

**Tecumseh Road West
Corridor
Addendum to Master
Plan**

July 2001

Corporation of the
City of Windsor



92-8966-03-03

Submitted by

**Dillon Consulting Limited
3200 Deziel Dr., Suite 608
Windsor, Ontario
N8W 5K8**

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1.0 INTRODUCTION

In 1994, the City of Windsor retained Dillon Consulting Limited to prepare a Master Plan for the Tecumseh Road West Corridor extending from Everts Street at the west limit to Church Street at the east limit.

The Master Plan was prepared in accordance with the requirements of the "Class Environmental Assessment for Municipal Road Projects June 1993" document.

The Master Plan process was followed as it was recognized at the time that whereas improvements to Tecumseh Road West could be addressed as individual projects, there are benefits in terms of better planning when long range holistic studies are undertaken over logical planning units, such as Tecumseh Road West.

The Master Plan process included a significant degree of public consultation and input.

Three main problems were identified within the Tecumseh Road West Corridor:

1. The substandard subways located west of Wellington Avenue.
2. The geometrics of the intersections of Tecumseh Road West and Crawford Avenue.
3. The at-grade railway crossings located between Janette Street and Crawford Avenue are blocked by rail traffic for extended periods of time.

Preferred solutions identified through the Master Plan process included:

1. Improve the vertical clearance and road width at the subway located west of Wellington Avenue.
2. Improve the roadway geometrics at the intersections of Crawford Avenue and Tecumseh Road West.

3. Provide grade separation (subway) of that section of Tecumseh Road West located between Janette Street and Crawford Avenue.

The Master Plan completed for the Tecumseh Road West Corridor fulfilled the requirements of Phases 1 and 2 of the five phase planning and design process outlined in the Class Environmental Assessment for Municipal Road Projects document. In 1995, Dillon Consulting Limited completed the preparation of an Environmental Study Report which addressed the deficiencies identified at the subway structure located west of Wellington Avenue and the deficient geometrics of the northerly connection of Crawford Avenue and Tecumseh Road West. Construction of these works was completed in August 1999.

2.0 TECUMSEH ROAD WEST CRAWFORD AVENUE TO CHURCH STREET

The Tecumseh Road West Corridor Master Plan identified that this section of Tecumseh Road West was substantially deficient with respect to traffic flow as a result of delays caused by rail traffic blocking traffic movements at each of the Essex Terminal Railway crossing and the Canadian Pacific Railway (now St. Lawrence & Hudson Railway) crossing.

Traffic volume information obtained for the month of April 1993, indicated that between 16,500 and 21,000 vehicles travelled within the Tecumseh Road West Corridor in a 24 hour period. Traffic counts completed in 2000 confirmed an AADT of 20,400 vehicles in that section of Tecumseh Road West intersected by the two railway crossings.

CP Rail advised in their correspondence of October 25, 1994 (see Appendix A) that some 19 to 25 trains per day, varying in length from 1000 feet to 9000 feet in length, travel through the study area.

The Essex Terminal Railway, in their correspondence of October 3, 1994 (see Appendix A) could only advise that more than six trains, of varying lengths, cross Tecumseh Road West between the hours of 6:30 a.m. and 1:00 a.m.

In 1999, rail movement information was again requested of both CP Rail and the Essex Terminal Railway. This information was requested, as visual observation of the CP Rail crossing of Tecumseh Road West indicated that far fewer crossings were now occurring as compared to that in 1994.

CP Rail advised in their correspondence of August 25, 1999 (see Appendix A) that there are an average 10 main line and 12 yard movements over this crossing in a 24 hour period, with main line movements averaging 6000 feet in length and yard movements averaging 2000 feet in length.

A comparison of the CP Rail data for 1994 and 1999 would indicate that there are fewer main line crossings at this location (24 +/- daily vs. 10 +/- daily) and approximately the same yard movements (12 +/- daily).

The Essex Terminal Railway advised in November 1999, (see Appendix A) that three scheduled trains (each way) of 50 cars each and one or two CP trains of 40 to 60 cars each, cross Tecumseh Road West daily. These numbers indicate similar rail movements in 1999 to those identified in 1994.

Based on an AADT of 20,400 and the railway movements noted above, exposure indices for the two railway crossings are as noted in Table 1.

**Table 1
Exposure Index**

AADT	RAILWAY MOVEMENTS (CPR)	RAILWAY MOVEMENTS (ETR)	EXPOSURE INDEX
20,400	22		448,800
20,400		8	163,200

Based on the Ministry of Ontario Inventory Manual Municipal Roads and Railway Level Crossings 1988, an exposure index above 200,000 is considered high and warrants significant protection measures or grade separation.

It is evident that since the original Functional Report for Tecumseh Road West was completed in 1977 and upon which the original subway design was predicated, rail movements across Tecumseh Road West have substantially declined and no information has been received to suggest changes to this situation.

Accordingly, it is questionable as to whether the significant expenditure required to grade separate the CPR and ETR crossings remains warranted. Due to the high exposure index, it is still important to consider substantial improvements to the protection afforded the level crossings at these locations.

3.0 ALTERNATIVE SOLUTIONS

To compare the alternative identified in this Addendum document, an evaluation was undertaken as previously completed in Section 4.0 of the Tecumseh Road West Corridor Master Plan.

3.1 Evaluation of Alternative Solutions

3.1.1 Problem 2

The evaluation of the need to improve the intersections of Tecumseh Road West and Crawford Avenue identified the Recommended Solution as “Improve Roadway Geometrics”. This improvement has already been completed for the northerly intersection of Tecumseh Road West and Crawford Avenue.

This Addendum does not alter the Recommended Solution for the southerly intersection. Improved roadway geometrics will be undertaken.

3.1.2 Problem 3

The evaluation of the need to address the at-grade crossings between Janette and Crawford which are blocked for extended periods identified the Recommended Solution as “Provide a Grade Separation Tecumseh Road West Alignment Subway”.

In light of the reduced railway movements at the CPR crossing, it is proposed that substantially improved and protected level crossings be constructed at each of the ETR and CPR crossing locations and that Tecumseh Road West be constructed as a five lane cross section with two through lanes in each direction and a centre two-way left-turn lane. These improvements are identified in Figure 1.

As part of this alternative, it is also recommended that municipal funding which would have been required for a grade separation at this location be directed, where possible, to other high priority road improvement projects in the City of Windsor.

An evaluation of the Corridor Master Plan recommended solution and the alternative proposed in this Addendum document, is provided in Table 2.

3.1.3 Recommended Solution

The recommended solution to address the problem at the southerly intersection of Tecumseh Road West (previously south intersection of Tecumseh Road West and Crawford) is to improve the roadway geometrics at this location.

The recommended solution to address the problems at the level crossings located west of Janette Avenue on Tecumseh Road West is to upgrade the crossings, provide flashing signals, bells and crossing gates, and widen the roadway to a five lane cross-section (see Figure 2).

Included in this solution are municipal sewer improvements (storm and sanitary) along Tecumseh Road West easterly to Church Street (see Figure 3).

Property requirements for this recommended solution(s) are identified in Figure 4.

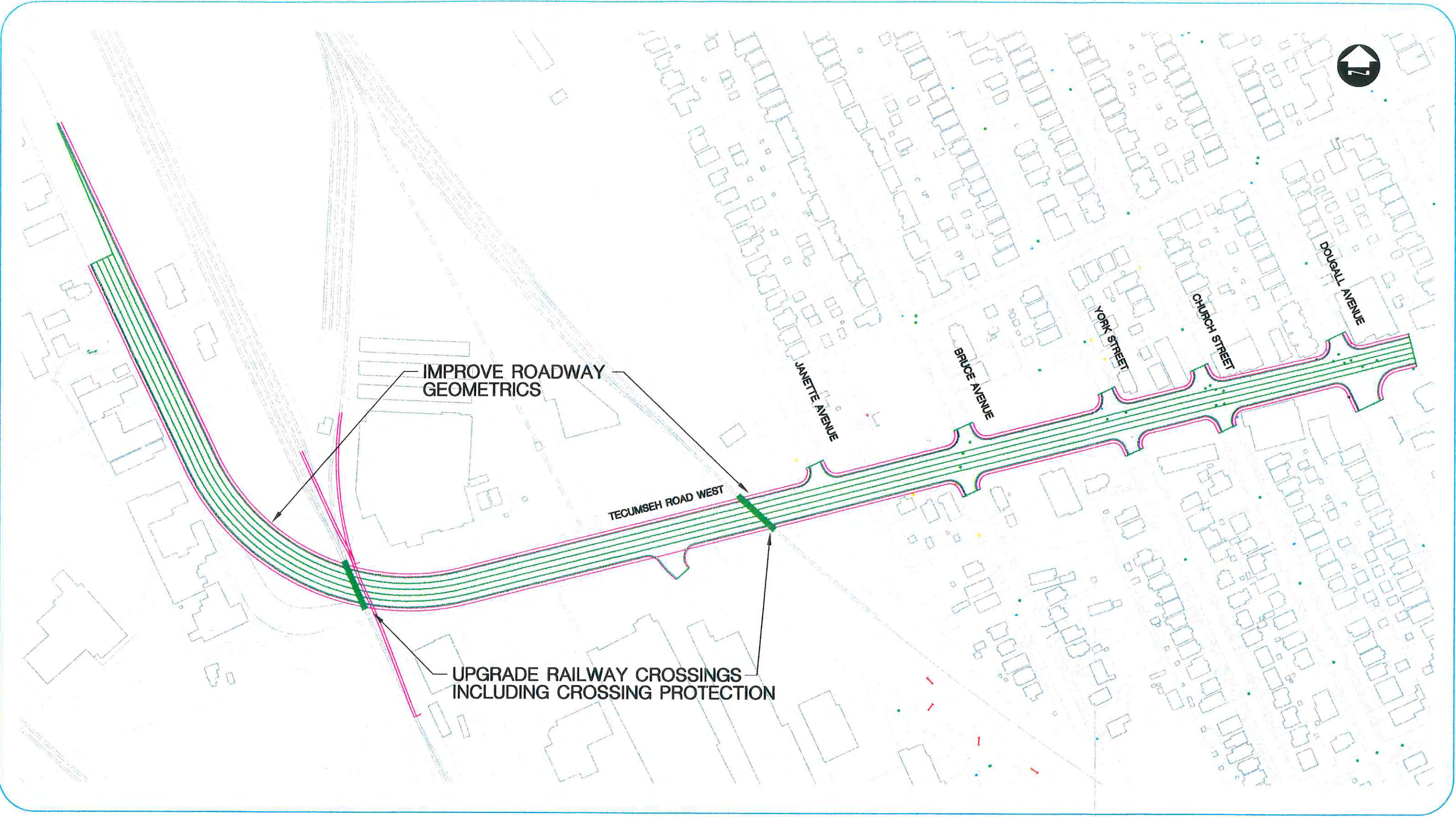
The Total Estimated Cost for this project, including engineering and contingency, but excluding property acquisition, is \$4,255,000.

On December 12, 2000 a copy of the Draft Addendum document was forwarded to the Canadian Pacific Railway (CPR) for their review. On February 21, 2001, CPR confirmed by e-mail that they have no objections to the proposed widening of the Tecumseh Road West grade crossing and that their current operating plan should not affect this proposal. A copy of the forwarding letter and CPR e-mail is included in Appendix B.

*Tecumseh Road West Corridor
Addendum to Master Plan*

**TABLE 2
TECUMSEH ROAD WEST CORRIDOR
ADDENDUM TO MASTER PLAN
PROBLEM 3 - EVALUATION OF ALTERNATIVE SOLUTIONS**

PROBLEM 3 The at-grade railway crossings between Janette and Crawford are blocked for extended periods which contribute to further traffic inefficiency in the Tecumseh Road West Corridor	ALTERNATIVE SOLUTIONS	PROVIDE A GRADE SEPARATION TECUMSEH ROAD WEST ALIGNMENT SUBWAY	PROVIDE UPGRADED AND PROTECTED LEVEL CROSSINGS
FACTOR GROUPS/ FACTORS			
ARTERIAL TRAFFIC SERVICE <ul style="list-style-type: none"> • Level of Service • Safety Improvement 		<ul style="list-style-type: none"> • Will increase Level of Service. • Will contribute to increased safety for pedestrians and vehicles. 	<ul style="list-style-type: none"> • Will not improve Level of Service • Direction of municipal funding to other road projects may increase Level of Service at these locations. • Will contribute to increased safety for pedestrians and vehicles although not to same degree as would a grade separation.
SOCIAL/LAND USE IMPACTS <ul style="list-style-type: none"> • Impact on Existing and Proposed Land Uses • Impact on Adjacent Neighborhoods • Visual Impacts • Noise Impacts 		<ul style="list-style-type: none"> • Traffic volumes may increase as a result of increased accessibility to residential areas. • Noise levels may be reduced. • Visual impacts would be minimal. 	<ul style="list-style-type: none"> • Traffic volumes may increase as road improvements permit easier flow of vehicles. • Noise levels will remain the same. • Improved roadway will improve the visual impacts of the area.
ECONOMIC IMPACTS <ul style="list-style-type: none"> • Disruption of Businesses • Improvement to Business Environment - Local • Improvement to Business Environment - Regional 		<ul style="list-style-type: none"> • No disruption of existing businesses. • Direct access to some businesses would be lost. • Vehicular traffic increases may stimulate business in the area. 	<ul style="list-style-type: none"> • Minor disruption to businesses during construction. • Direct access to all businesses would be maintained. • Roadway and railway crossing improvements may stimulate business growth in the area.
PROPERTY ACQUISITION <ul style="list-style-type: none"> • Property Requirements 		<ul style="list-style-type: none"> • Private property acquisitions would be necessary. 	<ul style="list-style-type: none"> • Minor private property acquisitions would be necessary.
NATURAL ENVIRONMENT IMPACTS <ul style="list-style-type: none"> • Impact on Natural Features 		<ul style="list-style-type: none"> • No impact on Natural features. 	<ul style="list-style-type: none"> • No impact on natural features.
PROJECT COST (Capital Cost, Utility Relocation Cost, and Property Acquisition Cost)		<ul style="list-style-type: none"> • High 	<ul style="list-style-type: none"> • Low
SUMMARY The recommended solution is the one that best addresses the project objectives, and has the least negative environmental impacts.		<ul style="list-style-type: none"> • Will increase the Level of Service and address safety concerns. • Social impacts are minimal. • Some disruption to business due to construction and the removal of direct roadway access. Service roads are anticipated. • Property acquisition impacts are less due to the City's past acquisition program relative to this alternative being preferred in the Tecumseh Road West Feasibility Study, January 1974. • Relatively high cost. 	<ul style="list-style-type: none"> • Will not improve the Level of Service during periods of time when crossings are blocked but will improve Level of Service at all other times. • Will improve safety concerns. • Social impacts are much less disruptive. • Minor disruption to businesses during construction but no disruption after completion. • Minor private property acquisition. Would permit sale of previously purchased property with revenue generation to be applied to other road improvement projects. • Costs are relatively low. • THIS IS THE RECOMMENDED SOLUTION



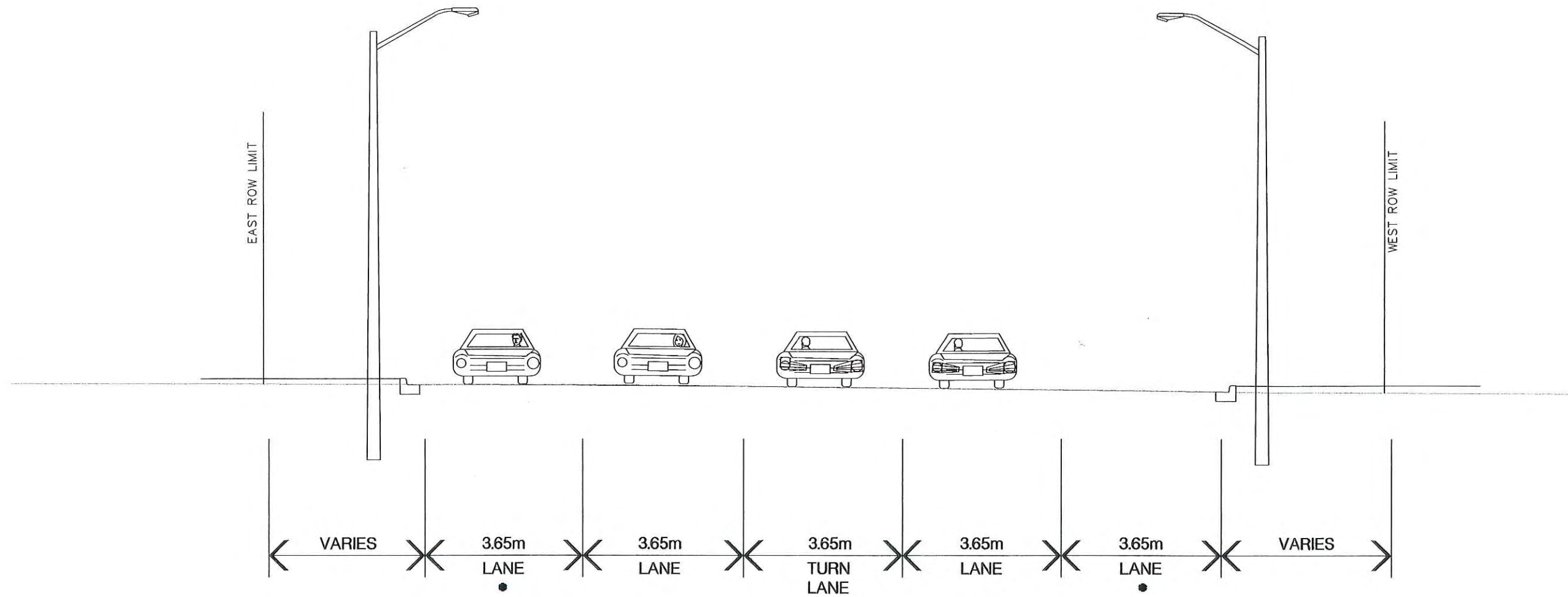
Tecumseh Road West Corridor
Addendum to Master Plan

**Upgraded Railway Crossings
with Proposed Crossing Protection**

Fig. 1

N.T.S.

VIEW: FIG3
Jul 17, 2001 - 9:37am G:\CAD\928966\Typical Cross Section.dwg



• Curb Lane Dimensions will be subject to the completion of an Environmental Study Report which will assess the need for on road cycling capability.



Tecumseh Road West Corridor
Addendum to Master Plan

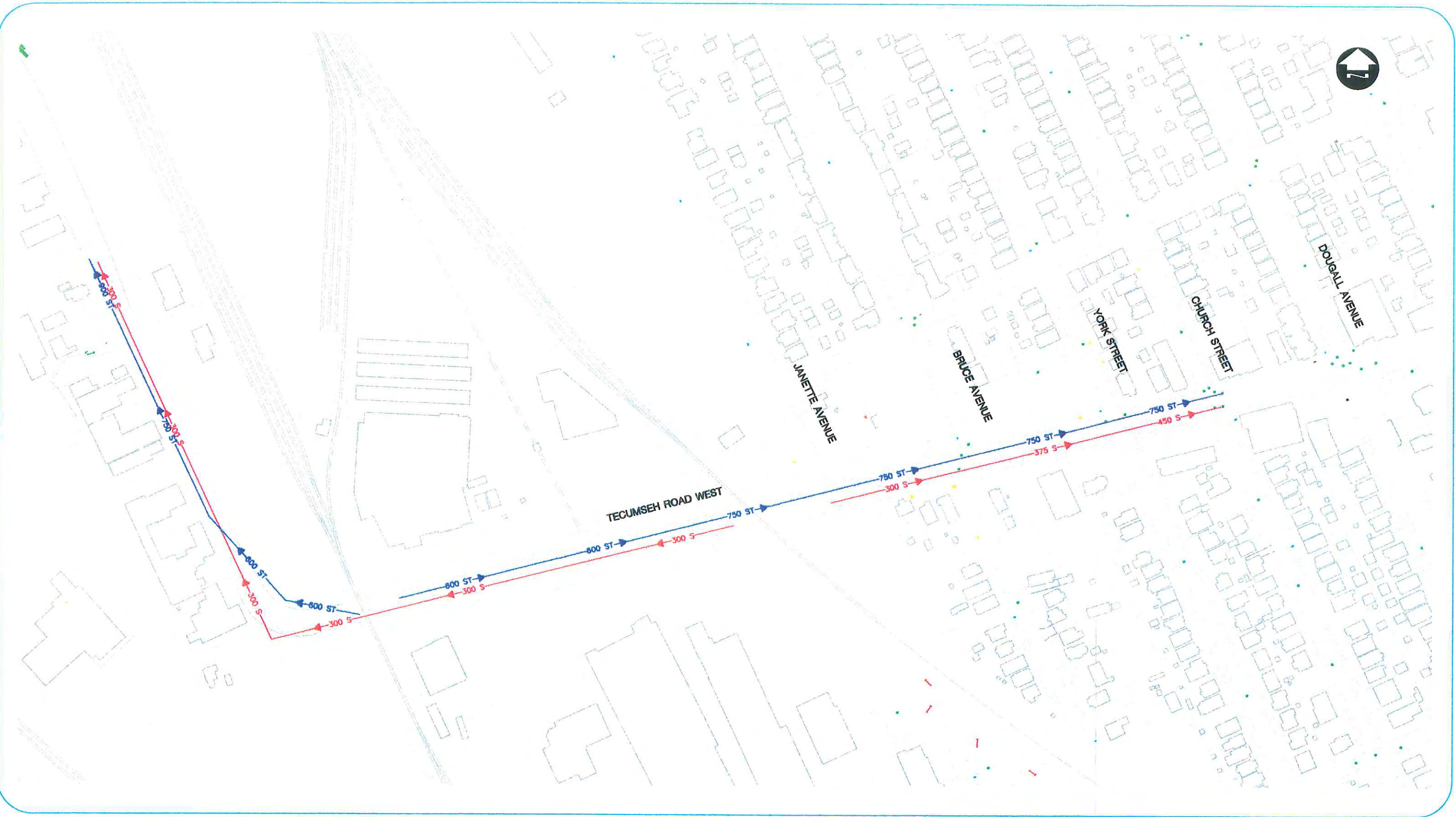
Typical Cross Section

Fig. 2

N.T.S.

92-8966-0303.DWG

VIEW: FIG2
Jul 17, 2001 - 2:38pm G:\CAD\928966\89660303.DWG



LEGEND

- SANITARY SEWER ———— 300 S ————
- STORM SEWER ———— 750 ST ————

**Tecumseh Road West Corridor
Addendum to Master Plan**

Proposed Drainage Plan

Fig. 3

N.T.S.



LEGEND

- LAND REQUIRED (OWNED BY CITY)
- LAND REQUIRED (NOT OWNED BY CITY)

Tecumseh Road West Corridor
Addendum to Master Plan

Property Requirements

Fig. 4

N.T.S.

4.0 CONCLUSION

The decline in the number of rail movements at the CPR crossing of Tecumseh Road West has reduced the need for a grade separation at this location. The exposure index still necessitates that some improvements be undertaken and accordingly it is recommended that upgrades and crossing protection (flashing signals, bells, crossing gates) be completed at both the ETR and CPR crossings.

This Addendum will form part of the Master Plan document and will satisfy Phases 1 and 2 of the Class Environmental Assessment process. Prior to proceeding with construction of the solution(s) as recommended, it will be necessary for the City of Windsor to complete an Environmental Study Report, as the works as proposed are defined as a Schedule C project under the Class Environmental Assessment process.

APPENDIX A

RAILWAY CORRESPONDENCE

IRZ

Hex

File 92-8966-03-0

CP Rail System

RECEIVED

NOV 03 1994

M.M. DILLON LIMITED

1405 Caron Avenue
WINDSOR, Ontario
N8X 4T6

October 25, 1994

M.M. Dillon Limited
300 Giles Boulevard East
WINDSOR, Ontario N9A 4C4

ATTENTION: Mr. Jon R. Zangari, P.Eng.
Project Manager

Tecumseh Road West Corridor
Master Plan

Dear Mr. Zangari:

In response to your letter dated September 28, 1994, the following is the train information requested.

There are some 19 to 25 trains per day through this area. The times on each train, as well as the train lengths will vary daily. The average train length is approximately 6000 feet but can be as much as 9000 feet or as small as 1000 feet.

The train times indicated on page two are operating plan only. Due to many variables, these times cannot be relied upon.

As for your other questions, any answers I might give would be only speculation on my part. At this time I am unable to provide you with realistic information regarding any future plans for crossings in this area.

Please see page two for train movement schedules.

Between 0630 hours and 0030 hours daily, there are four to eight moves made by yard trains that have no schedule. Movements are scheduled as follows for main line trains:

WESTWARD	EASTWARD
0600 hours	0600 hours
0700 hours	0755 hours
0800 hours	0900 hours
0830 hours	0905 hours
1530 hours	0935 hours
1845 hours	1120 hours
1850 hours	1115 hours
1930 hours	1300 hours
2305 hours	1535 hours
2340 hours	2230 hours
0050 hours	0010 hours
0330 hours	0200 hours

Regards,



R.J. Isaac
Manager Operations, WINDSOR
RJI:vm

File



THE ESSEX TERMINAL RAILWAY COMPANY

1601 Lincoln Road, P.O. Box 24025, Windsor, Ontario N8Y 4Y9

October 3, 1994

RECEIVED
OCT 11 1994
M.M. DILLON LIMITED

Mr. John R. Zangari, P. Eng.
M.M. Dillon Limited
300 Giles Boulevard East
Windsor, Ontario N9A 4C4

Re: Tecumseh Road West Corridor Master Plan
and Affected Agency Input and Comment

Dear Sir:

When considering your master plan amendments from the railway standpoint, the major deficiency permits an unrealistic volume of heavy, long, multi-axle trucks to travel through the city. The damage these vehicles cause by the repeated lateral pounding of the rails causes the unscheduled repair work and delay to the travelling public. If these large trucks were restricted to the E.C. Row Expressway and the other heavy duty corridors these repair inconveniences would be fewer. The elevation of Tecumseh Road at the rail crossings is also something that should be corrected.

Train time is anytime! Currently, The Essex Terminal Railway trains travel between 6:30 A.M. and 1:00 A.M. Three crews would represent six crossings of, for example, Lincoln Road; but far more on Weaver Road, or Tecumseh Road West. The number of cars per train would depend upon the season - rock salt and propane move in the winter time; oil seeds and grain move in the fall; and soda ash, whisky, auto parts move on a fairly continual basis all year long with the exception of a model changeover, labour disputes at major employers, etc.

Yours truly

M.A. Elder
President

MAE/sft



**CANADIAN
PACIFIC
RAILWAY**

RECEIVED
AUG 30 1999
DILLON CONSULTING

St. Leger
Eastern Network

Scarborough, August 25, 1999

Our File: XG,502,109-77,1-00

Mr. J.R. Zangari, P.Eng.
Dillon Consulting Limited
3200 Deziel Drive, Suite 608
Windsor, Ontario
N8W 5K8

Dear Sir:

Your letter of 99-07-14 refers concerning the Tecumseh Road West grade crossing at Mileage 1.00, Windsor Lead, Mileage 109.77; Win Subdivision.

There are an average of 10 main line and 12 yard movements over t crossing in a 24 hour period where main line movements average 60 feet in length and yard movements average 2000 feet in length.

At this point in time there are not any near or long term plans v would affect our operations at this location however as you are a from recent news reports there have been proposals for the construction of a new tunnel under the Detroit River which could an effect on all of our operations in the City of Windsor.

Yours truly,

D.M. Lukianow, P.Eng.
Manager Public Works

MEMO

TO:
FROM: John Zangari
DATE: November 2, 1999
SUBJECT: Tecumseh Road West Master Plan Addendum
FILE NO.: 92-8966-03-05 03

Notes of meeting with Ed Clough of the Essex Terminal Railway on Friday, October 29, 1999.

1. Tecumseh Road West

3 scheduled trains daily (each way).
50 cars on each train.
2 to 3 minutes to clear crossing.

interchange with CP at this location.
1 to 2 CP trains made up each day.
40 to 60 cars in each.

APPENDIX B

RAILWAY RESPONSE TO DRAFT ADDENDUM DOCUMENT

✓ Our File: 92-8966-03-03



December 12, 2000

St. Lawrence & Hudson Railway
2025 McCowan Road
2nd Floor
Scarborough, ON
M1S 5K3

Attention: Mr. David Lukianow, P.Eng.
Manager - Public Works

**Tecumseh Road West
Addendum to Corridor Master Plan**

Dear Mr. Lukianow:

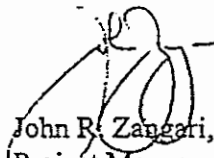
Please find enclosed the Addendum document to the City of Windsor's Tecumseh Road West Corridor Master Plan. The Addendum recommends that grade separation of the existing CP Rail crossing of Tecumseh Road West (east of Crawford Avenue) no longer be pursued as a result of changes in railway operations in the City of Windsor.

We would request that you review the Addendum document and provide your comments based on current knowledge of CP Rail's existing and proposed operating plans.

Please be aware that the City of Windsor will be making financial allocations on the basis of information received from CP Rail (St. Lawrence & Hudson Railway) which may in turn have economic impacts on the City and on businesses located within the City of Windsor.

Yours truly,

Dillon Consulting Limited



John R. Zangari, P. Eng.
Project Manager

N:\PROJECTS\FINAL\928966\TEXT\REPORTS\9289660303\Addendum to Corridor Master Plan-JRZa.wpd
Encl.

cc+Encl: Mr. T.W. Szalay, P.Eng.

3200
Deniel Drive
Suite 608
Windsor, Ontario
Canada
N8W 5K8
Telephone
(519) 948-5000
Fax
(519) 948-5054

Dillon Consulting
Limited

From: <David_Lukianow@cpr.ca>
To: DILLON.WINDSOR(32JRZ)
Date: 2/21/01 1:55pm
Subject: Tecumseh Road West - Addendum to Corridor Master Plan Keyword:
XG,502,109-77,1-00

Your letters of December 12, 2000 and February 15, 2001 refer concerning the Tecumseh Road West grade crossing at Mileage 1.00, Windsor Lead, Mileage 109.77, Windsor Subdivision.

As you have noted in your letter of February 15th our operations are in a state of flux in the Windsor area and as you are well aware are driven by the markets that we serve; a case in point being the recent announcement by Chrysler of significant staff reductions which will no doubt affect the volume of traffic that we carry for them in the future.

With respect to the Addendum appended to your letter of December 12, 2000 there are no objections in principle to the proposed widening of the Tecumseh Road West grade crossing. Our current operating plan should not affect this proposal.

Please note however that this crossing is already equipped with flashing lights, bell and gates. Widening of Tecumseh Road West will require modifications to the existing system which may include extension of gate barriers, provision of or modification of cantilever signals or provision of additional flashing light units in the median.

Please note that depending the nature of the signal work required there may be a lead time of as much as 12 months from date of financial authorization (purchase order) to date of installation and from the Railway's perspective this will be the area that needs to be addressed on a timely basis to ensure that the City's overall schedule is not negatively impacted.

When this project is ready to be progressed please advise and I will forward you the Railway's guide for making application for the modification of a grade crossing.

As I mentioned in earlier correspondence please note that as of January 1, 2001 the St. Lawrence & Hudson Railway merged with Canadian Pacific Railway and now is known as Canadian Pacific Railway or CPR for short.

If you have any questions please do not hesitate to call or write.

Regards,

David M. Lukianow
Manager Public Works
Canadian Pacific Railway