Communications Plan



Post Construction Remediation	Vehicle Traffic	in late arrival of school bus to ferry terminal. - Interaction between equipment and public vehicle traffic results in property damage - Interaction between equipment and public vehicle traffic results in personal injury - Interactions between construction workers and public vehicles results in personal injury	 No construction activity that could impact bussing will take place prior to school bus route completion. Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
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Equine Traffic	- Interaction between	particular attention to cyclists during their mandatory safety site orientation prior to commencing work. - Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. - Equine traffic on public roadways will be	- Traffic Management
Equino Tramo	construction equipment and equine traffic results in personal/equine injury.	treated as vehicular traffic and directed accordingly through active construction sites - All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. - All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. - Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	Plan - Operations Plan - Communications Plan
Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus 	 Traffic Management Plan Operations Plan Communications Plan



		to ferry terminal.	route completion.	
Dock Access Road Construction	Vehicle Traffic	Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. 	 Traffic Management Plan Operations Plan Communications Plan



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	Equine Trainic	construction equipment and equine traffic results in personal/equine injury.	treated as vehicular traffic and directed accordingly through active construction sites	Plan - Operations Plan Communications Plan
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Road Maintenance	Vehicle Traffic	Interaction between equipment and public	- Installation of temporary traffic control devices - (e.g. traffic cones) will provide sufficient width	Traffic Management Plan



	vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury	for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules.	- Operations Plan - Communications Plan
Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
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Collection	Vehicle Traffic	- Interaction between	- Installation of temporary traffic control devices	- Traffic Management



system installation	Pedestrian	equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury Interactions between	 (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. Pedestrian accommodation will typically be 	Plan - Operations Plan - Communications Plan - Traffic Management
	Traffic	pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury	on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	Plan - Operations Plan - Communications Plan
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Turbine Offloading and Travel	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
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	Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	be accommodated through work zones as long as it is safe to do so. - Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites - All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as	Traffic Management Plan Operations Plan Communications Plan
General Trucking Activities	Vehicle Traffic	- Interaction between equipment and public vehicle traffic results in property damage - Interaction between equipment and public vehicle traffic results in personal injury - Interactions between construction workers and public vehicles results in personal injury - Debris coming off truck striking vehicles	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be 	 Traffic Management Plan Operations Plan Communications Plan



Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury Debris coming off truck striking pedestrians 	 inspected for debris between wheels before access on public roads. Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	 Traffic Management Plan Operations Plan Communications Plan
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	ine Traffic -	Interaction between construction equipment and equine traffic results in personal/equine injury. Debris coming off truck striking equine	 Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	- Traffic Management Plan - Operations Plan - Communications Plan
Publi Buss	lic School -	Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus 	 Traffic Management Plan Operations Plan Communications Plan



		to ferry terminal. - Debris coming off truck striking bus	route completion. - All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. - All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads.	
Batch Plant	Fugitive Dust	- Traffic movement (raw	 Traffic speed on site is limited to a maximum of 20 km/hr; 	Best Management
Operations	Emissions	material delivery trucks / tankers; ready mix-trucks; loaders)	- Unpaved roads and areas are treated with a water truck or equivalent dust suppression measures as required.	Practices Plan For The Control Of Fugitive Dust Emissions
		Accumulated dust from raw material delivery, storage and transfer	 Unpaved roads and areas are treated with a water truck or equivalent dust suppression measures as required. The working face of each stockpile is to be minimized. Aggregate is only to be handled on a very minimal basis, ideally 2 times, 1 for delivery and then for loading into plant hoppers. The emissions are controlled by a dedicated Dust Collector, one for each of the in truss silos, and shared usage for delivery trucks filling on site auxiliary storage silo. Each Dust Collector contains polyester – siliconized bags and a pulse type cleaning mechanism. 	 Traffic Management Plan Operations Plan Communications Plan
		- Fines generated on	Traffic speed on site is limited to a maximum of 20 km/hr.	- Traffic Management
		unpaved areas; accumulated dust from raw	Unpaved roads and areas are treated with a	Plan - Operations Plan
		material delivery, storage and transfer	water truck or equivalent dust suppression measures as required.	- Communications Plan
		 Raw material drops outside 	- The front-end loader working area and	 Traffic Management



	T	
of a transfer point	beneath the conveyor will be monitored	Plan
	(visual inspection) throughout the day, with	 Operations Plan
	particular attention to spillage	 Communications
	 Spilled aggregate will be cleaned up promptly 	Plan
- Production	 Finished product is delivered to Ready Mix 	 Traffic Management
	trucks at the Loading Point. The Loading	Plan
	point is equipped with a loading sock, dust	 Operations Plan
	shroud and enclosures on 3 sides and top.	- Communications
		Plan
- Wind	- Unpaved roads and areas are treated with a	- Traffic Management
	water truck or equivalent dust suppression	Plan
	measures as required.	- Operations Plan
	- The working face of each stockpile is to be	- Communications
	minimized.	Plan
	- Aggregate is only to be handled on a very	
	minimal basis, ideally 2 times, 1 for delivery	
	and then for loading into plant hoppers.	
- Material conveyance	- The conveyor leading to the aggregate bins is	- Traffic Management
systems	constructed with 35 degree outside rollers	Plan
o, sie ii.b	creating a trough for material as it travels up	- Operations Plan
	to the bins. The flow (drop) of material onto	- Communications
	the conveyor is controlled by the gates and	Plan
	opening in the bottom of the above ground	
	hopper.	
	- The flow of material is set to directly correlate	
	to the length of the conveyor, width and	
	speed of the conveyor belt, to avoid any	
	material spillage from its sides and to keep	
	material below the edge of the belt.	
- Cement silo	- Each silo is equipped with a bag house dust	- Traffic Management
Somont one	collector.	Plan
	- Bag house dust collectors are inspected on a	- Operations Plan
	monthly basis as per the Maintenance Log	- Communications
	monthly basis as per the Maintenance Log	- Communications



			Book Auxiliary storage silo utilize main silo dust collector systems or in truss systems.	Plan - Best Management Practices Plan For The Control Of Fugitive Dust Emissions
	Excessive Noise	Regulated noise level are exceeded causing disruption to daily activities	Noise sampling will be performed to ensure we are in compliance to REA amendment #3	REA modification #3
General Construction	Excessive noise generated by construction activities	Regulated noise level are exceeded causing disruption to daily activities	 Regular inspection of equipment to ensure exhaust systems are working to manufacturers specifications. Contractor will perform noise monitoring at regular intervals to ensure compliance with Ontario regulations. Construction activities will be performed as per Signage will be posted as per Ontario noise regulations (where noise levels exceed 85dBa) 	 Renewable Energy Approval ONTARIO REGULATION 381/15
	Lighting	Construction lighting causing interference with routine public activities	 Where natural lighting is inadequate to ensure the safety of any worker, artificial lighting shall be provided and shadows and glare shall be reduced to a minimum. Lighting placement will be focused primarily on the construction work area and will be placed to minimize glare to outside structures. 	Operations Plans
	Airborne Dust	Dust from construction traffic	 A water truck will be on site full time once road construction begins until completion of 	Operations Plans



	Hazardous material spills	Environmental contamination due to spills from construction	major construction works. Trucks will spray the road with water in advance of the transport vehicles in order to keep the dust down. All crew will have spill response training Equipment will be equipped with spill	Operations Plan
	material opine	activities	response materials (spill kits) - 55 gallon site spill response containers will be distributed throughout the work site. - Third party spill response contractor to be established prior to start of construction and ready to responds to spill if required.	
	Site security	Unauthorized access to construction site results in injury	 Construction fencing and signage to ensure clear demarcation of construction zones. All visitor are required to sign in/out. All people entering the construction site must complete a site specific orientation prior to access. 	HSE Execution Plan
Excavation activities	Contaminated materials	Exposure to contamination due to excavation activities	 Will be remediated as per Ontario Environmental Legislation. Competent third party will be used for clean- up and removal. Will be remediated as per Invista Canada CPU for north and south parcels. 	 Environmental Protection Act, R.S.O. 1990, c. E.19 Invista Canada CPU 6676-9CWHB7-2S south parcel Invista Canada CPU 6676-9CWHB7-1N North Parcel
Blasting	Damage to	- Damage caused by fly rock	- Pre blast survey by competent consultant to	- R.R.O. 1990, Reg.



activities	structures	- Damage caused by ground	ensure pre and post blast condition of	854: MINES AND
	resulting from	vibration	surrounding structures.	MINING PLANTS
	blasting activities		- Blasting mats will be used to control blast	
			energy.	
			- Blasting protocol to ensure all third party	
			notifications are complied with	
			- Clear communication with public regarding	
			blast location and schedule	
Emergency	Emergency	Lack of communication	- The contractor will work with the local ES to	Highway Traffic Act,
Response	response times	between emergency response	ensure any road can be opened up to	R.S.O. 1990, c. H.8
	impacted by	and project management team	emergency service within the time frame	
	construction	results in decreased response	required by ES or to identify alternate routes.	
	activities.	time and possible ill effects to	Any alternate routes will be inspected prior to	
		the public.	commencing construction activity.	
Barge Activities	Barging of	- Impediment of ferry	All vessels to obey maritime regulations	
	construction	schedule		
	material s and	- Unplanned interaction		
	equipment	between recreational		
		boaters and barge/tug		
Laydown	Vehicle Traffic	- Interaction between	- Installation of temporary traffic control devices	- Traffic Management
Activities		equipment and public	(e.g. traffic cones) will provide sufficient width	Plan
		vehicle traffic results in	for all road users to pass.	- Operations Plan
		property damage	- Informational materials with maps identifying	- Communications
		 Interaction between equipment and public 	construction road traffic routes will be provided	Plan
		vehicle traffic results in	- All construction traffic will be courteous to	
		personal injury	vehicle traffic and will provide them the right	
		- Interactions between	of way as per highway traffic law and the site	
		construction workers and	construction rules.	
		public vehicles results in	- All loaded trucks will follow the load, haul	



Pedestrian Traffic	personal injury Debris coming off truck striking vehicles Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury Debris coming off truck striking pedestrians	 place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	Traffic Management Plan Operations Plan Communications Plan
Bicycle Traffic	 Interaction between bicyclist and construction equipment results in personal injury. Debris coming off truck striking bicycles 	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre 	 Traffic Management Plan Operations Plan Communications Plan



Equine Traffic Public School	 Interaction between construction equipment and equine traffic results in personal/equine injury. Debris coming off truck striking equine 	travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Transportation of oversized loads in front of	 Traffic Management Plan Operations Plan Communications Plan Traffic Management
Public School Bussing	busses and construction equipment results in personal injury or property damage	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific 	- Traffic Management Plan - Operations Plan - Communications Plan



		 Construction activity results in late arrival of school bus to ferry terminal. Debris coming off truck striking bus 	 area No construction activity that could impact bussing will take place prior to school bus route completion. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	
Crane Travel and erection	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury Debris coming off truck striking vehicles 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	 Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. 	 Traffic Management Plan Operations Plan Communications Plan



	5	or debris between wheels before public roads.
Bicycle Traffic	and construction equipment results in personal injury. Debris coming off truck striking bicycles - All construct cyclists and as per high construction as per high constr	onnel will be warned to pay tention to cyclists during their safety site orientation prior to g work. ommodation will typically be on- is the current condition, and will odated through work zones as safe to do so. rucks will follow the load, haul o ensure proper loading and pre ctions have been completed. ith dual rear wheels will be or debris between wheels before
Equine Traffic	construction equipment and equine traffic results in personal/equine injury. Debris coming off truck treated as v accordingly - All construction equine traffic results in accordingly - construction equipment and treated as v accordingly - construction equipment and accordingly - construction equipment and accordingly	ic on public roadways will be rehicular traffic and directed through active construction sites tion traffic will be courteous to c and will provide them the right er highway traffic law and the site or rules. - Traffic Management Plan - Operations Plan - Communications - Plan - Plan



E	Public School Bussing Contact with	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus to ferry terminal. Debris coming off truck striking bus 	 All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus route completion. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Powerline hazard awareness training for all 	- Traffic Management Plan - Operations Plan - Communications Plan
	overhead	powerline causes power	personnel.	



	powerlines	disruption to public buildings or homes.	-	Use spotters while Crane is traveling Signage in high traffic areas when travelling under powerlines.	
Turbine Erection	Site security	Unauthorized access to construction site results in injury	-	Construction fencing and signage to ensure clear demarcation of construction zones. All visitor are required to sign in/out. All people entering the construction site must complete a site specific orientation prior to access.	HSE Execution Plan



AMHERST ISLAND WIND FARM

CONTRACT-SPECIFIC PUBLIC SAFETY PLAN

Windlectric

May 2017



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1.0 INTRODUCTION

This document shall constitute the Pennecon Heavy Civil Limited (PHCL) Public Safety Plan for the Amherst Island Wind Farm Project. The content of this plan shall apply to all Pennecon Heavy Civil Limited employees, subcontractors and any visitors to the site. Copies of the Pennecon Heavy Civil Limited Public Safety Plan may be made available as required and will be available on the project site.

1.1 Objective

The objective of this Public Safety Management Plan (PSMP) is to describe the requirements for PHCL and its contractors in managing public safety. The PSMP applies to all work sites and all activities associated with construction of the Project.

Each contractor must:

- · Conduct a public safety risk assessment as described below; and
- Implement appropriate mitigation measures.

Contractor Public Safety Management Plans will be provided to local authorities.

1.2 Responsibility

The Pennecon Heavy Civil Limited Management team, appointed to oversee the work, holds the primary responsibility for the development and execution of this plan. All employees and subcontractors are responsible for fulfilling the requirements of the Plan.

2.0 RISK ASSESSMENT

PHCL will provide its understanding of hazards to the public associated with Project construction, in particular hazards resulting from:

- Turbine Access Road Construction
- Post Construction Remediation
- Dock Access Road Construction
- Road Maintenance
- Collection system installation
- Turbine Offloading and Travel
- General Trucking Activities
- Batch Plant Operations



- General Construction
- Excavation activities
- Blasting activities
- Emergency Response
- Barge Activities
- Laydown Activities
- Crane Travel and erection
- Turbine Erection

Each contractor must consider the information provided by PHCL, and their own knowledge of the site and construction activities in conducting a risk assessment and in implementing appropriate mitigation measures.

The risk assessment will be based on the steps described below.

Appendix A provides the public safety risks and associated activities that PHCL has identified to date.

2.1 Risk Ranking

Risk ranking consists of a combination of likelihood and consequence. Likelihood refers to the possibility that members of the public will suffer an injury from the activity. Consequence refers to the severity of injury as a result of the worst probable outcome. Because the likelihood of an incident resulting in a minor injury is higher than the likelihood of an incident resulting in a serious injury, as consequences rise, likelihood goes down. Because the final risk ranking is achieved by multiplying the likelihood score by the consequence score, reducing either likelihood or consequence will reduce the total risk score.



+	Hazard Severity					
	<u> </u>				verity .	
		Negligible injury, no absence from work. No damage to equipment or the environment.	Minor injury requiring first aid treatment. Minor damage to equipment or environment	3 Injury leading to a lost time incident. Equipment damage and environmental impact moderate.	4 Involving a single death or serious injury. Major damage to equipment. Severe impact on environment with significant restitution costs.	5 Multiple deaths. Production shutdown. Major pollution with long term implications and high restitution costs.
	A freak combination of factors would be required for an incident to result. Not credible, i.e. the team have never heard of event occurring in industry.	1	2	3	4	5
JCe	A rare combination of factors would be required for an incident to result. Concewable, but would require multiple failures of systems and controls.	2	4	6	8	10
od of Occurrence	3 Could happen when additional factors are present but otherwise unlikely to occur. Less than average, i.e. easy to put forward a scenario for incident but considered unlikely.	3	6	9	12	15
Likelihood	4 Not certain to happen but an additional factor may result in an incident. More than average, i.e. the team do not have direct knowledge but suspect that event may have occurred and represents a credible scenario.	4	8	12	16	20
	5 Almost in evitable that an incident would result. Likely to occur and the team have knowledge of a similar event.	5	10	15	20	25

2.2 Risk Levels

Determining the risk level of each activity follows a three part process.

- 1. Incident Likelihood and Incident Consequence ratings are determined by examining the "as is" condition of each activity within a component area with respect to identifiable hazards with no risk reduction measures in place.
- 2. The overall risk level of the activity being examined is then determined by multiplying the Likelihood and Consequence ratings together.
- 3. New or modified risk reduction measures are then applied and Likelihood and consequence ratings are reassessed with the additional measures.

The above three steps are repeated for each activity within the component area until sufficient risk reduction measures are implemented to eliminate or to significantly reduce initial high risk levels to medium or low.

High	15 to 25
Medium	8 to 12



Low	1 to 6
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2.3 Risk Mitigation

Each contractor must take into account the results of the risk assessment and identify the appropriate mitigation measures. The contractor will employ the following hierarchy (in order of priority) to identify and implement appropriate mitigation measures prior to the commencement of relevant construction activities:

- 1. Elimination of exposure: Exclude the public from dangerous areas through the use of effective means, such as fencing, gates and barricades
- 2. Substitution of different procedures: e.g., changes to construction procedures
- 3. Engineering: e.g., Innovative barricades, modification of equipment, lighting
- 4. Administration: e.g., Public education, effective signage
- 5. Protection of persons: e.g., security patrol, video surveillance

Selection of the appropriate risk reduction measure will depend upon the nature and degree of risk each safety hazard represents to the public. The practicability and effectiveness of implementation and the site-specific conditions must be taken into account in the choice of risk reduction measures used.

2.4 Public Notifications

Public Notification must be in accordance with the Construction Communications Plan.



Construction Activities	Public Activities/Conc erns	Risk	Mitigation	Reference Document
Turbine Access Road Construction	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	 Interaction between bicyclist and construction equipment results in personal injury. 	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site 	Traffic Management PlanOperations PlanCommunications Plan



Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	 construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. 	- Traffic Management Plan - Operations Plan - Communications Plan
Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area. 	 Traffic Management Plan Operations Plan Communications Plan



Post Construction Remediation	Vehicle Traffic	in late arrival of school bus to ferry terminal. - Interaction between equipment and public vehicle traffic results in property damage - Interaction between equipment and public vehicle traffic results in personal injury - Interactions between construction workers and public vehicles results in personal injury	 No construction activity that could impact bussing will take place prior to school bus route completion. Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay 	 Traffic Management Plan Operations Plan Communications Plan



Equine Traffic	- Interaction between	particular attention to cyclists during their mandatory safety site orientation prior to commencing work. - Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. - Equine traffic on public roadways will be	- Traffic Management
Equino Tramo	construction equipment and equine traffic results in personal/equine injury.	treated as vehicular traffic and directed accordingly through active construction sites - All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. - All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. - Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	Plan - Operations Plan - Communications Plan
Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus 	 Traffic Management Plan Operations Plan Communications Plan



		to ferry terminal.	route completion.	
Dock Access Road Construction	Vehicle Traffic	Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. 	 Traffic Management Plan Operations Plan Communications Plan



	Equine Traffic	- Interaction between	Cyclist accommodation will typically be on- road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. Equine traffic on public roadways will be	- Traffic Management
	Equine Trainic	construction equipment and equine traffic results in personal/equine injury.	treated as vehicular traffic and directed accordingly through active construction sites	Plan - Operations Plan Communications Plan
	Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus to ferry terminal. 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus route completion. 	Traffic Management Plan Operations Plan Communications Plan
Road Maintenance	Vehicle Traffic	Interaction between equipment and public	- Installation of temporary traffic control devices - (e.g. traffic cones) will provide sufficient width	Traffic Management Plan



	vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury	for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules.	- Operations Plan - Communications Plan
Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
Bicycle Traffic	Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to 	 Traffic Management Plan Operations Plan Communications Plan



			commencing work. - Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	
	Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	 Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. 	 Traffic Management Plan Operations Plan Communications Plan
	Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus to ferry terminal. 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus route completion. 	 Traffic Management Plan Operations Plan Communications Plan
Collection	Vehicle Traffic	- Interaction between	- Installation of temporary traffic control devices	- Traffic Management



system installation	Pedestrian	equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury Interactions between	 (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. Pedestrian accommodation will typically be 	Plan - Operations Plan - Communications Plan - Traffic Management
	Traffic	pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury	on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	Plan - Operations Plan - Communications Plan
	Bicycle Traffic	Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as 	 Traffic Management Plan Operations Plan Communications Plan



		long as it is safe to do so.	
Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	 Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. 	 Traffic Management Plan Operations Plan Communications Plan
Public School Bussing	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus to ferry terminal. 	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus route completion. 	 Traffic Management Plan Operations Plan Communications Plan



Turbine Offloading and Travel	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	- Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so.	 Traffic Management Plan Operations Plan Communications Plan
	Bicycle Traffic	- Interaction between bicyclist and construction equipment results in personal injury.	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will 	 Traffic Management Plan Operations Plan Communications Plan



	Equine Traffic	Interaction between construction equipment and equine traffic results in personal/equine injury.	be accommodated through work zones as long as it is safe to do so. - Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites - All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as	Traffic Management Plan Operations Plan Communications Plan
General Trucking Activities	Vehicle Traffic	- Interaction between equipment and public vehicle traffic results in property damage - Interaction between equipment and public vehicle traffic results in personal injury - Interactions between construction workers and public vehicles results in personal injury - Debris coming off truck striking vehicles	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be 	 Traffic Management Plan Operations Plan Communications Plan



Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury Debris coming off truck striking pedestrians 	 inspected for debris between wheels before access on public roads. Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	 Traffic Management Plan Operations Plan Communications Plan
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	ine Traffic -	Interaction between construction equipment and equine traffic results in personal/equine injury. Debris coming off truck striking equine	 Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	- Traffic Management Plan - Operations Plan - Communications Plan
Publi Buss	lic School -	Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus 	 Traffic Management Plan Operations Plan Communications Plan



		to ferry terminal. - Debris coming off truck striking bus	route completion. - All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. - All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads.	
Batch Plant	Fugitive Dust	- Traffic movement (raw	 Traffic speed on site is limited to a maximum of 20 km/hr; 	Best Management
Operations	Emissions	material delivery trucks / tankers; ready mix-trucks; loaders)	- Unpaved roads and areas are treated with a water truck or equivalent dust suppression measures as required.	Practices Plan For The Control Of Fugitive Dust Emissions
		Accumulated dust from raw material delivery, storage and transfer	 Unpaved roads and areas are treated with a water truck or equivalent dust suppression measures as required. The working face of each stockpile is to be minimized. Aggregate is only to be handled on a very minimal basis, ideally 2 times, 1 for delivery and then for loading into plant hoppers. The emissions are controlled by a dedicated Dust Collector, one for each of the in truss silos, and shared usage for delivery trucks filling on site auxiliary storage silo. Each Dust Collector contains polyester – siliconized bags and a pulse type cleaning mechanism. 	 Traffic Management Plan Operations Plan Communications Plan
		- Fines generated on	Traffic speed on site is limited to a maximum of 20 km/hr.	- Traffic Management
		unpaved areas; accumulated dust from raw	Unpaved roads and areas are treated with a	Plan - Operations Plan
		material delivery, storage and transfer	water truck or equivalent dust suppression measures as required.	- Communications Plan
		 Raw material drops outside 	- The front-end loader working area and	 Traffic Management



	T	
of a transfer point	beneath the conveyor will be monitored	Plan
	(visual inspection) throughout the day, with	 Operations Plan
	particular attention to spillage	 Communications
	 Spilled aggregate will be cleaned up promptly 	Plan
- Production	 Finished product is delivered to Ready Mix 	 Traffic Management
	trucks at the Loading Point. The Loading	Plan
	point is equipped with a loading sock, dust	 Operations Plan
	shroud and enclosures on 3 sides and top.	- Communications
		Plan
- Wind	- Unpaved roads and areas are treated with a	- Traffic Management
	water truck or equivalent dust suppression	Plan
	measures as required.	- Operations Plan
	- The working face of each stockpile is to be	- Communications
	minimized.	Plan
	- Aggregate is only to be handled on a very	
	minimal basis, ideally 2 times, 1 for delivery	
	and then for loading into plant hoppers.	
- Material conveyance	- The conveyor leading to the aggregate bins is	- Traffic Management
systems	constructed with 35 degree outside rollers	Plan
o, sie ii.b	creating a trough for material as it travels up	- Operations Plan
	to the bins. The flow (drop) of material onto	- Communications
	the conveyor is controlled by the gates and	Plan
	opening in the bottom of the above ground	
	hopper.	
	- The flow of material is set to directly correlate	
	to the length of the conveyor, width and	
	speed of the conveyor belt, to avoid any	
	material spillage from its sides and to keep	
	material below the edge of the belt.	
- Cement silo	- Each silo is equipped with a bag house dust	- Traffic Management
Somont one	collector.	Plan
	- Bag house dust collectors are inspected on a	- Operations Plan
	monthly basis as per the Maintenance Log	- Communications
	monthly basis as per the Maintenance Log	- Communications



			Book Auxiliary storage silo utilize main silo dust collector systems or in truss systems.	Plan - Best Management Practices Plan For The Control Of Fugitive Dust Emissions
	Excessive Noise	Regulated noise level are exceeded causing disruption to daily activities	Noise sampling will be performed to ensure we are in compliance to REA amendment #3	REA modification #3
General Construction	Excessive noise generated by construction activities	Regulated noise level are exceeded causing disruption to daily activities	 Regular inspection of equipment to ensure exhaust systems are working to manufacturers specifications. Contractor will perform noise monitoring at regular intervals to ensure compliance with Ontario regulations. Construction activities will be performed as per Signage will be posted as per Ontario noise regulations (where noise levels exceed 85dBa) 	 Renewable Energy Approval ONTARIO REGULATION 381/15
	Lighting	Construction lighting causing interference with routine public activities	 Where natural lighting is inadequate to ensure the safety of any worker, artificial lighting shall be provided and shadows and glare shall be reduced to a minimum. Lighting placement will be focused primarily on the construction work area and will be placed to minimize glare to outside structures. 	Operations Plans
	Airborne Dust	Dust from construction traffic	 A water truck will be on site full time once road construction begins until completion of 	Operations Plans



	Hazardous material spills	Environmental contamination due to spills from construction	major construction works. Trucks will spray the road with water in advance of the transport vehicles in order to keep the dust down. All crew will have spill response training Equipment will be equipped with spill	Operations Plan
	material opine	activities	response materials (spill kits) - 55 gallon site spill response containers will be distributed throughout the work site. - Third party spill response contractor to be established prior to start of construction and ready to responds to spill if required.	
	Site security	Unauthorized access to construction site results in injury	 Construction fencing and signage to ensure clear demarcation of construction zones. All visitor are required to sign in/out. All people entering the construction site must complete a site specific orientation prior to access. 	HSE Execution Plan
Excavation activities	Contaminated materials	Exposure to contamination due to excavation activities	 Will be remediated as per Ontario Environmental Legislation. Competent third party will be used for clean- up and removal. Will be remediated as per Invista Canada CPU for north and south parcels. 	 Environmental Protection Act, R.S.O. 1990, c. E.19 Invista Canada CPU 6676-9CWHB7-2S south parcel Invista Canada CPU 6676-9CWHB7-1N North Parcel
Blasting	Damage to	- Damage caused by fly rock	- Pre blast survey by competent consultant to	- R.R.O. 1990, Reg.



activities	structures	- Damage caused by ground	ensure pre and post blast condition of	854: MINES AND
	resulting from	vibration	surrounding structures.	MINING PLANTS
	blasting activities		- Blasting mats will be used to control blast	
			energy.	
			- Blasting protocol to ensure all third party	
			notifications are complied with	
			- Clear communication with public regarding	
			blast location and schedule	
Emergency	Emergency	Lack of communication	- The contractor will work with the local ES to	Highway Traffic Act,
Response	response times	between emergency response	ensure any road can be opened up to	R.S.O. 1990, c. H.8
	impacted by	and project management team	emergency service within the time frame	
	construction	results in decreased response	required by ES or to identify alternate routes.	
	activities.	time and possible ill effects to	Any alternate routes will be inspected prior to	
		the public.	commencing construction activity.	
Barge Activities	Barging of	- Impediment of ferry	All vessels to obey maritime regulations	
	construction	schedule		
	material s and	- Unplanned interaction		
	equipment	between recreational		
		boaters and barge/tug		
Laydown	Vehicle Traffic	- Interaction between	- Installation of temporary traffic control devices	- Traffic Management
Activities		equipment and public	(e.g. traffic cones) will provide sufficient width	Plan
		vehicle traffic results in	for all road users to pass.	- Operations Plan
		property damage	- Informational materials with maps identifying	- Communications
		 Interaction between equipment and public 	construction road traffic routes will be provided	Plan
		vehicle traffic results in	- All construction traffic will be courteous to	
		personal injury	vehicle traffic and will provide them the right	
		- Interactions between	of way as per highway traffic law and the site	
		construction workers and	construction rules.	
		public vehicles results in	- All loaded trucks will follow the load, haul	



Pedestrian Traffic	personal injury Debris coming off truck striking vehicles Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury Debris coming off truck striking pedestrians	 place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	Traffic Management Plan Operations Plan Communications Plan
Bicycle Traffic	 Interaction between bicyclist and construction equipment results in personal injury. Debris coming off truck striking bicycles 	 Bicycle traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to cyclists and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to cyclists during their mandatory safety site orientation prior to commencing work. Cyclist accommodation will typically be onroad as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre 	 Traffic Management Plan Operations Plan Communications Plan



Equine Traffic Public School	 Interaction between construction equipment and equine traffic results in personal/equine injury. Debris coming off truck striking equine 	travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Equine traffic on public roadways will be treated as vehicular traffic and directed accordingly through active construction sites All construction traffic will be courteous to equine traffic and will provide them the right of way as per highway traffic law and the site construction rules. All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Transportation of oversized loads in front of	 Traffic Management Plan Operations Plan Communications Plan Traffic Management
Public School Bussing	busses and construction equipment results in personal injury or property damage	 Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific 	- Traffic Management Plan - Operations Plan - Communications Plan



		 Construction activity results in late arrival of school bus to ferry terminal. Debris coming off truck striking bus 	 area No construction activity that could impact bussing will take place prior to school bus route completion. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	
Crane Travel and erection	Vehicle Traffic	 Interaction between equipment and public vehicle traffic results in property damage Interaction between equipment and public vehicle traffic results in personal injury Interactions between construction workers and public vehicles results in personal injury Debris coming off truck striking vehicles 	 Installation of temporary traffic control devices (e.g. traffic cones) will provide sufficient width for all road users to pass. Informational materials with maps identifying construction road traffic routes will be provided All construction traffic will be courteous to vehicle traffic and will provide them the right of way as per highway traffic law and the site construction rules. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. 	 Traffic Management Plan Operations Plan Communications Plan
	Pedestrian Traffic	 Interactions between pedestrian traffic and construction equipment results in personal injury Pedestrian walking uneven terrain results in personal injury 	 Pedestrian accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. 	 Traffic Management Plan Operations Plan Communications Plan



	5	or debris between wheels before public roads.
Bicycle Traffic	and construction equipment results in personal injury. Debris coming off truck striking bicycles - All construct cyclists and as per high construction as per high constr	onnel will be warned to pay tention to cyclists during their safety site orientation prior to g work. ommodation will typically be on- is the current condition, and will odated through work zones as safe to do so. rucks will follow the load, haul o ensure proper loading and pre ctions have been completed. ith dual rear wheels will be or debris between wheels before
Equine Traffic	construction equipment and equine traffic results in personal/equine injury. Debris coming off truck treated as v accordingly - All construction equine traffic results in accordingly - construction equipment and treated as v accordingly - construction equipment and accordingly - construction equipment and accordingly	ic on public roadways will be rehicular traffic and directed through active construction sites tion traffic will be courteous to c and will provide them the right er highway traffic law and the site or rules. - Traffic Management Plan - Operations Plan - Communications - Plan - Plan



E	Public School Bussing Contact with	 Interaction between school busses and construction equipment results in personal injury or property damage Construction activity results in late arrival of school bus to ferry terminal. Debris coming off truck striking bus 	 All site personnel will be warned to pay particular attention to equine traffic during their mandatory safety site orientation prior to commencing work. Equine traffic accommodation will typically be on-road as this is the current condition, and will be accommodated through work zones as long as it is safe to do so. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Transportation of oversized loads in front of the school and through Stella will not take place during the 30 minute periods at the start and end of the school day. Road closures will not take place prior to school bus route completion for that specific area No construction activity that could impact bussing will take place prior to school bus route completion. All loaded trucks will follow the load, haul place JSA to ensure proper loading and pre travel inspections have been completed. All trucks with dual rear wheels will be inspected for debris between wheels before access on public roads. Powerline hazard awareness training for all 	- Traffic Management Plan - Operations Plan - Communications Plan
	overhead	powerline causes power	personnel.	



	powerlines	disruption to public buildings or homes.	 Use spotters while Crane is traveling Signage in high traffic areas when travelling under powerlines. 	
Turbine Erection	Site security	Unauthorized access to construction site results in injury	 Construction fencing and signage to ensure clear demarcation of construction zones. All visitor are required to sign in/out. All people entering the construction site must complete a site specific orientation prior to access. 	an