MMM Group Limited

Twin Oaks Drive Class Environmental Assessment

Prepared for: City of Windsor

COMMUNITIES

TRANSPORTATION

BUILDINGS

INFRASTRUCTURE

MMM GROUP

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1.0 INTRODUCTION

1.1 BACKGROUND

The Twin Oaks Business Park in the City of Windsor, Ontario is a mix of existing developments and vacant land for future businesses. CS Wind is one of the existing businesses in the Twin Oaks Business Park. Due to planned expansion of shipping methods at the CS Wind property, a rail spur is required to ship and receive material entering and exiting the CS Wind property – see Figure 1 Study Area. A rail spur track is required to extend northward from the Canadian Pacific Railway main track (between Lauzon Road and Banwell Road) to the south side of the CS Wind property limits. The proposed alignment of the rail spur track crosses lands owned by the City. To accommodate the rail spur, some City infrastructure will be impacted and the future extension of Twin Oaks Drive will need to be accommodated to cross the rail spur.

Figure 1: Study Area

In the fall of 2011, the City of Windsor initiated a Class Environmental Assessment (EA) study to address the impacted infrastructure, extension of Twin Oaks Drive and the relocation of Lachance Drain. MMM Group Limited was retained by the City of Windsor to complete the study.

2.0 NEEDS ASSESSMENT AND JUSTIFICATION

2.1 PROBLEM/OPPORTUNITY STATEMENT

Phase 1 of the Class EA process is to define the specific problem or deficiency that requires improvement. From the problem statement, potential solutions can be identified and evaluated, and a preferred solution developed.

The problem being addressed is described as follows:

- Existing infrastructure (including Twin Oaks Drive) is not adequate to support the planned implementation of a rail spur to CS Wind.

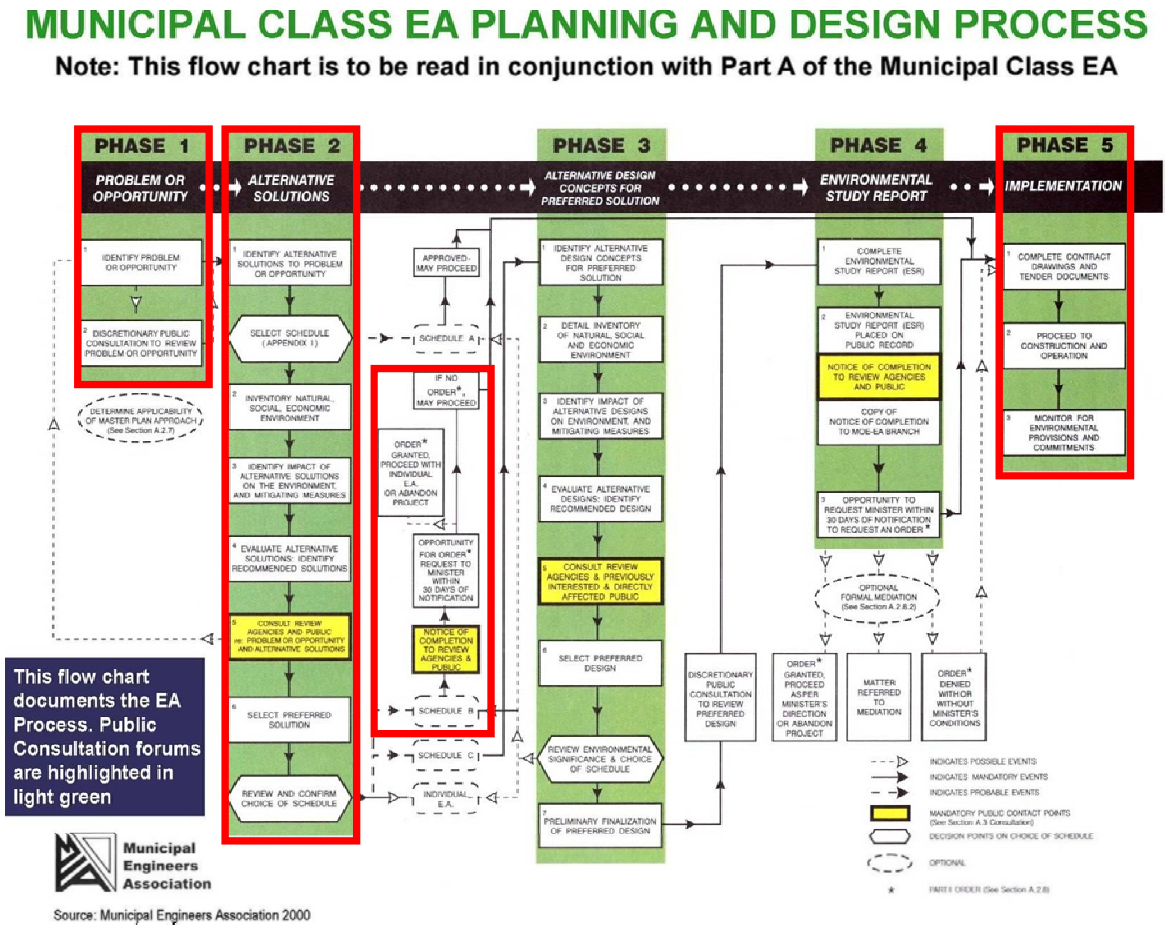
The following infrastructure improvements are being considered in addition to the problem statement:

- In order to provide additional transportation capacity for CS Wind, a rail spur is required between the CPR main track and the existing CS Wind Facility;
- In order to improve the use of City of Windsor lands adjacent to the rail spur, a portion of Lachance Drain is to be relocated;
- In order to protect for future servicing of the lands on the east side of the rail spur, options for extending the existing servicing to the east of the rail spur are being considered; and
- In order to protect for future extension of Twin Oaks Drive, options for extending Twin Oaks Drive to the east of the rail spur are being considered.

The focus of this Environmental Assessment is to address the impacts to and alternatives for Twin Oaks Drive. This EA is being undertaken as a Schedule B, following the Municipal Engineers Association (MEA) Municipal Class EA process.

Municipal road, water and wastewater projects are included in the Municipal Class Environmental Assessment parent document, which was prepared by the Municipal Engineers Association (2000, amended in 2007 and 2012). The MEA parent process provides a standardized method for considering municipal infrastructure projects which are:

a) Recurring;
b) Similar in nature;
c) Generally limited in scale;
d) Exhibit a predictable range of environmental effects; and,
e) Responsive to mitigation measures.



This study follows the Class EA planning process, requiring the integration of sound engineering judgment, prudent long-term planning, and measures for the protection of all aspects of the environment (i.e. natural, social, and economic aspects). The process also requires consultation with the public and government review agencies (i.e. stakeholders) in order to: obtain comments and input; ensure regulatory compliance; and, ultimately, achieve acceptance for the preferred alternative.

MEA Project Schedules

Based on their characteristics, the Municipal Class EA parent document categorizes eligible projects into one of three Schedules: A/A+, B, or C. The applicable Schedule dictates the depth and detail that must be achieved in the planning and design phases of the study. The following outlines the different steps and levels of effort required for projects subject to each schedule:

Schedule A / A+

This Schedule generally includes normal or emergency operational and maintenance projects with minimal environmental effects. Schedule A+ projects require the public to be advised prior to the start of construction work.

Schedule B

This Schedule generally includes improvements and minor expansions to existing facilities. Since these projects have the potential for some adverse environmental effects, Phases 1 and 2 of the MEA process must be undertaken. Specifically, the proponent must consult with affected agencies and members of the public, then document the process followed and consultation completed by preparing a Project File Report (PFR). When completed, the proponent must make the Report available for agency and public review for 30 calendar days. If no Part II Orders, or "bump-up requests", are received, the project may proceed to implementation.

Schedule C

This Schedule generally includes the construction of new facilities and major expansion to existing facilities. Projects falling within this Schedule require the proponent to complete Phases 1 through 4 of the MEA process. Specifically, the proponent must:

- Undertake more detailed study, public consultation and documentation. This includes contacting affected members of the public on at least three occasions during the study and consulting with relevant regulatory agencies;
- Prepare an Environmental Study (ESR) Report documenting: the process that was followed; comments received; responses provided; and, commitments made to address potential effects; and,
- When completed, make the ESR available for agency and public review for 30 calendar days. If no Part II Orders, or "bump-up requests", are received, the project may proceed to Phase 5, implementation.

This project falls within Schedule B of the MEA process as it represents an improvement/ minor expansion to a municipal road.

2.2 PROJECT DESCRIPTION

The Municipal Class EA describes the process that proponents (in this case, the City of Windsor) must follow to meet the requirements of the Act. This process reflects the following key principles:

- Consideration of a reasonable number of alternatives, including the "do nothing" alternative.
- Consultation with all affected parties.
- Identification and consideration of the effects of each alternative on all aspects of the environment.
- Systematic evaluation of alternatives in terms of their advantages and disadvantages with respect to all aspects of the environment.
- Provision of clear and complete documentation of the planning process followed, to allow "traceability" of decision-making with respect to the project.

3.0 EXISTING CONDITIONS

3.1 NATURAL ENVIRONMENT

Ecoplans, a member of MMM Group, conducted an investigation of the existing natural environment. The results of the investigation and proposed mitigation are included in in Appendix A – Natural Environment and Appendix B – Fish Habitat Compensation Plan.

To assist with the detailed design of the relocated Lachance Drain, a hydrology report was completed which identified the required culvert sizes and characteristics of the drain which would support the recommendations of the Natural Environment and Fish Habitat reports. A copy of the hydrology report is included in Appendix C.

3.2 SOCIO-ECONOMIC ENVIRONMENT

3.2.1 HERITAGE/ARCHAEOLOGICAL RESOURCES

Archeoworks Inc. was retained to conduct a Stage 1 archaeological assessment (AA) of the study area (land located within in part of Lots 136-140, Concession 3 in the Geographic Township of East Sandwich (see study area in Appendix D – Archaeological Assessment). The Stage 1 AA identified potential for the recovery of historic Euro-Canadian and Aboriginal archaeological remains within undisturbed portions of the study area due to the proximity of the Little River, which would have been able to sustain food resources within 300 metres of its limits. In addition, a review of historic maps and the local history of the area revealed that the study area lies immediately adjacent to a historic road laid out in 1795. A desktop review of field conditions through Google Street View confirmed the presence of features indicating extensive disturbance (i.e. removal or archaeological potential) within the footprints of several existing buildings, paved areas and roadways within the study area, as well as lack of evidence of complete disturbance in other portions of the study area.

As a result of these findings, the areas currently occupied by present-day structures, paved lots and roadways were exempted from further archaeological work. The remainder of the entire study area is considered to have archaeological potential, and thus recommended to undergo a Stage 2 AA employing pedestrian survey in ploughed agricultural fields, and shovel test pit survey in all remaining areas, at standard intervals of 5 metres, prior to any construction activities.

A Stage 2 AA was conducted in the spring of 2012 and did not find any archaeological findings. No further work is recommended.

4.0 IDENTIFICATION AND EVALUATION OF ALTERNATIVES

4.1 ALTERNATIVES UNDER EVALUATION

The planning scenarios initially considered are broad alternatives to address the inability of Twin Oaks Drive to support the expansion of CS Wind. They were evaluated to identify significant beneficial and detrimental aspects relative to both transportation and the environment. A total of five options were considered in the initial evaluation of alternatives, they are:

- Option A - Do Nothing Alternative
- Option B - Extend Twin Oaks Drive along its current alignment
- Option C – Extend Twin oaks Drive from the end of Valtec Court
- Option D **-** Construct a new access road connecting to Anchor Drive to service the lands to the east of the railway spur
- Option E - Extend Intersection Road to the west of Banwell Road to a point just east of the rail spur

Options B, C, and D are detailed in the figures below.

Figure 2: Option B

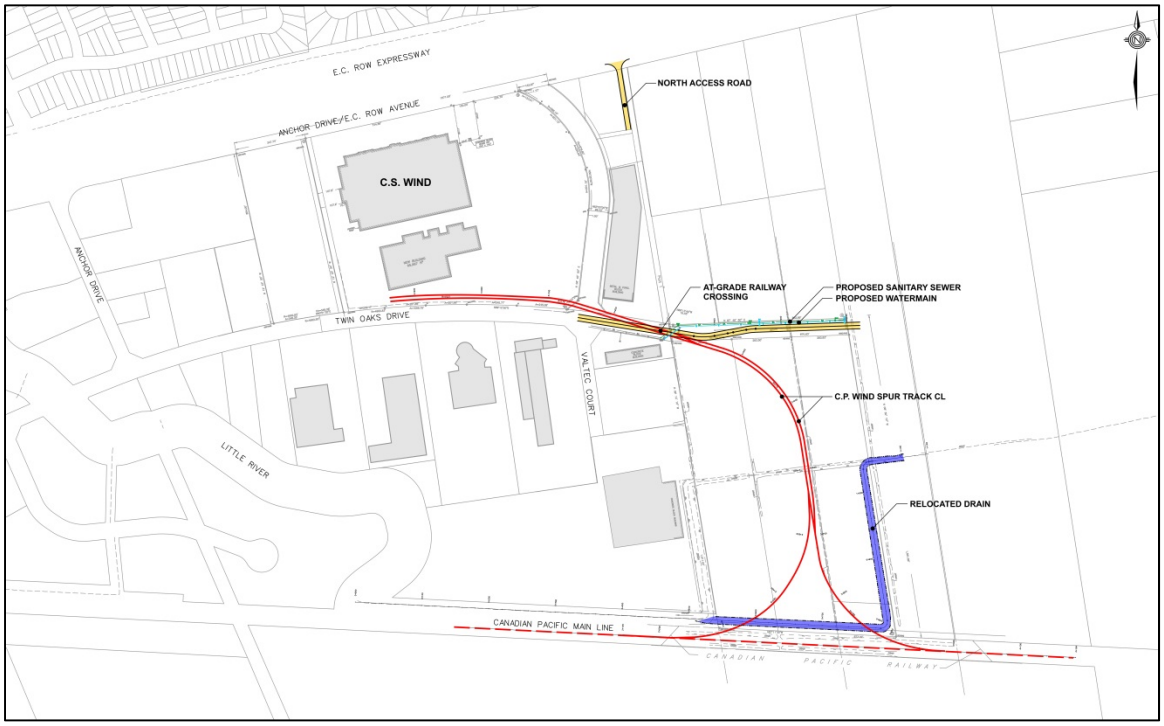


Figure 3: Option C

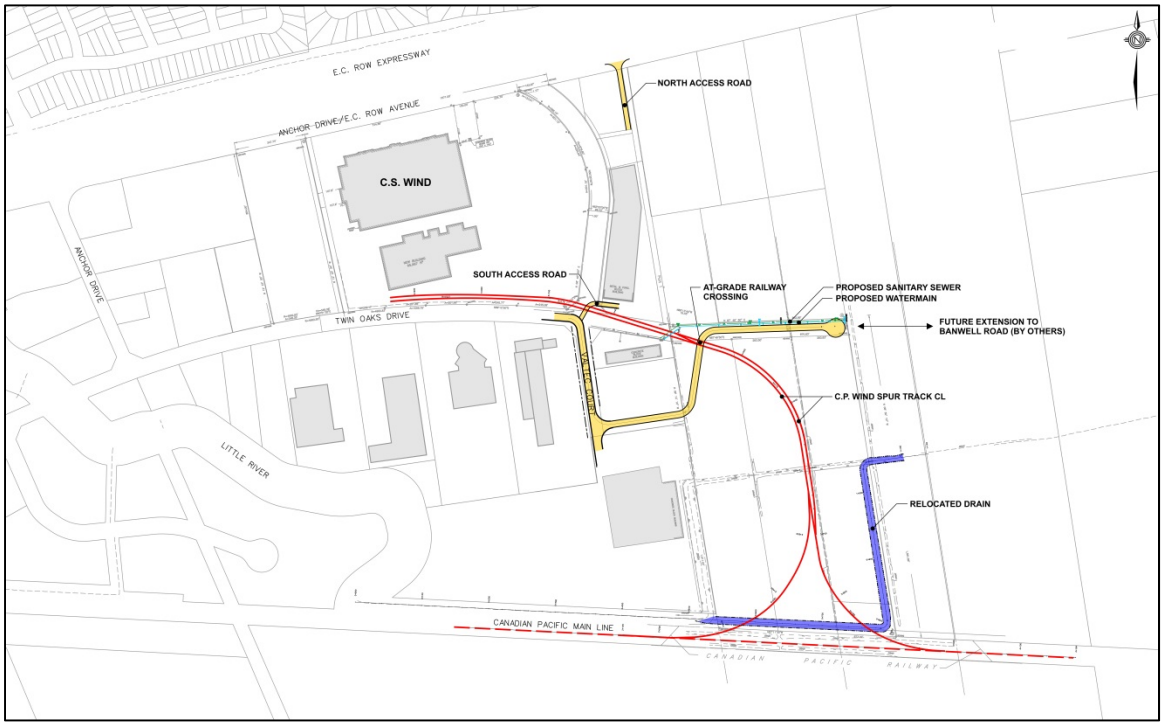
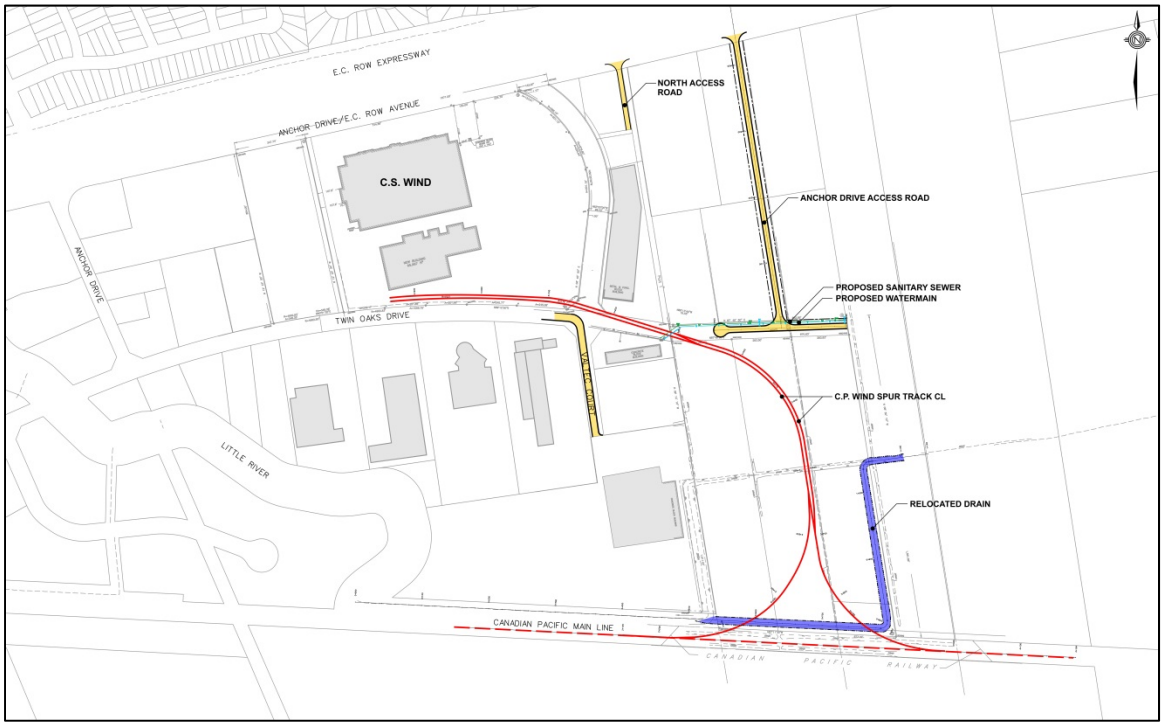


Figure 4: Option D



4.2 SCREENING OF OPTIONS

At this stage, all alternatives are considered, and ones that are not feasible are “screened” out. Feasible alternatives are carried forward for more detailed evaluation.

PLANNING ALTERNATIVE:	CARRY FORWARD?
• **Option A - Do nothing** • Do not extend Twin Oaks or municipal services to the east of the rail spur • Not extending the road or municipal services would severely inhibit development of the lands to the east of the rail spur, and is therefore not a reasonable solution	No
• **Option B - Extend Twin Oaks Drive along its current alignment** • Extend Twin Oaks Drive from the end of the existing cul-de-sac to the east • This road alignment creates a substandard road/rail at-grade crossing with poor sightlines	No
• **Option C - Extend Twin Oaks Drive from the end of Valtec Court** • Valtec Court would be reconstructed and Twin Oaks Drive would extend east across the railway spur track • Creates a suitable at-grade crossing with the railway spur track • Servicing can be extended from the existing end of Twin Oaks Drive	Yes
• **Option D - Construct a new access road connecting to Anchor Drive to service the lands to the east of the railway spur** • A new access road would be constructed which runs north/south and would not cross the railway spur track	Yes
• **Option E - Extend Intersection Road to the west of Banwell Road to a point just east of the rail spur** • Construct an east/west access road which connects to Banwell Road at the existing intersection with Intersection Road • Does not address extension of Twin Oaks Drive • Would require significantly more relocation of Lachance Drain	No

4.3 EVALUATION CRITERIA

The short-listed alternatives (Option C and Option D) were modified based on input received from the public and stakeholders. From this evaluation, the preferred alternative will be selected. The evaluation process will be conducted by comparing the design alternatives based on appropriate evaluation criteria. The draft evaluation criteria are presented in Table 1 below:

Table 1: Evaluation Criteria

Category	**Criteria**
Technical	Roadway Geometry
	Operation and maintenance requirements associated with the alternative
	Approval requirements
	Impacts on property or entrances
	Impacts on
	Impacts on ambient noise levels
	Impacts on utilities
	Hydraulics
	Constructability
Financial	Capital costs
	Operating and maintenance costs
Natural Environment	Impacts on groundwater
	Impacts on surface water, aquatic habitat
	Impacts on existing vegetation
	Impacts on the Lachance Drain and floodplain
Social Environment	Disruption of existing residences, businesses and/or community, institutional and recreational uses
	Impacts on travel patterns/volumes
	Impacts on approved/planned land uses
	Impacts on agricultural resources
Cultural Environment	Impacts on archaeological resources
	Impacts on built heritage features/cultural landscape features
Community Planning	Conformity with approved local and regional plans and policies
	Disturbing or altering existing community character or structure
	Community accessibility and potential out-of-way travel

4.4 EVALUATION AND ASSESSMENT OF ALTERNATIVES

Table 2: Evaluation of Alternatives

Category	Criteria	Alignment Alternatives	
		Alternative C **Extension of Twin Oaks Drive using Valtec Court and an at-grade crossing of the new rail spur**	**Alternative D** **Access to the East side of the rail spur using a new roadway connecting with Anchor Drive**
Technical	Roadway Geometry	- Existing Road Right of way / Property constraints restrict the horizontal alignment and operational speed of the roadway. - At-grade crossing of railway controls vertical profile of roadway	- New road in vacant field provides greater design flexibility. - Requires new intersection on Anchor Drive
	Operation and maintenance requirements associated with the alternative	-At-grade crossing restricts rail/roadway operations, railcars must not be left within 45 metres of the crossing. - C.S. Wind access to proposed storage yard south of Twin Oaks Drive is impacted by proposed roadway extension. - Continuity of Twin Oaks Drive would be preferred for Transit Services.	- Twin Oaks Drive and Valtec Court remains cul-de-sac roadways. - No restriction to rail, roadway or CS Wind operations. - Transit services into this area will be negatively impacted by the cul-de-sac on Twin Oaks Drive, Valtec Court.
	Approval requirements	City of Windsor ERCA	City of Windsor ERCA
	Impacts on property or entrances	- Roadway construction adjacent to multiple industrial properties may require minor adjustments. All roadway construction on City property - Railway spur impacts entrance to 9650 Twin Oaks (Jamieson) amd will require modification of their entrance	- Roadway poses no impact to existing property or entrances - Roadway construction requires an additional 4,600 square metres of private property - Railway spur impacts entrance to 9650 Twin Oaks (Jamieson) amd will require modification to their entrance
	Impacts on ambient noise levels	Minor increase in noise levels for adjacent industrial properties as a result of rail operations	Minor increase in noise levels for adjacent industrial properties as a result of rail operations
	Impacts on utilities	- Existing utilities available within the study area. - Widening of Valtec Court to occur on the west side to minimize impact to hydro line. - Hydro service to Jameison to be relocated as part of the rail spur construction	- Existing utilities available within the study area - Hydro service to Jamieson to be relocated as part of the rail spur construction
	Hydraulics	Drainage will be directed to Lachance Drain	Drainage will be directed to Lachance Drain
	Constructability	Construction through existing industrial roadway may cause minor disturbances	No significant issues anticipated
Rank		◕	◕
Financial	Capital costs	$3.1 MIL	$2.9 MIL + property costs (~$150,000)
	Operating and maintenance costs	Additional long term maintenance costs associated with at-grade rail crossing and signilization.	- Standard roadway maintenance costs (snow ploughing, de-icing, etc.) - Cul-de-sac will result in some additional maintenance
Rank		◕	◕
Natural Environment	Impacts on groundwater	Slight reduction in local infiltration capacity	Slight reduction in local infiltration capcity
	Impacts on surface water, aquatic habitat	Relocation of Lachance Drain and surrounding hedge rows may effect existing snake habitat.	Relocation of Lachance Drain and surrounding hedge rows may effect existing snake habitat.
	Impacts on existing vegetation	Railspur and drain relocation will require relocation of sensitive vegetation into appropriate habitats.	Railspur and drain relocation will require relocation of sensitive vegetation into appropriate habitats.
	Impacts on the Lachance Drain and floodplain	Disruptions expected during construction, with no long term impact to local drainage	Disruptions expected during construction, with no long term impact to local drainage
Rank		◕	◕
Social Environment	Disruption of existing residences, businesses and/or community, institutional and recreational uses	- Construction at Valtec Court may cause minor disruptions to surrounding businesses. - Entrance to 9650 Twin Oaks to be relocated to mitigate impacts of rail spur construction and rail operations. - Property owner to the east of the study area does not support the proposed road extension	- Entrance to 9650 Twin Oaks to be relocated to mitigate impacts of rail spur construction and rail operations. - Property owner to the east of the study area objects to this proposed road extension
	Impacts on travel patterns/volumes	Minimal increase to local traffic volumes	- Minimal increase to local traffic volumes - Transit service into the industrial park will not be continuous - Causes additional travel distance for vehicles east of the rail spur heading to the west
	Impacts on approved/planned land uses	Roadway extension to provide access and services for planned development sites	- Roadway extension to provide access and services for planned development sites - north / south road from Anchor Drive will provide additional frontage for development
	Impacts on agricultural resources	Rail and road works to occupy small area of un-used agricultural land	Rail and road works to occupy small area of un-used agricultural land
Rank		●	◕
Cultural Environment	Impacts on archaeological resources	No expected impacts	No expected impacts
	Impacts on built heritage features/cultural landscape features	No significant impacts	No significant impacts
Rank		●	●
Community Planning	Conformity with approved local and regional plans and policies	Plan meets "Building Windsor's Future" initiative for encouraging economic development in the area. Road alignment follows plans for future expansions.	Plan meets "Building Windsor's Future" initiative for encouraging economic development in the area. Road alignment restricts plan to extend Twin Oaks Drive to Banwell Rd.
	Disturbing or altering existing community character or structure	Rail spur and roadway construction match existing landuse of Twin Oaks Business Park	Rail spur and roadway construction match existing landuse of Twin Oaks Business Park
	Community accessibility and potential out-of-way travel	Roadways provide commuity access to proposed industrial park expansion	Roadways provide commuity access to proposed industrial park expansion
Rank		●	●
OVERALL RATING		●	◕

LEGEND: Overall Achievement of Objectives: Poor ◔ ◑ ◕ ● Very Good

4.5 RECOMMENDED ALTERNATIVE

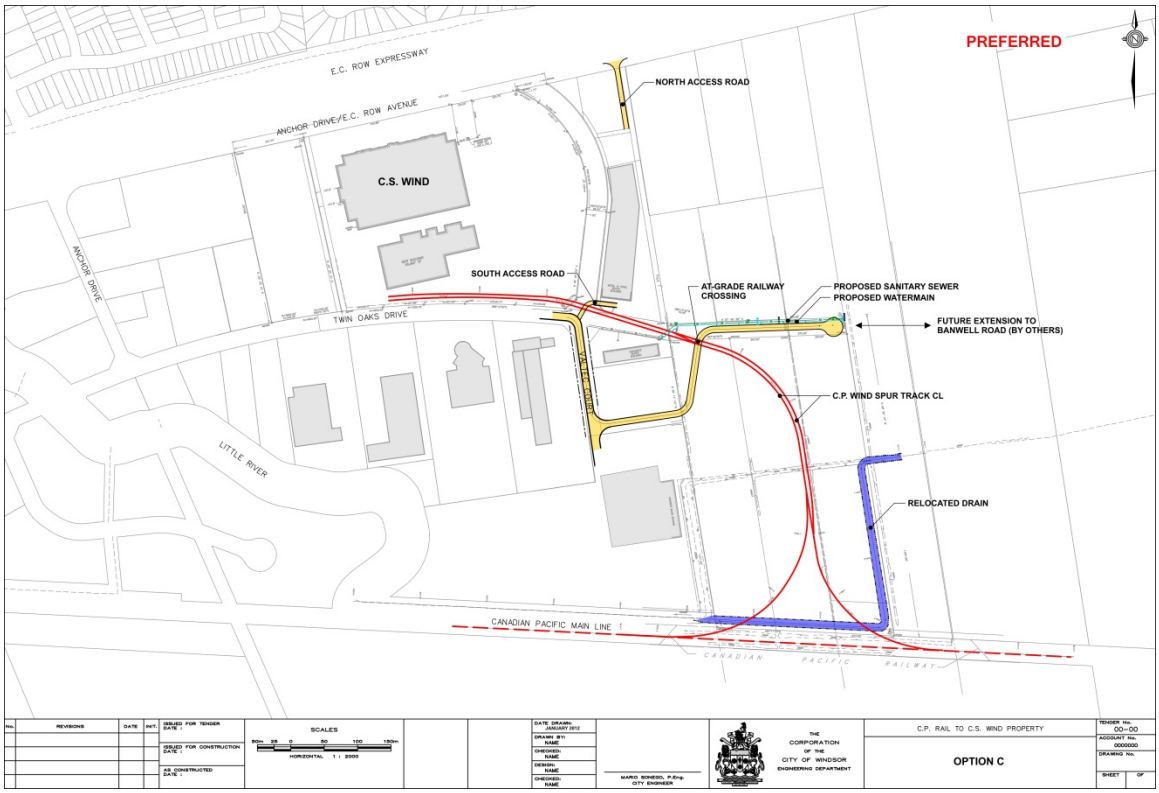
Based on the evaluation in Table 2, Option C has been selected as the recommended alternative, and is presented in further detail in Section 5.

5.0 Analysis of Recommended Alternative

5.1 Preferred Design

The recommended alternative is Option C, which extends Twin Oaks Drive from the end of Valtec Court, and provides for future extension to the east. The preliminary design of the Twin Oaks Drive extension is depicted in Figure 5 below.

Figure 5: Recommended Alternative



5.1.1 Transportation and Cross-Sectional Requirements

The proposed cross section of Twin Oaks Drive is the same as the existing cross section within the remainder of the Business Park. Twin Oaks Drive will serve as a local collector road with an access point to the arterial road network at Lauzon Parkway. The previously completed EA for Banwell Road (south of EC Row) identified a future connection between Banwell Road and Twin Oaks Drive (at the existing intersection with Intersection Road and Banwell) however the extension of Twin Oaks Drive to this location is beyond the Study limits of this project.

The proposed at-grade crossing of Twin Oaks Drive and the railway spur must be designed and constructed in accordance with Transport Canada and Canadian Pacific Railway standards.

This option also provides for continuity of transit services into the Business Park when they are introduced by Windsor Transit.

To maintain continued access at 9650 Twin Oaks, the main entrance off Twin Oaks Drive must be relocated to the west. A new truck entrance will also be created into the north portion of the property from Anchor Drive.

5.2 Follow-up Commitments and Monitoring

The proposed Environmental Management Approach has been developed with a focus on the protection of Species at Risk (SAR) and SAR habitat. Although no SAR have been observed within the limits of the proposed works, there is potential for SAR to occur. At each stage of the construction, a number of proactive protection measures are proposed. These are outlined in Appendix A. The general principles of the environmental management approach were discussed during the agency meeting on January 30, 2012, and the Ministry of Natural Resources indicated approval in principle with the approach in the meeting minutes subject to review of the application material. Essex Region Conservation Authority staff have also reviewed the minutes and support the approach in principle subject to the same caveat.

The City of Windsor will continue to work with the Ministry of Natural Resources and the Essex Region Conservation Authority to receive all the required permits and approvals for the relocation of Lachance Drain and all other impacts to the Natural Environment as part of this project.

The City of Windsor will continue to work with the owners of 9650 Twin Oaks Drive on the proposed landscaping and visual screening along the south side of their property which is adjacent to the proposed railway spur construction.

6.0 PUBLIC AND AGENCY CONSULTATION

Public and agency consultation is a key feature of this study, and the Class EA process. To this end, the City of Windsor and the study team have ensured that the public and relevant agencies were both informed of the study and given the opportunity to provide input. The consultation program was flexible and responsive to stakeholder and project needs. It engaged participants in a meaningful process that sought to consider their local knowledge and advice.

6.1 INITIAL NOTIFICATION

A copy of all notices distributed by the study team, and comments received from the public and government review agencies is provided in Appendix C – Consultation Record. Please note that all identifying personal information has been redacted where necessary to ensure the privacy of individual stakeholders as required under Canadian law.

6.2 PUBLIC INFORMATION CENTRE

One Public Information Centre (PIC) was held during the course of the study to provide information on the project, and to obtain feedback from members of the public. The PIC was held in the Richelieu Room at Place Concorde in Windsor on January 24, 2012. A series of display boards provided information on the study, including evaluation criteria and the short-listed alternatives. A total of 14 meeting attendees signed in for the PIC. One comment sheet was submitted.

6.3 AGENCY CONSULTATION

A number of agencies were notified of the project by way of letter at project commencement. Provincial agencies notified of the study include:

- Ministry of the Environment
- Ministry of Transportation Ontario
- Ministry of Natural Resources
- Ministry of Tourism and Culture
- Ministry of Aboriginal Affairs
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Municipal Affairs and Housing

Federal departments notified of the study include:

- Transport Canada
- Environment Canada
- Department of Fisheries and Oceans

While no correspondence was received from the above agencies, the Ministry of Natural Resources and the Department of Fisheries and Oceans were both consulted beyond the initial notification.

The project team also consulted with the Essex Region Conservation Authority throughout the project.

6.4 Aboriginal Consultation

Aboriginal Communities and their representatives were contacted by way of letter at the outset of the study by the project team to advise of the study, and to invite input. Notices were sent to the following communities:

- Aamjiwnaang First Nation
- Bkejwanong Territory
- Caldwell First Nation
- Chippewas of Kettle & Stony Point
- Chippewas of the Thames
- Delaware Nation
- Munsee-Delaware Nation
- Oneida Nation of the Thames
- Six Nation of the Grand River Territory
- Métis Nation of Ontario

Correspondence was received from Caldwell First Nation and Chippewas of the Thames First Nation. Copies of letters received are located in Appendix C – Consultation Record. Through telephone correspondence, the Chippewas of the Thames First Nation stated they had no further interest in this environmental assessment. Members of the project team met with Caldwell First Nation in May, 2012 to discuss details of the project. MMM agreed to provide Caldwell First Nation will additional project information as requested, with respect to the natural environmental.

6.5 STAKEHOLDER CONSULTATION

Meetings were held with local area businesses (CS Wind and Jamieson) and they were also invited to the PIC.

Concerns were raised by Jamieson regarding potential loss of access from Twin Oaks Drive, noise and visual impact of the railway spur and impacts to future expansion on their property. The implementation of the rail spur will require relocation of Jamieson's entrance from Twin Oaks from the east side of their property to the west side. This will also include the removal and reinstatement of existing landscaping and electrical supply. A new truck entrance will also be constructed at the north end of the property and provide truck access from Anchor Drive to the Jamieson property.

To provide a visual screen, the City commits to working with Jamieson to implement appropriate landscaping / visual screen along the north side of the rail spur / south side of Jamieson property. The final details of the visual screen will be developed during detail design.

CS Wind was also consulted regarding the implementation of the project. Their areas of concern involved continued access from their property to their lay down area which is south of Twin Oaks Drive. Continued access to their lay down area will be managed during construction.