

COUNTY ROAD 19 ENVIRONMENTAL STUDY REPORT

Prepared For

**THE CORPORATION OF THE COUNTY OF ESSEX
ENGINEERING DEPARTMENT**

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EXECUTIVE SUMMARY

THE PROBLEM

Over the last many years, the Town of Tecumseh and the Town of Lakeshore have experienced a rapid growth in housing, commercial and industrial development adjacent to and near the County Road 19 corridor within the study area. This growth has increased traffic congestion, delays and accidents. County Road 19 is also a major access route from King's Highway 401 to service the ever growing industrial and commercial areas within Tecumseh, Lakeshore and East Windsor. The deficiencies within the study area are identified in a traffic study completed in 2003.

PREFERRED SOLUTION

Recommendations were offered in the traffic study suggesting two (2) through lanes in each direction with left turn lanes at the major intersections. In consultation with the County of Essex it was agreed to proceed with two (2) through lanes in each direction and center left turn lane.

To accommodate for the five (5) lane cross-section, the existing East Townline Drain in the Town of Tecumseh and the Manning Road Drain in the Town of Lakeshore, will be required to be enclosed. Presently, the Manning Road Drain is on private property due to insufficient right-of-way width to accommodate for the Manning Road Drain, the East Townline Drain and the existing two (2) lane pavement.

To permit for construction of the preferred solution, land acquisition will be required in the Town of Lakeshore. The land acquisition would place the enclosed Manning Road Drain into the right-of-way including overhead hydro lines and poles and Bell equipment. This will permit for the relocation of Bell conduits and cables from within the future road widening.

The Department of Fisheries and Oceans has previously indicated that the East Townline Drain is considered a fish habitat. By enclosing the drain, this fish habitat is lost. Discussions with the Department of Fisheries and Oceans must be undertaken during the design stage to determine if a compensation area for loss of fish habitat will be required.

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Archaeological Assessment (Stage 1) Manning Road Corridor,
St. Gregory's Road to Sylvestre Drive, Town of Lakeshore
Project No. 2002-005-109

Archaeologix Inc., April 2004
Archaeological Assessment (Stage 2), Manning Road Corridor
St. Gregory's Road to Sylvestre Drive, Town of Lakeshore
Project No. 2004-032

APPENDIX 'B'

NOISE

Spaarg Engineering Ltd., April 12, 2004
Environmental Noise Impact Assessment for the Proposed County
Road No. 19 (Manning Road) Modifications,
St. Gregory's Road to County Road 42, Town of Tecumseh
Project No. SEL.-W-03-04

APPENDIX 'C'

TRAFFIC

F. R. Berry & Associates, April, 2002
County of Essex, County Road 19, Corridor Study

APPENDIX 'D'

GEOTECHNICAL

Golder Associates, March 2, 2004
Geotechnical Investigation
Manning Road Reconstruction
Lanoue Street to St. Gregory's Road
Ref. No. 041-14008

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Golder Associates, July 5, 2004
Geotechnical Investigation
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Lanoue Street to Sylvestre Drive
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APPENDIX 'E'

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Bruce D. Crozier Engineering Inc.
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Bruce D. Crozier Engineering Inc.
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Bezaire & Associates
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P.I.C. #2 December 1, 2004

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CORRESPONDENCE

- Canada Post
- Canadian Tire
- Desro Drive/Kooner Road Access
- Petrovec Proposed Development
- Tecumseh Golf Property (Rocco Tullio)
- Green Light Consulting
- VIA Rail Canada

1.0. INTRODUCTION AND BACKGROUND

1.1 THE ENVIRONMENTAL STUDY REPORT

The improvement of the County Road 19 corridor from the VIA Rail southerly to Sylvestre Drive (refer to Figure 1) is subject to the “Class Environmental Assessment (Class EA) For Municipal Road Projects”. In 2002, R. Lucente Engineering Inc. was retained by the County of Essex to prepare a Class Environmental Assessment Study for the County Road 19 corridor improvements.

The Class EA, which was approved by the Government of Ontario, describes the process which municipalities must follow to comply with the requirements of The Environmental Assessment Act. The process applies to municipal road projects which occur frequently and have a predictable range of environmental impacts. Provided that the Class EA process is followed, projects which are subject to the Class EA may be implemented without formal approval under The Environmental Assessment Act. The Class EA classifies municipal road projects according to three types:

- Schedule (A) Projects usually have very minor environmental impacts and may proceed without following the Class EA process;
- Schedule (B) Projects have more significant impacts and are approved under the Class EA, provided that the potential environmental concerns of the public and government agencies are “screened” and incorporated into the project’s design;
- Schedule (C) Projects are subject to the full Class EA process and require the preparation of an Environmental Study Report (ESR). The Manning Road Improvements is a Schedule “C” Project. The Environmental Study Report follows the documentation requirements of the Class EA Manual which includes:
 - Identification of problems/issues and project purpose;
 - The problem-solving decision-making process;
 - Description of the existing social, economic and natural environment in the Study Area;

- Identification and evaluation of alternative solutions that were considered to resolve the identified problems/issues;
- Selection of the most desirable design alternative, identification of potential environmental impacts associated with the selected design, and mitigating measures and design requirements associated with the implementation of the project.

1.2 **PURPOSE**

The purpose of this environmental assessment is to study the current difficulties being experienced due to increased traffic demand, to assess the future difficulties and to recommend methods to alleviate these difficulties.

1.3 **LAND USE**

County Road 19 separates the amalgamated municipality of Lakeshore and the amalgamated municipality of Tecumseh.

Town of Lakeshore, Maidstone Official Plan (consolidated January 1999) designates the lands adjacent to the County Road 19 corridor as Industrial, Highway Corridor and Agricultural. This is depicted in Schedule 'A', Township of Maidstone, Land Use Plan (Refer to Figure 2).

The Tecumseh Official Plan (consolidated January 2000) designates the lands adjacent to the County Road 19 as general commercial from the VIA Rail to County Road 22 (formerly Highway No. 2). This is depicted in Schedule 'A'. Town of Tecumseh Official Plan – Land Use Plan (Refer to Figure 3). The lands south of County Road 22 have been designated as Business Park. This is depicted on Schedule 'A-1', Township of Sandwich South, Official Plan, Tecumseh Hamlet, Urban Area, Land Use Plan (Refer to Figure 4) contained within the Township of Sandwich South, Official Plan, Council adopted on June 23, 1997.

1.4 **BACKGROUND**

County Road 19 is a two-lane arterial roadway connecting the King's Highway 401 with the ever-growing industrial and commercial areas within Tecumseh, Lakeshore and East Windsor.

County Road 19 is also a major link between County Road 22 and the residential areas of Tecumseh and the former Village of St. Clair Beach.

Within the study area, County Road 19 is a two-lane paved roadway with a rural cross-section and widenings at some intersections to provide auxiliary turning lanes. The posted speed limits range from 50 km/h north of County Road 22 to 80 km/h south of County Road 22.

The present road structure consists of a two-lane paved roadway, gravel shoulders and open municipal drains on either side.

The intersections at Lanoue Street, Amy Croft Drive and County Road 22 are signalized with auxiliary turning lanes. At all other road intersections and at private access points, turns are made from the through lanes.

Immediately south of County Road 22, Desro Drive intersects County Road 19. Desro Drive is a cul-de-sac which provides access to a number of commercial uses. Access to and from Desro Drive is frequently impeded by northbound traffic waiting to make a left turn at County Road 22. In addition, the location of the intersection at the merge point of the channelized right turn lane from County Road 22 creates a hazardous situation for exiting traffic.

It is anticipated that industrial, commercial and residential developments will continue to grow resulting in an increase in traffic volume. In addition, private access points and intersections will continue to contribute to the delay and congestion experienced by through traffic as well as increasing the potential for accidents.

1.5 TRAFFIC STUDY

A traffic study for the County Road 19 corridor has been prepared by F. R. Berry and Associates dated April, 2002. (Refer to Volume 1 Appendix 'C').

In this report, deficiencies in the level of service within the study area, have been identified and the level of service in the future will continue to degrade as the growth in traffic increases.

The proximity of the traffic signals between Lanoue Street, Amy Croft Drive and County Road 22 are less than ideal. With appropriate phasing and offsets, the intersections should function effectively.

Studies done for the projected industrial area west of County Road 19 suggest that the primary access to this area would be at Jamsyl Drive. This intersection has been considered to be signalized in the future.

2.0 PROJECT APPROACH

2.1 CLASS ENVIRONMENT ASSESSMENT

The County Road 19 corridor project follows the plan requirements of the Class Environmental Assessment (Class EA) for Municipal Road Projects, as set forth in the document prepared by the Municipal Engineers Association dated June 1993.

The Class EA process is an approved planning procedure for municipal projects which are anticipated to have relatively minor and predictable environmental effects. This process assures the public and affected agencies that the project planning takes into account the impacts on the social, natural and economic environments. The Class EA approach involves the five key principles of successful planning under the EA Act:

1. Consultation with affected parties early on, such that the planning process is a co-operative venture.
2. Consideration of a reasonable range of alternatives.
3. Identification and consideration of the effects of each alternative on all aspects of the environment.
4. Systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects.
5. Provision of clear and complete documentation of the planning process to allow "traceability" of decision-making.

Within the parameters set forth in the previously mentioned Class EA document, it has been determined that the County Road 19 project is a Schedule "C" activity. Schedule "C" projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA document. A copy of the Class EA Planning and Design Process Chart is shown on Figure 5 of this report.

2.2 PROBLEM STATEMENT

Significant residential and commercial and industrial growth has occurred within the vicinity of the County Road 19 corridor study. Further growth is anticipated. Although some modifications at signalized intersections have taken place, growth has exceeded roadway capacity.

During those years of growth, very limited improvements to the County Road 19 corridor was undertaken. As a result, as population growth increased, traffic congestion increased. In addition, the number of vehicular accidents and traffic delays increased.

The problems along the corridor can be summarized as follows:

- Traffic congestion at intersections
- Safety issues related to vehicular traffic
- Structural deficiencies of the existing pavement and shoulders.

3.0 THE ENVIRONMENT

The environment of the adjacent and fronting lands varies from agricultural, residential, commercial, industrial and railway right-of-way.

3.1 NATURAL ENVIRONMENT

The County Road 19 corridor area has experienced a significant amount of development. Since the area was primarily in agricultural use prior to development, there are no identifiable significant natural areas remaining.

3.2 SOCIAL ENVIRONMENT

3.2.1 Residential

There are a number of residential dwellings adjacent to County Road 19 corridor. These residential units are situated within the Town of Lakeshore, south of County Road 22 to the Jamsyl Drive intersection.

There is a residential district to the west of the lands designated as general commercial which have a direct access to County Road 19 via Lanoue Street.

Another residential district is located to the east of the present commercial development located at the intersection of County Road 19 and County Road 22. This area has direct access to County Road 19 via Amy Croft Drive or indirect access via County Road 22.

The majority of residential development is to the north of the study area. The section of County Road 19 between VIA Rail and County Road 22 is the main access and egress route via Manning Road which is an extension of County Road 19.

3.3 ECONOMIC ENVIRONMENT

3.3.1 Commercial

The lands on the east side of County Road 19, between County Road 22 and VIA Rail have been developed for commercial use such as veterinarian office, golf driving range with retail shop, grocery store, fast food outlets, restaurants, bank, personal service shops, clothing stores, multi-screen theatre, physician and dental offices.

The lands on the west side of County Road 19 have been designated for commercial zoning but are still being farmed. The lands to the north of Lanoue have been developed for commercial use such as fast food outlet, carwash, oil change centre, physician and dental offices.

To the north of the study area are several commercial plazas consisting mainly of retail stores to service the general population.

Since these commercial areas have little pedestrian traffic, they are dependent on vehicular traffic. These establishments include on-site parking areas.

3.3.2 Industrial

The lands on the west side of County Road 19 and south of County Road 22 to Sylvestre Drive been designated as business park as depicted on Schedule 'A-1',

Township of Sandwich South, Official Plan, Tecumseh Hamlet, Urban Area, Land Use Plan (Refer to Figure 4). Existing industrial uses consist mostly of light to medium industrial operations, lumber yard and self-storage buildings.

3.4 EXISTING CONDITIONS

3.4.1 Archaeological Assessment

An analysis of the Archaeological potential of the Manning Road corridor was undertaken by Archaeologix Inc. which revealed that it has low potential for pre-contact aboriginal archaeological sites. A majority of the corridor have been developed and only six areas remain within the study area to retain archaeological potential. A Stage 2 assessment of these areas was recommended. The Ministry of Culture reviewed the Stage 1 report and concurred that a Stage 2 assessment be completed.

Archaeologix Inc. conducted a Stage 2 archaeological assessment of the six (6) areas. The Stage 2 field assessment resulted in documentation of no archaeological resources and no additional assessment is recommended. A copy of both reports are included in Volume 1, Appendix 'A'.

3.4.2 Noise Assessment

An environmental noise impact assessment was undertaken by Spaarg Engineering Ltd., dated April 12, 2004 to evaluate the impact on abutting properties resulting from the proposed widening of Manning Road.

The report concluded that the future noise levels are less than the Ministry of Transportation and Ministry of Environment protocol criterion. A copy of the report is included in Volume 1, Appendix 'B'.

3.4.3 Storm Drainage

The entire corridor of County Road 19 has been assessed into the East Townline Drain. Storm drainage is presently being achieved on the east side, in the Town of Lakeshore, by the Manning Road Drain. (Refer to Figure 23).

The existing Manning Road Drain extends from the north limit of County Road 42 northerly to the south limit of VIA Rail Canada Inc. The Manning Road Drain currently consists of three (3) totally separate drainage systems. One drainage system extends from the north limit of County Road 42 to the south limit of County Road 22 where it turns westerly under County Road 19 to outlet into the East Townline Drain, in the Town of Tecumseh.

The second drainage system extends from the north limit of County Road 22 to the south limit of Amy Croft Drive where it turns westerly under County Road 19 to outlet into the East Townline Drain. This drain has been designated as Manning Road Drain Branch 'A'.

The third drainage system extends from the north limit of Amy Croft Drive to the south limit of the VIA Rail right-of-way with an outlet to the East Townline Drain. The outlet is located approximately 35 metres south of the south limit of VIA Rail Canada property. This drain has been designated as Manning Road Drain Branch 'B'.

The Manning Road Drain is an existing open municipal drain with a number of access bridges and enclosures. The Manning Road Drain was relocated onto private lands in 1968 by an Engineer's report prepared by G.C.R. Armstrong, P.Eng. dated April 16, 1968.

The East Townline Drain is an open municipal drain located on the west side of County Road 19. The existing East Townline Drain extends from the north limit of County Road 42 northerly to the drain's outlet at Lake St. Clair. The East Townline Drain is drawn down by way of a pump station at its outlet at Lake St. Clair. The East Townline Drain has a number of access bridges, road crossings and enclosures.

3.4.4 Existing Roadway Conditions

Within the study corridor, County Road 19 is basically a two-lane rural cross-section with widenings at the three (3) intersections which are signalized.

3.5 TRAFFIC VOLUMES

F. R. Berry & Associates was retained by the County of Essex to assess traffic operation in the County Road 19 Corridor. A copy of their report is included in Volume 1, Appendix 'C'.

3.5.1 Existing Traffic

Based on 2001 Traffic Data, the average daily traffic count is 14,000 vehicles per day. No distinction was made between truck and car traffic.

3.5.2 Traffic Forecasts

Traffic forecasts were prepared to ensure the proposed roadway improvements would be sufficient to satisfy future traffic demands. Forecasts of traffic were prepared on existing traffic, future residential, commercial and industrial growth adjacent to the study area and growth in background or through traffic.

Based on the above analysis, it is estimated that average daily traffic volumes will reach 20,350 vehicles in 2006, 24,000 vehicles in 2011 and 25,500 vehicles in 2021.

3.5.3 Level of Service

Level of Service (LOS) is a measure of how well an intersection or section of roadway operates under prevailing traffic and roadway conditions. It is measured in terms of average delay to vehicles passing through the intersection or section of roadway and is expressed on a scale of 'A' to 'F' where 'A' is the highest level of service and 'F' indicates unacceptable delay and congestion.

A Level of Service 'E' was used as the criterion for defining deficiencies in the urban areas of the corridor while Level of Service 'D' was used for the rural areas.

3.5.4 Existing Conditions at Intersections

The intersection of County Road 19 and County Road 22 is signalized. This intersection operates at LOS 'C' to 'D' during morning peak hour, LOS 'D' to 'F' during afternoon

peak hour and LOS 'C' during Saturday peak hour.

There are major problems at the intersection of County Road 19 and County Road 22. In the afternoon weekday peak hours, the northbound and eastbound left turn movement exceeds capacity.

3.5.5 Pedestrians

Based on observations, County Road 19 corridor is not generally used by pedestrians.

3.6 EXISTING INFRASTRUCTURE

3.6.1 Stormwater Drainage

On the west side of County Road 19 is the Manning Road Drain and on the west side is the East Towline Drain.

3.6.2 Sanitary Sewer

No sanitary sewers are present on County Road 19.

3.6.3 Watermains

A 250 mm diameter watermain is present on the west side of Manning Road from the VIA Rail Canada Inc. right-of-way, southerly to beyond the end of the study area.

3.6.4 Gasmain

A 250 mm diameter gasmain is present on the west side of County Road 19, from the VIA Rail Canada Inc. right-of-way, southerly to Jamsyl Drive at which point the gasmain increases to 300 mm diameter to the end of the study area.

3.6.5 Hydro

Overhead hydro lines are located on the east side of County Road 19 from the VIA Rail Canada Inc. right-of-way southerly to beyond the end of the study area. The poles are located on private property.

3.6.6 Bell Canada

Underground Bell conduits and cables are located on the east side of County Road 19 from the VIA Rail right-of-way to the end of the study area. The Bell cables and conduits are located along the east edge of the gravel shoulder on private property.

3.6.7 Cogeco Cable

Cogeco Cable is an aerial fibre optic mounted on the existing hydro poles on the east side of County Road 19 between the south limit of VIA Rail Canada Inc. right-of-way and the north limit of County Road 22. At this point the fibre optic cable dips underground to proceed easterly along County Road 22.

3.6.8 Traffic Control Signals

- An above ground (temporary) traffic control infrastructure at County Road 19/Lanoue Street.
- Underground traffic control infrastructure at:
 - County Road 19/Amy Croft Drive
 - County Road 19/County Road 22

3.6.9 Railway Crossing Signals

At the north end of the study area is the VIA Rail Canada Inc. right-of-way. At this grade crossing are situated signal arms which control traffic as a locomotive passes.

3.7 GEOTECHNICAL INVESTIGATION

A Geotechnical Investigation Report was prepared (dated July 5, 2004) for the study area. A copy of their report is included in Volume 1, Appendix "D"

The purpose of the investigation was to determine the existing pavement structure and sub-grade conditions along the roadway and to provide geotechnical engineering recommendations for the design of the reconstruction works.

Based on the geotechnical investigation, the existing roadway consists of 75 mm to 230 mm of asphalt on 75 mm to greater than 1080 mm of compacted crushed granular base. Sub-base material varies from black clayey topsoil to brown/grey silty clay. Prior to pavement reconstruction, the existing asphalt should be removed. The underlying granular, topsoil, deleterious fill materials and native soils should be removed.

County Road 19 has been classified as a major collector. The pavement structure is to consist of 125 mm of asphalt on 500 mm of compacted Granular 'A' base. The asphalt pavement is to consist of 85 mm of HL-8 binder course asphalt and 40 mm of HL-1 surface course asphalt.

4.0 IDENTIFICATION AND EVALUATION OF ALTERNATIVE SOLUTIONS

4.1 Identification of Problems and Deficiencies

The purpose of this study is to identify the problems and deficiencies with respect to the traffic congestion and related issues in the County Road 19 corridor. At the same time, identify and evaluate alternative solutions to remedy the problems and to recommend a preferred solution.

4.1.1 Capacity Deficiencies

Based on the findings of the County of Essex, County Road 19, Corridor Study, April 2002, as prepared by F. R. Berry & Associates, the existing two-lane pavement has insufficient capacity to accommodate the current and future traffic.

Road capacity is primarily limited by the two lanes available to traffic.

Intersection capacity is insufficient for current and future traffic demands as a result of limited storage lengths of auxiliary turn lane. The signalized intersections are not synchronized to allow more green time for particular movements. At unsignalized intersections, excessive delays are experienced by traffic attempting to turn left on to County Road 19 as a result of the heavy through traffic volumes.

4.1.2 Structural Deficiencies

Based on the Geotechnical Investigation by Golder Associates, the existing asphaltic

pavement varies in thickness from 75 mm to 230 mm. Over the years, the pavement was widened to accommodate turning lanes at approaching intersections. The pavement structure is underlain by granular base material varied in thickness from 75 mm to greater than 1080 mm. Underlying the granular base is silty sand, or black clayey topsoil or blue/green organic silty clay or brown and grey silty clay fill.

The absence of subsurface drainage has caused the pavement to deteriorate prematurely.

4.1.3 Safety Deficiencies

The existing road cross-section consists of a two lane asphalt road with gravel shoulders and municipal drains on each side.

Vertical concrete curbs have been installed on County Road 19 at Amy Croft Drive and at County Road 22 for the existing traffic islands.

The lack of vertical curbing is an issue of safety with the possibility of vehicles either accidentally running off the paved road into the municipal drain or losing control on the gravel shoulder, over correcting and being involved in an accident with oncoming traffic.

Desro Drive, located immediately south of County Road 22, is a cul-de-sac, which has a number of commercial establishments. Access from Desro Drive is frequently impeded by northbound traffic waiting to run left at County Road 22. Desro Drive is located at the merge point of the channelized right turn line from County Road 22 creating a hazardous situation for exiting traffic.

As commercial developments, adjacent to County Road 19 increases, pedestrian traffic will increase. Pedestrian traffic walking on the gravel shoulder poses a dangerous situation. The dangers increase during the winter months.

4.2 IDENTIFICATION OF ALTERNATIVE SOLUTIONS

There is more than one way of solving a problem or meeting the demands of a roadway facility. Based on the problems being experienced in the County Road 19 corridor, a number of solutions were considered.

4.2.1 Capacity Deficiencies

- Do nothing
- Synchronizing existing traffic signals only
- Widening existing pavement to increase auxiliary turn lanes.
- Full reconstruction to provide two (2) lanes of traffic in each direction with a common left turn lane.

4.2.2 Structural Deficiencies

- Do nothing
- Resurface existing roadway
- Minor reconstruction and complete resurfacing
- Complete roadway reconstruction

4.2.3 Safety Deficiencies

- Do nothing
- Enact a by-law to control turns and enforce
- Pave shoulders
- Add concrete safety curbs
- Enclose municipal drains
- Permit only right turn traffic to Desro Drive and right turn egress traffic from Desro Drive.
- Extend Desro Drive westerly to connect with Sylvestre Drive
- Install pedestrian sidewalks on each side of County Road 19 between VIA Rail Inc. right-of-way southerly to Amy Croft Drive

4.3 PUBLIC AND AGENCY INPUT

A series of Public Information Centres (P.I.C.) were conducted for which the general public, neighbouring property owners and merchants were invited to attend. Notice of such information centres were also mailed to various government agencies, user groups and interested parties.

Copies of notices, letter and documents received are included in Appendix-Volume '2'.

4.4 PREFERRED SOLUTION

The purpose of the Environmental Assessment is to identify the problems, seek and evaluate alternative solutions and finally to select a preferred solution.

As a result, the preferred solution is:

1. Fully reconstruct and widen County Road 19 to accommodate the required number of lanes.
2. Infill the municipal drains on each side of County Road 19 to permit the road widening.
3. Install traffic signals at County Road 19 and Jamsyl Drive.
4. Improve traffic signals on County Road 19 at Lanoue Street, Amy Croft Drive and County Road 22.
5. Synchronize the operations of the traffic signal systems from Lanoue to Jamsyl

Drive.

4.5 LAND ACQUISITION

To accommodate for the new roadway within the existing 20.12 m. right-of-way, land acquisition will be required. (Refer to Figure 24).

Within the Town of Tecumseh, the west right-of-way is situated 10.02 m from the west edge of the existing pavement. The East Townline is situated between the gravel shoulder and west right-of-way. Beyond the existing west road right-of-way limit are two easements; a 4.5 m easement for a watermain and a 1.5 m easement for a gasmain. Several businesses have constructed parking lots over these easements.

Within the Town of Lakeshore, the east right-of-way is situated 2.4 m from the east edge of the existing pavement. Beyond the east right-of-way is situated the Manning Road Drain, hydro poles with overhead hydro lines, Cogeco Cable and underground Bell cables, and conduits. The Manning Road Drain, hydro poles and Bell cables and conduits are situated on private property.

To accommodate the new roadway, a 7.5 m road right-of-way widening will be required on the east side along the entire length of the study corridor. In this manner the Manning Road Drain, hydro poles and Bell Canada equipment would be located within the municipal right-of-way.

5.0 IDENTIFICATION AND EVALUATION OF THE ALTERNATIVE DESIGN CONCEPT (PHASE 3 CLASS E.A.)

Based on the preferred solution of full reconstruction and widening of County Road 19, no alternative designs were considered.

5.1 SELECTION OF RECOMMENDED DESIGN

The County of Essex County Road 19 Corridor Study (April, 2002) prepared by F. R. Berry & Associates, refer to Volume 1, Appendix 'C', has indicated that the section of County Road 19 between the VIA Rail Canada Inc. right-of-way southerly to County Road 22 is currently approaching capacity during weekday and Saturday peak hours.

The County Road 19 Corridor Study has recommended that, as soon as possible, the section of County Road 19 from VIA Rail right-of-way to County Road 22 be widened to provide two lanes in each direction plus left turn lanes at each intersection.

- Additional capacity for northbound traffic stopped at the traffic signal at Amy Croft Drive.
- Provide improvements to traffic safety by separating left turning traffic from the through traffic flow.
- The centre turn lane facilitates the introduction of new intersections and driveways by providing the auxiliary left turn lane potentially required at these locations.
- Impacts on cultural resources, natural environment, social environment and land uses was considered to be non-existent. See Appendix for Noise Study, Archaeological Study and Natural Environment Study.
- In terms of economic environment, some inconvenience to businesses would be experienced during construction. However, measures would be taken to keep this to a minimum. In the long term, the improved roadway and intersection capacity will improve traffic flow and encourage further development.

5.2 TYPICAL ROAD CROSS-SECTION

The typical cross-section will allow for the accommodation of up to five (5) lanes of traffic with boulevards on each side.

The existing watermain and gasmain to remain on the west side of the road right-of-way within separate easements.

Lands to the east must be acquired to accommodate the five (5) lane cross-section. In addition, the land acquisition will place the Manning Road Drain, Manning Road Drain Branch 'A' and 'B', Bell and Hydro within the municipal right-of-way. The Bell cable and conduits would require relocation in order not to be in the new roadway.

Pedestrian sidewalks are to be included in the proposed cross-section. These sidewalks will be placed on each side of the roadway from the Vail Rail Inc. right-of-way to Amy Croft Drive.

In the event that sidewalks will be warranted south of Amy Croft Drive, the respective municipalities will be responsible to have these installed and pay all costs in the future.

5.3 STORMWATER DRAINAGE

Drainage of the roadway and abutting properties is by the East Townline Drain in the Town of Tecumseh and the Manning Road Drain in the Town of Lakeshore. The Manning Road Drain outlets into the East Townline Drain at three locations.

The Townline Drain flows north toward Lake St. Clair at which point a pump station is situated to discharge flows into Lake St. Clair.

As a result of the road widening, the existing open roadside drains are to be enclosed with a precast concrete box culvert for the East Townline Drain and a storm sewer for the Manning Road Drain.

5.4 PROVISIONS FOR SANITARY COLLECTION

The area within the Town of Lakeshore adjacent to the study area has been developed by utilizing individual private sewage disposal systems (septic tanks and tile beds). The development at the north east corner of County Road 19 and County Road 22 is serviced by a

sanitary sewer. Further development within this area will also require servicing by a sanitary sewer. The Town of Lakeshore has not prepared a secondary plan for the agricultural lands to the south of County Road 22 and therefore the serviceability cannot be addressed.

The areas within the Town of Tecumseh adjacent to the Study Area have secondary plans prepared and sanitary collection outlets have been identified.

Several businesses within the Town of Tecumseh, south of County Road 22, have been identified as having individual private sewage disposal systems. It has been indicated by the Town of Tecumseh that an existing sanitary sewer be extended from Sylvestre Drive to Manning Road and along Manning Road to service these businesses.

5.5. PROVISION FOR POSTAL DELIVERY

Discussions were undertaken with Canada Post to maintain rural delivery. Canada Post informed the consultant that rural mail box delivery will no longer be possible as barrier curbs and the five lane road will be deemed unsafe for delivery personnel.

Rural services for Canada Post has agreed to provide door-to-door service immediately for the businesses north County Road 22, in addition, Marquis Fireplace at municipal number 1825 Manning Road and J's Loc-It Public Storage at municipal number 1847 Manning Road will receive door-to-door delivery. The remaining will continue to receive rural delivery till work begins along County Road 19. Once work begins, Canada Post will provide temporary delivery to a group mail box. When work is completed Canada Post will install a community mailbox at a lay-by location on the east side of County Road 19 near the existing residential homes.

5.6 PUBLIC AND AGENCY INPUT

Three Public Information Centres were held. The first Public Information Centre was held on Wednesday, January 21, 2004 at the Tecumseh Arena located at 12021 McNorton Street between the hours of 3:00 p.m. to 8:00 p.m. The second Centre was held on Wednesday, December 1, 2004 at the Knights of Columbus located at 152 Lesperance Road, Tecumseh, Ontario between the hours of 3:00 p.m. to 8:00 p.m. The second Public Information Centre was held in conjunction with a Public Information Centre for Class Environmental Assessment of

County Road 22. The third center was held on Friday November 18, 2005 at the Sobey's grocery store located at the St. Clair Shores Shopping Plaza, at the North East corner of County Road 19 and County Road 22, between the hours of 3:00pm and 8:00pm. The purpose of the Information Centres was to present the recommended design to the public and obtain their comments.

All landowners adjacent to County Road 19 were mailed letters, notifying them of the Public Information Centre. Business tenants within the area received hand delivered notices. Letters were mailed to Government agencies and interest groups. Members of the general public were invited to attend through notices placed in the Windsor Star, Shoreline and Tecumseh Tribune. Copies of notices, mailing lists and advertisements are contained in Appendix 'B' of this report.

The Public Information Centres were designed to provide an informal setting whereby the general public and interest groups can interact with representatives from the County of Essex and the Consultant, R. Lucente Engineering Inc. The representatives responded to questions, explained the project and recorded comments. A number of technical displays were prepared to assist in the public's review including:

- Indicating the study area
- The planning and design process for a Schedule 'C' class environment project
- Accident summary
- The preferred design including typical cross-sections

Each person attending the Information Centre was requested to sign an attendance sheet with the name, address and telephone number. For the first Public Information Centre, 35 persons signed the attendance sheet and 14 persons completed the comment sheets. For the second Public Information Centre, 26 persons signed the attendance sheet and five (5) persons completed the comment sheets. For the third Public Information Center, 26 persons signed the attendance sheet and 4 persons completed the comment's sheets.

After the presentation County representative and Consultant prepared written responses to questions that were presented.

Copies of attendance records, comment sheets and responses are included in Appendix - Volume '2'.

EVALUATION OF COMMENTS

In general, the public input received from the Public Information Centre can be summarized as follows:

- The most significant problem with County Road 19 is traffic congestion
- Amount of land to be acquired for widening
- Traffic flow and traffic safety are very important

6.0 THE PREFERRED DESIGN

6.1 PREFERRED ROAD DESIGN

The final preferred road design is illustrated in Figure 22. The following generally describes the details of the preferred design:

- A five lane roadway cross-section including a continuous two-way center left turn lane.
- Centre raised median is proposed from VIA Rail right-of-way southerly to County Road 22 with left turn lanes at Amy Croft Drive and the future Lanoue extension easterly. Centre raised medians are proposed for all signalized intersections.
- Auxiliary right turn lanes are proposed on the north bound approaches at Amy Croft Drive and County Road 22.
- The proposed raised medians at County Road 22 have been located to permit double northbound left turns.
- Desro Drive is to be restricted to right turn access and right turn egress. Raised median between north bound and south bound traffic will restrict left turns to and from Desro Drive. Desro Drive, at its western limits, has been extended westerly to Sylvestre Drive to permit access and egress.

6.2 DRAINAGE

As outlined in Section 5.3 of this report, the existing roadside drains are proposed to be

enclosed. A design of the storm system enclosures, as prepared by Bruce D. Crozier Engineering Inc., are contained in Volume 1, Appendix 'E'.

6.3 FISH HABITAT

The Department of Fisheries and Oceans have previously identified the East Townline Drain as a fish habitat even though the drain has not direct outlet to Lake St. Clair. The Department of Fisheries and Oceans' position has been consistent that fish habitat constitutes any drain or water course that will support fish regardless if they can get to the habitat or not.

Discussions with the Department of Fisheries and Oceans must be undertaken during the design stages to determine if a compensation area for loss of fish habitat will be required.

6.4 UTILITIES

Existing utilities, which will be affected by the preferred improvements to the County Road 19 corridor, have been identified in the following sections.

6.4.1 Watermain

An existing watermain is situated on the west side of County Road 19 and services the commercial and residential on the east and west side of County Road 19. The services have been installed under the Townline Drain. An investigation must be undertaken during the design stage to determine any conflict between services and the proposed box culvert.

A 400mm diameter watermain has been recently installed within the existing watermain easement. This watermain was installed adjacent to the existing watermain from the VIA Rail right-of-way southerly to County Road 22 then westerly.

6.4.2 Hydro

Hydro One is the operating authority for the hydro distribution system in this area. The hydro distribution system is primarily located overhead on the east side of the right-of-way. Street lighting is provided at the intersections only.

Street lighting is recommended to be provided along the length of County Road 19. Since Hydro One's poles are a distance from the road's edge, new poles and street lights will be required on the west side of the road. The exact spacing and location of street light poles will be determined during the design stage.

6.4.3 Gas

An existing gasmain is situated on the west side of County Road 19 within an easement to the east of the watermain easement. The services have been installed under the Townline Drain. An investigation has to be undertaken during the design stage to determine that all of the services will be clear of the box culvert.

6.4.4 Bell Telephone

The Bell Canada conduit structure is primarily located on the east side of County Road 19. There are seven (7) road crossings with local distribution cables on the west side of County 19. The existing conduit structure is located approximately along the east edge of the gravel shoulder. An investigation must be undertaken during the design stage to determine the depth of the conduit crossings in order to eliminate any conflicts with storm sewers, box culverts and road reconstruction. The existing conduit structure must be relocated from within the future road widening.

6.4.5 Cogeco Cable

The Cogeco Cable is a fibre optic cable located on the east side of County Road 19. The fibre optic cable is underground within the VIA Rail right-of-way where it proceeds to the first hydro pole and continues aurally to County Road 22. At County Road 22 the fibre optic cable is underground and proceeds easterly on the north side of County Road 22.

6.4.6 Traffic Control Signals

The existing traffic control signals at the Amy Croft Drive intersection will require relocation to accommodate the widened pavement. The existing traffic control signals at County Road 22 will require relocation to accommodate the widened pavement for County Road 19 and County Road 22. The installation of new traffic signals at this intersection would be included in the reconstruction of County Road 22. The Lanoue Street intersection presently has temporary overhead traffic control lights on messenger wire which will be replaced with traffic control light signal poles and underground wiring. In addition, a new traffic control signal is proposed for the Jamsyl Drive intersection.

To maximize the efficiency of the traffic control signals, it is recommended that the signal timings be co-ordinated with one another. This may be accomplished through a wired interconnection between traffic signal controllers.

Discussions have been held with the Town of Tecumseh to synchronize these signals with the Town's traffic signal network north of VIA Rail to provide further co-ordination.

The details of the traffic signal layout and method of interconnection will be determined during the detailed design of this project.

6.5 RAILWAY CROSSING SIGNALS

With the widening of Manning Road to the north of the VIA Rail crossing and future widening of County Road 19 to the south, the signal arms at the grade crossing will require relocation to suit the new road width.

Mr. T. Goldsmith from UMA Engineering Ltd., whom reviewed proposals on behalf of VIA Rail Canada Inc., has indicated in this correspondence that the introduction of a controlled intersection at Lanoue Street and County Road 19 may not be acceptable without an inter-connection with the railway signals for pre-emption.

6.6. CONSTRUCTION

County Road 19 corridor improvements will be based primarily on the availability of funding. The estimated project cost will be outlined in subsequent sections of this report.

Other factors which will influence the schedule of the works includes:

- Completion of the International Border Study since County Road 19 from King’s Highway 401 to County Road 22 and County Road 22 to the E.C. Row Expressway within the City of Windsor have been identified as a major route for truck traffic.
- The extension of the Lauzon Road Parkway from the E.C. Row Expressway southerly to the King’s Highway 401, if constructed, will reduce the amount of traffic on Manning Road.
- Scheduled improvements to the County Road 22 corridor.
- The Ministry of Transportation and Ministry of Environment approvals.
- Property Acquisitions required to accommodate the preferred design.

6.7 PRELIMINARY COST ESTIMATES

Preliminary Cost Estimate has been prepared for the preferred design based on typical unit prices being tendered for similar works. The estimated costs do not include the following:

- Property acquisition
- Legal fees
- Unanticipated utility lowering resulting from grade conflicts or utility relocation costs
- On-site soil inspections and quality control testing
- Cost of financing
- Cost for reconstruction of County Road 22 intersection
- Goods and Services Tax

Preliminary Cost Estimates are as follows:

Storm Drainage	\$ 6,000,000.00
Road Work	\$ 3,000,000.00
Railway Crossing Signals.....	\$ 500,000.00
Traffic Signals at Lanoue, Amy Croft and Jamsyl	\$ 500,000.00
Street Lighting	\$ 200,000.00
Preliminary Construction Cost Estimate.....	\$10,200,000.00

Contingency (10%).....	\$ 1,020,000.00
Engineering (15%)	<u>\$ 1,680,000.00</u>
Preliminary Cost Estimate.....	\$12,900,000.00

6.8 ENVIRONMENTAL IMPACTS

As with all construction projects, a certain amount of traffic disruption, noise and dust can be anticipated. Measures to address these concerns will be identified during the design stage and implemented during the construction stage. The measures will include restrictions on hours of operation, lane closures required to minimize traffic disruption and nuisance to area residents as well as dust control measures. Access to all properties will be maintained wherever possible.

Noise impacts during construction will be identified during the preparation of contract documents and to be adhered to during construction:

- The Contractor will be required to comply with the appropriate municipal by-laws regarding noise emission standards and hours of operation for construction equipment.
- General noise control measures will be placed into the contract documents.

6.9 STORMWATER QUALITY CONSIDERATIONS

In recent years, the concern with the quality of stormwater runoff to receiving water bodies and resulting impact of aquatic life, has increased. Roadway drainage has traditionally been accommodated using curbs and gutter in conjunction with storm sewers in urban areas and open ditches in rural areas. In the past, the main objective of stormwater management was to control the quality of stormwater.

The most cost efficient measures known as “Best Management Practices” for managing stormwater quality is to have all catch basins and manholes installed with sumps. The catch basins to be outfitted with geotextile filters to trap all sediment.

All surface drainage swales discharging into the East Townline Drain or Manning Road Drain to be covered in dense vegetation. Prior to the establishment of the vegetation, straw bales and check dams to be installed to control sediment runoff.

6.10 PROPERTY REQUIREMENTS

The acquisition of 7.5 metres of private property on the east side of Manning Road will be required to accommodate the road widening and place utilities and storm drainage system into the road right-of-way.

The affected properties are presently commercial, residential and agricultural uses.

