

**Review of the Environmental Assessment (EA) Screening Report  
Proposed FarmTech Ethanol Production Facility (Oshawa Harbour)  
CEAR Project No. 08-01-42395**

**TABLE OF CONTENTS**

**PART 1: Legal Review of FarmTech Ethanol Facility, prepared by Fogler,  
Rubinoff LLP, August 10, 2011**

	Page
<b>EXECUTIVE SUMMARY.....</b>	<b>1</b>
<b>1.0 INTRODUCTION.....</b>	<b>2</b>
<b>2.0 LEGAL FAILINGS.....</b>	<b>3</b>
2.1 The Screening Report Fails to Plan for Sustainable Development .....	3
2.2 Failure to Address the Requirements of the Settlement Agreement and LUDMS Agreement.....	4
2.3 Failure To Assess Environmental Effects on Surrounding Land Uses .....	8
2.4 Failure to Assess Compliance with the Siting Requirements of the Federal Ethanol Project Guidelines .....	9
<b>3.0 THE SCREENING REPORT FAILS TO ASSESS ENVIRONMENTAL EFFECTS OF ACCIDENTS AND MALFUNCTIONS .....</b>	<b>10</b>
<b>4.0 THE SCREENING REPORT FAILS TO ASSESS ADVERSE ENVIRONMENTAL EFFECTS FROM CONSTRUCTION AND OPERATIONAL PHASES OF THE PROJECT .....</b>	<b>13</b>
4.1 Air Quality .....	14
4.2 Impacts on Human Health From Changes to Air Quality .....	14
4.3 Odour .....	16
4.4 Fogging and Icing .....	16
4.5 Noise .....	16
4.6 Surface Water and Aquatic Receptors:.....	17
4.7 Groundwater.....	17
4.8 Terrestrial Ecology and Wetlands .....	18
<b>5.0 FAILURE TO EVALUATE CUMULATIVE ENVIRONMENTAL EFFECTS .....</b>	<b>19</b>
5.1 The Combination of Past, Present and Future Projects or Activities.....	20
5.1.1 Cumulative Effects from Past and Present Projects or Activities .....	20
5.1.2 Cumulative Effects from Future Projects and Activities .....	21

**TABLE OF CONTENTS**

5.2 Combination of Different Individual Environmental Effects ..... 22

**6.0 FAILURE TO COMPLY WITH PROVINCIAL ENVIRONMENTAL STANDARDS ... 23**

**7.0 CONCLUSION ..... 26**

**PART 2: Planning Report re Review of Environmental Assessment (EA)  
Screening Report, prepared by the City of Oshawa, August 10, 2011**

	Page
<b>EXECUTIVE SUMMARY.....</b>	<b>28</b>
<b>1.0 INTRODUCTION.....</b>	<b>32</b>
1.1 Project Overview .....	32
1.2 Key Findings.....	33
<b>2.0 LAND USE COMPATIBILITY.....</b>	<b>33</b>
<b>3.0 SOCIO-ECONOMIC CONDITIONS .....</b>	<b>38</b>
3.1 Population.....	38
3.1.1 Sensitive Land Uses.....	38
3.1.2 Employment Levels.....	40
3.2 Land Use .....	40
3.2.1 Efficient and Effective Use of Port Lands .....	41
3.2.2 City of Oshawa Official Plan .....	46
3.2.3 Zoning By-law No. 60-94.....	51
3.2.4 Urban Design .....	52
3.2.4.1 Oshawa Official Plan.....	52
3.2.4.2 Gifford Farm Urban Design Plan and Design Guidelines.....	59
3.2.4.3 Synopsis .....	62
3.2.5 Land Use Vision for the Harbour Area Precinct.....	63
3.2.6 Potential Future Processes and/or Plant Expansion .....	66
3.2.6.1 Non-Corn Derivatives.....	66
3.2.6.2 Wet-Cake .....	66

**TABLE OF CONTENTS**

3.2.6.3 Future Phases of Project .....	67
3.2.6.4 Potential Expansion of Capacity .....	67
3.2.7 Identification of Transportation Routes .....	68
3.3 Cultural Resources .....	69
3.4 Existing Noise Level .....	70
3.5 Recreation Areas .....	70
3.5.1 Second Marsh .....	71
3.5.2 Ontario Waterfront Trail .....	71
3.5.3 Lakeview Park .....	73
3.5.4 Montgomery Creek Provincially Significant Wetland .....	73
3.6 Safety Issues .....	73
3.6.1 Traffic Issues and Road Upgrades .....	73
3.6.2 Building/Fire Safety .....	80
3.7 Visual Landscape .....	81

**PART 3: Technical Peer Review of FarmTech Ethanol Facility, prepared by  
Novus Environmental, August 10, 2011**

	Page
<b>EXECUTIVE SUMMARY.....</b>	<b>84</b>
<b>1.0 INTRODUCTION.....</b>	<b>88</b>
<b>2.0 THE PROJECT IN BRIEF.....</b>	<b>88</b>
2.1 CEEA Screening Report Requirements.....	89
2.2 Key Findings of the Peer Review.....	89
2.3 Key Findings.....	90
<b>3.0 LAND USES AND GEOPHYSICAL SURROUNDINGS.....</b>	<b>90</b>
3.1 Zone of Influence.....	91
3.2 Community Plans and Zoning.....	93
3.3 Location of Sensitive Receptors within the 1000 m Area of Influence .....	94

**TABLE OF CONTENTS**

3.4 Transportation Routes ..... 96

3.5 Summary ..... 96

**4.0 AIR QUALITY ..... 96**

4.1 Construction ..... 97

4.2 Operations ..... 98

    4.2.1 Modelling Deficiencies..... 98

        4.2.1.1 Emission Sources ..... 98

        4.2.1.2 Meteorological Data ..... 99

        4.2.1.3 Dispersion Modelling..... 101

        4.2.1.4 Haul Route Traffic ..... 101

        4.2.1.5 Ecological Receptors ..... 102

    4.2.2 Odour Impacts..... 102

    4.2.3 Particulate Matter and Human Health ..... 103

    4.2.4 Fogging and Icing..... 105

4.3 Effect of the Environment on the Project ..... 105

4.4 Malfunctions / Accidents ..... 105

4.5 Cumulative Effects and Human Health ..... 105

    4.5.1 Background Air Quality ..... 106

    4.5.2 Other Sources ..... 106

4.6 Monitoring ..... 109

**5.0 NOISE AND VIBRATION ..... 110**

5.1 Construction ..... 110

5.2 Operations ..... 111

    5.2.1 Baseline Noise Environment ..... 112

        5.2.1.1 Points of Reception..... 112

        5.2.1.2 Existing Ambient Noise Levels ..... 114

    5.2.2 Modelling Deficiencies..... 116

        5.2.2.1 Applicable Noise Guidelines ..... 116

        5.2.2.2 Noise Sources and Noise Emission Estimates ..... 117

**TABLE OF CONTENTS**

5.2.2.3 Experience at Other Similar Facilities ..... 117

5.2.2.4 Haul Route Noise..... 118

5.2.3 Potential Changes in Sound Levels Within Second Marsh..... 119

5.2.3.1 Applicable Noise Guidelines ..... 119

5.2.3.2 Baseline Conditions in the Marsh..... 119

5.2.3.3 Predicted Sound Levels ..... 120

5.3 Cumulative Effects..... 121

5.4 Monitoring..... 123

**6.0 SURFACE WATER QUALITY AND EFFLUENT CONTROL ..... 124**

6.1 Design Considerations ..... 125

6.2 Construction ..... 127

6.3 Operations ..... 127

6.4 Effect of the Environment on the Project ..... 129

6.5 Malfunctions / Accidents ..... 129

6.6 Cumulative Effects..... 130

6.7 Monitoring..... 130

**7.0 GROUNDWATER AND SOIL QUALITY ..... 130**

7.1 Background Groundwater Quality and Hydrogeology..... 131

7.2 Background Soil Quality ..... 132

7.3 Construction ..... 133

7.4 Malfunctions / Accidents ..... 133

7.5 Cumulative Effects..... 133

7.6 Monitoring..... 133

**8.0 AQUATIC HABITAT ..... 134**

8.1 Construction ..... 134

8.2 Operations ..... 135

8.2.1 Assessment Deficiencies..... 135

8.2.1.1 Habitat Mapping..... 135

8.2.1.2 Mixing Zone Analysis ..... 135

**TABLE OF CONTENTS**

8.2.1.3 Recreational/Economic Use.....	136
8.2.2 Impact Assessment .....	136
8.3 Effect of the Environment on the Project .....	137
8.4 Malfunctions / Accidents .....	137
8.5 Cumulative Effects.....	138
8.6 Monitoring.....	138
<b>9.0 HAZARDS AND RISKS .....</b>	<b>138</b>
9.1 Quantitative Risk Analysis .....	139
9.2 Site Location.....	140
9.3 Specific Issues.....	141
9.3.1 ESR – Farmtech Ethanol Facility (prepared by AMEC), June 2011.....	141
9.3.2 ESDM Report for Proposed Ethanol Production Facility in Oshawa, Ontario .....	142
9.4 Fire Safety .....	142
9.5 Summary .....	142
<b>10.0 TERRESTRIAL AND WETLAND ECOLOGY .....</b>	<b>143</b>
<b>11.0 CONCLUSIONS .....</b>	<b>144</b>
11.1 Deficiencies .....	145
<b>12.0 REFERENCES.....</b>	<b>177</b>
 <b>LIST OF FIGURES</b>	
Figure 1: Sensitive Land Uses in the Area Surrounding the Facility .....	95
Figure 2: Wind Frequency Distribution Diagrams for Pearson and Oshawa Airports ..	100
Figure 3: Sensitive Land Uses in the Area Surrounding the Facility .....	114
Figure 4: Noise Contour Prediction From ESR Report (ESR Figure 5-4) .....	120
Figure 5: Land Uses and Receptors Located along Haul Routes.....	123
 <b>LIST OF TABLES</b>	
Table 1: Guideline D-6 – Potential Influence Areas and Recommended Minimum Setback Distances for Industrial Land Uses	91
Table 2: Guideline D-6 – Industrial Categorization Criteria	92

## TABLE OF CONTENTS

Table 3: Contaminants Emitted from Ethanol Facilities with Air Quality Standards	107
Table 4: Measured Ambient Sound Levels in the Area Versus MOE Criteria	115
Table 5: Noise Mitigation Measure Comparison	118
Table 6: Changes In Sound Levels In Second Marsh (Table 5-4 of ESR Appendix E)	121
Table 7: Ethanol Plants With Filed E2 Emergency Plans	139
Table 8: List of Major Deficiencies and Tasks	147

### **PART 4: Appendices**

Appendix A	July 15, 2010 Settlement Agreement
Appendix B	July 15, 2010 Land Use, Development and Municipal Services Agreement
Appendix C	Recommendations for the Future of Oshawa Harbour – A Report by The Honourable David Crombie, P.C., O.C.
Appendix D	Sensitive Land Uses Within 1 km of Proposed Ethanol Facility
Appendix E	Existing Sensitive Outdoor Recreational Areas Within 1 km of Proposed Ethanol Facility
Appendix F	Harbour Area Concept Plan
Appendix G	Municipal Register of Listed Properties – Second Marsh
Appendix H	Municipal Register of Listed Properties – Lakeview Park
Appendix I	Estimation of Site Trip Generation (City of Oshawa)
Appendix J	Transportation Study Format and Required Elements
Appendix K	Review Team, Novus Environmental
Appendix L	Ontario Ministry of the Environment Response to FarmTech EA Screening Report
Appendix M	Peer Review by SENES Consultants Ltd. Re: Potential Air Quality Impacts of Proposed FarmTech Ethanol Plant
Appendix N	Health Canada Comments on FarmTech Ethanol Project

## **TABLE OF CONTENTS**

Appendix O	MOE Amended Certificates of Approval (Air)
Appendix P	EBR Posting 011-4029: McAsphalt Industries
Appendix Q	Peer Review by Jade Acoustics Re: Potential Acoustic Impacts of Proposed FarmTech Ethanol Plant
Appendix R	Peer Review by Novus Environmental Re: Potential Acoustic Impacts of Proposed FarmTech Ethanol Plant
Appendix S	Peer Review by XCG Consultants Ltd. Re: Surface Water and Groundwater Concerns for Proposed FarmTech Ethanol Plant
Appendix T	Review by EcoMetrix Incorporated of Proposed FarmTech Ethanol Facility EA
Appendix U	Review by Auckman Consulting Inc. of Hazard and Risk Issues Re: Proposed FarmTech Ethanol Plant
Appendix V	History of Ethanol Plant Explosions/Fires (North America)
Appendix W	Peer Review by AECOM Re: Potential Environmental Impacts of Proposed FarmTech Ethanol Plant
Appendix X	Peer Review Update by AECOM Re: Potential Environmental Impacts of Proposed FarmTech Ethanol Plant