

**ENVIRONMENTAL ASSESSMENT
REALIGNMENT OF MARINE DRIVE
HIGHWAY 316
ENVIRONMENTAL ASSESSMENT REGISTRATION**

Goldboro LNG Project
Pieridae Energy (Canada) Limited
MARCH 2021

**APPENDICES
VOLUME 4 OF 4**





**ENVIRONMENTAL ASSESSMENT
REALIGNMENT OF MARINE DRIVE (HIGHWAY 316)**

**Environmental Assessment Registration
Appendices**

Submitted to:

Nova Scotia Environment
1894 Barrington Street, Suite 1800
Halifax, Nova Scotia, B3J 2P8

Submitted by:

Pieridae Energy (Canada) Limited
1718 Argyle Street
Halifax, Nova Scotia, B3J 3N6

Prepared by:

Wood Environment & Infrastructure Solutions
a Division of Wood Canada Limited
50 Troop Avenue, Suite 300
Dartmouth, Nova Scotia, B3B 1Z1

March 2021

TE201007

List of Appendices

VOLUME 1

Appendix A	Review of Realignment Alternatives
Appendix B	Road Detailed Design Drawings
Appendix C	Sediment Sample Analyses Results and Guidelines
Appendix D	Surface Water Sample Analyses Results and Guidelines
Appendix E	Bird Surveys

VOLUME 2

Appendix F	Biophysical Report 2020: Goldboro LNG Road Re-Alignment (Part 1)
------------	--

VOLUME 3

Appendix F	Biophysical Report 2020: Goldboro LNG Road Re-Alignment (Part 2)
------------	--

VOLUME 4

Appendix G	Wetland Survey Results
Appendix H	Aquatic Habitat Data Sheets
Appendix I	Species at Risk and Species of Conservation Interest
Appendix J	Archaeological Resources Impact Assessment
Appendix K	Summary Report of Public Information Session, November 2020

APPENDIX G

WETLAND SURVEY RESULTS



GOLDBORO
LNG

Table 6-1 Wetland Characteristics

WL #	Wetland Location	WL Type	Vegetation Type(s)	Rarity of Community Types within NS	WL Size (m ²)	Wetland within Road Corridor Study Area** (m ²)	Water Flow Path/ Landscape Position	Landform	Fish Access/ Habitat in Wetland	Wetland of Special Significance (WSS)*****	SAR/ SOCI Observed	SAR/ SOCI Suitable Habitat
1	Dung Cove Pond	Fen	These wetlands have been assessed for other Project components not including the road realignment.									
2	Dung Cove Pond	Shrub Swamp										
3	Proposed Temporary Laydown Area***	Cut-over Swamp										
4	Proposed Temporary Laydown Area***	Cut-over Swamp										
5	Proposed Temporary Laydown Area***	Cut-over Swamp										
6	Proposed Temporary Laydown Area***	Cut-over Swamp										
7	Proposed Temporary Laydown Area***	Treed Swamp - Cutover Swamp Complex										
8	Road Corridor	Cut-over Swamp	• CS1 – Woolly bullrush – Three-seeded sedge – Soft rush	Common and widespread throughout disturbed sites within Nova Scotia	241	241	Throughflow via drainage down hillside/ Terrene	Sloped	No	No	None observed	None observed
9	Road Corridor	Shrub Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	787	787	Isolated/ Terrene	Sloped	No	No	None observed	None observed
10	Road Corridor	Cut-over Swamp	• CS1 – Woolly bullrush – Three-seeded sedge – Soft rush	Common and widespread throughout disturbed sites within Nova Scotia	361	361	Isolated drainage culvert from road/ Terrene	Sloped	No	No	None observed	None observed
11	Road Corridor	Cut-over Swamp	• CS1 – Woolly bullrush – Three-seeded sedge – Soft rush	Common and widespread throughout disturbed sites within Nova Scotia	1040	1040	Isolated/ Terrene	Sloped	No	No	None observed	None observed
12	Road Corridor	Shrub	• CS1 – Woolly	Common and	618	618	Isolated/	Sloped	No	No	None observed	None observed

WL #	Wetland Location	WL Type	Vegetation Type(s)	Rarity of Community Types within NS	WL Size (m ²)	Wetland within Road Corridor Study Area** (m ²)	Water Flow Path/ Landscape Position	Landform	Fish Access/ Habitat in Wetland	Wetland of Special Significance (WSS)*****	SAR/ SOCI Observed	SAR/ SOCI Suitable Habitat
		Swamp	bullrush – Three-seeded sedge – Soft rush	widespread throughout disturbed sites within Nova Scotia			Terrene					
13	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	5436	3179	Throughflow via WC/ Lotic stream entrench	Sloped	In WC channel only	No	None observed	None observed
14	Road Corridor	Treed Swamp	•WC5 - Red Spruce - Balsam fir/ Cinnamon fern/ Sphagnum	Common and widespread throughout Nova Scotia	212	129	Isolated/ Terrene	Basin	No	No	None observed	None observed
15	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	158	158	Isolated/ Terrene	Sloped	No	No	Boreal chickadee (S3)	None observed
16	Road Corridor	Shrub Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	870	870	Isolated/ Terrene	Slightly sloped basin	No	No	None observed	None observed
17	Road Corridor	Shrub Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	867	201	Throughflow via drainage/ Lotic stream entrench	Basin	No	No	None observed	None observed
18	Road Corridor	Shrub Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	1911	605	Throughflow via drainage/ Lotic stream entrench	Basin	No	No	None observed	None observed
19	Road Corridor	Shrub Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	370	51	Isolated/ Terrene	Basin	No	No	None observed	None observed
20	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	12454	4219	Isolated/ Terrene	Basin	No	No	Canada warbler (SAR/COSEWIC T, NSESA E, S3B), boreal chickadee (S3), Wilson's snipe (S3B), Swainson's thrush (S3S4B), red-breasted nuthatch (S3), Yellow-bellied flycatcher (S3S4B), Ruby-crowned	Canada warbler habitat

WL #	Wetland Location	WL Type	Vegetation Type(s)	Rarity of Community Types within NS	WL Size (m ²)	Wetland within Road Corridor Study Area** (m ²)	Water Flow Path/ Landscape Position	Landform	Fish Access/ Habitat in Wetland	Wetland of Special Significance (WSS)*****	SAR/ SOCI Observed	SAR/ SOCI Suitable Habitat
											kinglet (S3S4B). All observed during avifauna surveys.	
21	Road Corridor, Temporary Laydown Expansion Area****	Treed Swamp	<ul style="list-style-type: none"> • WC1 – Black spruce/ Cinnamon fern/ Sphagnum 	Common and widespread throughout Nova Scotia	3829	1379	Isolated/ Terrene	Basin	No	No	None observed	None observed
22	Road Corridor, Temporary Laydown Expansion Area ***, Proposed Laydown Area****	Treed Swamp - Shrub Swamp - Fen - Bog Complex	<ul style="list-style-type: none"> • PG1 -Huckleberry – Crowberry Bog • CS1 – Woolly bullrush – Three-seeded sedge – Soft rush • PG3 - Coastal Sedge Fen • SS1 -Mountain Holly – Alder • WD2 – Red maple/ Cinnamon Fern/ Sphagnum 	Vegetation type PG1 and PG3 are common within coastal regions of Nova Scotia. The remaining vegetation types in this wetland are found throughout the province.	138245	17689	Throughflow via WC/Lotic stream floodplain	Basin	In WC channel only	Yes	Blue felt lichen and Fuscopannaria soledata observed. Boreal chickadee (S3), gray jay (S3), red-breasted nuthatch (S3), American kestrel (S3B) observed incidentally. Canada warbler (SAR/COSEWIC T, NSESA E, S3B), Swainson's thrush (S3S4B), Wilson's snipe (S3B) and yellow-bellied flycatcher (S3S4B) observed during avifauna surveys.	Canada warbler habitat. Frosted glass whisker, blue felt lichen and other SOCI lichen species habitat potential. Potential suitable habitat for northern comandra and southern twayblade.
23	Road Corridor	Treed Swamp	<ul style="list-style-type: none"> • WC2 – Black Spruce/Lambkill – Labrador tea/ Sphagnum 	Common and widespread throughout Nova Scotia	578	212	Isolated/ Terrene	Basin	No	No	None observed	Canada warbler habitat
24	Road Corridor	Treed Swamp	<ul style="list-style-type: none"> • WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum 	Common and widespread throughout Nova Scotia	565	565	Isolated/ Terrene	Sloped basin	No	No	None observed	None observed
25	Road Corridor	Shrub Bog	<ul style="list-style-type: none"> • PG4 – Sheep Laurel Dwarf Shrub Bog 	Common and widespread throughout Nova Scotia	1248	1230	Isolated/ Terrene	Basin	No	No	None observed	Potential suitable habitat for northern comandra and southern twayblade.
26	Road Corridor	Bog	<ul style="list-style-type: none"> • PG1 -Huckleberry – Crowberry Bog 	Common within coastal regions of Nova Scotia	298	4956	Isolated/ Terrene	Basin	No	No	Boreal chickadee observed	Potential suitable habitat for northern comandra and southern

WL #	Wetland Location	WL Type	Vegetation Type(s)	Rarity of Community Types within NS	WL Size (m ²)	Wetland within Road Corridor Study Area** (m ²)	Water Flow Path/ Landscape Position	Landform	Fish Access/ Habitat in Wetland	Wetland of Special Significance (WSS)*****	SAR/ SOCI Observed	SAR/ SOCI Suitable Habitat
												twayblade.
27	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	398	398	Isolated/ Terrene	Basin	No	No	None observed	Canada warbler habitat, blue felt lichen habitat
28	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	235	235	Throughflow via WC/Lotic stream entrench	Basin	No	No	Nova Scotia agalinis observed	Canada warbler habitat
29	Road Corridor	Treed Swamp	• WC6 – Balsam fir/Cinnamon fern – Three seeded sedge/ sphagnum	Common and widespread throughout Nova Scotia	14621	10284	Isolated/ Terrene	Basin	No	No	None observed	Canada warbler habitat
30	Road Corridor	Bog	• PG1 -Huckleberry – Crowberry Bog	Common within coastal regions of Nova Scotia	16607	3280	Isolated/ Terrene	Flat	No	No	Blacokpoll warbler (S3S4B), Swainson’s thrush (S3S4B), ruby-crowned kinglet (S3S4B) and Wilson’s warbler (S3B) observed during avifauna surveys.	Potential suitable habitat for northern comandra and southern twayblade.
31	Road Corridor	Treed Swamp - Shrub Bog - Fen Complex	• PG3 - Coastal Sedge Fen • PG1 -Huckleberry – Crowberry Bog • WC2 – Black Spruce/ Lambkill – Labrador tea / Sphagnum	Vegetation type PG1 and PG3 are common within coastal regions of Nova Scotia. The remaining vegetation types in this wetland are found throughout the province	25741	24657	Throughflow via WC and outflow via WC/Lotic stream entrench	Flat basin	Unlikely	No	Nova Scotia agalinis observed. Wilson’s warbler (S3B), ruby-crowned kinglet (S3S4B), yellow-bellied flycatcher (S3S4B), greater yellowlegs (S3B, S3S4M) and ruby-crowned kinglet (S3S4B) during avifauna surveys.	Olive-sided flycatcher potential and boreal felt lichen potential - mature balsam fir. Potential suitable habitat for northern comandra and southern twayblade.
32	Road Corridor	Bog	• PG4 – Sheep Laurel Dwarf Shrub Bog	Common and widespread throughout Nova Scotia	1393	1393	Isolated/ Terrene	Basin	No	No	None observed	Potential suitable habitat for northern comandra and southern twayblade.
33	Road Corridor	Treed Swamp	•WC2 – Black Spruce / Lambkill – Labrador tea/ Sphagnum	Common and widespread throughout Nova Scotia	562	291	Isolated/ Terrene	Basin	No	No	None observed	Boreal felt lichen potential

WL #	Wetland Location	WL Type	Vegetation Type(s)	Rarity of Community Types within NS	WL Size (m ²)	Wetland within Road Corridor Study Area** (m ²)	Water Flow Path/ Landscape Position	Landform	Fish Access/ Habitat in Wetland	Wetland of Special Significance (WSS)*****	SAR/ SOCI Observed	SAR/ SOCI Suitable Habitat
				Scotia								
34	Road Corridor	Treed Swamp - Bog - Fen Complex	<ul style="list-style-type: none"> • PG3 - Coastal Sedge Fen • PG1 -Huckleberry – Crowberry Bog • WC2 – Black Spruce / Lambkill – Labrador tea / Sphagnum 	Vegetation type PG1 and PG3 are common within coastal regions of Nova Scotia. The remaining vegetation types in this wetland are found throughout the province	70473	70079	WC flowing within but none observed entering/ exiting/ Terrene	Flat	No, channel only	No	Red-breasted nuthatch observed incidentally. Yellow-bellied flycatcher (S3S4B), gray jay (S3), Swainson’s thrush (S3S4B) and ruby-crowned kinglet (S3S4B) observed during avifauna surveys.	Possibility for lichens and plants. Habitat for moose and olive-sided flycatcher. Potential suitable habitat for northern comandra and southern twayblade.
35	Road Corridor	Fen	•PG3 - Coastal Sedge Fen	Common within coastal regions of Nova Scotia	1398	1390	Throughflow via WC/Lotic stream entrenched	sloped basin	No	No	None observed	None observed
36	Road Corridor	Treed Swamp - Fen Complex	<ul style="list-style-type: none"> •PG3 - Coastal Sedge Fen •WC1 – Black spruce/ Cinnamon fern/ Sphagnum 	Vegetation type PG3 is common within coastal regions and WC1 is found throughout Nova Scotia	4956	4923	Throughflow via WC/Lotic stream entrenched	Basin	No	No	Willet (S2S3B) and yellow-bellied flycatcher (S3S4B) observed during avifauna surveys.	None observed
37	Road Corridor	Shrub Swamp	•WC5 - Red Spruce - Balsam fir/Cinnamon fern/Sphagnum	Common and widespread throughout Nova Scotia	105	100	Throughflow via WC/Lotic stream entrenched	Basin	No	No	None observed	None observed
38	Road Corridor	Shrub Swamp	•WC1 – Black spruce/ Cinnamon fern/ Sphagnum	Common and widespread throughout Nova Scotia	5700	5694	Isolated/ Terrene	Basin	No	No	None observed	None observed
39	Road Corridor	Treed Swamp	• WC2 – Black Spruce / Lambkill – Labrador tea/ Sphagnum	Common and widespread throughout Nova Scotia	2018	2018	Isolated/ Terrene	Basin	No	No	None observed	None observed

*Road Corridor Study Area refers to the 100m-wide area around the proposed road centre line

**WSS designation based on sessile species present within a wetland that are listed on the Species at Risk Act and/or the NS Endangered Species Act. Mobile species and potential associated WSS designation will be evaluated in the biophysical report.

Table G-2 Wetland Functions Summary

WL ID	Hydrologic Group		Water Quality Group		Aquatic Support Group		Aquatic Habitat Group		Terrestrial Habitat Group		Wetland Condition		Wetland Risk		Average Function	Average Benefits
	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits	Function	Benefits		
1-7	<i>These wetlands have been assessed for other Project components not including the road realignment.</i>															
8	2	3	2	3	1	1	1	1	2	2	N/A	1	N/A	3	2	2
9	3	3	3	3	2	1	1	1	2	2	N/A	2	N/A	3	2	2
10	3	3	3	3	1	1	1	1	2	2	N/A	1	N/A	3	2	2
11	3	3	3	3	1	1	1	1	2	2	N/A	2	N/A	3	2	2
12	3	3	3	1	1	1	1	1	3	2	N/A	3	N/A	2	2	2
13	1	3	1	1	2	2	2	2	3	1	N/A	3	N/A	1	2	2
14	3	3	3	3	2	1	1	1	2	2	N/A	1	N/A	2	2	2
15	3	3	3	1	2	1	1	2	3	2	N/A	2	N/A	2	2	2
16	3	3	3	1	1	1	1	2	3	2	N/A	2	N/A	2	2	2
17	1	3	2	3	1	3	2	2	3	2	N/A	3	N/A	2	2	3
18	1	3	1	3	1	3	2	2	3	2	N/A	3	N/A	1	2	3
19	3	3	3	1	2	1	1	1	3	2	N/A	2	N/A	2	2	2
20	3	3	3	2	2	1	1	1	2	2	N/A	3	N/A	2	2	2
21	3	3	3	2	2	1	1	1	2	2	N/A	3	N/A	2	2	2
22	2	3	3	2	2	3	2	2	3	2	N/A	3	N/A	2	2	3
23	1	3	2	2	2	1	1	1	3	2	N/A	3	N/A	2	2	2
24	3	3	3	1	1	1	1	1	2	2	N/A	1	N/A	2	2	2
25	3	3	3	2	1	1	1	1	2	2	N/A	3	N/A	2	2	2
26	3	3	3	2	1	1	1	1	2	2	N/A	3	N/A	2	2	2
27	3	3	3	2	2	1	1	1	2	2	N/A	3	N/A	2	2	2
28	2	3	3	3	1	2	2	2	3	3	N/A	3	N/A	2	2	2
29	3	3	3	3	2	1	1	1	3	2	N/A	3	N/A	2	2	2
30	3	3	3	2	2	1	1	1	3	2	N/A	3	N/A	2	2	2
31	1	3	2	3	1	2	2	2	3	2	N/A	3	N/A	1	2	2
32	3	3	3	1	1	1	1	1	2	2	N/A	3	N/A	1	2	2
33	3	3	3	1	2	1	1	1	2	2	N/A	3	N/A	2	2	2
34	1	3	1	3	1	2	2	2	3	2	N/A	2	N/A	1	2	2
35	1	3	1	3	2	2	2	2	3	2	N/A	1	N/A	3	2	2
36	3	3	3	2	2	1	1	2	2	3	N/A	3	N/A	3	2	2
37	3	3	3	2	2	1	1	2	2	3	N/A	3	N/A	3	2	2
38	3	3	3	2	2	1	1	2	2	3	N/A	3	N/A	3	2	2
39	3	3	3	2	2	1	1	2	2	3	N/A	3	N/A	3	2	2
Total Average (all wetlands)	2	3	3	2	2	1	1	1	2	2	N/A	2	N/A	2		

1=Low Average Accumulated Score
 2=Moderate Average Accumulated Score
 3=High Average Accumulated Score

APPENDIX H

AQUATIC HABITAT DATA SHEETS



GOLDBORO
LNG



Fish Habitat - Watercourses

Project	Goldboro Road Realignment	Date	11-Jun-20
Team	ER & SF	Time	12:00

Stream ID		Weather	
Location	WC-1	Temperature	°C
Reach Name		Cloud Cover	3/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
Hydrology			Flow Types		

Bankfull Width	1.5	m		Run (<4%)	0%
Wet Width	0.55	m		Riffle	0%
Bank Height	0.23	m		Eddy	0%
Slope		0%		Flat (<1%)	100%
	1/3	1/2	2/3	Average	
Wet Depth	0.13	0.15	0.14	0.14	m
Bankfull Depth	0.36	0.38	0.37		m
Max Depth					m
Velocity					m

Starting from the left facing downstream			Large Woody Debris	1 m
Sinuosity			In-stream Veg.	None

Straight	%	Winding	100	%
-----------------	---	----------------	-----	---

Stream Type		Substrate Type		
No Bed	<input type="checkbox"/>	Large	Bedrock	0%
Torrential Channel	<input type="checkbox"/>		Boulder (>250 mm)	0%
Intermittent	<input type="checkbox"/>	Medium	Rock (140-250 mm)	10%
Permanent	<input checked="" type="checkbox"/>		Cobble (30-130 mm)	10%
Embedded Criteria		Fine	Gravel (2-30 mm)	0%
<20%	35-50%		Sand (<0.06-2 mm)	0%
20-35%	>50%		Silt (<0.06 mm)	50%
			Clay	0%
Physical-Chemistry			Organic Material	30%

Temperature	8.5 °C	Riparian Characteristics		
pH	4.59		Left	Right
Conductivity	64 µS/cm	Valley Slope (L/M/H)	Low	Low
TDS	32 PPM	Flood Plain	>100 m	>100 m
Color		Shade		60%

Erosion (%)				Riparian Vegetation (%)	
Left (0-50%)		Right (0-50%)		Bare	0%
Stable	50	Stable	50	Moss/Ferns	60%
Bare		Bare		Grasses	0%
Stable		Stable		Shrubs	25%
Eroding		Eroding		Trees	15%

Instream Cover By Type (Based on Wetted Area)				Comments	
Cover Type	%	Cover type	%		
Turbulence	0	Other:			
Instream Veg	0	Other:			
Instream SWD	0	Other:			



Fish Habitat - Watercourses

Project		Goldboro Road Realignment		Date		12-Jun-20	
Team		ER & SF		Time		9:30	
Stream ID				Weather		Overcast	
Location		WC-2		Temperature		15 °C	
Reach Name				Cloud Cover		3/8	
GPS#: Start				Transect:		End:	
Photo #: U/S		D/S:		Substrate:		Other:	
Hydrology				Flow Types			
Bankfull Width		1.44 m		Run (<4%)		0%	
Wet Width		0.86 m		Riffle		0%	
Bank Height		0.1 m		Eddy		0%	
Slope		%		Flat (<1%)		100%	
		1/3		1/2		2/3	
		Average					
Wet Depth		0.04 m		Pool (<1%)		0%	
		0.04		Rapid (4-7%)		0%	
		0.05		Cascade (>7%)		0%	
		0.05		Sheet		0%	
Bankfull Depth		0.14 m		Fall		0%	
		0.14					
		0.14					
Max Depth		0.1 m				(L/R (0-50%))	
				Undercut Banks		0% / 0%	
Velocity		m		Overhanging Veg.		35% / 35%	
Starting from the left facing downstream				Large Woody Debris		1 m	
Sinuosity				In-stream Veg.		None	
Straight		20 %		Winding		80 %	
Stream Type				Substrate Type			
No Bed		<input type="checkbox"/>		Large		Bedrock	
Torrential Channel		<input type="checkbox"/>				0%	
Intermittent		<input type="checkbox"/>		Medium		Boulder (>250 mm)	
Permanent		<input checked="" type="checkbox"/>				0%	
						Rock (140-250 mm)	
						0%	
						Cobble (30-130 mm)	
						0%	
						Gravel (2-30 mm)	
						0%	
						Sand (<0.06-2 mm)	
						0%	
						Silt (<0.06 mm)	
						20%	
						Clay	
						0%	
						Organic Material	
						80%	
Physical-Chemistry				Riparian Characteristics			
Temperature		7.3 °C					
pH		4.84					
Conductivity		38 µS/cm					
TDS		19 PPM					
Color							
Erosion (%)				Riparian Vegetation (%)			
Left (0-50%)		Right (0-50%)					
Stable		50		Bare		0%	
		50		Moss/Ferns		50%	
Bare				Grasses		10%	
Stable				Shrubs		20%	
				Trees		20%	
Eroding							
Instream Cover By Type (Based on Wetted Area)				Comments			
Cover Type		%		Cover type		%	
Turbulence		0		Other:			
Instream Veg		0		Other:			
Instream SWD		0		Other:			



Fish Habitat - Watercourses

Project	Goldboro Road Realignment	Date	12-Jun-20
Team	ER & SF	Time	11:30

Stream ID		Weather	Overcast
Location	WC-3	Temperature	15 °C
Reach Name		Cloud Cover	3/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
				Other:	

Hydrology					Flow Types		
Bankfull Width	0.75		m		Run (<4%)	0%	
Wet Width	0.62		m		Riffle	90%	
Bankfull Height	0.14		m		Eddy	0%	
Slope			%		Flat (<1%)	0%	
	1/3	1/2	2/3	Average	Pool (<1%)	5%	
Wet Depth	0.15	0.08	0.07	0.1	m	Rapid (4-7%)	0%
						Cascade (>7%)	5%
Bankfull Depth	0.29	0.22	0.21	0.2	m	Sheet	0%
						Fall	0%
Max Depth	0.16				m		(L/R (0-50%))
						Undercut Banks	0% / 0%
Velocity					m	Overhanging Veg.	5% / 10%

Starting from the left facing downstream					Large Woody Debris	0 m
Sinuosity					In-stream Veg.	None

Straight	70	%	Winding	30	%
-----------------	----	---	----------------	----	---

Stream Type			Substrate Type		
No Bed	<input type="checkbox"/>		Large	Bedrock	0%
Torrential Channel	<input type="checkbox"/>			Boulder (>250 mm)	20%
Intermittent	<input type="checkbox"/>		Medium	Rock (140-250 mm)	45%
Permanent	<input checked="" type="checkbox"/>			Cobble (30-130 mm)	35%
Embedded Criteria			Fine	Gravel (2-30 mm)	0%
<20%	x	35-50%		Sand (<0.06-2 mm)	0%
20-35%		>50%		Silt (<0.06 mm)	0%
				Clay	0%
Physical-Chemistry				Organic Material	0%

Temperature	10.3 °C	Riparian Characteristics		
pH	4.96		Left	Right
Conductivity	39 µS/cm	Valley Slope (L/M/H)		
TDS	19 PPM	Flood Plain	100 m	100 m
Color	Slightly tanin	Shade		5%

Erosion (%)				Riparian Vegetation (%)	
Left (0-50%)		Right (0-50%)		Bare	0%
Stable	50	Stable	50	Moss/Ferns	50%
Bare		Bare		Grasses	20%
Stable		Stable		Shrubs	25%
Eroding		Eroding		Trees	5%

Instream Cover By Type (Based on Wetted Area)				Comments	
Cover Type	%	Cover type	%		
Turbulence	0	Other:			
Instream Veg	0	Other:			
Instream SWD	0	Other:			

**Fish Habitat - Watercourses**

Project	Goldboro Road Realignment	Date	26-Sep-20
Team	ER & BM	Time	3:30

Stream ID		Weather	Sun and cloud
Location	WC-4	Temperature	20 °C
Reach Name		Cloud Cover	5/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
				Other:	

Hydrology					Flow Types		
Bankfull Width	1			m	Run (<4%)	0%	
Wet Width	2.33			m	Riffle	5%	
Bankfull Height	0.25			m	Eddy	0%	
Slope				%	Flat (<1%)	95%	
	1/3	1/2	2/3	Average	Pool (<1%)	0%	
Wet Depth	0.05	0.09	0.1	0.08	m	Rapid (4-7%)	0%
						Cascade (>7%)	0%
Bankfull Depth	0.3	0.34	0.35		m	Sheet	0%
						Fall	0%
Max Depth	0.1				m		(L/R (0-50%))
						Undercut Banks	0% / 0%
Velocity					m	Overhanging Veg.	35% / 35%

Starting from the left facing downstream					Large Woody Debris	0 m
Sinuosity					In-stream Veg.	Yes

Straight	75	%	Winding	25	%
-----------------	----	---	----------------	----	---

Stream Type			Substrate Type		
No Bed	<input type="checkbox"/>		Large	Bedrock	0%
Torrential Channel	<input type="checkbox"/>			Boulder (>250 mm)	0%
Intermittent	<input type="checkbox"/>		Medium	Rock (140-250 mm)	15%
Permanent	<input checked="" type="checkbox"/>			Cobble (30-130 mm)	0%
Embedded Criteria				Gravel (2-30 mm)	5%
<20%		35-50%	<input checked="" type="checkbox"/>	Sand (<0.06-2 mm)	0%
20-35%		>50%		Silt (<0.06 mm)	40%
				Clay	0%
Physical-Chemistry				Organic Material	40%

Temperature	15.2 °C	Riparian Characteristics			
pH	4.06		Left	Right	
Conductivity	112 µS/cm	Valley Slope (L/M/H)			
TDS	56 PPM		Low	Medium	
Color	Clear	Flood Plain		>100 m	
		Shade		30 m	
		Shade			60%

Erosion (%)				Riparian Vegetation (%)	
Left (0-50%)		Right (0-50%)		Bare	0%
Stable	50	Stable	50	Moss/Ferns	5%
Bare		Bare		Grasses	35%
Stable		Stable		Shrubs	40%
Eroding		Eroding		Trees	20%

Instream Cover By Type (Based on Wetted Area)				Comments	
Cover Type	%	Cover type	%		
Turbulence	0	Other:			
Instream Veg	0	Other:			
Instream SWD	0	Other:			

**Fish Habitat - Watercourses**

Project	Goldboro Road Realignment	Date	28-Sep-20
Team	ER & BM	Time	10:30

Stream ID		Weather	Overcast
Location	WC-5	Temperature	21 °C
Reach Name		Cloud Cover	7/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
				Other:	

Hydrology					Flow Types		
Bankfull Width	0.65		m		Run (<4%)	0%	
Wet Width	0.65		m		Riffle	0%	
Bankfull Height	0.35		m		Eddy	0%	
Slope			%		Flat (<1%)	100%	
	1/3	1/2	2/3	Average	Pool (<1%)	0%	
Wet Depth	0.14	0.15	0.27	0.18	m	Rapid (4-7%)	0%
						Cascade (>7%)	0%
Bankfull Depth	0.49	0.50	0.62		m	Sheet	0%
						Fall	0%
Max Depth	0.27				m		(L/R (0-50%))
						Undercut Banks	0% / 0%
Velocity					m	Overhanging Veg.	45% / 45%

Starting from the left facing downstream					Large Woody Debris	0 m
--	--	--	--	--	---------------------------	-----

Sinuosity					In-stream Veg.	Yes
------------------	--	--	--	--	-----------------------	-----

Straight	60	%	Winding	40	%	
-----------------	----	---	----------------	----	---	--

Stream Type			Substrate Type		
No Bed		<input type="checkbox"/>	Large	Bedrock	0%
Torrential Channel		<input type="checkbox"/>		Boulder (>250 mm)	0%
Intermittent		<input type="checkbox"/>	Medium	Rock (140-250 mm)	20%
Permanent		<input checked="" type="checkbox"/>		Cobble (30-130 mm)	5%
Embedded Criteria				Gravel (2-30 mm)	0%
<20%		35-50%	Fine	Sand (<0.06-2 mm)	0%
20-35%	x	>50%		Silt (<0.06 mm)	40%
				Clay	0%
Physical-Chemistry				Organic Material	35%

Temperature	12.5 °C	Riparian Characteristics		
pH	5.44		Left	Right
Conductivity	54 µS/cm	Valley Slope (L/M/H)	Low	Low
TDS	27 PPM	Flood Plain	>100 m	>100 m
Color	Clear	Shade		85%

Erosion (%)				Riparian Vegetation (%)	
Left (0-50%)		Right (0-50%)		Bare	0%
Stable	50	Stable	50	Moss/Ferns	0%
Bare		Bare		Grasses	30%
Stable		Stable		Shrubs	65%
Eroding		Eroding		Trees	5%

Instream Cover By Type (Based on Wetted Area)				Comments	
Cover Type	%	Cover type	%		
Turbulence	0%	Other:			
Instream Veg	0%	Other:			
Instream SWD	0%	Other:			

**Fish Habitat - Watercourses**

Project	Goldboro Road Realignment	Date	28-Sep-20
Team	ER & BM	Time	12:30

Stream ID		Weather	Overcast
Location	WC-6	Temperature	21 °C
Reach Name		Cloud Cover	7/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
				Other:	

Hydrology					Flow Types		
Bankfull Width	0.48		m		Run (<4%)	0%	
Wet Width	0.43		m		Riffle	5%	
Bankfull Height	0.15		m		Eddy	0%	
Slope			%		Flat (<1%)	95%	
	1/3	1/2	2/3	Average	Pool (<1%)	0%	
Wet Depth	0.09	0.09	0.12	0.1	m	Rapid (4-7%)	0%
						Cascade (>7%)	0%
Bankfull Depth	0.22	0.22	0.27		m	Sheet	0%
						Fall	0%
Max Depth	0.12				m		(L/R (0-50%))
						Undercut Banks	25% / 25%
Velocity					m	Overhanging Veg.	45% / 45%

Starting from the left facing downstream					Large Woody Debris	0 m
--	--	--	--	--	---------------------------	-----

Sinuosity					In-stream Veg.	None
------------------	--	--	--	--	-----------------------	------

Straight	55	%	Winding	45	%	
-----------------	----	---	----------------	----	---	--

Stream Type				Substrate Type		
No Bed		<input type="checkbox"/>		Large	Bedrock	0%
Torrential Channel		<input type="checkbox"/>			Boulder (>250 mm)	0%
Intermittent		<input type="checkbox"/>		Medium	Rock (140-250 mm)	75%
Permanent		<input checked="" type="checkbox"/>			Cobble (30-130 mm)	15%
Embedded Criteria					Gravel (2-30 mm)	10%
<20%	x	35-50%		Fine	Sand (<0.06-2 mm)	0%
20-35%		>50%			Silt (<0.06 mm)	0%
					Clay	0%
Physical-Chemistry					Organic Material	0%

Temperature	14.1 °C	Riparian Characteristics			
pH	4.46			Left	Right
Conductivity	56 µS/cm	Valley Slope (L/M/H)		Low	Low
28 TDS	PPM	Flood Plain		>100 m	>100 m
Color		Shade			%

Erosion (%)				Riparian Vegetation (%)	
Left (0-50%)		Right (0-50%)		Bare	0%
Stable	50	Stable	50	Moss/Ferns	10%
Bare		Bare		Grasses	20%
Stable		Stable		Shrubs	55%
Eroding		Eroding		Trees	15%

Instream Cover By Type (Based on Wetted Area)				Comments	
Cover Type	%	Cover type	%		
Turbulence	0	Other:			
Instream Veg	0	Other:			
Instream SWD	0	Other:			



Fish Habitat - Watercourses

Project	Goldboro Road Realignment	Date	26-Nov-20
Team	ER LL (CMM)	Time	15:04

Stream ID		Weather	Overcast	
Location	WC7		Temperature	15°C
Reach Name			Cloud Cover	8/8

GPS#: Start		Transect:		End:	
Photo #: U/S		D/S:		Substrate:	
Hydrology			Flow Types		

Bankfull Width	1-1.5m					Run (<4%)	80%
Wet Width	0.87m					Riffle	20%
	m					Eddy	0%
Slope	%					Flat (<1%)	0%
	1/3	1/2	2/3	Average		Pool (<1%)	0%
Wet Depth				0.04	m	Rapid (4-7%)	0%
						Cascade (>7%)	0%
Bankfull Depth					m	Sheet	0%
						Fall	0%
Max Depth					m	(L/R (0-50%))	
						Undercut Banks	0%-0%
Velocity					m	Overhanging Veg.	0%-0%

Starting from the left facing downstream						Large Woody Debris	0 m
--	--	--	--	--	--	---------------------------	-----

Sinuosity						In-stream Veg.	
Straight	100%		Winding	0%			

Stream Type				Substrate Type			
No Bed				Large	Bedrock	0%	
Torrential Channel					Boulder (>250 mm)	0%	
Intermittent				Medium	Rock (140-250 mm)	0%	
Permanent	X				Cobble (30-130 mm)	0%	
Embedded Criteria					Gravel (2-30 mm)	0%	
<20%		35-50%		Fine	Sand (<0.06-2 mm)	0%	
20-35%		>50%	X		Silt (<0.06 mm)	10%	
					Clay	0%	
Physical-Chemistry				Organic Material			
Temperature	7.4°C			Riparian Characteristics			
pH	5.92					Left	Right
Conductivity	131 µS/cm			Valley Slope (L/M/H)		high	high
TDS	55 PPM			Flood Plain		0 m	0 m
Color				Shade		75%	

Erosion (%)				Riparian Vegetation (%)			
Left (0-50%)		Right (0-50%)		Bare		10%	
Stable	50%	Stable	50%	Moss/Ferns		20%	
Bare		Bare		Grasses		0%	
Stable	0%	Stable	0%	Shrubs		0%	
Eroding	0%	Eroding	0%	Trees		70%	

Instream Cover By Type (Based on Wetted Area)				Comments			
Cover Type	%	Cover type	%				
Turbulence	0	Other:					
Instream Veg	0	Other:					
Instream SWD	0	Other:					



Fish Habitat - Watercourses

wood.		Project		Goldboro Road Realignment		Date		27-Nov-20		
		Team		ER, LL (CMM)		Time		10:30		
Stream ID						Weather		Rain		
Location		WC8				Temperature		10°C		
Reach Name						Cloud Cover		8/8		
GPS#: Start			Transect:			End:				
Photo #: U/S		D/S:		Substrate:		Other:				
Hydrology					Flow Types					
Bankfull Width		1.5m				Run (<4%)		90%		
Wet Width		0.87m				Riffle		10%		
		m				Eddy		0%		
Slope		%				Flat (<1%)		0%		
	1/3	1/2	2/3	Average		Pool (<1%)		0%		
Wet Depth				0.12	m	Rapid (4-7%)		0%		
						Cascade (>7%)		0%		
Bankfull Depth					m	Sheet		0%		
						Fall		0%		
Max Depth					m	(L/R (0-50%))				
						Undercut Banks		20%-20%		
Velocity					m	Overhanging Veg.		30%-30%		
Starting from the left facing downstream						Large Woody Debris		0 m		
Sinuosity						In-stream Veg.				
Straight	0%			Winding	100%					
Stream Type					Substrate Type					
No Bed					Large	Bedrock		0%		
Torrential Channel						Boulder (>250 mm)		0%		
Intermittent		x			Medium	Rock (140-250 mm)		0%		
Permanent		□				Cobble (30-130 mm)		65%		
Embedded Criteria						Gravel (2-30 mm)		30%		
<20%		35-50%			Fine	Sand (<0.06-2 mm)		0%		
20-35%	x	>50%				Silt (<0.06 mm)		0%		
						Clay		0%		
Physial-Chemistry					Organic Material					
Temperature		7.7°C			Riparian Characteristics					
pH		4.37					Left		Right	
Conductivity		62 µS			Valley Slope (L/M/H)		low		low	
Turbidity		29 PPM			Flood Plain		100 m		100 m	
Color					Shade				50%	
Erosion (%)					Riparian Vegetation (%)					
Left (0-50%)		Right (0-50%)			Bare		0%			
Stable	50%	Stable	50%		Moss/Ferns		40%			
Bare		Bare			Grasses		20%			
Stable	0%	Stable	0%		Shrubs		20%			
Eroding	0%	Eroding	0%		Trees		20%			
Instream Cover By Type (Based on Wetted Area)						Comments				
Cover Type		%		Cover type		%				
Turbulence		0		Other:						
Instream Veg		0		Other:						
Instream SWD		0		Other:						

Pre-Job General Information		
Project: <i>Goldboro LNG</i>	Project Number: <i>TEZ01007</i>	Task:
Date: <i>20 NOV 20</i>	Personnel: <i>LL ER</i>	WC/WB ID: <i>G-NOV-WC1-20</i>
Weather: <i>Overcast 15°C</i>	Precipitation (past 24 hours):	Reach ID:

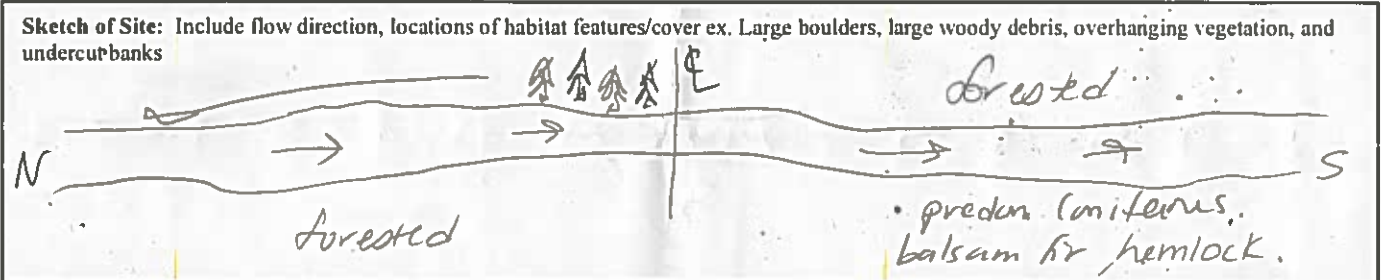
Site Characteristics *rain*. Photos taken of the site? Yes (US, DS, LB, RB, Substrate)

Stream Type (% Surface Area)		Water Quality Measurements	
Riffle	<i>20%</i>	pH	<i>5.92</i>
Run	<i>80%</i>	SAL (ppt)	—
Pool	/	CON (µS/cm)	<i>131 µS</i>
Other (specify)	/	SPC (µS/cm)	—
Substrate (% Surface Area)		TDS (mg/L) <i>PPM</i>	<i>55</i>
Bedrock	/	DO (% mg/L)	—
Boulder (>25 cm)	/	<i>Temp 7.4°C</i>	
Rubble (14-25 cm)	/	* Temp measurements are recorded below	
Cobble (3-13 cm)	/	Physical Measurements (average over reach)	
Gravel (0.2-3 cm)	/	Bankfull width (cm)	<i>1m - 1.5m</i>
Sand (0.06-2 mm)	/	Wetted Width (cm)	<i>87cm</i>
Silt (<0.006 mm)	<i>10%</i>	Depth (cm)	<i>4.5cm</i>
Muck/Detritus	<i>90%</i>	Length of Reach (m)	<i>50m</i>
Clay/Mud	/	Velocity (estimate)	—

Fish Caught? (if so, list species)
Add any commentary or observations from survey effort.

Revisions to Electrofisher settings required?

*mostly organics
layers of leaf litter
varge
muck
accumulated*



ELECTROFISHING (Electrofishing must proceed in an upstream direction)

Method Used:	<input type="checkbox"/> Depletion	<input type="checkbox"/> CPUE	Pass 1	Pass 2	Pass 3
Site Set-up:	<input type="checkbox"/> Open	<input type="checkbox"/> Closed	Effort (seconds)		
Upstream Waypoint:			Voltage		
Downstream Waypoint:			Frequency		
Water visibility:	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input type="checkbox"/> Poor	Water temp (°C)	
*Measure Temperature at Beginning of each pass			Air Temp (°C)		
DO NOT Electrofish if water temp is greater than 22°C			# of Fish Caught		
* Do NOT Electrofish if temperature is greater than 22°C					

TRAPPING & NETTING

Gear Used:	<input type="checkbox"/> Fyke Nets (#)	<input type="checkbox"/> Minnow Traps (#)	<input type="checkbox"/> Eel Pots (#)	<input type="checkbox"/> Seine	Bait:
Locations and Depths (UTM, cm):					Time In (hr):
					Time Out (hr):

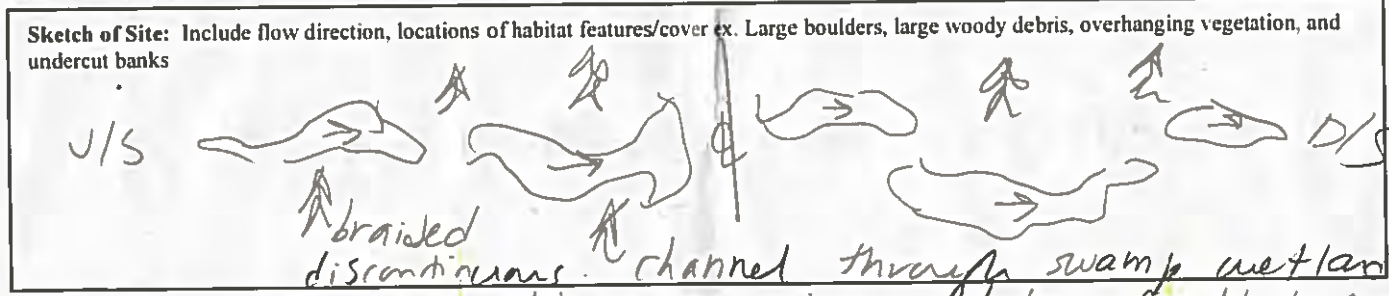
Pre-Job General Information		
Project: <i>Goldboro</i>	Project Number: <i>TE201007</i>	Task:
Date: <i>27 NOV 20</i>	Personnel: <i>ER LL</i>	WC/WB ID:
Weather: <i>RAM, overcast</i>	Precipitation (past 24 hours):	Reach ID:

Site Characteristics *10°C* Photos taken of the site? Yes (US, DS, LB, RB, Substrate)

Stream Type (% Surface Area)		Water Quality Measurements	
Riffle	<i>10%</i>	pH	<i>4.37</i>
Run	<i>90%</i>	SAL (ppt)	
Pool		CON (µS/cm)	<i>62</i>
Other (specify)		SPC (µS/cm)	
Substrate (% Surface Area)		TDS (mg/L (ppm))	<i>29</i>
Bedrock		DO (% mg/L)	
Boulder (>25 cm)		<i>TEMP 7.7°C</i> * Temp measurements are recorded below	
Rubble (14-25 cm)		Physical Measurements (average over reach)	
Cobble (3-13 cm)	<i>65%</i>	Bankfull width (cm)	<i>1.5m</i>
Gravel (0.2-3 cm)	<i>30%</i>	Wetted Width (cm)	<i>87cm</i>
Sand (0.06-2 mm)		Depth (cm)	<i>12 cm</i>
Silt (<0.006 mm)		Length of Reach (m)	
Muck/Detritus	<i>5%</i>	Velocity (estimate)	
Clay/Mud	<i>15%</i>		

Fish Caught? (if so, list species)
Add any commentary or observations from survey effort.

Revisions to Electrofisher settings required



speckled alder cover, sphagnum, balsam fir, black spruce

ELECTROFISHING (Electrofishing must proceed in an upstream direction)

Method Used: <input type="checkbox"/> Depletion <input type="checkbox"/> CPUE	Effort (seconds)	Pass 1	Pass 2	Pass 3
Site Set-up: <input type="checkbox"/> Open <input type="checkbox"/> Closed	Voltage			
Upstream Waypoint:	Frequency			
Downstream Waypoint:	Water temp (°C)			
Water visibility: <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	Air Temp (°C)			
*Measure Temperature at Beginning of each pass	# of Fish Caught			
DO NOT Electrofish if water temp is greater than 22°C				

* Do NOT Electrofish if temperature is greater than 22°C

TRAPPING & NETTING

Gear Used: <input type="checkbox"/> Fyke Nets (#) <input type="checkbox"/> Minnow Traps (#) <input type="checkbox"/> Eel Pots (#) <input type="checkbox"/> Seine	Bait:
Locations and Depths (UTM, cm):	Time In (hr):
	Time Out (hr):

APPENDIX I
**SPECIES AT RISK AND SPECIES
OF CONSERVATION INTEREST**



**GOLDBORO
LNG**

Table I.1 Terrestrial Fauna (Excluding Birds) Species at Risk and Species of Conservation Interest

Common Name	Scientific name	SARA ¹	COSEWIC ²	NSESA ³	ACCDC ⁴	Potential for Occurrence in ROW
Mammals						
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered	Endangered	S1	Forage habitat exists
Northern Long-eared Myotis	<i>Myotis septentrionalis</i>	Endangered	Endangered	Endangered	S1	Forage habitat exists
Hoary Bat ⁵	<i>Vespertilionidae</i> sp.	Endangered	Endangered	Endangered	S1S2	Forage habitat exists; known hibernacula within 5 km
Mainland Moose	<i>Alces Alces</i>	--	--	Endangered	S1	Confirmed presence
Invertebrates						
Common Roadside-skipper	<i>Amblyscirtes vialis</i>	--	--	--	S3S4	Suitable habitat exists
Henry's Elfin	<i>Callophrys henrici</i>				S3	Suitable habitat exists

1 - Species at Risk Act

2 – Committee on the Status of Endangered Wildlife in Canada

3 – Nova Scotia Endangered Species Act

4 – Atlantic Canada Conservation Data Centre

5 – Observation was presumed to be a hoary bat

Table I.2 Avian Species at Risk and Species of Conservation Interest

Common Name	Scientific name	SARA	COSEWIC	NSESA	ACCDC	Potential for Occurrence in ROW
Short-eared Owl	<i>Asio flammeus</i>	Special Concern	Special Concern	--	S1S2BN	No suitable nesting habitat exists
Long-eared Owl	<i>Asio otus</i>	--	--	--	S2S3	Suitable nesting habitat exists
Canada Warbler	<i>Cardellina canadensis</i>	Threatened	Threatened	Endangered	S3B	Suitable nesting habitat exists
Wilson's Warbler	<i>Cardellina pusilla</i>	--	--	--	S3B	Suitable nesting habitat exists
Swainson's Thrush	<i>Catharus ustulatus</i>	--	--	--	S3S4B	Suitable nesting habitat exists

Northern Harrier	<i>Circus hudsonius</i>	--	--	--	--	Suitable nesting habitat exists
Gray Catbird	<i>Dumetella carolinensis</i>	--	--	--	S3B	Suitable nesting habitat exists
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	--	--	--	S3S4B	Suitable nesting habitat exists
Wilson's Snipe	<i>Gallinago delicata</i>	--	--	--	S3B	Suitable nesting habitat exists
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Threatened	Endangered	S2S3B	Suitable nesting habitat exists
Tennessee Warbler	<i>Oreothlypis peregrina</i>	--	--	--	S3S4B	Limited nesting habitat exists
Fox Sparrow (<i>Passerella iliaca</i>)	<i>Passerella iliaca</i>	--	--	--	S3S4B	Suitable nesting habitat exists
Canada Jay/Gray Jay	<i>Perisoreus canadensis</i>	--	--	--	S3	Suitable nesting habitat exists
Boreal Chickadee	<i>Poecile hudsonicus</i>	--	--	--	S3	Suitable nesting habitat exists
Ruby-crowned Kinglet	<i>Regulus calendula</i>	--	--	--	S3S4B	Suitable nesting habitat exists
Bay-breasted Warbler	<i>Setophaga castanea</i>	--	--	--	S3S4B	Suitable nesting habitat exists
Blackpoll Warbler	<i>Setophaga striata</i>	--	--	--	S3S4B	Suitable nesting habitat exists
Cape May Warbler	<i>Setophaga tigrina</i>	--	--	--	S2B	Suitable nesting habitat exists
Red-breasted Nuthatch	<i>Sitta canadensis</i>	--	--	--	S3	Suitable nesting habitat exists
Common Eider	<i>Somateria mollissima</i>	--	--	--	S3S4B	No suitable nesting habitat exists
Common Tern	<i>Sterna hirundo</i>	--	--	--	S3B	Suitable nesting habitat exists
Greater Yellowlegs	<i>Tringa melanoleuca</i>	--	--	--	S3B, S3S4M	Some suitable nesting habitat exists
Willet	<i>Tringa semipalmata</i>	--	--	--	S2S3B	Some suitable nesting habitat exists

Table I.3 Plant Species at Risk and Species of Conservation Interest

Common Name	Scientific name	SARA	COSEWIC	NSESA	ACCDC	Potential for Occurrence in ROW
Vascular Plants						
Nova Scotia Agalinis	<i>Agalinis neoscotica</i>	--	--	--	S3S4	Present
Michaux's Dwarf Birch	<i>Betula michauxii</i>	--	--	--	S2S3	Suitable habitat exists
Slender Cottongrass	<i>Eriophorum gracile</i>	--	--	--	S2S3	Suitable habitat exists
Northern Comandra	<i>Geocaulon lividum</i>	--	--	--	S1S2	Suitable habitat exists
Northern Burreed	<i>Sparganium hyperboreum</i>	--	--	--	S1S2	Suitable habitat exists
Non-Vascular Plants						
Blue Felt Lichen	<i>Degelia plumbea</i>	Special Concern	Special Concern	Vulnerable	S3	Confirmed presence
Finger Ring Lichen	<i>Arctoparmelia incurve</i>	--	--	--	S2S4	Confirmed presence
Tree Pelt Lichen	<i>Peltigera collina</i>	--	--	--	S2?	Suitable habitat exists
Red Beard Lichen	<i>Usnea rubicunda</i>	--	--	--	S2S3	Suitable habitat exists
Corrugated Shingles Lichen	<i>Fuscopannaria ahlneri</i>	--	--	--	S3	Suitable habitat exists
Lichen	<i>Fuscopannaria sorediata</i>	--	--	--	S3	Confirmed presence

Table I.4 Aquatic Species at Risk and Species of Conservation Interest

Common Name	Scientific name	SARA	COSEWIC	NSESA	ACCDC	Potential for Occurrence in ROW
Atlantic Salmon (Southern Upland pop.)	<i>Salmo salar</i>	--	Endangered	--	S1	No suitable watercourses within ROW
Brook Trout	<i>Salvelinus fontinalis</i>	--	--	--	S3	Confirmed presence in one watercourse

APPENDIX J
ARCHAEOLOGICAL RESOURCES
IMPACT ASSESSMENT



GOLDBORO
LNG

September 2, 2020

Goldboro LNG Project: 2020 Archaeological Impact Assessment Desktop Review

1.0 Introduction

Pieridae Energy (Canada) Ltd. (Pieridae) is proposing to develop and operate a natural gas liquefaction plant, liquefied natural gas (LNG) tanker terminal, and associated marine facilities in Goldboro, Guysborough County, Nova Scotia (Project). The Project also includes a water intake pipeline running from Meadow Lake, approximately seven kilometres (km) to the northwest of the main development area. During construction, the Project will require additional lands for use as temporary laydown areas and temporary work camp.

Extensive heritage/archaeological investigations have been undertaken both for the present Pieridae Goldboro LNG Project and other project proposals for the site location since 2004 (Wood 2019; AMEC 2014; Davis Archaeological Consultants Ltd. (DAC) 2007a, 2007b, 2004). In addition, other permitted archaeological investigations have been conducted in the vicinity of the Project area, which have also informed the Project archaeological program (DAC 2010, 2009, 2008, 1999; Niven 2001; Niven et al. 2001; and Washburn & Gillis 1998). Recently, in 2020, the Project has added three development elements that were not included in previous heritage/archaeological studies (Figure 1):

- a realignment of Marine Drive (Highway 316),
- a proposed Laydown Area Expansion, and
- a proposed new Temporary Work Camp location.

Pieridae has retained the services of Wood Environment & Infrastructure Solutions, a division of Wood Canada Limited (Wood), to conduct the archaeological investigations for this Project, which include reviewing any revisions to proposed Project impacts, to ensure that they have been included/considered in the Project archaeological program investigations. The present investigations consisted of an Archaeological Resources Impact Assessment (ARIA) desktop review of the impact areas associated with the three Project elements listed above. They were not considered in previous archaeological studies for the Project or its previous iterations. This desktop review provides recommendations for next steps for the Project archaeological program.

2.0 Methodology

The goal of the present ARIA desktop review was to determine if the impact areas associated with the three recently added project elements have been previously investigated or whether they require additional heritage/archaeological investigations. The present desktop research also investigated any areas that were not included in previous studies, for both known (registered) resources and elevated potential areas (EPAs) for archaeological resources.



The present desktop review included the following elements:

- Reviewing previous archaeological investigations conducted in the area;
- Reviewing present day and historic aerial photographs of the area;
- Reviewing Maritime Archaeological Resources Inventory (MARI) documentation for registered archaeological sites in the project vicinity; and
- Reviewing historical and geological mapping of the project area.

3.0 Results

The desktop research did not identify any registered heritage/archaeological resources within the impact areas of the three development elements not considered in previous studies. The following is a brief synopsis of the desktop research findings for these three Project areas.

3.1 Permanent Detour for Marine Drive (Highway 316)

Portions of the proposed Right-of-way (ROW) for the Permanent Detour for Marine Drive (Detour) (Figure 1) were included in the 2004 archaeological investigations conducted for the entire Goldboro Industrial Park area, which consisted of 125 hectares (ha) plus Webb's Cove peninsula (DAC 2004). However, much of the proposed ROW is outside the area surveyed in 2004. Therefore, further archaeological investigations for this area was warranted; beginning with a desktop review.

A review of historical mapping indicates that there was no historic habitation within the vicinity of the proposed detour ROW. A review of registered archaeological sites in the vicinity of the Project was conducted using the provincial Maritime Archaeological Resources Inventory (MARI) database, to identify any recent additions to the database and to expand the review area from that conducted previously (AMEC 2014, DAC 2007a, 2004). No new sites have been registered in the vicinity of the Project since the most recent review of the MARI database (Wood 2019). There are two registered sites (Redhead Cemetery (BgCj-1) and the Deep Panuke Historic Site (BgCj-2), which are well documented and have been considered for the present project. Neither of these sites will be impacted by the proposed detour alignment. There are, however, two other registered archaeological sites located within 3.0 km of the Project ROW, which are worth mentioning. Site BhCj-1, which is across Isaac's Harbour approximately 900 m from the northwestern extreme of the Detour ROW. This site is a reported isolated shoreline find of Indigenous lithic and ceramic materials. While well outside the Project impact area, it represents physical evidence within the archaeological record, of the presence of Indigenous people in this area. A second historic site associated with mining activities in this area (BhCj-2), is located on Goldbrook Road, by the south end of Gold Brook Lake. This registered site is also well outside the proposed routing for the Highway 316 detour.

The 1904 Geological Survey Map of the Isaac's Harbour Gold District (Geological Survey of Canada 1904, Figure 2) indicates that historic gold mining activities appear to have occurred in the vicinity of the northern portion of the proposed Detour ROW. As indicated in Figure 2, there is a mapped line of historic mining excavations, near the shoreline of Isaac's Harbour ("Victoria Lead") and further inland ("Goldfinch Line"), in the general vicinity of where the ROW crosses Crusher Brook. In addition to the potential for possible historic mining activity remnants, the proposed Detour ROW crosses numerous mapped small



watercourses, including portions of Crusher Brook, Betty's Cove Brook, and a number of unnamed 1st order tributaries. As watercourse shorelines often have elevated potential for Indigenous archaeological resources, the shorelines of these watercourse should be assessed in the field for possible archaeological resources.

3.2 Proposed Laydown Area Expansion

The Proposed Laydown Area Expansion area is located northwest of Sable Road and northeast of the previously identified temporary laydown area (Figure 1). This area was included in the initial archaeological assessment for the 125-hectare development area assessed and field surveyed for the Goldboro Industrial Park in 2004 (DAC 2004). As a result of those investigations, no heritage/archaeological resources were identified within this area (Ibid.). However, the reconnaissance survey at that time "...was conducted throughout this entire area...paying particular attention to areas adjacent to old roadways and property survey lines as well as to those areas in which cultural modification was evident" (DAC 2004:11-14). It is not clear from this reported survey description, whether small watercourse shorelines figured prominently in the 2004 field survey. As watercourse shorelines have elevated potential for Indigenous archaeological resources, they should be explicitly included in a field reconnaissance for archaeological work conducted in 2020. There is a portion of Betty's Cove Brook which runs through the northeastern section of this area proposed for a laydown area expansion. It is recommended that the portion of the Proposed Laydown Area Expansion area where Betty's Cove Brook runs through it should be visually field surveyed, to assess whether it has elevated potential for undiscovered Indigenous archaeological resources.

Historic mapping of the area does not indicate that this area was historically inhabited (Church 1876, Department of Lands and Forests 1952). Further review of the 1904 Geological Survey Map of the Isaac's Harbour Gold District (Geological Survey of Canada 1904, Figure 2) indicates that the historic gold mining activities conducted in the Isaac's Harbour area did not extend into the Proposed Laydown Area Expansion area.

3.3 Proposed Temporary Work Camp

The Proposed Temporary Work Camp area is located entirely on the site of the former Sable Offshore Energy Inc. (SOEI) gas plant (Figure 1). This area was assessed for potential archaeological resources prior to its development, and none were identified within the development footprint (Niven 2001, EnCana Energy Corp. 2002). The proposed footprint for the temporary work camp is situated entirely within the previously impacted area for the former SOEI gas plant. This area has been heavily impacted by this previous development on this footprint. While there are identified watercourses (EPAs for Indigenous archaeological resources) to the west, north, and east of this area, they are all over 100 m distant and will not be impacted by this proposed development. No further archaeological investigations are recommended for Proposed Temporary Work Camp area.



4.0 Conclusions and Recommendations

Based solely on the desktop review, without field verification, no registered heritage/archaeological resources were identified within the impact areas of the three new development areas. However, there are eight (8) areas with moderate potential for undiscovered archaeological resources within the proposed ROW for the Permanent Detour for Marine Drive (8) and one (1) area within the Proposed Laydown Area Expansion area. These EPAs are associated with all mapped watercourses (8), which have potential for Indigenous resources, and with possible historic mining sites within one section of the proposed Detour ROW (Church 1876, Figure 2). The remainder of the three study areas exhibit low archaeological potential for Indigenous and historic archaeological resources.

As a result of the present desktop review, the following are recommendations for additional heritage/archaeological investigations:

- A permitted archaeologist should conduct a pedestrian visual survey of 100% of the route of the proposed Marine Drive Permanent Detour;
- A permitted archaeologist should conduct a pedestrian survey of the segment of the Proposed Laydown Area Expansion area, where there is a mapped watercourse;
- The Project and archaeological team should continue to engage with representatives of the Indigenous community (Kwilmu'kw Maw-klusuaq Negotiation Office (KMKNO)); and
- The Project should continue to implement the Project Archaeological Monitoring Contingency Plan and Archaeological Awareness and Cultural Sensitivity Training Program for all Project field construction crew working on site.

Based on the results of the field surveys recommended above, any additional recommended field efforts should be reviewed by Pieridae and the Nova Scotia Department of Communities, Culture and Heritage (CCH), and considered for implementation.

5.0 References

AMEC. 2014. Preliminary Archaeological Resource Impact Assessment Goldboro LNG Project - Natural Gas Liquefaction Plant and Marine Terminal, Goldboro, Guysborough County, NS. Research Permit A2013NS014. Manuscript on file, Nova Scotia Museum.

Church, Ambrose F. 1876. Topographical Township Map of Guysborough County, Nova Scotia.

Davis Archaeological Consultants Limited (DAC). 1999. Reconnaissance Survey Shipwrecks S.S. Finchley and Foundation Masson. Heritage Research Permit A1998NS38. Manuscript on file, Nova Scotia Nova Scotia Museum.

Davis Archaeological Consultants Limited (DAC). 2004. Archaeological Resource Impact Assessment: Goldboro Industrial Park. Heritage Research Permit A2004NS76. Submitted to Alan Bell Environmental Management, Halifax, NS. December 2004.

Davis Archaeological Consultants Limited (DAC). 2007a. Archaeological Resource Impact Assessment: Goldboro Petrochemical & LNG Facility: Part One – MapleLNG Facility. Heritage Research Permit A2007NS69. Manuscript on file, Nova Scotia Museum.



Davis Archaeological Consultants Limited (DAC). 2007b. Archaeological Resource Impact Assessment: Goldboro Petrochemical & LNG Facility: Part Two – Keltic Petrochemical Facility. Heritage Research Permit A2007NS69. Manuscript on file, Nova Scotia Museum.

Davis Archaeological Consultants Limited (DAC). 2008. Deep Panuke Landfall - Interim Report: Archaeological Resource Impact Assessment. Heritage Research Permit A2008NS70. Manuscript on file, Nova Scotia Museum.

Davis Archaeological Consultants Limited (DAC). 2009. Deep Panuke Landfall Preparation Project: Archaeological Resource Impact Assessment. Heritage Research Permit A2009NS03. Manuscript on file, Nova Scotia Museum.

Davis Archaeological Consultants Limited (DAC). 2010. Deep Panuke Onshore Pipeline: Archaeological Monitoring. Heritage Research Permit A2010NS02. Manuscript on file, Nova Scotia Museum.

Department of Lands and Forests. 1952. Crown Lands Index Sheet #101-102.

EnCana Energy Corp. 2002. Deep Panuke Offshore Gas Development Comprehensive Study Report. Prepared for the Canada-Nova Scotia Offshore Petroleum Board. October 2002. http://www.ceaa-acee.gc.ca/68D50708-docs/report_e.pdf.

Geological Survey of Canada. 1904. Plan and Sections: Isaac's Harbour Gold District, Guysborough County, Nova Scotia. Accessed at: <https://collections.leventhalmap.org/search/commonwealth:4m90fg97j>.

Niven, L., N. Brown, and A. Richardson. 2001. Redhead Archaeology, 2001: Excavations at the Webb Family Cemetery, Goldboro, Guysborough County, Nova Scotia. Manuscript on file, Nova Scotia Museum.

Niven, Laird. 2001. Proposed Deep Panuke Project. Manuscript on file, Nova Scotia Museum.

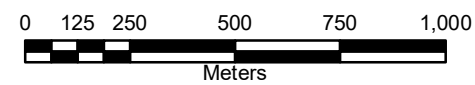
Washburn & Gillis Associates Ltd (WGA). 1998. Proposed Maritimes & Northeast Pipeline Project, Goldboro, Nova Scotia to St. Stephen, NB – Archaeological Resources 1997 Field Program Final Report. Manuscript on file, Archaeological Services New Brunswick.

Wood. 2019. Archaeological Resource Impact Assessment 2018: Pieridae Energy Ltd. Goldboro LNG Project – Natural Gas Liquefaction Plant and Marine Terminal, Guysborough County, Nova Scotia. Research Permit A2018NS093. Manuscript on file, Nova Scotia Museum.





- LEGEND:
- Permanent Detour ROW
 - Permanent Detour
 - Roads
 - ~ Watercourse
 - LNG Facility Footprint
 - Proposed Temporary Work Camp/Laydown



The map shown here has been created with all due and reasonable care and is strictly for use with Wood. Project Number: TA1986301 This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood, assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

CLIENT:
Pieridae Energy Limited



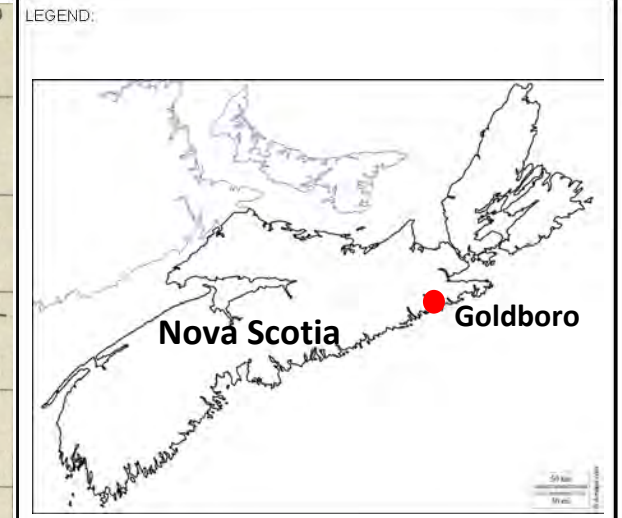
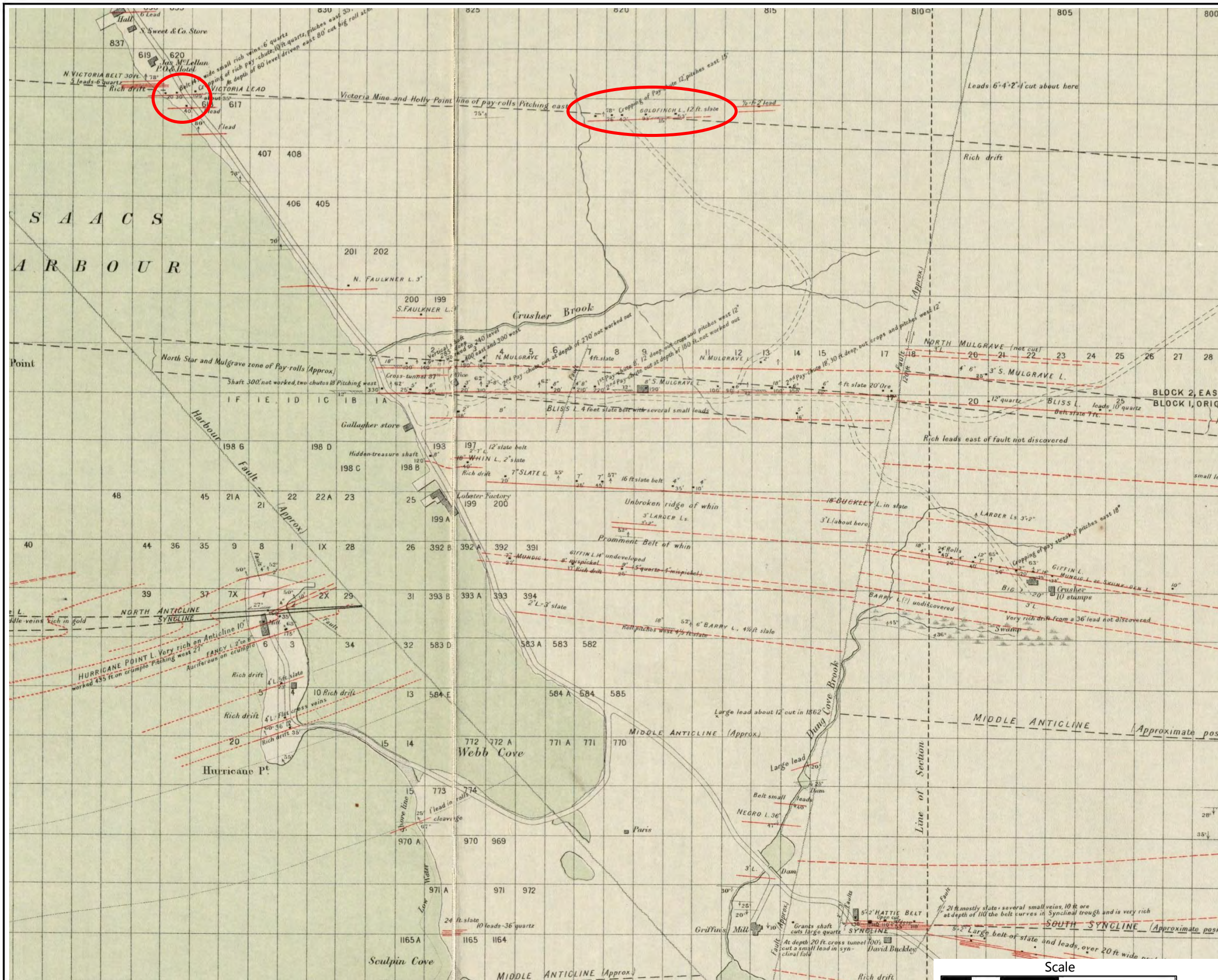
PROJECT:
GOLDBORO LNG PROJECT

TITLE:
Marine Drive - Permanent Detour (Highway 316)

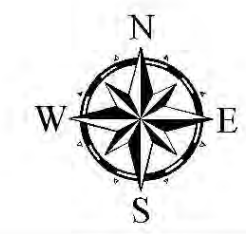
DATUM:	DWN BY:	DATE:
NAD 83	CM	JUNE 2020
PROJECTION:	CHK'D BY:	SCALE:
UTM Zone 20 North	GB	1:18,000
PROJECT NO:	REV NO:	FIGURE NO:
TE201007	1	1

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User

Path: G:\5290\PROJECTS\SYSTEMS\TE201007_Golboro_LNG\MXD\TE201007_Figure_A3_PermanentDetour.mxd User: candace.macdonald Date: 6/16/2020



○ Historic Mining Activities in Vicinity of Proposed Highway 316 Permanent Detour



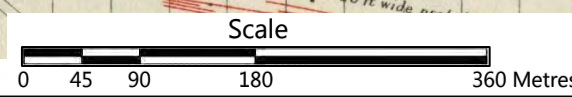
CLIENT:
Pieridae Energy Canada Ltd.



PROJECT:
Goldboro LNG Project

TITLE:
Geological Survey Map of 1904

DATUM: N/A	DWN BY: DJD	DATE: 01/09/2020
PROJECTION: N/A	CHK'D BY: DJD	SCALE: N/A
PROJECT NO: TE201007	REV NO: DJD	FIGURE NO: FIGURE 2



Source: Geological Survey of Canada. 1904. Plan and Sections: Isaac's Harbour Gold District, Guysborough County, Nova Scotia. Accessed at: <https://collections.leventhalmap.org/search/commonwealth:4m90fg97j>

The map shown here has been created with all due and reasonable care and is strictly for use with the Amec Foster Wheeler Project Number identified in the title bar. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Amec Foster Wheeler assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

APPENDIX K
SUMMARY REPORT OF PUBLIC
INFORMATION SESSION
NOVEMBER 2020



**GOLDBORO
LNG**



**INFORMATION SESSION
SUMMARY REPORT**

November 18, 2020

Table of Contents

Appendices.....	2
Introduction.....	3
Comment Card Summary - Permanent Highway 316	4
Comment Card Summary – Goldboro Liquefied Natural Gas (LNG) Project.....	6
Comments Received Via Email	8
Verbal Comments Received During the Sessions	8
First Nations Engagement.....	13
Advertising/Notification Information Session.....	13

Appendices

Appendix A: Comment Cards

- (1) Permanent Realignment Highway 316 and
- (2) Goldboro Liquefied Natural Gas (LNG) Project and emails

Appendix B: Presentation (Booklet)

Appendix C: Sign in Sheets

Appendix D: Advertising/Notification Information Session

Appendix E: First Nation Engagement

Introduction

An Information Session was held November 18, 2020 at the Goldboro Interpretative Centre. There were four, 30-minute sessions from 2:30 – 3 p.m., 3:15 – 3:45 p.m., 4:30 – 5:00 p.m., and a final one from 5:15 – 5:45 p.m. Respecting provincial public health protocols, masks were mandatory. These health protocols also limited seating at the Centre to 30 people per session. Upon entry, a Pieridae representative welcomed the participant, handed over Comment Cards and a Presentation Booklet (Appendix A and B) and asked each participant to enter their name and contact information into the “sign-in-sheets” (Appendix C). The event had been widely and early advertised via print, radio and social media, as well as e-mail notifications and notifications posted in local stores (Appendix D).

The sessions allowed the public to learn about and to provide feedback on the latest plans for the Realignment of Highway 316 and other Project updates. The booklet handed out to all participants included a Schedule Update, Project Update for the permanent realignment of Highway 316, and an introduction to the Pieridae team along with additional information (Appendix B). Extra booklets were provided to a number of stores in the local area along with the Regional Library in Antigonish and at the Municipality of Guysborough offices.

Pieridae started each Session with a brief slide presentation. Participants were encouraged to speak directly with the team or to communicate their comments through “Comment Cards” (Appendix A) Part of the Pieridae team was physically present at the presentation; the remaining team members joined via an online video link. There were a total of 58 people who attended the sessions. Participants handed in a total of 5 Comment Cards at the sessions: 2 for the Realignment of Highway 316, and 3 for the Goldboro Liquefied Natural Gas (LNG) Project. A total of 2 mail responses were submitted to Pieridae via email.

At the start of each session, participants were made aware that the presentation and discussions were recorded for presentation on Pieridae’s Project website.

Comment Card Summary - Permanent Highway 316

Question 1

Did you find the maps and other materials helpful in understanding the permanent realignment of Highway 316?

2 comment cards submitted show that 1 found the materials somewhat helpful(4), but commented easy to understand and 1 found the materials very helpful(5).

Question 2

Where explanations and answers to the questions helpful?

2 comment cards submitted show that 1 found the materials somewhat helpful (3) with the comment that the community seems to have concerns with distribution of information, may want to address, 1 found the materials very helpful(5).

Question 3

Was anything missing? Do you have any comments with respect to the permanent realignment of Highway 316?

- 1- No complaints with either proposals 2019 or new road realignment.
- 1- blank

Question 4

Do you have any comment or information you feel would benefit the realignment of Highway 316?

- 1- Blank
- 1- If Pieridae can draw comparisons between its Project and the old SOEP Gas Plant, it may help the community to understand the impacts of the Project much better.

Question 5

How did you find out about the information session?

Newspaper: 2

Radio: 1

Other:

Question 6

What is the address of your home or business (if applicable)?

- 18 Green Lane, Cape Jack, Havre Boucher, B0H 1P0
- 11601 Hwy 316 Seal Harbour

Question 7

If you would like us to contact you in the future, please provide the following information: Name, Phone Number, Mailing Address and Email:

- Blank
- Blaise MacDonald, Cape Jack, NS B0H 1P0 (902)234-3434

Comment Card Summary – Goldboro Liquefied Natural Gas (LNG) Project

Question 1

Did you find the maps and other materials helpful in understanding the Project?

3 comment cards submitted show that 1 marked 1 with the comment too small to read, 1 did not provide a number but commented maps are helpful and one marked 5 with the comment very good.

Question 2

Where explanations and answers to questions helpful?

3 comment cards submitted show that 1 marked 3 with the comment not loud enough to hear, 1 did not provide a number but commented too short, and marked 5 but unable to read comment.

Question 3

Was anything missing? What would you have liked to hear more about?

I want to know about jobs

I do not have internet. I think it is bizzar that I have to go search on my data for information on 2 different sites. I should not have to go search for meeting times & info. The meeting should come to me.

More of update on schedule form start up.

Question 4

Do you have any comment or information you feel would benefit the project?

Community Liason Committee. I would be interested in being part of this group.

2 comment cards left blank

Question 5

How did you find out about the information session?

Newspaper: 1
Radio: 0
Other: 2 comments: At last minute through word of mouth; (friend) I need info, this session. It was by chance that I found out about it.

Question 6

What is the address of your home or business (if applicable)?

Coddles Harbour
Blank
3841 Highway 7

Question 7

If you would like us to contact you in the future, please provide the following information: Name, Phone Number, Mailing Address, and Email.

Cheryl Silver
64 Wharf Road
Drum Head, NS
spdriftwood@hotmail.com
902-301-3025

Joyce Hoskin
10612 Hwy 316
RR#1 Goldboro
902-387-2358
hoskinchevy@gmail.com

Tyler MacPherson
3841 Hwy 7
Ashdale, B2G 2L3
902-318-1713
Tyler.macpherson555@gmail.com

Comments Received Via Email

2 emails were received, Pieridae responses are presented in Appendix A (2).

Verbal Comments Received During the Sessions

Several comments were received during the Information sessions. The comments recorded by Pieridae team members are summarized in the Table 1 below together with Pieridae's responses.

Table 1: Comments Received and Pieridae Responses

#	Comments	From	Format	Pieridae Response
1	Along with the road I suppose communication and powerlines have to move. Is there a timeline yet and how long will the disconnect period be?	Harbour Island Ecologics Inc.	e-mail	<p>Road construction is scheduled to commence around mid-2021.</p> <p>New communication and powerlines will be established prior to disconnecting and dismantling the existing infrastructure.</p> <p>Short disruptions of service may occur during the transition from the old to the new lines.</p> <p>Pieridae will work closely with the contractor to ensure that disruption will be minimal.</p> <p>Any disruptions will be communicated to the affected residents well ahead of the work.</p>
2	We are on a cistern system. Will the plant have an effect on our water quality? The meeting only covered wells.	Harbour Island Ecologics Inc.	e-mail	<p>Wells in the vicinity of the LNG facility are being surveyed as the blasting during initial stages of the site development and roadbed construction could affect wells.</p> <p>Pieridae will also survey cistern-based supply systems if it collects groundwater. A rainwater fed cistern-system is not expected to be adversely impacted by the proposed site development. Pieridae will contact the commentator to obtain more information on the type and location of the system used.</p>
3	Please also get in touch as soon as you have news regarding the water ways and the effects on our developments on harbour Island.	Harbour Island Ecologics Inc.	e-mail	<p>Pieridae will continue to communicate details on the Project via the Community Liaison Committee, the Fisheries Advisory Committee, newsletters, and occasional public information sessions.</p> <p>The LNG tanker approach and departure routes have been discussed and defined in closed consultation with Transport Canada's TERMPOL Review Committee. The TERMPOL Review Report (Sept 2019) can be made available upon request.</p>
4	If we can be of any help either by offering housing, catering or supplies we are more than happy to help.	Harbour Island Ecologics Inc.	e-mail	<p>Comment noted.</p> <p>Pieridae intends to provide as much as possible economic benefits of the development to the local community.</p>

5	As discussed at the meeting we are also happy to ensure any information passed to us are displayed and spread to the community. We are looking forward to get a couple of your handouts to display at the store.	Harbour Island Ecologics Inc.	e-mail	<p>Comment noted.</p> <p>The realignment presented on 18 November was developed in response to the community's feedback on the initial alignment.</p>
6	If you need you are also welcome to use our telecommunication infrastructure.	Harbour Island Ecologics Inc.	e-mail	<p>Comment noted.</p> <p>Pieridae appreciates the support offered.</p>
7	Our community is relieved to see the change in the road layout and all voices I heard are more than happy.	Martin Theobald	e-mail	<p>Comment noted.</p> <p>The realignment presented on 18 November was developed in response to the community's feedback on the initial alignment.</p>
8	I would be incredibly great full if we could get a few weeks heads-up for the power and com line disconnect.	Martin Theobald	e-mail	Any disruptions to power and communication lines will be minimal and communicated to the affected residents well ahead of the work.
9	Will the village entry sign move to the new road?	Martin Theobald	e-mail	<p>Yes.</p> <p>Signage will be established in accordance with TIR's standards.</p>
10	Will the old road stay till Betty's cove or be capped after Judy?	Martin Theobald	e-mail	The old road will continue up to Pieridae's property boundary. Road access to all privately owned lands with frontage along the two old road segments will be maintained.
11	General approval of shorter route as it minimizes "dead-end" residences	Not identified	Verbal	<p>Comment noted.</p> <p>The realignment presented on 18 November was developed in response to the community's feedback on the initial alignment.</p>
12	What timelines are being followed and what traffic interruptions may be experienced?	Not identified	Verbal	Road construction is scheduled to commence around mid-2021. The new road will be completed and fully functional before it is opened to the public. Traffic disruptions are expected to be limited to the short period when the intersections between the new and the old road will be built. Traffic between the communities will always be maintained either along the old or the new road. Disruptions may relate to a temporary closure of one lane. This will

				<p>be implemented with a traffic management system in place (e.g., lights).</p> <p>Pieridae will work closely with the contractor to ensure that disruption will be minimal.</p> <p>Any disruptions will be communicated to the affected residents well ahead of the work.</p>
13	Can the Road Update Report be made available to the public?	Not identified	Verbal	<p>The Road Update Report will be posted on Pieridae Project Website:</p> <p>http://goldborolng.com/reviews-assessments/meeting-materials/</p>
14	Will there be warnings to traffic along the road (during operation) in case of an emergency at the LNG Facility; e.g., will there be warning lights or similar systems installed?	Not identified	Verbal	<p>The new road provides for safe travels around the planned LNG site. Warning systems will be developed in context of a Contingency Plan that is being established in cooperation with the local emergency response providers. This will include the development of communication plans and infrastructure and may entail warning lights along Marine Drive.</p>
15	Marine Drive in some past years has been flooded at “the dip” near Betty’s Cove Brook, cutting off direct access to Drum Head and Seal Harbour.	Not identified	Verbal	<p>Pieridae appreciates the information and will consider the potential for flooding in the design of the new and the existing road. The location of the proposed realignment bypasses this historic trouble-spot, thus reducing the potential for interruptions in road service to Drum Head and Seal Harbour in future.</p>
16	Will the vegetation in the footprint of the development be removed for good?	Not identified	Verbal	<p>Within the LNG site there will be some ornamental plantings and grassed areas in association with the administration building and parking areas.</p> <p>The temporary laydown areas and worker’s camp will be handed back to the municipality. The subsequent development of those locations will be determined by the municipality.</p> <p>Wetland habitat currently within the footprint of the LNG facility, the road, and any temporarily used areas, will be compensated for by Pieridae through the development and enhancement of wetland habitat off-site. Objective is to implement the compensation within the region.</p>

17	Will the old Marine Drive segments be maintained?	Not identified	Verbal	Yes, the old Marine Drive segments will remain in public ownership and will be subject to normal road maintenance including winter services.
18	Is Bear Head part of the Goldboro LNG Project?	Not identified	Verbal	No. Bear Head was a separate proposal from a different proponent. The Bear Head project is no longer active, the proponent declared bankruptcy.
19	Is the Goldboro LNG project receiving any government funds.	Not identified	Verbal	No. So far, the Goldboro LNG Project has received no provincial or federal financial support.

First Nations Engagement

First Nations were notified and invited to participate in the Information Sessions. Pieridae did not identify representatives of the Mi'kmaq community at either of the four sessions. An updated record of engagement activities is provided in Appendix E.

Advertising/Notification Information Session

Please see Appendix D for:
Information Session Advertisements

Advertisements included:

RADIO:

98.9 XFM Radio Antigonish advertised Information Session at the following times:

- November 9th – November 18th - 30 second spot / 3 per day / 10 days

PRINT MEDIA:

- Guysborough Journal published information session advertisement on November 4th and November 11th Editions.
- The Highland Wire published information session advertisement on November 11th Edition.

E-MAIL:

- Emailed KMKNO a letter to KMKNO on Project Status Update on Highway 316.
- Emailed information session advertisement to KMKNO on November 3, 2020.
- Emailed information session advertisement to various provincial and federal government departments: NS Environment, NS Department of Transportation and Infrastructure Renewal and Department of Fisheries and Oceans; NS Department of Business on November 3, 2020.
- Presentation and comment cards emailed to KMKNO on November 20, 2020.

IN PERSON:

- Advised Community Liaison Committee (CLC) on October 13, 2020.
- Advised Fisheries Advisory Committee (FAC) on September 30, 2020.

Appendix A

Comment Cards

(1) Permanent Realignment Highway 316

(2) Goldboro Liquefied Natural Gas (LNG) Project emails

Comment Card

Goldboro Liquefied Natural Gas (LNG) Project

Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:

Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) *Did you find the maps and other materials helpful in understanding the Project?*

(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 2) *Were the explanations and answers to questions helpful?*

(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 3) *Was anything missing? What would you have liked to hear more about?*

- 4) *Do you have comments or information you feel would benefit Project?*

- 5) *How did you find out about the information session?*

() Newspapers/newsletter () Radio () Other _____

- 6) *What is the address of your home or business (if applicable): _____*

- 7) *If you would like us to contact you in the future, please provide the following information*

Name: _____ Phone Number: _____

Mailing Address: _____ Email: _____

Comment Card – Permanent Realignment - Highway 316 Goldboro Liquefied Natural Gas (LNG) Project

Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:

Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) *Did you find the maps and other materials helpful in understanding the Permanent Realignment, Highway 316?*

(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 2) *Were the explanations and answers to questions helpful?*

(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 3) *Was anything missing? Do you have any comments with respect to the Permanent Realignment of Highway 316?*

- 4) *Do you have comments or information you feel would benefit the realignment of Highway 316?*

- 5) *How did you find out about the information session?*

() Newspapers/newsletter () Radio () Other _____

- 6) *What is the address of your home or business (if applicable):* _____

- 7) *If you would like us to contact you in the future, please provide the following information*

Name: _____ Phone Number: _____

Mailing Address: _____ Email: _____

Comment Card
Goldboro Liquefied Natural Gas (LNG) Project



Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaeenergy.com or mail or fax to:
Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) Did you find the maps and other materials helpful in understanding the Project?
(Not Helpful) 0 2 3 4 5 (Very Helpful)

Comments:
too small to read

- 2) Were the explanations and answers to questions helpful?
(Not Helpful) 0 1 2 4 5 (Very Helpful)

Comments:
Not loud enough to hear

- 3) Was anything missing? What would you have liked to hear more about?

I want to know about jobs.

- 4) Do you have comments or information you feel would benefit Project?

Community learn Community - I would be interested in being a part of this group

- 5) How did you find out about the information session?

() Newspapers/newsletter () Radio () Other *friend* *I need info, this session*
It was by chance that I found out about it.

- 6) What is the address of your home or business (if applicable):

Coddles Hbr

- 7) If you would like us to contact you in the future, please provide the following information

Name: *Joyce Hoskin* Phone Number: *902 387 2358*

Mailing Address: *10612 Hwy 316*

Email: *hoskinchevy@gmail.com*

RR #1 Goldboro NS

**Comment Card – Permanent Realignment - Highway 316
Goldboro Liquefied Natural Gas (LNG) Project**



Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:
Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) Did you find the maps and other materials helpful in understanding the Permanent Realignment, Highway 316?
 (Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments: *Easy to understand*

- 2) Were the explanations and answers to questions helpful?
 (Not Helpful) 0 1 2 4 5 (Very Helpful)

Comments: *Community seems to have concerns with distribution of information. May want to address*

- 3) Was anything missing? Do you have any comments with respect to the Permanent Realignment of Highway 316?

/

- 4) Do you have comments or information you feel would benefit the realignment of Highway 316?

IF Pieridae can draw comparisons between its Project and the old SOEP one that it may help the community to understand the impacts of the project much better

- 5) How did you find out about the information session?

Newspapers/newsletter () Radio () Other _____

- 6) What is the address of your home or business (if applicable): *18 Green Lane, Cupersuck*

- 7) If you would like us to contact you in the future, please provide the following information

Name: *Blaise MacDonell* Phone Number: *902-234-3434*

Mailing Address: *18 Green Lane* Email: _____
Cupersuck, N.S.
B0H-1P0

Comment Card
Goldboro Liquefied Natural Gas (LNG) Project



Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:

Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) Did you find the maps and other materials helpful in understanding the Project?
(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

Very good

- 2) Were the explanations and answers to questions helpful?
(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

Answered Job By Resubmitter

- 3) Was anything missing? What would you have liked to hear more about?

*More of updates on schedule from
Start up's*

- 4) Do you have comments or information you feel would benefit Project?

N/A

- 5) How did you find out about the information session?

Newspapers/newsletter () Radio () Other _____

- 6) What is the address of your home or business (if applicable): 3841 Highway 7

- 7) If you would like us to contact you in the future, please provide the following information

Name: Tylee Matheson Phone Number: 902-3157713

Mailing Address: Tylee Matheson 555 St Email: _____
great con

*3841 Highway 7
Ashdale B2G 2L3*

Comment Card
Goldboro Liquefied Natural Gas (LNG) Project



Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:

Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) Did you find the maps and other materials helpful in understanding the Project?
 (Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments: Maps are help full

- 2) Were the explanations and answers to questions helpful?
 (Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments: too short.

- 3) Was anything missing? What would you have liked to hear more about?

I do not have internet. I think it is bizzar that I have to go search on my data for information on 2 different sites. I should not have to go search for meeting times & info. The meeting should come to me.

- 4) Do you have comments or information you feel would benefit Project?

- 5) How did you find out about the information session?

() Newspapers/newsletter () Radio () Other at the last minute through word of mouth.

- 6) What is the address of your home or business (if applicable): _____

- 7) If you would like us to contact you in the future, please provide the following information

Name: Cheryl Silver Phone Number: 902-301-3025
 Mailing Address: 64 wharf Rd Email: spdriftwood@hotmail.com
Drum Head,
N. S

**Comment Card – Permanent Realignment - Highway 316
Goldboro Liquefied Natural Gas (LNG) Project**

PIERIDAE

Your input is valuable to us as we move forward with the Goldboro LNG Project, and it would be appreciated if you would take a few minutes to complete this comment form. You may either complete this form today and leave it with us or return it by email to info@pieridaenergy.com or mail or fax to:

Pieridae Energy Limited 1718 Argyle Street, Suite 730, Halifax, Nova Scotia B3J 3N6 Fax: (902) 492-5211

PLEASE NOTE: The results of the comment forms will be summarized, but individual forms and names will be kept private and confidential.

- 1) Did you find the maps and other materials helpful in understanding the Permanent Realignment, Highway 316?
(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 2) Were the explanations and answers to questions helpful?
(Not Helpful) 0 1 2 3 4 5 (Very Helpful)

Comments:

- 3) Was anything missing? Do you have any comments with respect to the Permanent Realignment of Highway 316?

No complaints with either ^{2019 or new} proposal of road realignment

- 4) Do you have comments or information you feel would benefit the realignment of Highway 316?

- 5) How did you find out about the information session?

Newspapers/newsletter Radio () Other _____

- 6) What is the address of your home or business (if applicable): *4401 Hwy 316 Seal Abn*

- 7) If you would like us to contact you in the future, please provide the following information

Name: _____ Phone Number: _____

Mailing Address: _____ Email: _____

Goldboro Liquefied Natural Gas (LNG) Project – Information Session emails

From: m.theobald <m.theobald@harbour-island.ca>
Sent: Sunday, November 22, 2020 4:28 PM
To: Info <info@pieridaenergy.com>
Subject: Road Feedback as requested

Dear Pieridae Energy Team,

On behalf of all us here at Harbour Island Ecologics Inc. at first I want to thank you for the new road layout. As requested now the feedback to the meeting.

Question 1 helpful?

5

Comments will follow at the end combined

Question 2 answers helpful?

4

Question 3 missing?

Along with the road I suppose communication and powerlines have to move. Is there a timeline yet and how long will the disconnect period be?

We are on a cistern system. Will the plant have an effect on our water quality? The meeting only covered wells.

Please also get in touch as soon as you have news regarding the water ways and the effects on our developments on harbour Island.

Question 4 things that could be beneficial to the project

If we can be of any help either by offering housing, catering or supplies we are more than happy to help.

As discussed at the meeting we are also happy to ensure any informations passed to us are displayed and spread to the community. We are looking forward to get a couple of your handouts to display at the store.

If you need you are also welcome to use our telecommunication infrastructure.

Question 5 Facebook posting of community member

Question 6 11711 Highway 316

Question 7

Harbour Island Ecologics Inc.

Martin Theobald

11711 Highway 316

B0H1L0 Drumhead

902 328 7395

m.theobald@harbour-island.ca

Comments

Our community is relieved to see the change in the road layout and all voices I heard are more than happy.

I would be incredibly great full if we could get a few weeks heads-up for the power and com line disconnect.

Will the village entry sign move to the new road?

Will the old road stay till Betty's cove or be capped after Judy?

Thank you again for the new road layout.

Best regards

Martin Theobald

Sent from my Bell Samsung device over Canada's largest network.

From: Ivan Rice <ivanrice@gmail.com> **Sent:** November 20, 2020 9:13 AM **To:** info <info@pieridaenergy.com> **Subject:** Information Session on Road Realignment - Goldboro - 18 Nov 2020

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

1. The maps and other material, combined with the local knowledge and explanation of Mark MacLellan was very useful to fully understand the road realignment plan.
2. Barb and Bonnie supported the info session and together they were able to answer questions posed during the session I attended.
3. There was nothing missing from my perspective.
4. I was impressed with the revised plan which took into consideration the feedback of local residences.
5. I learned of the session through radio announcements.
6. 60 Coddles Harbour Ln, Goldboro, NS B0H 1L0. I have a daughter and three grandchildren that live at Seal Harbour Loop and would have been potentially adversely affected by the original realignment plan.

7. Ivan Rice

Home: 902-387-2660

Cell: 902-338-1518

60 Coddles Harbour Ln, Goldboro, NS B0H 1L0

ivanrice@gmail.com

Appendix B

Presentation (Booklet)

Attached to the end of this report

Appendix C

Sign in Sheets

Nov 18	Blaise MacDonald	902-234-3434
at door)	Cynthia C. Childs	902-387-2583
Nov 18	Tyler MacPherson	902-318-1713
	Jason Langley	902 870 6160
	Debbie Pierce	902 476 7478
	Cathie Pierce	902-880-9890
	Al DeMarco	902-870-3086
	Heather DeMarco	902 870 3086
	Rachel Gammon	902-328-4914
	Judy Burke	902-328-4144
	Vesta Rieger	902 568 0057
	Fraser Gammon	870-0383
	Garry & Linde Emshey	403 829 3091

Nov. 18

Stella Cameron	902 631-5647
Ernie Greenman	(902) 302-2843
Clair Koenig	902-631-2629
Mr & Mrs	(902) 718-5013
DALE MANWAY	902 394-4239
DAVE SPONAGLE	902-301-5514
Mary Rhynold	328 2496
Robert Davidson	387-2565
Jeff Rickard	754-900
Ben Chisholm	902-386-2551
Lawrence T. Touss	902 318 1658
Cory Myers	902 870-1421
Bessie Staley	902-387-2911
FRANK FOUJERE	902-387-2403
Ivan Riee	902-387-2660
Basel Amato	902-625-3631
Sharon New Macmillan	(902) 387-2720
Scott CONROD	902 719 8810
Angie Fanning	902-318-0254
London MacDonald	902-533-3705
Dennis Reitzsche	902-318-2667

Maudie Yess	902 318 1811
Craigton Smyth	902 389-2573
Ayren Bewick	902 867 - 4551
Julie Thompkins	902 387 - 2589
Sheryl Silva	" 301 - 3025
Martin Theobald	902-328-7395
Dewayne Gillie	902 318 4400
(Wayne Mac Donald)	902 8637837
Shane Benoit	
Joyce Pinkham	902 381 - 2358
Daniel Langille	902 325 - 7776
TREVOR COOKE	902-318-9691
Berkley Fleck	902 387 2424
Angela Pelly	902 328 7277
Michael ...	902 328 4288
Ricky Madam	902 328 2515
Nick Burke	902 870 4870
Emily Hodge	902-783-2600
Janice Cunniff	902 867-7109
MARK BROWN	902 403-1716
Raymond MacLeod	902 357-2958
Stephen MacLeod	902.87.2949

Appendix D

Advertising/Notification Information Session



Please join the Pieridae Energy team Wednesday, November 18th at the Goldboro Interpretive Centre for a project information session dealing with the Highway 316 Realignment.

Following all Public Health protocols masks are mandatory. There will be four, 30 minute sessions beginning at 2:30 – 3:00pm, 3:15 – 3:45pm, 4:30 – 5:00pm, 5:15 – 5:45pm.

We will be seeking the community's feedback on the permanent realignment of Highway 316 around the project site and a Project update.

Goldboro LNG would be the province's biggest-ever mega-project, creating 5,000 jobs during construction and 200 permanent positions. There will be a time to discuss jobs in the future, but the November 18th information session will not be a career fair.

Appendix E

First Nation Engagement

Goldboro LNG

First Nation Engagement Activities

Date	Type of Contact	Contact with	Topic
28/03/13	Chris Milley	First Nations	Public Consultation
08/05/13	Chris Milley	First Nations	Public Consultation
31/05/13	Chris Milley	First Nations	Public Consultation
23/07/13	Chris Milley	First Nations	Public Consultation
20/09/13	Chris Milley	First Nations	Public Consultation
27/11/13	Chris Milley	First Nations	Public Consultation
29/01/14	Chris Milley	First Nations	Information request
26/02/14	Chris Milley	First Nations	Information request
28/05/14	Email	KMK Benefits Coordinator	Correspondence regarding Benefits Committee meeting – postponed until Sept.
29/05/14	email	KMK Negotiations Coordinator	Discussions re revisions to Draft MOU, FAC
03/06/14	email	KMK Negotiations Coordinator	Communication regarding FLC, reminder notice of meeting
17/06/14	email	KMK Negotiations Coordinator	Submitted Draft Communication Plan
16/07/14	email	KMK Benefits Coordinator	Revisions to draft CBA/set up face to face meeting
18/07/14	meeting	KMK Benefits Coordinator	Meeting to discuss finalization of collaboration Agreement – budget review
14/08/14	email	KMK Negotiations Coordinator	Submit newsletter
22/08/14	email	KMK Benefits Coordinator	Submitted revised budget for CBA
25/08/14	email	KMK Benefits Coordinator	Submit Newsletter
27/08/14	email	KMK Benefits Coordinator	Received signed MOU
28/08/14	Chris Milley	First Nations	Consultation & Engagement
26/09/14	Chris Milley	First Nations	Consultation & Engagement
28/10/14	email	KMK Benefits Coordinator	Correspondence re changes in CBA budget, setting up next meeting
30/10/14	email	KMK Benefits Coordinator	Confirmation of meeting, revised budget
04/11/14	meeting	KMK Benefits Coordinator	Discussion on CBA budget revisions
14/11/14	meeting	KMK Benefits Coordinator	Review revised draft budget and scope of work for CBA
18/11/14	email	KMK Benefits Coordinator	Request increase in Budget for CBA
27/11/14	email	KMK Environment Coordinator	Communication regarding FAC – invitation
28/11/14	Chris Milley	First Nations	Consultation & Engagement
11/12/14	Chris Milley	First Nations	Consultation & Engagement
12/12/14	email	KMK Benefits Coordinator	Confirmation of final budget conditional to expenditures commencing after 03/15.
16/12/14	email	KMK Benefits Coordinator	Discussion re final budget condition-
27/01/15	Chris Milley	First Nations	Consultation & Engagement
28/01/15	email	KMK Environment Coordinator	Communication regarding FAC schedule

Date	Type of Contact	Contact with	Topic
19/02/15	Chris Milley	First Nations	Consultation & Engagement
02/04/15	email	KMK Environment Coordinator	Communications regarding CBA budget and work plan
06/05/15	email	KMK Benefits Coordinator	Communication Plan
28/05/15	meeting	KMK Benefits Coordinator	CBA
01/06/15	email	KMK Benefits Coordinator	meeting request
03/06/15	email	KMK Benefits Coordinator	Communication Plan
03/06/15	email	KMK Benefits Coordinator	Introduction to Waycobah CEO
05/06/15	email	KMK Benefits Coordinator	Draft CBA
08/06/15	meeting	KMK Benefits Coordinator	update meeting
12/06/15	Chris Milley	First Nations	Consultation & Engagement
15/06/15	email	KMK Benefits Coordinator	Work plan
27/08/15	meeting	KMK Benefits Coordinator	CBA - opportunities
01/09/15	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
16/09/15	email	KMK Benefits Coordinator	general communication
01/10/15	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
08/10/15	email	KMK Benefits Coordinator	invoice/confirm meeting
13/10/15	email	KMK Benefits Coordinator	confirmation of meeting/CBA
01/11/15	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
02/11/15	meeting	KMK Benefits Coordinator	worked on CBA
04/11/15	email	KMK Benefits Coordinator	invoice and report
19/11/15	email	KMK Benefits Coordinator	meeting notice
23/11/15	email	KMK Benefits Coordinator	CBA
24/11/15	meeting	KMK Benefits Coordinator	working session on CBA
01/12/15	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
02/10/15	meeting	Office of Aboriginal Affairs	Project update
02/12/15	email	KMK Benefits Coordinator	meeting update
04/01/15	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
23/01/16	email	KMK Benefits Coordinator	re CBA
01/02/16	mail	KMK Financial Comptroller	Invoice/report on progress for CBA development
10/02/16	meeting	Office of Aboriginal Affairs	update
05/05/16	Email	Uwe -AMEC	Met with Melissa Nevil & Jennifer MacGillivray
11/04/16	Email	KMK Benefits Coordinator	April Invoice/ report
14/04/16	Email	KMK Benefits Coordinator	March Invoice/ report
21/04/16	Email	Jennifer MacGillivray, Darryl McDonald	Documents pertaining to the upcoming CLC meeting April 26, 2016
06/05/16	Meeting	Meeting in Halifax	Rose Julian / Daryl McDonald
09/05/16	Email	KMK Benefits Coordinator	May Invoice/ report
16/05/16	meeting	Meeting with Paqtnkek	Rose Julian / Daryl McDonald follow up
01/06/16	Meeting	KMK Benefits Coordinator	June Invoice/ report
07/06/16	Email	Rose Julian	Partnership letter of support to Paqtnkek access skills & Partnership fund
17/06/16	Email	Rose Julian	Thank you for partnership support from Paqtnkek
01/07/16	email	Jennifer MacGillivray	invoice

Date	Type of Contact	Contact with	Topic
01/08/16	Email	KMK Benefits Coordinator	August invoice report
08/08/16	Email	Rose Julian	Funds request for Paqnek Pow wow, \$300.00 sent
05/08/16	Email	Steve Parsons	Meeting request from Eskasoni
01/09/16	Meeting	Met with Eskasoni	
09/09/16	Email	KMK Benefits Coordinator	September invoice/ report
27/09/16	Email	Helen MacPhail/cc B Bryden	To provide B Bryden with contact information for Melissa Nevil
10/10/16	Email	KMK Benefits Coordinator	October invoice report
17/10/16	Email	KMK Benefits Coordinator	Set up meeting for Nov 3/16
01/11/16	email	Jennifer MacGillivray	invoice
03/11/16	Meeting	KMK Truro	Meeting with KMK and Pieridae (Q&A)
01/12/16	Meeting	Meeting	Truro Office
01/12/16	email	Jennifer MacGillivray	invoice
05/01/17	Email	KMK Benefits Coordinator	January Invoice/ report
27/01/17	Email	KMK Benefits Coordinator	Communication re: status of CBA (still with KMK)
02/02/17	Email	Rose Julian / Paqnek	Business Development roundtable proposal
09/02/17	Email	KMK Benefits Coordinator	Communication re: status of CBA (still with KMK)
09/02/17	Email	KMK Benefits Coordinator	February invoice/ report
03/03/17	email	KMK Benefits Coordinator	Communication re: status of CBA (still with KMK)
01/03/17	email	Jennifer MacGillivray	invoice
03/03/17	Email	Rose Julian/Paqnek	Business Development roundtable date confirmation Mar 20/17
05/03/17	Email	Rose Julian	Guidelines established for Business Development Roundtable discussions
09/03/17	Email	Helen MacPhail	Communication Plan
31/03/17	Email	Helen MacPhail	Communication Plan
01/04/17	Invoice	Barbara Adams	Invoice #04012017
12/04/17	Meeting	KMK & Assembly of Chiefs	Update, Truro office
01/05/17	Invoice	Barbara Adams	May Invoice #05012017
11/05/17	Email	Jennifer MacGillivray	CBA
17/05/17	Email	Bernd Christmas	RTO by Pieridae
19/05/17	Email	Jennifer MacGillivray	Meeting Date
29/05/17	Email	Jennifer MacGillivray	IBA
29/05/17	Communications	KMK	CBA
30/05/17	Email	Jennifer MacGillivray	IBA
30/05/17	Email	Justin Huston	CBA with Pieridae
30/05/17	Meeting	OAA	
05/06/17	Email	KMK	June Invoice
06/06/17	Email	Rose Julian	Meeting request
07/06/17	Email	Rose Julian	Project update, meeting request
20/06/17	Telephone	Rose Julian	Engagement & Consultation
22/06/17	Telephone	Daryl MacDonald	Engagement & Consultation
22/06/17	Conversation	Rose Julian Patnquek	Project update
23/06/17	Conversation	Daryl Johnston Patnquek	Project Update

Date	Type of Contact	Contact with	Topic
27/06/17	Email	Steve Parsons	Project update – Eskasoni Corporate Division (ECD)
01/07/17	Invoice	Jennifer MacGillivray	July Invoice submitted by email
08/07/17	Email	Jennifer MacGillivray	BA Draft
21/07/17	Email	Jennifer MacGillivray	Greenhouse Study
27/07/17	Email	Jennifer MacGillivray	Greenhouse Study, meeting request
28/07/17	Email	Jennifer MacGillivray	Greenhouse Study discussion
08/08/17	Email	Jennifer MacGillivray	Aug Invoice
17/08/17	Email	Peter Dargelies, William, Jennifer MacGillivray	Review Mi'Kmaq Rights Initiative Project
18/08/17	Email	Thomas Ciz, Thom Dawson	BA Draft
05/09/17	Email	Jennifer MacGillivray	CBA Comments
05/09/17	Email	Thomas Ciz	First Nations Benefit agreement
26/09/17	Email	Jennifer MacGillivray	CBA Comments
03/10/17	Email	Jennifer MacGillivray	CBA Draft
03/10/17	Email	Jennifer MacGillivray	September Invoice
13/10/17	Email/meeting request	Darryl McDonald	Meeting package for CLC meeting Oct 16/17
01/10/17	Email	Jennifer MacGillivray	Oct Invoice
01/11/17	Email	Jennifer MacGillivray	Nov Invoice
07/11/17	Meeting	KMK/ FN	business consultants regarding the greenhouse idea
14/11/17	Email	Jennifer MacGillivray	Benefits agreement – Draft
28/11/17	Email	Jennifer MacGillivray	Benefits Agreement – Still under review
06/12/17	Email	Jennifer MacGillivray	status of review of the FNBA
05/12/17	Email	Jennifer MacGillivray	Dec Invoice
20/12/17	Email	Heather MacLeod	First Nations Awareness training and archaeological monitoring protocols
06/02/18	Email	To FAC	EPP/ESP Plan
04/01/18	Email	Heather MacLeod	First Nations Awareness Training and Archaeological Monitoring Protocols
03/01/18	Email	Jennifer MacGillivray	Jan Invoice
4/01/18	Email	Heather MacLeod	First Nations Awareness Training and Archaeological Monitoring Protocols
05/01/18	email	Darcy Dignam & Heather MacLeod	Discussion of Draft Contingency Plan protocols, Power Point slides, National Awareness Training; KMK participation
16/01/18	Email	(Via Darcy Dignam) Heather MacLeod	First Nations Awareness Training and Archaeological Monitoring Protocols. First draft Contingency Plan Protocols, First Nations Awareness Training
23/01/18	Conf Call	Darcy Dignam & Heather MacLeod	Discussion of draft material provided on Jan 16th
01/02/18	Meeting	Jennifer MacGillivray & Chief Terry Paul	Contract terms & Project update
02/02/18	Email	Jennifer MacGillivray	Feb Invoice
02/02/18	Email	(Via Darcy Dignam) Heather MacLeod-Leslie	2 nd draft Contingency Plan, protocols Powerpoint slides, request for review and comments

Date	Type of Contact	Contact with	Topic
02/02/18	Email	(Via Darcy Dignam) Heather MacLeod-Leslie	Request for status update, scheduling of training session, potential delay
13/02/18	Email	(Via Darcy Dignam) Heather MacLeod-Leslie	KMK's edited slides and protocol texts
15/02/18	Email	(Via Darcy Dignam) Heather MacLeod-Leslie	Receipt of slides and protocol texts; scheduling the training
23/02/18	email	(Via Darcy Dignam) Heather MacLeod-Leslie, Kaitlin MacLean	Date for sensitivity Training session
26/02/18	Telephone & online	Kaitlin MacLean (session led by Darcy Dignam)	Archaeological Sensitivity Training Session is being delivered
02/03/18	Email	Rose Julian	Meeting arrangements
03/03/18	Phone call	Melissa Nevin	Follow up on FAC meeting request
09/03/18	Meeting	Jennifer MacGillivray	Meeting scheduled
13/03/18	Email	R McLean Forestry/Mark MacLellan	Confirming We have a native employed on site with R.McLean Forestry. He started this week.(Tuesday)
19/03/18	Email	Jennifer MacGillivray	Follow up on our discussions. Confirmed a meeting with representatives from Paqtnkek to review the IBA on April 4. I should have the next draft to you shortly after that
19/03/18	Meeting	Rose Julian	Meeting with Paqtnkek in Truro.
20/03/18	Email	Jennifer MacGillivray	March Invoice
21/03/18	Email	Jennifer MacGillivray	Update from the archaeology team
23/03/18	Email/letter	Jennifer MacGillivray	Response to Kait MacLean's email/letter
27/03/18	Email	To FAC	Request FAC meeting
28/03/18	Email	Jennifer MacGillivray	Meeting reschedule
03/04/18	Call	M Nevin	Follow up on FAC meeting request
03/04/18	Email	M Nevin	EA Approval (meeting update) FAC meeting
03/04/18	Email	M Nevin	FAC membership from FN Paqtenkek
03/04/18	Email	M Nevin	Meeting request for EA Approval
05/04/18	Email	Jennifer MacGillivray	April invoice
09/04/18	Email	Jennifer MacGillivray	Update – Communication plan
09/04/18	Email	Jennifer MacGillivray	Communication Plan – on agenda for update and review
09/04/18	Email	Jennifer MacGillivray	Further discussion on Communication Plan and meeting set for April 23/18 for further review
16/04/18	Email	Jennifer MacGillivray	Discussion and meeting dates around Benefits Agreement
19/04/18	Email	Jennifer MacGillivray	Meeting schedule for Monday to discuss Communication Plan.
23/04/18	Email	Jennifer MacGillivray	Ongoing discussions and meeting preparations around FN Benefits Plan
25/04/18	Email	Jennifer MacGillivray	Availability to meet with Chief Terry to have the royalties discussion
25/04/18	Email	Jennifer MacGillivray	Mark B to meet with Chief Terry after May 4 th . Waiting for date when the Chief is available.
25/04/18	Email	From Jennifer MacGillivray	Just heard from KMKNO. The Chiefs had no additional comments
26/04/18	Email	Jennifer MacGillivray Thomas Ciz	Thomas Ciz & FN counsel meet in person to get the document to final form. Suggest dates?

Date	Type of Contact	Contact with	Topic
30/04/18	email	Jennifer MacGillivray	review & revision. I will aim to review a new version by Friday May 4th
30/04/18	Telephone	Darryl McDonald	development officers from Paqtnkek
01/05/18	email	Jennifer MacGillivray	June 1 as a potential date with Chief Terry?
01/05/18	email	Jennifer MacGillivray	Meeting with Chief Terry 10 am in Membertou Will confirm a location and send an electronic invite
01/05/18	Email	To Jennifer MacGillicary	Mi'kmaq and Community Communication Plans
03/05/18	email	Jennifer MacGillivray	coordinate a meeting with counsel the 24, 25, 28 or am of the 29
07/05/18	Email	Jennifer MacGillivray	comments on the Mi'kmaq Com Plan
07/05/18	emails	Jennifer MacGillivray	Confirming meeting with Chief Terry
09/05/18	Email	Jennifer MacGillivray	Scheduling a time for meetings with Council – availability?
09/05/18	Telephone call	Jennifer MacGillivray	Discussion to nail down a meeting time with the Chief
15/05/18	Email	From Jennifer MacGillivray	Meeting with the Co-Chairs this afternoon and Benefits Committee on Friday
17/05/18	Email	To Jennifer MacGillivray	Revised Mi'kmaq Com Plan
28/05/18	Email	Jennifer MacGillivray	Request word version of CBA for edits.
28/05/18	email	Benefits committee	Benefits committee had no edits
28/05/18	email	Paqtnkek	Paqtnkek had no edits
01/06/18	Meeting	Chief Terry	Met with Chief of assembly and received verbal approval of the CBA
04/06/18	Invoice	Jennifer MacGillivray	Invoice for June
13/06/18	Email	Jennifer MacGillivray	Reschedule meeting with Mark & Thomas C after her consultation with Bruce.
26/06/18	Email	Jennifer MacGillivray	Bruce has a few tweaks & Rose Julian wants to meet on Friday to discuss the IBA Aiming to get you an updated draft next week
05/07/18	email	Mark B / Jennifer MacGillivray	wondering if there are any dates. now available to meet on the NSMBA?
05/07/18	email	Jennifer MacGillivray	The next Benefits Committee is September 6 (just scheduled today) and the next Assembly is September 21 – let's aim to have it approved at those meetings? It will have to be recommended by the Benefits Committee before it goes to the Assembly
06/07/18	Email	Jennifer MacGillivray	Meeting request to iron out details of CBA
06/07/18	Email	Jennifer M/Mark B	Meeting time agreed July 16 th 2018 at KMK office
06/07/18	email	Jennifer MacGillivray	Invoice for July
06/07/18	email	Jennifer MCGillivray	Mi'kmaq engagement activity summary
05/07/18	email	Alyssia Jeddore	Nova Scotia Mi'kmaw Summer Games 2018 – Donation of 500.00 given
13/07/18	Email	Thomas Ciz	NSMBA version 26
17/07/18	email	Jennifer MacGillivray	Wetland Compensation Plan RFP for distribution
17/07/18	email	Jennifer MacGillivray	10am at KMK meeting in Truro
20/07/18	Email	Jennifer MacGillivray	We met internally to review a different agreement this week and it was bounced back because the committee felt the environmental section was not strong enough. I know I committed to having the

Date	Type of Contact	Contact with	Topic
			updated draft to you today, but I anticipate the same response to the Pieridae agreement, so I am going to take an extra couple of days and incorporate the comments on the environmental section that were discussed this week. I will get it to you before the end of next week
27/07/18	email	Jennifer MacGillivray	Information on TERMPOL submission
27/07/18	email	Jennifer MacGillivray	some language from a different agreement re Environmental for your review and thoughts
16/08/18	Email/invoice	Jennifer MacGillivray	August invoice
13/08/18	Email	To Jennifer MacGillivray Fr. Mark Brown	Request update on next meeting
13/08/18	Email	Jennifer MacGillivray	Benefits agreement on the Agenda for Sept 6
23/08/18	Email	Mark Brown	Request update
23/08/18	Email	Jennifer MacGillivray	Nothing new until Sept 6 meeting
20/08/18	Email	Melissa Nevin	New point of contact KMKNO
22/08/18	Email	Barb Bryden	Contact with Melissa Nevin regarding arranging meeting with KMKNO with attachments: EA T&C; Arch/Heritage Resources; EA Status Sched 2 6 July 2018; Tracking Table FN; Pieridae Activities Update July 2018.
22/08/18	Email	Barb Bryden	Meeting set for Sept 6 th Pieridae Board room
13/08/18	Email	Dera Beata	CA – going forward
14/08/18	Email	Mark Brown	Meeting request with OAA
15/08/18	Email	Dera Beata	Meeting confirmed Aug 24 th with Pieridae
16/08/18	Email	Mark Brown	Confirm attendees at meeting
16/08/18	Email	Dera Beata	Meeting agenda suggestions
21/08/18	Email	Steve Parsons	Meeting changed to Sept 11 th at 10:00am
27/08/18	Email	David Mitchell	Goldboro LNG Proponent Delegation Letter
28/08/18	Wetland Compensation	Ducks Unlimited	Finalizing Wetlands Compensation Agreement with DU which includes 10% FN participation.
05/09/18	Email	Jennifer MacGillivray	Sept invoice
04/09/18	Meeting request for Sept 6, 2018	Melissa Nevin	Meeting request with attachments: Project Summary Doc Aug 30, 2018; EA Condition Status Sched Aug 21, 2018
06/09/18	meeting	Uwe/Garrett/Melissa N/Barb B	EA terms and conditions of approval update and associated docs/applications for approval. Next meeting in Oct/site visit later in Oct.
07/09/18	Email	Melissa N	Barb B requested availability for next meeting and site visit.
11/09/18	meeting	Steve Parsons	Mark B. Meeting with Steve Parsons, Eskasoni FN
05/09/18	Email	Jennifer MacGillivray	timeline for when Millbrook and Sipeken'katik were in and out of KMKNO over the last 6 years?
05/09/18	Email	Jennifer MacGillivray	Update on meeting with Benefits Committee, confirmed they are meeting Sept 6 th 2018
07/09/18	Email	Barb Bryden/Melissa Nevin	could you provide possible dates for our next meeting? I think you mentioned the week of Oct 15 th

Date	Type of Contact	Contact with	Topic
			or 22 nd work best for you. Also, please let me know when you are available for a site visit as well.
14/09/18	email	Melissa Nevin to BBryden	Derek Peters now taking over Pieridae file.
15/09/18	email	BBryden to Derek Peters	Minutes to Sept 6, 2018 meeting. Jump drive to follow
17/09/18	email	BBryden to Derek Peters	Availability for next meeting/site visit
18/09/18	courier	Derek Peters	Documents associated with Minutes to Sep 6, 2018 meeting
21/09/18	email	BBryden to D Peters	Notice – upcoming FAC meeting Oct 30, 2018
24/09/18	Email	Fr Mark Brown to Jennifer MacGillivray	It's time to close the agreement, Jen. Can you let us know where you are currently, or do we have to move on? We want to conclude this now, so we can hire a FN professional to begin implementation. Please let us know.
24/09/18	Email	Fr Jennifer MacGillivray to Mark Brown	As previously communicated, there remain ongoing concerns around the environmental and fisheries sections. I am available to discuss these concerns, so we can find language that will work for both parties
24/09/18	email	From Mark Brown to Jennifer MacGillivray	Can you please send them as edits to the document? Then we'll meet. There is a lot going on and this would be the most efficient way to conclude the agreement.
24/09/18	Email	Fr Jennifer MacGillivray	Yes, if that is how you wish to proceed, I will endeavour to get that to you soon
24/09/18	Email	Fr Mark Brown to Jennifer MacGillivray	Do you have a sense of timing?
24/09/18	Email	Fr Jennifer MacGillivray to Mark Brown	I am leaving for a week on October 2, I will have it to you to review prior to my leaving. I am pretty booked this week, so I may need to address it during the weekend
25/09/18	email	BBryden to D.Peters	Confirm Oct 19 th meeting (no time/location yet) agenda to follow
25/09/18	Email	D. Peters to BBryden	Notice of consultation Oct 19th meeting
28/09/18	Letter	Chief Sack	Acknowledgement letter from Chief Sack to Martin Belanger dated July 18 2018 to NSUARB
02/10/18	email	Fr Jennifer MacGillivray	There is an Assembly meeting on October 4 and a Benefits Committee meeting on October 5. Just following up on the most recent draft CBA I sent on the 27 th and if you think you might have your internal review and comments ready in time to add to either agenda
02/10/18	Email	From Mark Brown to Jennifer MacGillivray	No, we will not, Jennifer. We are struggling with your comments. We felt were done after the last version. Not sure how to proceed here.
02/10/18	Email	From Mark Brown to Jennifer MacGillivray	That meeting will have to take place with our respective council's in the room, as we proposed in the spring. We are done with the constant revisions and are ready to finalize this agreement and move on to the next phase of implementation.

Date	Type of Contact	Contact with	Topic
			<p>Opportunities for companies to joint-venture with the Mik'maq are awaiting the finalization of this agreement. So is our hiring of a permanent FN representative.</p> <p>I communicated this to Chief Terry so the Assembly is aware of the potential for missed opportunities if final agreement is not struck. These companies will not wait forever, especially given the LNG Canada project is starting to move.</p> <p>Please let us know when we can meet as a group.</p>
02/10/18	Email	From Jennifer MacGillivray	<p>There is an Assembly meeting on October 4 and a Benefits Committee meeting on October 5.</p> <p>Just following up on the most recent draft CBA I sent on the 27th and if you think you might have your internal review and comments ready in time to add to either agenda</p>
02/10/18	Email	From Mark Brown	<p>No, we are struggling with your comments. We felt were done after the last version. Not sure how to proceed here.</p>
02/10/18	Email	From Jennifer MacGillivray	<p>Those are the same comments I'd sent you prior to receiving your last draft, so the Assembly is not comfortable with the environmental section you sent back</p> <p>Perhaps it would be easiest for us to meet and discuss objectives and craft language around that – that approach has always worked well for us when we have been stuck on other sections.</p>
04/10/18	email	From OAA to BBryden/Mark B	<p>Request to attend consultation meeting at KMKNO office on Oct 19 2018</p>
12/10/18	Email	To Jennifer MacGillivray	<p>Do you have any thoughts regarding a meeting as outlined in our last email?</p>
12/10/18	Email	From Jennifer MacGillivray	<p>I have followed up with our legal advisor and he is out of the country and unavailable until the end of the month.</p> <p>I will be in touch with potential dates when he returns.</p>
19/10/18	Consultation meeting	KMKNO and government	<p>Consultation meeting at KMKNO office Truro</p>
19/10/18	Email(s)	Derek Peters/BBryden	<p>Site visit dates provided by Pieridae</p>
10/31/18	Emails(s)	Derek Peters/BBryden	<p>Followup and agreed to site visit on Nov 29th, 2018</p>
02/11/18	Invoice	From Jennifer MacGillivray	<p>November Invoice</p>
05/11/18	Email(s)	Jennifer MacGillivray / Mark Brown	<p>Confirming dates to finalize a meeting for a face to face.</p>
05/11/18	Email(s)	Jennifer MacGillivray / Mark Brown	<p>Proposed dates for face to face meeting</p>
06/11/18	Email(s)	Jennifer MacGillivray / Mark Brown / Thomas Ciz	<p>Nov 27th, 2018 date confirmed for a face to face meeting.</p>
09/11/18	email	BBryden to DPeters copy DU	<p>FN participation in wetlands compensation</p>
11/11/18	Email	Thomas C / Jennifer M	<p>Kindly format your edits and fix the cross-references in the document on a basis that is consistent with the body of the document so that we can start the meeting with a workable document without wasting</p>

Date	Type of Contact	Contact with	Topic
			time. I would appreciate receiving the revised document at least 5 days before the meeting.
13/11/18	email	DPeters to BBryden	Confirmation of Nov 9, 2018 email
19/11/18	Telephone call (U.Wittkugel, Wood)	Derek Peters	Opportunity for Mi'kmaq hunter to participate in moose survey at Goldboro Site
20/11/18	Email (U.Wittkugel, Wood)	Derek Peters	Confirmed dates for Mi'kmaq hunter to participate in moose survey at Goldboro Site
22/11/18	Email (D. Dignam, Wood)	Heather MacLeod-Leslie	Information on upcoming archaeological fieldwork (test pitting at Meadow Lake); invitation to participate.
22/11/18	Email (D. Dignam, Wood)	Heather MacLeod-Leslie	Response to Heather's question of 22 Nov. on upcoming archaeological fieldwork.
23/11/18	Email	Mark B / Jennifer M	changes from the last draft include language around MNEP as well as an amendment to the termination clause
26/11/18	Email (U.Wittkugel, Wood)	Derek Peters	Response to Derek's e-mail stating that no Mi'kmaq hunter has been identified yet (for moose survey)
26/11/18	Email (D. Dignam, Wood)	Heather MacLeod-Leslie	Response to Heather's question of 23 Nov. on upcoming archaeological fieldwork.
26/11/18	Email (D. Dignam, Wood)	Kaitlin MacLean	Response /agreement to Kaitlin's suggestion to visit the archaeological field work on 4 Dec 2018.
27/11/18	Telephone call (U.Wittkugel, Wood)	Derek Peters	Inquiry into interest in site visit on 4 Dec instead of 30 Nov (Wood staff will be in field and can provide additional information)
27/11/18	Email (U.Wittkugel, Wood)	Derek Peters	Response to Derek's e-mail of 27 Nov; confirmation of site visit on 4 th Dec. 2018
28/11/18	OWM	All Gov Depts in the meeting including OAA	Difficulty getting FAC members to respond, attend to meeting requests and documents.
29/11/18	Email	Bruce/Jennifer Thomas	Review of Benefits Agreement
29/11/18	Email	Thomas Ciz	Final version (28) of the CBA with attachments
30/11/18	Email Derek Peters	BBryden	Confirmation – site visit Dec 4, 2018
30/11/18	Email	Thomas Ciz/Jennifer MacGillivray	Revisions to Benefits Agreement
30/11/18	Email	Thomas Ciz	Benefits Agreement Edits
01/12/18	Email	Thomas Ciz	Revision 28 of Benefits Agreement
04/12/18	Site visit Goldboro	Mark M, BBryden, (Shane, Darryl and Maureen from Wood), Derek P, Kelly Peters, Kate MacLean from KMKNO)	Goldboro site visit
05/12/18	Email Bbryden	Kate/Derek KMKNO	Follow up archaeology information
05/12/18	Email Bbryden	Uwe	Follow up Moose survey
05/12/18	Email Bbryden	Wade Lewis	DU – wetland compensation – FN
03/12/18	Email	Steve Parsons	Steve. Call me Wednesday, if you can.
01/12/18	Email	Bruse Wildsmith	Version 27.5 Benefits Agreement
03/12/18	Email	Jennifer MacGillivray/Thomas Ciz	Revisions to Benefits Agreement

Date	Type of Contact	Contact with	Topic
03/12/18	Email	Jennifer MacGillivray	I will bring the next draft to the Benefits Committee on Monday and see what they have to say
05/12/18	email	Jennifer MacGillivray	FYI – last week’s draft CBA went in the Assembly kits as an FYI on Monday. The Chiefs were advised there were minor changes to come to the Environmental section and the agreement would most likely be brought forward in January for resolution.
05/12/18	Email	Jennifer MacGillivray	Doesn’t the fact they don’t have the final version potentially jeopardize their approval at the Assembly meeting in January? Also, won’t the agreement be brought forward, as opposed to most likely be brought forward for resolution? Finally, does a positive resolution mean the agreement will be signed immediately at the January meeting of the Assembly, and do you know the date of that meeting? We will be happy to pay the full amount of the December invoice and all other unpaid invoices upon receipt of a signed agreement.
05/12/2018	Email (UWittkugel)	Derek Peters	2018/2019 Program for moose surveys
05/12/2018	Telephone (UWittkugel)	Derek Peters	Clarification re 2018/19 program for moose surveys; site clearing, site contamination and related mgt/mitigation; trenching vs directional drilling.
05/12/2018	Email G Bell (Wood)	Derek Peters	Clarification re watercourse and wetland crossing; trenching vs directional drilling.
05/12/2018	Email BBryden	Derek Peters/Kaitlin MacLean	Submission archaeology contingency plan (Feb 2018) and link to EA Report with description of arch survey work/assessment.
05/12/18	Email / Thomas Ciz	Jennifer MacGillivray	I confirm that Pieridae considers the attached to be its final offer. Please communicate this fact to the Benefits Committee.
11/12/18	Email: Jennifer MacGillivray	Mark Brown / Thomas Ciz	Please be advised the Benefits Committee has recommended the agreement for consideration of the Assembly. The next Assembly meeting is tentatively scheduled for January 30.
21/01/19	Email: Jennifer MacGillivray	Mark Brown	Confirmation of The Assembly meeting scheduled for Jan 31 st
06/01/19	KMKNO Meeting	Mark B & Myron T (Board Chair)	Met with KMKNO in Truro for signing of the Benefits Agreement.
22/01/19	Email BBryden	Derek Peters	Contact information for Kerry Prosper
22/01/19	Email BBryden	Derek Peters	Contact information for Kerry Prosper
04/02/19	Signing of collaborative benefits agreement	Mark Brown, Chief Sidney Peters, Chief Terry Paul, Myron Tetreault	Collaborative benefits agreement ratified
15/02/19	Email Wade Lewis Ducks Unlimited (DU)	Derek Peters	Wetlands compensation FN participation
05/02/19	Email G Bell (Wood)	KMKNO D Peters	Notification of planned bird/moose surveys incl. participation by FN (CMM)

Date	Type of Contact	Contact with	Topic
15/02/19	Email Wade Lewis DU	Derek Peters	Wetlands compensation FN participation
07 and 08/03/19	Field survey	Wood Stephanie Gordon CMM	Winter Moose survey
11/02/19	Meeting	KMKNO	Budget for NSMCBA
11/03/19	Meeting	Eskasoni-Steve Parsons	Camp Construction
20/03/19	Email+Phone	KMKNO	Budget
03/04/19	Email	KMKNO	Budget
05/04/19	Email	KMKNO	Budget
18/04/19	Email	KMKNO	Budget
24/04/19	Email	KMKNO	Budget
07/05/19	Email (2)	KMKNO	Budget
22/05/19	Email	KMKNO D Peters	Invitation information session June 4 2019
29/05/19	Email	KMKNO	FN manager job ad for Pieridae
30/05/19	email	Wood to CMM	Invitation to assist in upcoming field surveys
06/06/19	email	KMKNO D Peters	Posters/fact sheets temp and permanent realignments
09/07/19	Email G Bell (Wood)	KMKNO D Peters	Project Status Update Report & Revised Mi'kmaq Community Communication Plan
16/10/19	email	CLC	Oct 22 2019 meeting agenda and attachments
22/10/19	In person meeting	CLC	CLC meeting
01/11/19	email	CLC	CLC draft minutes for review/comments
01/01/19	email	Derek Peters	Josephine Poulette contact information. Email no longer valid
04/11/19	email	CLC	CLC minutes and attachments
05/11/19	Email Derek Peters	BBryden	Provided phone number
05/11/19	Phone call	Josephine Poulette	No answer and phone did not accept incoming message. Could not leave message.
05/11/19	email	Derek Peters	Relayed message that could not leave phone message.
13/11/19	Email	Darryl MacDonald	Request for sponsorship
March 19 to present	Emails/phone calls	KMKNO	Regular correspondence with KMKNO over the past 8 months. Waiting to finalize the NSMCBA implementation budget.
25/11/19	email	Derek Peters	Information session summary report Oct 2019
27/11/19	email	Derek Peters	Replacement for FN on CLC committee
29/11/19	Email D Peters	Bonnie	Sending to Jennifer MacGillivray for follow up
16/12/19	Email	Jennifer MacGillivray	KBR contact
16/1/20	Email	Jennifer MacGillivray	Sponsorship Letter
30/1/20	Email	Jennifer MacGillivray	Meeting Request
10/2/20	Email	Jennifer MacGillivray	KBR contact
24/2/20	Email	Jennifer MacGillivray	Scan of signature page
24/2/20	Meeting	Jennifer MacGillivray/Barb Adams	Budget meeting/Introduction of new Relationship Manager (Gareth Stuart)
26/2/20	Email	Jennifer MacGillivray	Signature request

Date	Type of Contact	Contact with	Topic
27/2/20	Email	Jennifer MacGillivray	Signature request
2/3/20	Email	Jennifer MacGillivray	Fully executed Pieridae/Mi'kmaq CBA
3/3/20	Email	Jennifer MacGillivray	Meeting information
6/3/20	Email	KMKNO and Chiefs	Meeting with Alfred Sorenson
12/3/20	Email	Jennifer MacGillivray	Update re KMKNO/KBR meeting
14/3/20	Meeting	Jennifer MacGillivray	Meeting Gareth Stuart to start CBA implementation
14/3/20	Email	Jennifer MacGillivray	Monthly report and invoice
23/3/20	Email	Jennifer MacGillivray	Monthly report
26/3/20	Email	Jennifer MacGillivray	Monthly report
2/6/20	email	Derek Peters	Spring Newsletter
18/06/20	Email G Bell (Wood)	KMKNO D Peters	Project Status Update Report
16/7/2020	email	Derek Peters	Termopol
16/7/20	Phone call	Derek Peters	Update approvals/permits
16/7/20	emails	Derek Peters	FAC files:2019, 2018, and earlier
14/9/20	Phone call	Derek Peters	Letter: project status update highway 316
16/9/20	Phone call	Derek Peters	Engagement timelines (30 days)
13/10/20	emails	Derek Peters	Risk Mgt Plan, Env Control Plans, AQ Plan, Assim Capacity Plan, Project Changes Realignment 316.
3/11/20	email	Derek Peters	Invitation to Nov 18, 2020 information session
17 and 20/11/20	emails	Derek Peters	Avian radar emails
20/11/20	email	Derek Peters	Goldboro LNG Road Realignment presentation and comment cards
20/11/20	Email	Derek Peters	Avian radar training
27/11/20	email	Derek Peters	Avian radar contact list
27/11/20	email	Derek Peters	Project Changes Report
25 to 26 Nov 2020	Work contract re assistance with fieldwork	Contract with Confederacy of Mainland Mi'kmaq (CMM)	Fall 2020 Moose Survey (on and off site)



Goldboro LNG Project Information Session

November 18, 2020

Pieridae Energy
PEA.TO

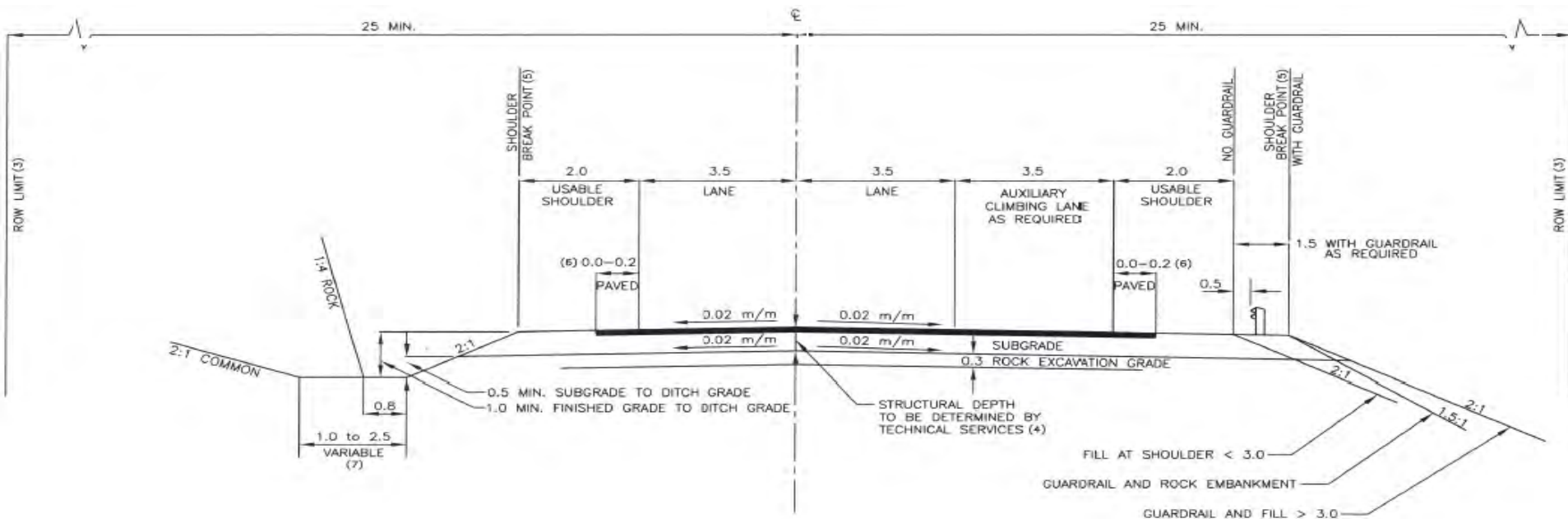
Schedule

- **Clearing:** Q3 2021
- **Road realignment:** Q3 2021 (Start of Construction)
- **Fresh water pipeline:** Q3 2021
- **FID:** 1 July 2021
- **Site development:** Q4 2021 (Start of Construction)
- **Marine works:** Q1 2022 (Start of Construction)
- **Start of Operation:** 2025

Project Update

Realignment of Marine Drive

- New Alignment: approx. 6 km
- Standard: Collector (E), 2 to 3 lanes
- ROW width: 2x25m
- Watercourses: 6 crossings
- Cul-de-Sacs: access maintained



Realignment of Marine Drive

Natural Environment Features

- Habitat Type (Field Identified) 2020**
- CB1 – Common Juniper – Black Crowberry wet Coastal Shrubland Barren
 - CO1 – Black spruce – Balsam fir / Foxberry / Plume moss Forest
 - CO1 – Black spruce – Balsam fir / Foxberry / Plume moss Forest (Regen and Matur)
 - CO1 – Black spruce – Balsam fir / Foxberry / Plume moss Forest (Regenerative)
 - CO4 – Balsam fir / Foxberry - Twinflower Forest
 - CO4 – Balsam fir / Foxberry – Twinflower Forest (Regenerative)
 - Cut-over (upland)
 - OF1 – White spruce / Aster – Goldenrod / Shaggy moss Forest
 - OF1 – White spruce / Aster – Goldenrod / Shaggy moss Forest / Abandoned Field
 - OF5a - Largetooth aspen - Gery birch / Rough goldenrod - Strawberry
 - SL1 - Alder
 - SL2 - Mountain Ash - Wild Raisin Shrubland



LEGEND:

- Hwy 316 Road Realignment ROW
- Hwy 316 Road Realignment
- Roads
- Watercourse
- Field Verified Streams (2020)
- LNG Facility Footprint
- Proposed Temporary Work Camp/Laydown
- Field Identified Wetland (2020)

Habitat Type

- Alder
- Barren
- Cleared Land
- Coniferous Forest
- Disturbed Regenerating
- Ericaceous Shrubs Barren
- Tall Shrubs
- White Spruce Forest
- Young (Regenerating) Coniferous Forest

0 125 250 500 750 1,000
Meters

The map shown here has been created with all due and reasonable care and is certified for use with Wood. Project Number: TA1988201. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranty of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

CLIENT:
PIERIDAE ENERGY LIMITED

wood.

PROJECT:
**GOLDBORO LNG PROJECT
HIGHWAY 316 REALIGNMENT**

TITLE:
ENVIRONMENTAL FEATURES

DATUM:	NAD 83	DWN BY:	CM	DATE:	OCT 2020
PROJECTION:	UTM ZONE 20 NORTH	CHKD BY:	UW	SCALE:	1:15,000
PROJECT NO.:	TE201007	REV NO.:	0	FIGURE NO.:	FIGURE 4-1

Path: G:\3160 PROJECT\87626\1007_Pieridae_Energy_Goldboro LNG\SMD\500_316 RD REALIGNMENT PRO\UPDATE\1007_FIGURE_4_1_Environment\fig4env.mxd User: caroline.mcdonald Date: 10/20/20

Project Update

Other Proposed Changes:

- Expansion of Laydown Areas
 - 55 ha, no water courses
- New Work Camp Location
 - 30 ha, former SOEP Gas Plant
- Refined Water Management
 - Drainage to Dung Cove Pond reduced; site run off to be treated on-site
 - One outlet to marine environment



- 1 - Expanded Laydown Area**
- 2 - New Camp Location**
- 3 - Drainage to Dung Cove Pond**

Introduction to the team

Audrey Bard - Bechtel

Mark Brown - Pieridae

Heinie Brunner - Pieridae

Barb Bryden - Pieridae

Mark MacLellan - Pieridae

Andy Mukherjee - Pieridae

James Millar - Pieridae

Bonnie Sheppard - Pieridae

Uwe Wittkugel - Wood

Questions and Answers

The remaining time will be for Q & A's

**Please take all your belongings when leaving the session*

Thank you for your interest!

For further information or feedback contact:

Email: info@pieridaenergy.com

Or visit our Project website:

www.pieridaenergy.com



PIERIDAE ENERGY



Additional Information

Immediate Next Steps

- Environmental:
 - Clearing (road corridor, laydown areas)
 - Geotechnical drilling program (marine)
 - Baseline noise monitoring
- Engagement, Consultation
 - Fisheries Committee Meetings (Offset Plan)
 - Community Liaison Committee (Project Update, Changes)
 - Newsletter

Realignment of Marine Drive



Watercourse Crossings

Realignment of Marine Drive

Environmental Work Completed

- Watercourse surveys (water quality, flow, sediment sampling, e-fishing)
- Wetland inventory, Species at Risk surveys, bird surveys
- Soil sampling
- Archaeological assessment
- Comprehensive Project Description
 - environmental features
 - potential for effects, mitigation, monitoring
 - permits and approvals (DFO, NSE)

Realignment of Marine Drive



Land Use Features

LEGEND:

- Residence/Outbuilding Location
- Heritage Resource
- Water Well (Tested)
- Highway 316 Realignment ROW
- Highway 316 Realignment
- Roads
- Watercourse
- LNG Facility Footprint
- Proposed Temporary Work Camp/Layoutdown

0 125 250 500 750 1,000
Meters

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Project Number: TE201007. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

CLIENT:
PIERIDAE ENERGY LIMITED

wood.

PROJECT:
**GOLDBORO LNG PROJECT
HIGHWAY 316 REALIGNMENT**

TITLE:
SOCIOECONOMIC FEATURES

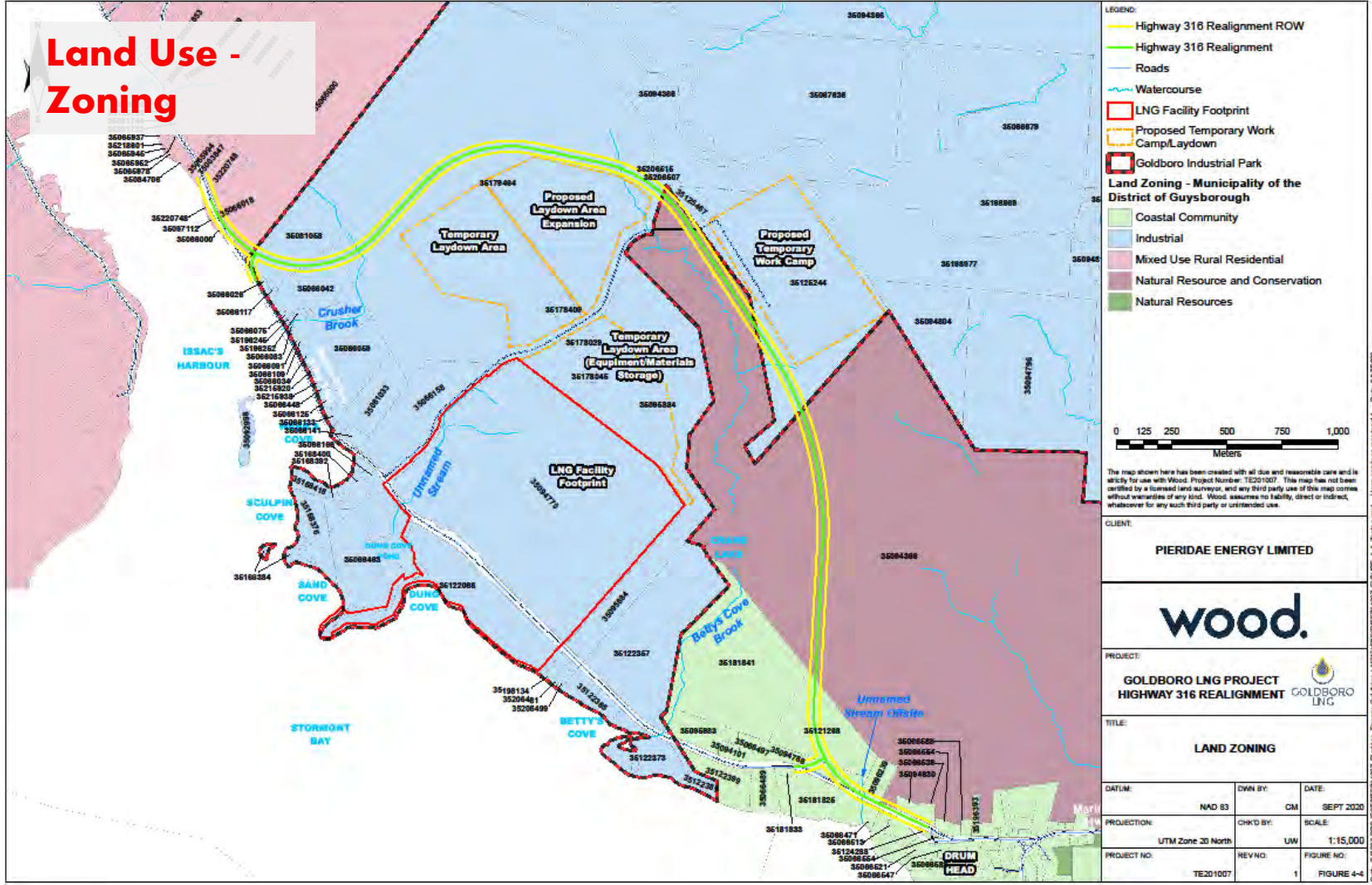
DATUM:	NAD 83	DWN BY:	CM	DATE:	SEPT 2020
PROJECTION:	UTM ZONE 20 NORTH	CHK'D BY:	UW	SCALE:	1:15,000
PROJECT NO.:	TE201007	REV'G:	1	FIGURE NO.:	FIGURE 4-2

PIERIDAE ENERGY

PIERIDAE ENERGY LIMITED | 1007_Features_SocioEconomic | Figure 4-2 | Goldboro LNG Project | Date: 01/2020

Realignment of Marine Drive

Land Use - Zoning



Path: G:\2020 PROJECTS\TE201007_Features_Energy_Goldboro_LNG\WOODHEAD\TE201007_FIGURE_4-4_Zoning.mxd User: carmine.mosher Date: 07/20/20

Realignment of Marine Drive

Water and Soil Sampling



LEGEND:

- Previously Unmapped Abandoned Mine Opening (AMEC, 2013)
- Mapped Abandoned Mine Opening (AMEC, 2006)
- Gold Identified
- NS DNR Identified AMO (gold)
- Benthic Sample Location
- Surface Water Sample Location
- Sediment Sample Location
- Soil Sample Location - July 2020
- Soil Sample Location - June 2020
- Flow Sampling Location, May 2020
- Highway 316 Realignment ROW
- Highway 316 Realignment
- Roads
- Watercourse
- Area of Potential Environmental Concern (APEC)
- LNG Facility Footprint
- Proposed Temporary Work Camp/Laydown

0 125 250 500 750 1,000
Meters

The map shown here has been created with all due and reasonable care and is strictly for use with Wood. Project Number: TE201007. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

CLIENT:
PIERIDAE ENERGY LIMITED

wood.

PROJECT:
GOLDBORO LNG PROJECT
HIGHWAY 316 REALIGNMENT

TITLE:
SAMPLING LOCATIONS AND
ABANDONED MINE OPENINGS

DATUM:	NAD 83	DWN BY:	CM	DATE:	OCT 2020
PROJECTION:	UTM Zone 20 North	CHK'D BY:	UW	SCALE:	1:15,000
PROJECT NO.:	TE201007	REV. NO.:	1	FIGURE NO.:	APPENDIX B-1

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the User

PIERIDAE ENERGY LIMITED - Environmental Services - Appendix B-1 - Sampling Locations, AMOs.mxd - Date: 10/12/2020

Realignment of Marine Drive



LEGEND:

- Alternative Alignment 1
- Alternative Alignment 2
- Alternative Alignment 3
- Temporary Detour Road
- Roads
- Watercourse
- LNG Facility Footprint
- Proposed Temporary Work Camp/Laydown

0 125 250 500 750 1,000
Meters

The map shown here has been created with all due and reasonable care and is solely for use with Wood. Project Number: TE201007. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

CLIENT:
PIERIDAE ENERGY LIMITED

wood.

PROJECT:
GOLDBORO LNG PROJECT HIGHWAY REALIGNMENT

TITLE:
ALTERNATIVE ROUTES CONSIDERED

DATUM:	DWN BY:	DATE:
NAD 83	CM	SEPT 2020
PROJECTION:	CHKD BY:	SCALE:
UTM Zone 20 North	UW	1:20,000
PROJECT NO:	REV NO:	FIGURE NO:
TE201007	2	APPENDIX A-1

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User

Path: G:\2020 PROJECTS\TE201007_Pieridae_Energy_Goldboro_LNG\GIS\20201007_A1\PIE\MDA_A1_AlternativeRoutesConsidered.mxd User: camilac.mcdonald Date: 09/23/2020

Alternative Road Alignments

Realignment of Marine Drive

Valued Environmental Components (VECs)	Geology, Soil / Sediment Quality	Groundwater Resources	Surface Water Resources	Terrestrial Habitat and Vegetation	Species at Risk (SAR)	Human Health and Safety	Existing and Planned Land Use	Wetlands	Terrestrial Fauna	Freshwater Aquatic Species and Habitat	Archaeological
Works and Activities											
Construction											
Site Preparation	•		•	•				•		•	•
Roadbed Preparation		•	•	•				•		•	•
Watercourse Alteration (Crossings)			•	•				•		•	
Surfacing and Finishing											
Operation and Maintenance											
Highway Operation				•			•		•		
Road and ROW/Infrastructure Maintenance			•	•				•		•	
Winter Maintenance		•	•	•		•		•		•	
Vegetation Maintenance				•							
Accidents and Unplanned Events	•	•	•	•	•	•		•		•	
Spills		•	•	•				•		•	
Erosion and Sediment Control Failures			•	•				•		•	
Fire				•		•					•
Vehicular Collisions			•	•		•		•		•	

Potential Project-Environment Interactions

Realignment of Marine Drive



Realignment of Marine Drive

Management / Protection / Monitoring	EPP incl. Erosion and Sediment Control Plan	Risk Management Plan	Environmental Control Plan	Air Emissions Mgmt. Plan (Dust)	Sulphide Bearing Materials Mgmt. (SBM) Plan	Noise Monitoring Plan	Bird, Bat, Moose Monitoring and Research Plans	Wetland Management Plan and Compensation	Fisheries Mitigation and Offset Plan	Baseline characterization, Assimilative Capacity Study	Monitoring Plan for All Receiving Environments	Archaeological Contingency and Monitoring Plan	Pre-Blast Water Well Survey	Traffic Management Plan
VEC														
Geology, Soil/Sediment Quality		x	x		x					x	x			
Groundwater Resources		x			x						x		x	
Surface Water Resources	x	x	x		x				x	x	x			
Terrestrial Habitat and Vegetation	x													
Species at Risk (SAR)						x	x			x	x			
Wetlands	x							x						
Terrestrial Fauna (Incl. birds)						x	x			x				
Aquatic Species and Habitat	x	x							x	x	x			
Human Health and Safety	x	x	x	x		x				x			x	x
Existing and Planned Land Uses	x												x	x
Archaeological Resources	x											x		

Environmental Management and Protection