
**HIGHWAY 400
PLANNING AND PRELIMINARY DESIGN STUDY
FROM THE SOUTH CANAL BRIDGE TO
1.0 KM SOUTH OF HIGHWAY 89**

G.W.P. 40-00-00

**TOWNS OF INNISFIL AND BRADFORD WEST Gwillimbury, COUNTY OF SIMCOE
TOWNSHIP OF KING, REGION OF YORK**

CLASS ENVIRONMENTAL ASSESSMENT (GROUP 'B')

TRANSPORTATION ENVIRONMENTAL STUDY REPORT

November 2003

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CLASS ENVIRONMENTAL ASSESSMENT GROUP "B"

G.W.P. 40-00-00

Highway 400 Planning and Preliminary Design Study From the South Canal Bridge to 1.0 km South of Highway 89

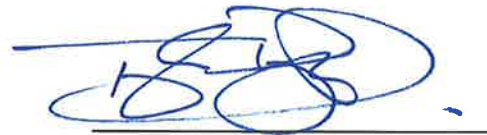
TOWNS OF INNISFIL AND BRADFORD WEST GWILLIMBURY, COUNTY OF SIMCOE
TOWNSHIP OF KING, REGION OF YORK

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TOWNSHIP OF KING, REGION OF YORK**

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THE PUBLIC RECORD

Copies of this document have been sent to the following locations:

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1.0 THE ENVIRONMENTAL ASSESSMENT PROCESS

1.1 THE ONTARIO ENVIRONMENTAL ASSESSMENT ACT

The purpose of Ontario's Environmental Assessment (EA) Act is to help to protect and conserve Ontario's environment by ensuring that projects subject to the Act follow a planning process leading to environmentally sound decision-making.

For projects subject to the EA Act, an environmental assessment involves identifying and planning for any environmental issues, opportunities, and their effects prior to implementing a project. The process allows reasonable opportunities for the public's involvement in project decision-making. An EA document is prepared by the proponent for certain project types and may be subject to review by the public and government before project approval is given.

The Class EA is a planning document approved under the EA Act that provides a streamlined process which individual projects or activities within a defined "class" must follow. When the Class EA process is adhered to and its requirements met for a project, the requirements of the Environmental Assessment Act are also fulfilled so a separate, individual approval under the EA Act is not required. The Class EA requirements must be met before a project can be implemented. Projects and activities that are defined within a class are generally ones that are recurring, carried out routinely and have predictable and mitigable environmental effects. The word "environment" in this context is defined as any aspect of life that may be impacted by an undertaking. Therefore, "the environment" can include aspects of the natural, social, economic and cultural environments depending on the project in question. The class approach often expedites the environmental assessment of smaller, recurring projects. The Class Environmental Assessment for Provincial Transportation Facilities (2000) outlines the EA process to be followed for specific groups of provincial transportation projects. Project groupings within the Class EA were established for the purposes of consultation, documentation and formal EA challenge (bump-up).

The groups are as follows:

- Group "A" – Projects that are new facilities;
- Group "B" – Projects that are major improvements to existing facilities;
- Group "C" – Projects that are minor improvements to existing facilities; and
- Group "D" – Activities that involve operation, maintenance, administration and miscellaneous work for provincial transportation facilities. These activities are approved under the EA Act subject to compliance with applicable environmental legislation other than the EA Act.

Other aspects of the environmental assessment process applicable to these project types are contained in the Class Environmental Assessment for Provincial Transportation Facilities (2000). Readers interested in these matters are encouraged to refer to that document.

1.2 THE CANADIAN ENVIRONMENTAL ASSESSMENT ACT

The Canadian Environmental Assessment Act (CEAA) is "triggered" by the:

- Need for Federal funding;
- Need for Federal Lands (including First Nations lands); and/or
- Issuance of a Federal approval identified on the Law List.

This project will not require Federal funding, and will not affect any lands owned by the Federal Government or First Nations. Therefore, the first two triggers do not apply.

Regarding the third trigger:

In accordance with the Ministry of Transportation (MTO) and the Ministry of Natural Resources (MNR) Fisheries Protocol, the MNR is responsible for reviewing MTO projects and determining whether the Federal Fisheries Act applies. Once the decision to issue a Fisheries Act authorization is made, a Federal screening under CEAA is required.

The proposed improvements will result in minor impacts to thirteen watercourse crossings that support fish habitat (See Section 6.1.2 for further details). These improvements have the potential to result in the loss of channel edge resulting in a harmful alteration, disruption or destruction (HADD) and will require the Federal Department of Fisheries and Oceans Authorization pursuant to Section 35 (2) of the Federal Fisheries Act.

1.3 PURPOSE OF THE TRANSPORTATION ENVIRONMENTAL STUDY REPORT

The Highway 400 from the South Canal Bridge to 1 km south of Highway 89 project is classified as a Group B undertaking under the Class EA due to the nature of the proposed improvements. A Transportation Environmental Study Report (TESR) is normally required for Group B projects. The TESR documents the process followed that led to the recommended project design.

In general the TESR includes the following information:

- Purpose and history of the project;
- Existing and future natural, socio-economic, cultural and engineering conditions in the project area;
- Description of alternatives considered, their associated potential impacts and evaluation of the alternatives;
- Description of the recommended alternative and associated potential effects and mitigation measures; and
- Commitments to future work and monitoring aspects of a project, including expected environmental effects and proposed mitigation measures.

As required under the Class EA this TESR is being made available to the public, other interested parties and external agencies for a 30-day review. This TESR is available for review at the offices of the Ontario Ministry of Environment (Downsview and Barrie District Offices), Ontario Ministry of Transportation (Southwestern Region), Town of Bradford West Gwillimbury, Town of Innisfil, Bradford West Gwillimbury Public Library, and the County of Simcoe. A notice of study completion was placed in the local newspapers and a letter was mailed to notify government agencies, municipalities, and members of the public on the Project Team's mailing list.

During the review period, parties are encouraged to bring their project concerns to the attention of the Ministry of Transportation (MTO). If it is necessary to make significant changes to the commitments outlined in the TESR or changes to the concept of portion of the project, an Addendum may be required.

If, after consulting with MTO's consultants and staff, you have serious unresolved concerns, you have the right to request the Minister of the Environment (135 St. Clair Street West, Toronto, Ontario, M4V 1P5) to "bump-up" (i.e. make a Part II Order) for this project. A Part II Order may lead to preparation of an individual environmental assessment. A copy of the "bump-up" request should be forwarded to the MTO and URS at the addresses below. If there are no outstanding concerns after completion of the 30-day review period, the project will be considered to have met the requirements of the Class EA.

Only changes documented in the Addendum are eligible for "bump-up" (Part II Order). In the event that a "bump-up" request is granted, the proponent has the option of withdrawing the Addendum and implementing the project as documented in the original TESR. If, through unforeseen circumstances, an immediate change is required to prevent environmental damage from occurring or continuing, then the change will be considered as a Group D emergency response activity. In this case, an Addendum is not required.

Detailed background information, including supporting background study reports, is contained in the environmental study file. The Project Manager and/or Environmental Planner are available to discuss this information and can be contacted as follows:

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2.0 OVERVIEW OF THE PROJECT

2.1 PROJECT LOCATION

The Ontario Ministry of Transportation (MTO) initiated two studies to identify improvements to Highway 400 on the section of Highway 400 from Major Mackenzie Drive in York Region to Highway 89 in Simcoe County. The Highway 400 studies are identified as Part A and B, as follows:

- Part A: North of Major Mackenzie Drive to the South Canal Bridge, GWP 222-89-00
- Part B: North Side of the South Canal Bridge to South of Highway 89, GWP 40-00-00

The recommendations for improvements to the Part A portion of Highway 400 are provided in a separate Transportation Environmental Study Report and Preliminary Design Report prepared by MTO under GWP 222-89-00.

The project limits for this study, Highway 400 Planning Study Part B, are within the Towns of Innisfil and Bradford West Gwillimbury in the County of Simcoe and the Township of King in the Regional Municipality of York (refer to Figure 1). The limits extend from the South Canal Bridge northerly 18.4 km to 1 km south of Highway 89.

Highway 400 is a Controlled Access Highway under the jurisdiction of the MTO. This section of Highway 400 is a 6-lane divided freeway with a current posted speed of 100 km/h and a design speed of 110 km/h (RFD110).

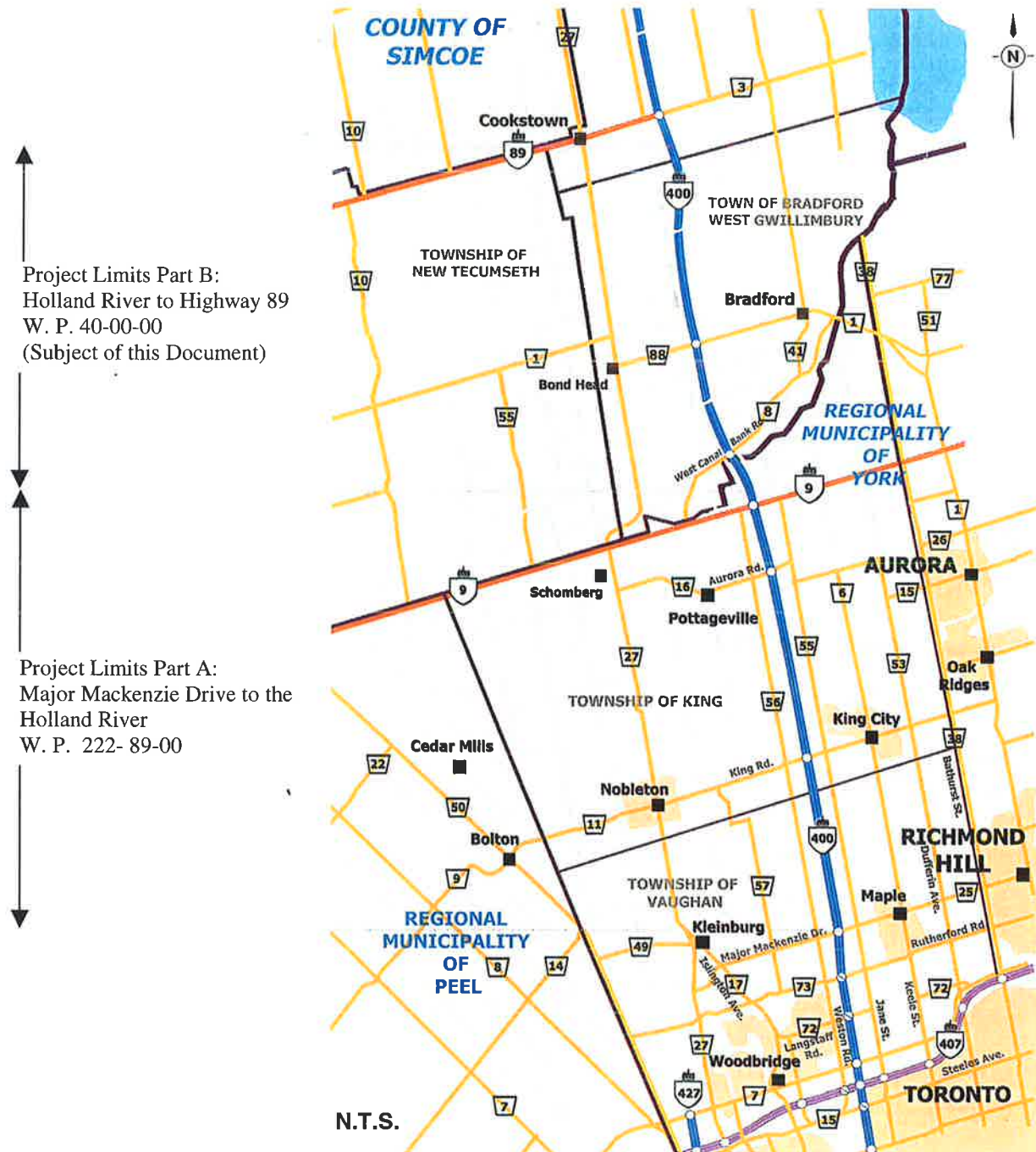
Highway 400 is considered Regionally and Provincially significant. It serves as an important link between the Greater Toronto Area and the City of Barrie. It also connects Highway 401 in Southern Ontario to Central and Northern Ontario / Western Canada via Highway 69 and Highway 11.

2.2 PURPOSE OF THE UNDERTAKING AND SCOPE OF STUDY

The project is intended to address necessary improvements to traffic operations on this section of Highway 400. The associated improvements include widening Highway 400 to improve capacity and improvements to illumination and drainage, closure of the Canal Road access and modifications to the Simcoe Road 88 interchange. Ultimately, these improvements aim to enhance the transportation network's ability to move people and goods safely, quickly and efficiently along this section of Highway 400.

The nature of the improvements to be investigated led to the decision that a Class EA Group B project is the most acceptable approach to the study. The alternatives were analyzed and impacts to economic, natural, social, and cultural environments as well as technical considerations were evaluated, leading to the identification of a recommended plan. The alternatives considered and evaluation of these alternatives are described in Section 5.0.

FIGURE 1 PROJECT LIMITS



2.2.1 Related Projects

The following lists the active projects adjacent to the study area:

- GWP 30-95-00, Highway 400 from 1 km south of Highway 89 northerly to Highway 400/11 interchange (Crown Hill);
- GWP 222-89-00, Highway 400 from Major Mackenzie Drive to the York/Simcoe Boundary;
- GWP 377-90-00, Highway 400 – Highway 404 Extension Link “Bradford Bypass”; and
- Simcoe Area Transportation Network Needs Assessment.

2.3 GENERAL DESCRIPTION OF THE RECOMMENDED PLAN

This section describes the recommended preliminary design that will be carried forward into detail design. The interim Highway 400 widening will be 8 lanes with provision to widen to 10 lanes. The 10-lane cross section includes provision for one high occupancy vehicle (HOV) lane in each direction. The mainline will be widened on both sides of the existing Highway 400 lanes and will maintain the existing centreline. The existing box beam guide rail will be replaced with an 8.8 metre closed barrier median using concrete tall wall through the project limits. Other specifics of the proposed improvements are noted below:

- Closure of the existing Canal Road access and widening/rehabilitation of the Canal Road structure;
- Realignment of 5th Concession to the north (within existing road allowance) and replacement of existing structure;
- Reconfiguration of Simcoe Road 88 interchange including widening and realignment of Simcoe Road 88, replacement of the existing Simcoe Road 88 structure and full high mast illumination;
- Widening of existing 9th Concession structure to accommodate Highway 400 widening;
- Realignment of 11th Concession to the south and replacement of existing 11th Concession structure;
- Widening of existing 13th Concession structure to accommodate Highway 400 widening; and
- An 8.8 metre closed barrier median on Highway 400 using concrete tall wall.

The rationale for the selection of the preferred alternatives is provided in Section 5.0 of this report.

3.0 EXISTING AND FUTURE CONDITIONS

In order to generate a reasonable range of alternatives, all significant features within the study area limits were identified to determine the sensitive areas and the potential for impact on these areas from the proposed widening alternatives.

Identifying significant features involved the collection of primary and secondary source data derived from surveys, field studies, published and unpublished literature, government sources and consultation with agencies and the public. The data collected was grouped in the following categories:

- Natural Environment;
- Socio-Economic Environment;
- Cultural Environment; and
- Traffic Considerations.

3.1 NATURAL ENVIRONMENT

The following natural environment existing conditions reports have been completed for this study to document the vegetation, wetland and wildlife habitats as well as the fisheries and aquatic habitat communities:

- Environmental Scoping Report (MTO June 2000)
- Amphibian Calling Survey Technical Report (Ecoplans September 2000)
- Breeding Bird Survey Technical Report (Ecoplans October 2000)
- Fisheries Inventory and Assessment (Ecoplans December 2000)
- Vegetation Communities Inventory Data (Ecoplans November 2000)
- Hydrogeology Report (Goffco Limited January 2001)

The results of these reports are the products of pre-field consultation with relevant agencies (i.e. Aurora and Midhurst Ministry of Natural Resources (MNR) and Lake Simcoe Region Conservation Authority) and review of secondary source information and field investigations. Significant natural features / constraints exist primarily in three clusters along the Highway 400 corridor (refer to Figure 2).

3.1.1 Physiography and Soils

The study area occurs within the Lakes Simcoe-Rideau Site Region known as 6E. This region extends from the Ottawa River in the east to Lake Huron in the west and includes twelve site districts. The forest climate type is mid-humid, Great Lakes hardwoods. The regional landform is gently undulating to rolling terrain of ice-laid materials deeply covering the Paleozoic bedrock over 80 percent of the area. Local plains of smoother lacustrine deposits occur also, limestone plains occur very shallowly covered with drift. The regional soil type is of limy soil materials that support tolerant hardwood-conifer forests in a grey-brown podsollic except in areas of stony limestone till where limestone gravel is near the surface. In these latter areas, brown forest soils are common. Soils and landforms of this site region support beech, hard maple and hemlock on normal fresh sites; oak and hickory on warmer fresh sites; oak and ash on hot dry sites; hard maple, oak and ash on normal dry sites; white pine, elm and ash on cold dry sites; and, hemlock, yellow birch or spruce and white cedar on wet sites (Hills 1959).

COOKSTOWN HOLLOWS SWAMP PSW

- Amphibian Breeding Area
- ESA/ANSI
- Valuable Wetland/Upland Ecotone
- Deer Wintering
- Bird Nesting Site

INNISEIL CREEK TRIBUTARY

- Coldwater Stream Crossing
- Vegetation Habitat
- Deer Wintering

HOLLAND RIVER VALLEY

- Warmwater Fisheries
- Wildlife Habitat
- Deer Wintering
- Wildlife Linkage/Corridor

DUNKERRON FOREST

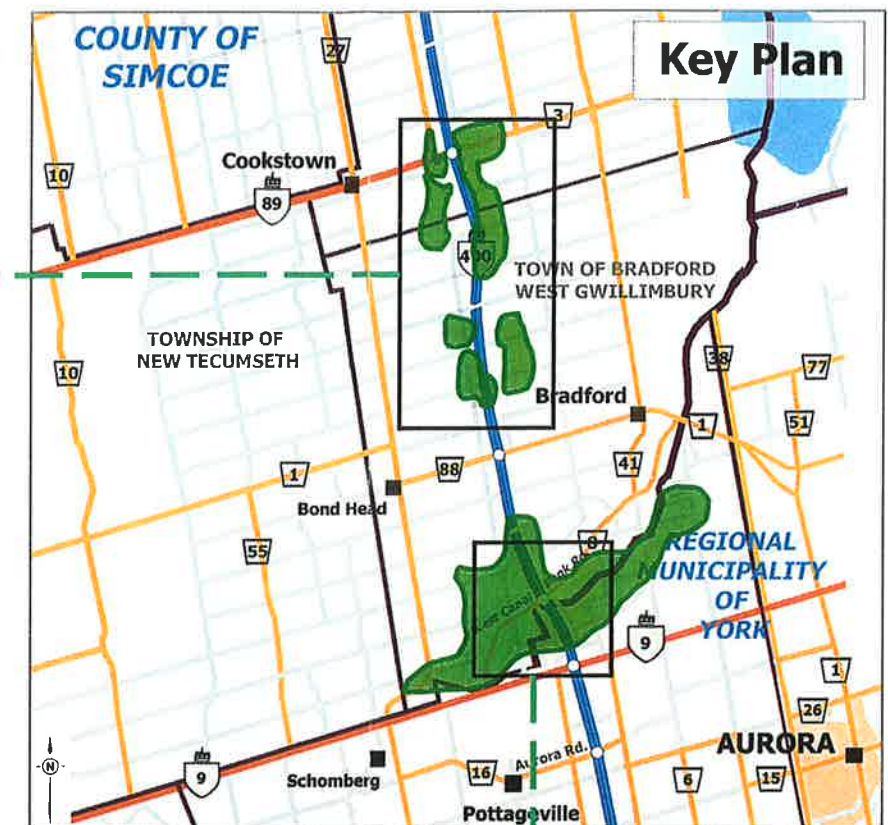
- Organic Soils
- Vegetation Habitat
- High Diversity of Species
- Aquifer Recharge/Discharge Zone
- Rare or Endangered Indigenous Species
- Natural Link

FRASER CREEK SWAMP PSW

- Locally and Provincially Significant Wetland
- High Diversity of Species
- Aquifer Recharge/Discharge Zone
- Rare or Endangered Indigenous Species
- Natural Link

HOLLAND MARSH LOWLANDS ESA

- Organic Soils/Deposit Area
- Significant Ecological Functions
- High Diversity of Species
- Aquifer Recharge/Discharge Zone
- Rare or Endangered Indigenous Species
- Natural Link



N.T.S.

The bedrock of the study area is situated in the Grenville Province lying in the Central Metasedimentary Belt. Limestone, dolostone, shale, arkose and sandstone from the Middle Ordovician period are typical of the area. There are no geological faults within or near the study area.

The study area is situated in three distinct physiographic divisions. The southerly project limit begins in the Schomberg Clay Plain, Peterborough Drumlin Field and finishes in the Simcoe Lowlands (Chapman and Putnam 1966).

The Simcoe Lowlands are characterized by sand/silt deposits from glacial Lake Algonquin. The Highway 400 corridor crosses this physiographic region twice. The first area begins near West Gwillimbury Line 13 and continues to the northerly study limit. The second portion includes the Holland Marsh and the shoreline cliffs of glacial Lake Algonquin.

The Peterborough Drumlin Field is a distinctive physiographic division within the study area. The individual drumlin features provide important functions related to groundwater recharge and discharge. It is located from approximately West Gwillimbury Line 13, southerly to West Gwillimbury Line 6. The Highway 400 corridor contacts three drumlin features and is adjacent to three more between the 6th and 11th Lines of the Town of Bradford West Gwillimbury.

The Schomberg Clay Plains occupies a portion of the drumlinized till plain and was covered with deep deposits of clay/silt. It is located approximately from West Gwillimbury Line 9 to the North Canal.

The major soil types include Alliston sandy loam, Tioga loamy sand, Bondhead sandy loam, Sargent gravelly sandy loam, Schomberg silty clay loam and muck.

The study area includes soil capability classes ranging from Class 1 to 6. From the southerly project limit and extending approximately 2.5 km to the North Canal Road bridge is organic soils associated with the Holland Marsh. The next 0.25 km is classed as 5t with severe limitations to agriculture related mainly to adverse topography. The next 10.0 km is a complex of Class 1 and 3 agricultural lands. The Class 1 lands comprise about 60% of this area and have no significant limitations to agriculture. The remaining 40% Class 3 lands have moderately severe limitations to agriculture that are related to adverse topography. The next section extending from the 10th Line for a distance of about 0.50 km is classed as 3s that has moderately severe limitations related to adverse soil characteristics. The next 2.0 km north is classed as 5t and has very severe limitations related to adverse topography. The next unit is a complex of 6t (60%) and 3s (40%) and extends approximately 1.25 km. The final unit is again classed as 3s and extends to the northerly project limit.

TABLE 1 SOIL CAPABILITY CLASS BY PERCENT OCCURRENCE IN THE STUDY AREA

Soil Capability Class	Occurrence in the Study Area Corridor
Class 1	34%
Class 2	0%
Class 3	36%
Class 4	0%
Class 5	11%
Class 6	5%
Class 7	0%
Organic	14%

3.1.2 Fisheries and Aquatic Habitat

A total of forty centreline crossings exist within the project limits. These crossings are listed in Table 2 and illustrated in Figure 3. Secondary source information and original fieldwork completed by Ecoplans 2000 indicate that sixteen of these crossings were previously identified as fish habitat. In this report, one intermittent warmwater crossing, fourteen permanent warmwater crossings, and one permanent coldwater crossing were identified.

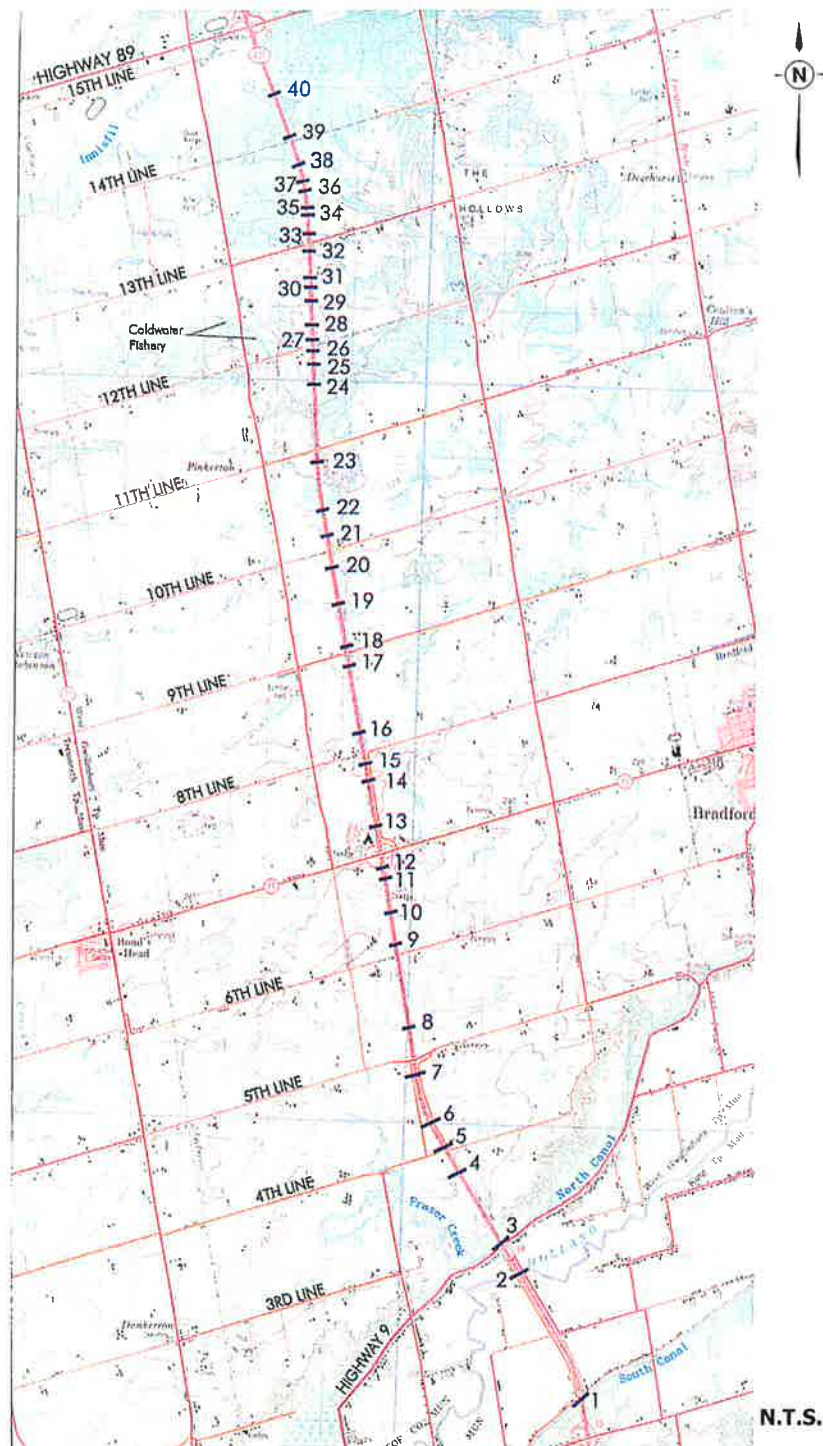
Crossing 1 (South Canal), 2 (Holland River), and 3 (North Canal) are not expected to experience any negative impacts since no alterations are planned. The remaining thirteen fish habitat crossings, despite the proposed mitigation strategies, will experience to some degree a harmful alteration, disruption or destruction (HADD) and will require a Fisheries Act Authorization.

TABLE 2 WATERCOURSE CROSSINGS IN THE STUDY AREA

Crossing #	Waterbody	Chainage	Information Source	Permanent	Intermittent	Warmwater	Coldwater	Realignment Required
1	South Canal	24+885	MNR	X		X		
2	Holland River	10+064	MNR	X		X		
3	North Canal	10+542	MNR	X		X		
4	Fraser Creek Trib.	11+640	Ecoplans		X			
5	Fraser Creek Trib.	12+030	Ecoplans		X			X
6	Fraser Creek Trib.	12+420	Ecoplans	X		X		X
7	Fraser Creek Trib.	13+120	Ecoplans	X		X		
8	Fraser Creek Trib.	13+750	Ecoplans	X		X		
9	Fraser Creek Trib.	14+875	Ecoplans	X		X		X
10	Fraser Creek Trib.	15+360	Ecoplans	X		X		X
11	Drainage	15+810	Ecoplans		X			
12	Drainage	16+000	Ecoplans	X				X
13	Fraser Creek Trib.	16+340	Ecoplans	X		X		X
14	Fraser Creek Trib.	17+095	Ecoplans		X			
15	Fraser Creek Trib.	17+340	Ecoplans	X				
16	Penville Creek Trib.	17+800	Ecoplans	X		X		X
17	Penville Creek Trib.	18+755	Ecoplans		X			
18	Penville Creek Trib.	18+955	Ecoplans		X			X
19	Penville Creek Trib.	19+500	Ecoplans		X			
20	Penville Creek Trib.	20+000	Ecoplans		X			X
21	Drainage	20+475	Ecoplans		X			
22	Penville Creek Trib.	20+860	Ecoplans	X		X		
23	Drainage	21+560	Ecoplans		X			X
24	Innisfil Creek Trib.	22+545	Ecoplans	X			X	X
25	Innisfil Creek Trib.	22+840	Ecoplans		X		X	
26	Innisfil Creek Trib.	23+000	Ecoplans	X			X	X
27	Innisfil Creek Trib.	23+110	Ecoplans		X		X	X
28	Innisfil Creek Trib.	23+355	Ecoplans		X		X	
29	Innisfil Creek Trib.	23+590	Ecoplans	X			X	X
30	Innisfil Creek Trib.	23+925	Ecoplans	X		X		X
31	Innisfil Creek Trib.	24+032	Ecoplans		X			
32	Innisfil Creek Trib.	24+400	Ecoplans	X		X		X
33	Innisfil Creek Trib.	24+620	Ecoplans		X	X		
34	Innisfil Creek Trib.	24+870	Ecoplans		X			
35	Drainage	24+970	Ecoplans		X			
36	Drainage	25+200	Ecoplans		X			
37	Drainage	25+300	Ecoplans		X			
38	Drainage	25+475	Ecoplans		X			
39	Drainage	25+975	Ecoplans		X			
40	Innisfil Creek Trib.	26+545	Ecoplans	X		X		

During field investigations, after significant precipitation, six of the crossings to be dry or with only isolated standing pools were identified. The vast majority of the watercourses are moderately degraded and heavily influenced by the surrounding agricultural land use. Many of the watercourses experience periods of no flow where fish are confined to refuge pools.

FIGURE 3 WATERCOURSE CROSSING LOCATIONS



3.1.3 Vegetation, Wetlands, Areas of Natural and Scientific Interest (ANSI)

Vegetation

Based on field investigations undertaken in August 2000, a total of sixty-four vegetation units were identified. Vegetation Communities Inventory Data was prepared by Ecoplans. Twenty-two of these units are classified as forest communities, eleven are wetland communities, four are plantations and the remaining twenty-seven are hedgerows or tree clusters. The following nine communities were identified as possessing high quality, high sensitivity and/or high botanical quality (E28, E26, E22, W5, W7, W22, W26, W32 and W33). All of these communities are north of the Bradford West Gwillimbury 10th Line and most are associated with the Cookstown Hollows Swamp Provincially Significant Wetland (PSW) and/or the Innisfil/West Gwillimbury deer wintering complex. This section of the project is the only area that offers some contiguous forest cover largely due to unfavourable conditions for agricultural development.

Vegetation unit E28 is described as a mixed forest with a canopy dominated by Sugar Maple. It has rich moist soils supporting a variety of herbs. The botanical quality is high due to the high diversity of species and age structure of the community. It was assessed as highly sensitive to disturbance and is in relatively good health and condition. It is situated within the boundaries of the Cookstown Hollows Swamp PSW and is part of a complex of significant deer wintering habitat.

Vegetation unit E26 is described as a deciduous forest dominated by Sugar Maple represented in a range of size classes. It has a dry-mesic moisture regime and a relatively open canopy. It was assessed as being sensitive to edge effects and susceptible to wind throw. It is part of a complex of significant deer wintering habitat.

Vegetation unit E22 is described as a mixed-wood swamp dominated by White Spruce with frequent White Birch stems in the canopy. It has a wet to wet-mesic moisture regime. It was assessed as being moderately healthy and highly sensitive to disturbance; exhibiting edge stress from continued fragmentation. It was assessed as possessing high botanical quality. This community also forms part of the significant deer wintering complex.

Vegetation unit W5 is described as a cattail marsh with several areas where the groundwater table is close or at grade level. This community was identified as an area of high botanical quality, sensitive to disturbance and currently in good health/condition. It is situated within the boundaries of the Cookstown Hollows Swamp PSW and is part of a complex of significant deer wintering habitat.

Vegetation unit W22 is described as a mixed forest riparian corridor. The primary species in the sparse canopy are Eastern White Cedar, Cottonwood and Manitoba Maple. It has been identified as moderately to highly sensitive to disturbance and moderate to high botanical quality. It provides shading and buffering to the coldwater system known as Pinkerton Creek, a tributary of Innisfil Creek and is part of a deer wintering complex.

Vegetation unit W26 is described as a deciduous forest dominated by mature, shade tolerant species such as Sugar Maple, American Beech and Eastern Hemlock. Downed woody debris is abundant and characteristic of these mature climax forests. This community was identified as having high botanical quality and health. It is identified as moderately to highly sensitive to disturbance and forms part of a deer wintering complex. Vegetation units W32 and W33 are described as cattail marshes surrounded by a cedar mixed lowland forest. This community has a relatively rich herb layer and has been identified as moderately to highly sensitive to disturbance and is in good health and condition.

In addition to these significant vegetation units, communities W51, E18 and E19 are part of the Dunkerron Forest Environmentally Sensitive Area (ESA). The Dunkerron Forest is fragmented into two components. The easternmost portion contacts the east side of the Highway 400 corridor on Lot 8, Concession 3, Town of Bradford West Gwillimbury. A second component is adjacent to the west side of the Highway 400 corridor on Lot 7, Concession 3, Town of Bradford West Gwillimbury. These two vegetation units also are identified as significant deer wintering areas as well.

Wetlands

The study area crosses or encroaches on the Cookstown Hollows Swamp PSW. This wetland extends from approximately the boundary between the Town of Innisfil and the Town of Bradford West Gwillimbury to the northerly limit of this project. This PSW provides a number of key functions including groundwater recharge and water quality improvement. It also provides some of the best blocks of contiguous forested land within the project area. Consequently it provides significant wildlife habitat and travel corridors.

Fraser Creek Swamp is identified as a locally significant wetland in the Environmental Scoping Report prepared by MTO. However, it is identified as a provincially significant wetland on the Natural Heritage Information Centre Database. The boundaries roughly correspond to the boundaries of a portion of the Dunkerron Forest that is primarily a riparian wetland on Fraser Creek.

Areas of Natural and Scientific Interest (ANSI)

Two significant areas of natural and scientific interest occur within the project limits. The Dunkerron Forest ESA located just north of the North Canal and the Holland Marsh Lowlands ESA.

The Dunkerron Forest is situated primarily on organic soils and has a warmer than normal microclimate since it is located mainly on a southeasterly facing slope. It supports many plant species that are near the northern extent of their range. The drier sites support maple-beech forests and the wetter sites support silver maple-black ash swamps. Its significance is based on a number of criteria it fulfills including:

- Aquifer recharge zone
- Aquifer discharge zone
- Rare or endangered indigenous species
- Remnant of a particular ecosystem
- Unusually high diversity of species
- Exceptional example of an ecosystem
- Sufficiently large to afford habitat
- Natural link

- Essential for completion of life cycle
- Rare or unusual landform

The Holland Marsh Lowlands is the largest organic deposit in Ontario that is utilized for market gardening and natural area purposes. Although it has been heavily modified it still provides several significant ecological functions and it fulfills the same criteria as the Dunkerron Forest.

3.1.4 Wildlife, Wildlife Linkages/Corridors, Vulnerable/Threatened or Endangered Species

Wildlife

Secondary source information from the Ministry of Natural Resources (MNR) identified two areas of significant deer wintering habitat. The first significant area includes a large forested block that extends from the Bradford West Gwillimbury 10th Line to the northerly project limits. The entire Cookstown Hollows Swamp PSW is contained within its boundaries. It contains key components of food and shelter and the linkages between these components. There is an identified deer crossing within this area just north of the Bradford West Gwillimbury 13th Line.

The second significant area is a smaller, linear block of core feeding and early winter habitat for white-tailed deer. Portions of the Dunkerron Forest ESA are contained within its boundaries. It extends from the North Canal northerly for a distance of approximately 400m on both sides of the right-of-way.

An Amphibian Calling Survey prepared by Ecoplans identified two locations where breeding habitat for amphibians was observed. Spring Peepers and Chorus Frogs were heard calling in these two locations. One station was situated in the vicinity of vegetation units E28, E29 and E30 that represent deciduous swamps and moist mixed wood forests with standing pools and ditches. The other station is located in the vicinity of vegetation units W4, W5 and W6 that represent deciduous swamps, cattail marshes and moist deciduous forests. Both of these locations are contained within the Cookstown Hollows Swamp PSW.

In general, the agricultural areas and abandoned pastures support generalist wildlife species that do not require specialized or particularly rare habitats. The vast majority of significant wildlife habitat is concentrated in the remnant forested areas that were not suitable for agricultural activities. These remnant-forested areas are located in the Cookstown Hollows Swamp and the Holland River valley slopes.

Wildlife Linkage/Corridors

A deer crossing sign just north of the Bradford West Gwillimbury 13th Line is the only existing evidence of a wildlife linkage or travel corridor. Linkages likely exist between summer thermal cover (conifer swamps) and summer feeding areas (meadows and fields) that are used by white-tailed deer in the Cookstown Hollows Swamp. The Dunkerron Forest provides a wooded habitat along the North Canal that acts as a natural travel corridor along this watercourse and also links it to another significant wooded area to the southwest, the Pottageville Swamp ANSI.

Vulnerable/Threatened or Endangered Species

The Natural Heritage Information Centre databases were consulted to determine if there were any documented observations for any Vulnerable threatened or Endangered Species (VTE) species. One observation was noted in the vicinity of the project area. A calling, male Red-Shouldered Hawk was observed between the Bradford West Gwillimbury 11th and 13th Lines in May of 1991. This is in the same vicinity that a Red-Shouldered Hawk was observed in June 2000 by the field staff from Ecoplans. This would suggest that there might be a nesting location somewhere within the Cookstown Hollows Swamp PSW complex near the Highway 400 corridor.

The Breeding Bird Survey conducted by Ecoplans identified three key species observations that are classified as Level 1 Conservation Priority for Simcoe County. The Cerulean Warbler was recorded on one occasion in a portion of the Cookstown Hollows Swamp PSW that corresponds to vegetation units W4, W5 and W6. The Caerulean Warbler is provincially ranked as a rare to uncommon breeder in Ontario and is listed as Vulnerable in Canada by COSEWIC. It prefers large deciduous swamps and woodland blocks.

The second notable species is the Red-Shouldered Hawk that was observed in the same general area of the Cookstown Hollows Swamp PSW (in May 1991 and June 2000). No responses were recorded from the playback of a taped Red-shouldered Hawk call (conducted in June 2000). Breeding in this area could not be confirmed, however, this species is provincially ranked as a common breeder and is considered Vulnerable by COSEWIC. It prefers larger interior forest communities composed of moist hardwood and mixed wood stands. This type of habitat is available in vegetation unit W4.

The third species observed was the Chestnut-sided Warbler. It was observed in a cultural woodland/wetland complex associated with the Cookstown Hollows Swamp PSW in the vicinity of vegetation units E26, 27 and 28. It is a very common breeder in Ontario. It has been assigned a Level 1 Conservation Priority since the early successional forests that it prefers are in diminishing supply in Simcoe County.

A number of other avian species were associated with the Cookstown Hollows Swamp or the Holland River forest valley that have been assigned Level 2-4 Conservation Priority for Simcoe County. They include:

- Scarlet Tanager (CP2)
- Veery (CP3)
- Eastern Kingbird (CP3)
- American Goldfinch (CP3)
- Ovenbird (CP4)
- Wood Thrush (CP4)
- Black-capped Chickadee (CP4)

The ESA Study for Dunkerron Forest records six species as rare or endangered that inhabit the Dunkerron Forest. However, none of these species appear on the current rare species list for Simcoe County but are still significant to some extent.

- Black Walnut (*Juglans nigra*)
- Wild Geranium (*Geranium maculatum*)
- Purple Cress (*Cardamine douglasii*)
- Rough-leaved Goldenrod (*Solidago patula*)
- Long-eared Owl (*Asio otus*)
- Olive-sided Flycatcher (*Nuttallornis borealis*)

3.1.5 Hydrogeology

Surface drainage within the study area occurs primarily in two tertiary watershed divisions. The study area straddles the Nottawasaga River watershed to the west and the Severn River watershed to the east.

The highway crosses two main drainage systems within the study area. The first system to the south is the Holland River and its tributaries including the North and South Canal and the Fraser Creek systems. The second major system is the Nottawasaga River drainage basin including Innisfil Creek and Penville Creek systems.

With respect to groundwater discharge and recharge, significant recharge occurs in sandy gravel deposits which occur in the vicinity of 11th Line, and in the sandy deposits which underlie the Innisfil Creek floodplain. Groundwater discharge conditions prevail in the Holland Marsh and in the Innisfil Creek floodplain.

Most wells in the southern portion of the study area obtain domestic groundwater supplies from drilled wells; however, in the northern portion shallow dug and bored wells predominate. There are fifty-eight recorded wells within the study area, twenty-two of which are drilled and thirty-six are dug or bored. There are no high capacity municipal wells located within the study area.

3.1.6 Snow Drift and Accumulation

A total of five potential snow-drifting areas have been identified along the Highway 400 corridor within the project limits.

TABLE 3 SNOW DRIFTING AREAS

LOCATION	HOLLAND MARSH	350 M SOUTH OF SIMCOE ROAD 88	9 TH CONCESSION	850 M SOUTH OF 11 TH CONCESSION	1000 M SOUTH OF 13 TH CONCESSION
CHAINAGE	25+300 10+270	15+550 15+750	18+450 19+500	20+600 20+800	23+150 23+410
TOWNSHIP	King / W. Gwillimbury	W. Gwillimbury	W. Gwillimbury	W. Gwillimbury	W. Gwillimbury
SIDE	L.T.	L.T.	L.T.	L.T.	L.T.
LENGTH (M)	1660	200	1050	200	260
RECOMMENDED TREATMENT					
WINDBREAK					
SNOW STORAGE DITCH		x	x	x	x
ELEVATED SURFACE	x			x	x
CORN STALKS AND NATURAL VEGETATION					
FREEWAY STRUCTURES					
COMBINED TREATMENT				x	x

3.2 SOCIO-ECONOMIC ENVIRONMENT

The following sources were used to inventory existing and future land use within the study area.

- Official Plan of the Town of Innisfil and Town of Bradford West Gwillimbury;
- Site visits conducted in February and April 2001;
- Aerial photography;
- Hydrogeology Reports/maps/well records (GOFFCO Limited Groundwater Consultants);
- Property Waste and Contamination/Waste Material Assessment Report (Golder Associates);
- MOE Databases; and
- Contact with OMAFRA.

3.2.1 Existing and Future Land Use

The study area is located within the Town of Bradford West Gwillimbury and Town of Innisfil in the County of Simcoe. The predominant land use within the study area is agricultural with scattered rural residential communities.

Existing Land Use

3.2.1.1 Residential Use

Residential development along the Highway 400 corridor is generally comprised of scattered rural residences. There are approximately twelve residences directly adjacent to the highway corridor (i.e. within 200 m of the corridor). A cluster of residences is situated along Canal Road, both east and west side of Highway 400. Most of the residences along the highway are older farm complexes consisting of single-family detached dwellings and barns. Some newly constructed residential units are located along Canal Road.

3.2.1.2 Commercial / Industrial Use

Within the study area limits, there are four commercial businesses adjacent to the Highway 400 corridor, none of which have direct access to the highway. The businesses are described in Table 4.

TABLE 4 EXISTING BUSINESSES

Business Type	Activity
Retail	<ul style="list-style-type: none"> • Farmers Market located on the eastside of Highway 400 and Canal Road (wholesale produce) • Lumberyard located on the eastside of Highway 400 and 9th Concession (building/lumber supply)
Auto and Related	<ul style="list-style-type: none"> • Husky Gas Station/Restaurant located on the eastside of Highway 400 and Simcoe Road 88 (fuel/restaurant)
Recreation and Tourism	<ul style="list-style-type: none"> • Yogi Bear Jelly Stone Park Camp Resort located on the westside of Highway 400 and Simcoe Road 88 (camping/cottage rentals)

3.2.1.3 Agricultural Use

Adjacent land use to Highway 400 is predominantly agricultural. The study area includes soil capability classes ranging from Class 1 to 6. There are approximately sixty-five agricultural operations that abut or are adjacent to Highway 400 from South Canal Road to 13th Concession.

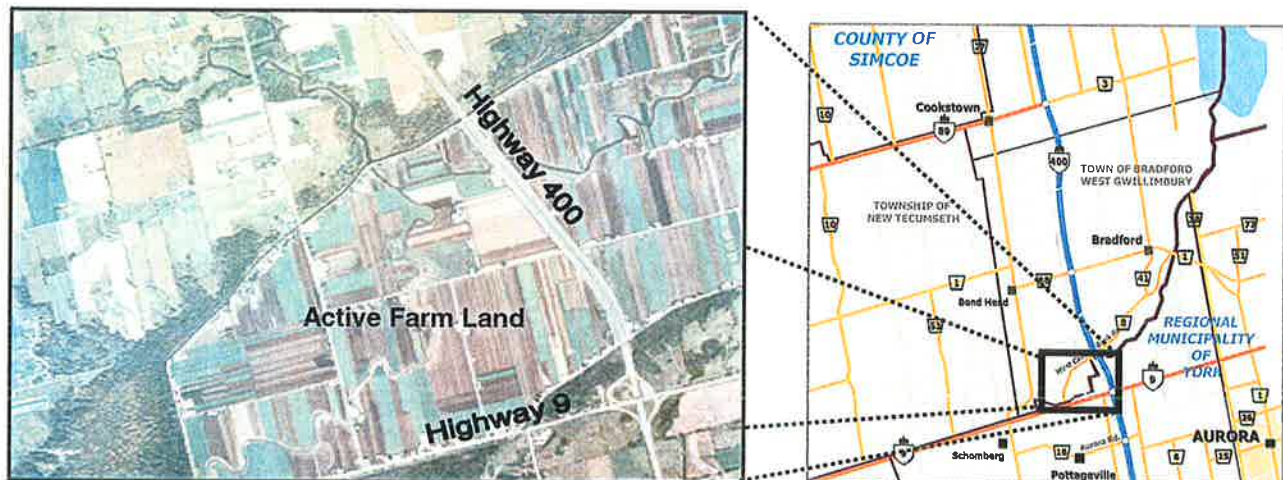
The south end of the study area is the Holland Marsh and is best known for its rich organic soil. The Holland Marsh is primarily comprised of horticultural production and its main commodities are carrots, onions and lettuce.

During the farming season (May - October), agricultural operation is very intensive with 24-hour production. There are currently four operating farms adjacent to the west side of the highway and five operating farms adjacent to the east side of the highway.

An experimental research station (Muck Research Station, Plant Industry Branch, Ontario Ministry of Agricultural and Food), is located on the east side of Highway 400 on Wist Road and Woodchopper Lane and a local retail farmers market is located on the east side of Highway 400 on Canal Road.

The prominent type of farming operations north of the Holland Marsh between 5th Concession and Simcoe Road 88 is livestock production, including hog and cattle. Grain, pasture and grazing systems are also present within the project limits.

FIGURE 4 HOLLAND MARSH FARMING AREA



3.2.1.4 Community / Institutional / Recreational Use

There are two areas considered as community/institutional/recreational features. The first feature is the Scotch Settlement Arboretum, located on the east side of Highway 400 and south of 5th Concession. The Arboretum is similar to a

The second feature is located on Highway 400 south of 11th Concession. This feature is the Town of Bradford West Gwillimbury Municipal Offices and Community Centre. This complex includes baseball fields on the northwest side of the buildings.

Future Planned Developments

The Town of Bradford West Gwillimbury will continue to function as a rural community, with the high quality of agricultural land that comprise the majority of lands within the Town, kept exclusively for agricultural use. The Town will continue to grow at a relatively rapid rate, with a projected overall population of 47,800. The Bradford Urban Area will be approximately 38,800 by the year 2026. The current population for the entire Town of Bradford West Gwillimbury is approximately 20,513, with 15,513 being the population of the Bradford Urban Area.

The Town of Bradford West Gwillimbury has historically had a low employment activity rate. Much of its rapid population growth over the past decade has been a result of commuters moving into the Town. The Town has taken an active role in expanding and diversifying its economic base and encouraging industrial and commercial employment. The Town has expressed a desire to move toward a more self-sustaining economic base, by improving employment opportunities and reducing the importance of its role as a "commuter community". For these reasons, the Town will strive for a higher employment activity rate, and increase to at least 30 % to 2016 with a total number of employed persons between 11,500 and 12,500 (based on the Town of Bradford West Gwillimbury Official Plan).

3.2.1.5 Residential Use

A residential subdivision development is planned east of the Highway 400 corridor, north of 13th Concession. The draft plan has been approved and negotiations are currently underway for the subdivision agreement.

3.2.1.6 Commercial / Industrial Use

A commercial development is planned for Bradford in the northeast quadrant of Simcoe Road 88 interchange. The preliminary site plan has been prepared and awaiting amendments to the Town of Bradford West Gwillimbury Official Plan for site plan approval. The development will consist of a Gas Station, Restaurant (Tim Horton's, Burger King) and 5-Storey Motel.

3.2.1.7 Community / Institutional / Recreation Use

There are no future institutional facilities planned within the Highway 400 corridor.

3.2.1.8 Infrastructure

A route planning study and environmental assessment for a connecting link between Highway 400 and Highway 404 (Bradford Bypass) between Concession 8 and Concession 9 was approved by MOE on August 28, 2002. This EA approval will allow MTO to proceed to the design and construction stages for a new 16.2 km rural 4-lane controlled access freeway.

3.2.1.9 Special Land Use Strategies

There are no special provincial or federal land use strategies for lands abutting Highway 400 within the project limits.

Refer to Figure 5 for an illustration of the existing and future land use within the study limits.

3.2.2 Aesthetics

Landscape Features

The dominant landscape feature affecting highway aesthetics is the rolling terrain the highway crosses. The majority of the landscape adjacent to the right-of-way is characterized as small tree clusters and/or linear hedgerows. At the northern section of the study area between 11th Concession and Highway 89 are the Innisfil Creek Tributary and Cookstown Hollows Swamp PSW, which are the most prominent landscape features because they contain significant vegetation communities.

Sensitive Viewer Groups

Sensitive viewer groups within the Highway 400 corridor include residences and commercial uses adjacent to the highway. Sensitive viewer groups were considered to be the residences and commercial uses that directly abut or adjacent to the highway with a direct line of sight to the highway / interchange. In total, approximately twelve residences and one commercial use (Jelly Stone Park Camp Resort) were considered to be sensitive viewer groups.

3.2.3 Noise

Noise sensitive areas were identified based on field visits undertaken in April 2001, available mapping on the study area, and aerial photography.

Noise analysis was performed using STAMSON v5.03, the computerized noise model advocated by the Ministry of Environment (MOE). The following factors were taken into account:

- Road-receiver geometry;
- Road gradient;
- Ground absorption;
- Traffic volume and percentage of trucks; and,
- Vehicle speed.

The mainline traffic volumes were in the form of Summer Average Daily Traffic (SADT) in accordance with standard procedure. The best available data for Simcoe Road 88 was in the form of peak hour volumes. Annual Average Daily Traffic (AADT) volumes used in the noise model were approximated by assuming the PM Peak Hour volume represents 10% of the AADT. The mainline is the dominant source of noise in comparison to Simcoe Road 88 and the associated interchange ramps.



N.T.S.

Noise sensitive receivers within the study area consist of mostly scattered rural residences. There are approximately twenty worse-case receptors (single-family homes) located within a perpendicular distance of 270m from the highway centreline. However, many of these residences are similar in terms of their surrounding environment and geometric relationship with the highway. As such, a smaller subset of eight noise sensitive receivers were sufficient to represent worst case noise impacts for mainline Highway 400 and two noise sensitive receivers for the Simcoe Road 88 interchange.

TABLE 5 PREDICTED SOUND LEVELS FOR NOISE SENSITIVE RECEIVERS

Receptor	Location	Distance from Existing Highway 400 Centreline (metres)	Predicted Sound Levels (dBA)	
			Existing (2001)	No Highway Improvements (Future Do Nothing 2021)
NR 1	West side of Highway 400, south of Canal Road.	64	71	73
NR 2	West side of Highway 400, located on Canal Road.	109	69	72
NR 4	East side of Highway 400, located on 4 th Concession Road.	145	65	68
NR 7	East side of Highway 400, located on 6 th Concession Road.	233	60	63
NR 9	East side of Highway 400, located on 8 th Concession Road.	197	62	65
NR 11	East side of Highway 400, located on 9 th Concession Road.	97	67	70
NR 16	West side of Highway 400, located on 12 th Concession Road.	139	70	73
NR 18	East side of Highway 400, located south of 13 th Concession Road.	89	69	72
NR A	Southwest quadrant of the Simcoe Road 88 Interchange.	380	60	63
NR B	Northeast quadrant of the Simcoe Road 88 Interchange.	390	63	66

3.2.4 Local Road Network

The local road network in the Town of Bradford West Gwillimbury connects to Highway 400 at several locations: Highway 9 (south of this study's project limits), Canal Road and Simcoe Road 88. Highway 9 and Simcoe Road 88 are regional arterial roads maintained at operating standards consistent with design speeds of 100 km/hr. Canal Road however is a collector road with geometric and operating standards consistent with a design speed of 60 to 70 km/hr. Canal Road is constructed on top of an embankment designed to act as a flood wall for the Holland Marsh. This road features numerous residential, commercial and agricultural entrances along its length. There are also local access road entrances along this facility. The winding alignment greatly reduces sight distances along the roadway. The narrow pavement structure also affects the operation and capacity of this road.

The original connection between Canal Road and Highway 400 was provided in part to offer direct access to the highway for agricultural operations. Historically, traffic volumes on Highway 400, and traffic from agricultural operations were sufficiently low that the connection did not affect highway operations. However, traffic volumes on Highway 400 have continued to increase steadily as the population and economy of Ontario have grown. Simcoe County has become a more substantial part of the commuter-shed of the Greater Toronto Area. Bradford West Gwillimbury has benefited from this growth and is planning to serve needs for increased residential and commercial development. In addition, advancement in agricultural technologies and increased demand for products has also affected farm traffic around the Holland Marsh. Concerns are being expressed at the local level about the increasing level of commuter traffic on Canal Road mixing with larger, slower, more frequent agricultural vehicles and machinery working in the Holland Marsh.

3.2.5 Commuter Parking Lots / Rail / Utilities

Commuter Parking Lots

There is one commuter parking lot located within the study area at Simcoe Road 88 interchange in the southwest quadrant. The parking lot has a capacity of approximately 120 vehicles. Field investigations conducted on several occasions throughout the study indicate that the commuter parking lot is generally operating at 50% capacity.

Railway Crossings

There are no railway crossings located within the study area limits.

Utilities

Ontario Hydro and Bell Canada poles are located throughout the study area. The poles are generally adjacent to the right-of-way, and are located outside of the clear zone for Highway 400. Bell Canada fibre optic cables are located underground through the Holland Marsh on the east side of Highway 400 and cross south of 4th Concession (Station 11+400). An exchange cable is also located in the Holland Marsh parallel to Highway 400 up to 5th Concession. A Bell Conduit is located under Highway 400 on the west side at the Simcoe Road 88 interchange.

A 400mm concrete water main pipe crosses under Highway 400 and runs along the north side of Simcoe Road 88.

3.2.6 Emergency Services

Fires, ambulance and police services (O.P.P) are located in the west end of Bradford. Currently, these services access Highway 400 via Simcoe Road 88. Fire services are also located in Alliston (accessing Highway 400 via Highway 89) and Schomberg (accessing Highway 400 via Highway 9).

3.2.7 Property Waste and Contamination

Within the project limits there are two closed landfill sites and 1 active site. The locations of these sites are as follows:

- Closed landfill site (Number 4166) located west of Highway 400 on River Road just north of 3rd Concession;

- Closed landfill site (Number 4163) located 1 kilometer west of Highway 400 just north of 13th Concession; and
- Active landfill site (Number 252202) located west of 5th Sideroad on the north side of 12th Concession.

3.3 CULTURAL ENVIRONMENT

3.3.1 Archaeological Resources

A Stage 1 and 2 Archaeological Assessment was undertaken in October 2000. There are five known sites documented within 1 km of this section of Highway 400 however, none are directly adjacent to the highway corridor.

TABLE 6 REGISTERED ARCHAEOLOGICAL SITES WITHIN 1 KM OF THE STUDY AREA

Borden No.	Site Name	Cultural-Temporal Affiliation	Site Type
BaGv-1	Bosomworth	Village	Burial / village
BaGv-19	Muirhead	Archaic, Brewerton	Undetermined
BaGv-20	McCallum	Archaic	Undetermined
BaGv-24	Kilmorlie-Fraser	Archaic	Undetermined
BaGv-34	Bateman	Undetermined	Undetermined

Field reviews were undertaken in September and October 2000 to determine the precontact and historic archaeological potential of the study area. Based on field investigations, much of the highway right-of-way has been disturbed by previous construction activities. For areas that could not be visually interpreted, test pitting was undertaken at 15 metre intervals. No archaeological remains were encountered within the existing highway right-of-way. However, based on the proximity of known sites in the area and the physiographic characteristics of the region, there is the potential to encounter archaeological remains outside of the existing highway right-of-way.

3.3.2 Built Heritage Resources

A built heritage and cultural landscape assessment was undertaken in January 2001. Field reviews were undertaken on September 27, 2000. Based on field investigations, six built heritage features and twenty cultural landscape units have been identified within 500m of the highway right-of-way (ROW) as follows:

TABLE 7 BUILT HERITAGE FEATURES

Site #	Feature Type	Location	Within 200 metres of ROW
3	Barn	3561 / 3671 4 th Line, west of Highway 400.	
9	Farmhouse	3550 5 th Line, north side, east of Highway 400.	
12	Farmhouse (former)	3533 Simcoe Road 88, south side, east of Highway 400.	
14	Farmhouse	3510 Simcoe Road 88, north side, east of Highway 400.	✓
22	Bridge	11 th Line bridge over Highway 400.	✓
23	Farmhouse (former)	3676 11 th Line north side, west of Highway 400.	

TABLE 8 CULTURAL LANDSCAPE FEATURES

CLU	Feature Type	Location	Within 200 metres of ROW
1	Waterway	Holland River under Highway 400 just south of South Canal Road. Sluice gate located on the west side of Highway 400.	✓
2	Waterway	North Canal and dike at north end of east and west service roads.	✓
4	Farm Complex	4 th Line, north side, east of Highway 400.	✓
5	Roadscape	4 th Line, east and west of Highway 400.	
6	Farm Complex	1930 / 1935 5 th Sideroad, west side.	
7	Farm Complex	3655 5 th Line, south side, west of Highway 400.	
8	Bridge (overpass)	5 th Line bridge over Highway 400.	✓
10	Roadscape	6 th Line, east and west of Highway 400 with associated farm complexes.	
11	Farm Complex	3543 6 th Line, south side, east of Highway 400.	✓
13	Farm Complex	3657 Simcoe Road 88, south side, west of Highway 400.	✓
15	Farm Complex	3707 8 th Line, south side, east of Highway 400.	
16	Cemetery	Rogers Cemetery, 8 th Line, north side, west of Highway 400.	✓
17	Farm Complex	3538 8 th Line, north side, east of Highway 400.	
18	Roadscape	8 th Line, east and west of Highway 400 with associated farm complexes.	
19	Farm Complex	3521 9 th Line, south side, east of Highway 400.	
20	Roadscape	9 th Line, east and west of Highway 400 road passes under highway.	✓
21	Farm Complex	3556 10 th Line, north side, east of Highway 400.	✓
24	Farm Complex	3591 12 th Line, south side, west of Highway 400.	✓
25	Farm Complex	3526 13 th Line, north side, west of Highway 400.	✓
26	Roadscape	13 th Line, east and west of Highway 400.	

4.0 DESIGN ALTERNATIVES AND EVALUATION

4.1 PROBLEM STATEMENT

The problem to be addressed in this study is the need for improvements to Highway 400 to reflect current Ministry standards and to meet future travel demands.

4.2 EXISTING PROBLEMS

As discussed in Section 2.2 of this report, existing areas of concern for traffic operations are Highway 400 south of Simcoe Road 88, components of the Simcoe Road 88 interchange and the Canal Road / Highway 400 access.

Highway 400 Mainline

Highway 400 has an intermediate recreational pattern type with Summer Average Daily Traffic (SADT) greater than the Average Annual Daily Traffic (AADT). Over the past 10 years, SADT have been approximately 20 to 30 percent greater than the AADT. Highway 400 traffic volumes are expected to increase at a 3 to 5 percent annual growth rate between 1999 and 2021. The growth, coupled with existing operational problems and deficiencies, necessitates major improvements to the existing facility.

The existing (1999) LOS for the mainline section from the York Region / Simcoe County boundary northerly to Simcoe Road 88 is D, which is undesirable. North of Simcoe Road 88, the existing LOS is C.

The existing steel box beam median barrier does not meet current MTO standards.

Highway 400 Access / Interchange

MTO has identified a number of operational and access issues associated with the Highway 400 corridor within the project limits. Improvements to the Highway 400 corridor will require modifications to existing ramps and/or widening of existing roads. A summary of the existing and future operational conditions at the Canal Road access and Simcoe Road 88 interchange are outlined as follows (refer to Figures 6 and 7).

Canal Road Access

Existing / future operational problems at this access include:

- Highway 400 peak hour volume exceeds capacity by 2005;
- Existing access configuration operates poorly during peak travel periods;
- Concerns with traffic operations associated with commuter use of Canal Road (a narrow and winding, local road);
- Safety concerns with right-in, right-out access on Highway 400;
- Canal Road access at Highway 400 is difficult for large vehicles to negotiate safely; and
- High collision rate at the Canal Road access area.

FIGURE 6 EXISTING / FUTURE OPERATIONAL CONDITIONS AT CANAL ROAD

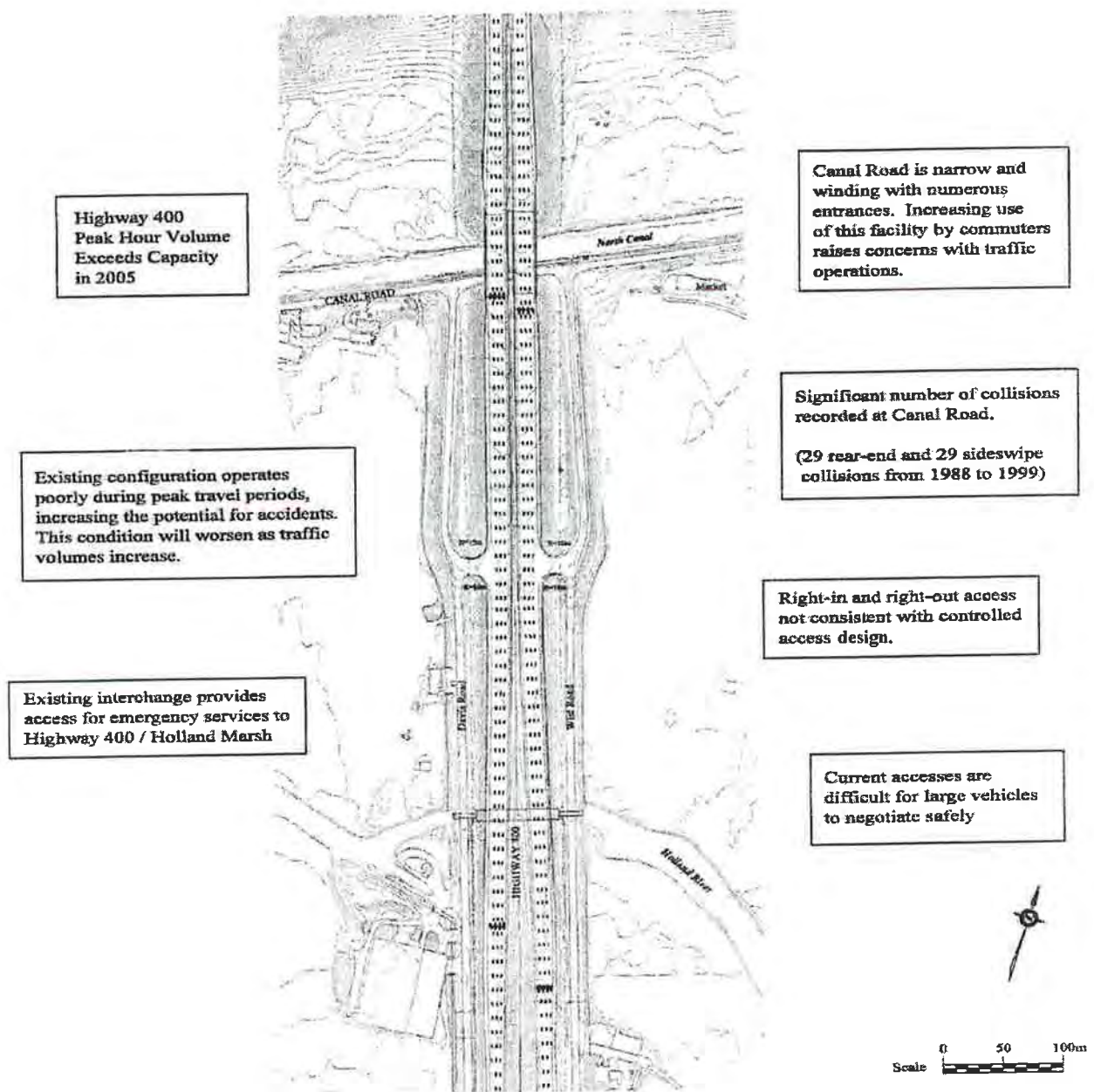
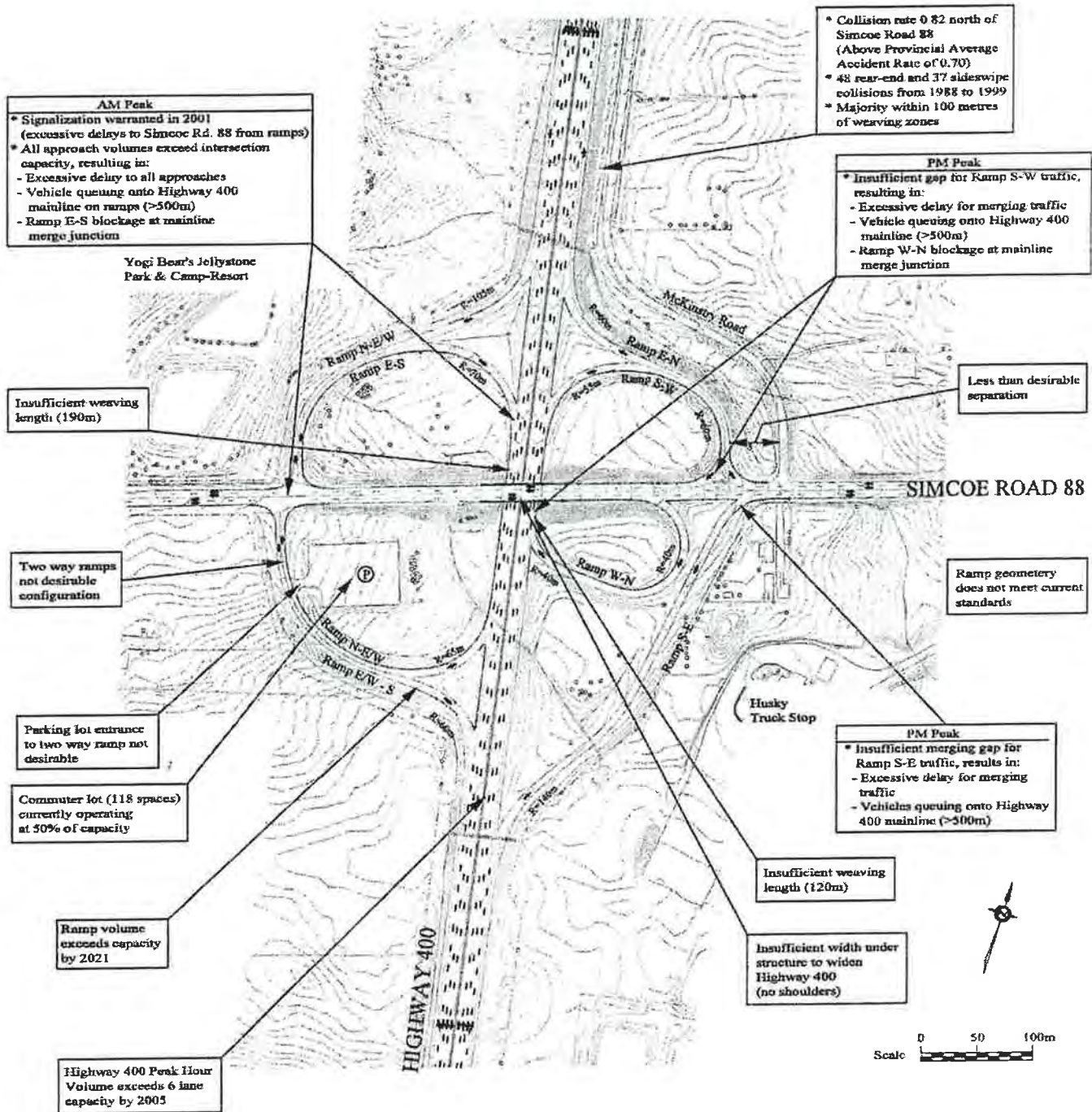


FIGURE 7 EXISTING / FUTURE OPERATIONAL CONDITIONS AT SIMCOE ROAD 88



Poor operations of intersections of Highway 400 and Wist Road and Davis Road result in unacceptable levels of service.

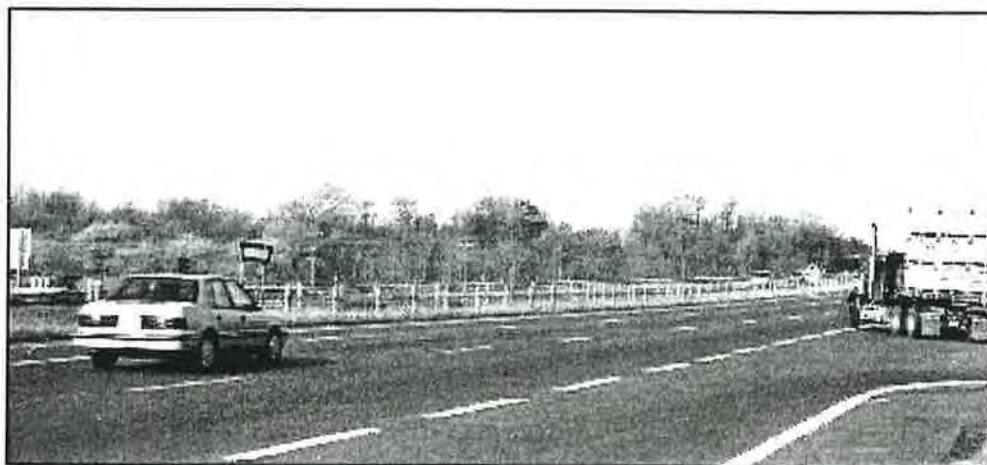
The access at Canal Road does not provide proper connections. The right in-right out design is not consistent with MTO standards, and the poor geometry of these connections affect highway operations as shown in Figure 8. This access may contribute to an increased collision rate on this section of Highway 400.

Simcoe Road 88 Interchange

Existing / future operational problems at this interchange include:

- Insufficient merging areas resulting in excessive delays and queuing onto Highway 400;
- Ramp geometry does not meet current provincial standards;
- Concerns with weaving lengths between existing ramp terminals;
- Ramp volumes from Simcoe Road 88 eastbound to Highway 400 southbound will exceed capacity by 2021;
- Highway 400 peak hour volumes exceeds capacity by 2005; and
- High collision rate north of the interchange associated with weaving zones.
- Northbound weaving section LOS unacceptable resulting in unstable flow and potentially significant speed reduction for northbound vehicles;
- Ramp junction at S-E ramp LOS D during p.m. peak hour. Queues form at the S-E ramp junction, affecting mainline access and operations;
- Intersection of Simcoe Road 88 and Highway 400 ramp N-E/W experiences unacceptable levels of service. Long queues form at the intersection; and
- Ramp S-E merges with Simcoe Road 88 without an additional auxiliary lane which confuses drivers.

FIGURE 8 TRUCK TURNING RIGHT ONTO NORTHBOUND HIGHWAY 400 FROM WIST ROAD, FACING NORTH



4.3 FUTURE PROBLEMS

Future Highway 400 corridor problems from the York/Simcoe Boundary northerly to 1.0 km south of Highway 89 pertain primarily to deteriorating traffic operations as a result of increased traffic on the road network.

Mainline Highway 400

Future corridor volumes are projected based on Highway 400 historic AADT volumes. Generally, Highway 400 segments are expected to experience a 2 to 4 percent annual traffic growth from 1999 to 2021 based on the preliminary Simcoe Study model results.

Total operations failure (LOS "F") is expected for the entire corridor by the year 2011. The mainline section from York Region / Simcoe County boundary to Simcoe Road 88 will require improvement based on the LOS "D" to "E" upgrade threshold in 2005. The mainline section from Simcoe Road 88 to Highway 89 / Simcoe Road 89 will require improvement based on the LOS "D" to "E" upgrade threshold in 2008.

Canal Road

The right in-right out intersections of Highway 400 and Wist Road and Highway 400 and Davis Road will continue to operate at LOS "F", which may affect mainline access and operations. A higher collision rate on Highway 400 in the vicinity of this access will continue to be a concern.

Simcoe Road 88

Weaving sections for both northbound and southbound directions are expected to operate poorly in 2001 during the critical peak periods likely resulting in unstable flow and significant speed reduction. Operation failure in the weaving sections will likely result in queuing at the weaving sections.

By 2011, operation deficiencies are expected for all ramp junctions during critical peak hours, resulting in significant speed reduction near the ramp junction. Virtually all ramp junctions are expected to fail (LOS "F") by the 2021 horizon year resulting in mainline queuing near the ramp junctions.

Signalization of the intersection at Simcoe Road 88 and Highway 400 Ramp N-E/W is warranted in 2001 and is reflected in all future analysis. A LOS "F" will be reached in the a.m. peak hour by 2011. By 2021, the signalized intersection is expected to fail both in the a.m. and p.m. peak periods. The service levels at the remaining unsignalized intersections at this interchange will be unacceptable during critical peak hours in 2011 and 2021. Operation failure at the ramp terminals may cause long queues and delays, impacting mainline operations.

4.4 ALTERNATIVES TO THE UNDERTAKING

The previous section outlined the existing and future problems associated with traffic operations in the Highway 400 corridor. The purpose of the undertaking is to resolve the identified operational concerns. Specific objectives are to:

- Provide a reasonable level of service for long distance movement of people and goods;
- Provide a reasonable level of service for the movement of people and goods in the direct study area;
- Improve traffic operations; and
- Improve highway geometric characteristics.

Consistent with the Class Environmental Assessment Act, alternatives to the undertaking were examined to determine which alternatives were considered reasonable. For this study, the judgement of reasonableness was based on the ability of the alternative to resolve the transportation problems identified, or to take advantage of an opportunity. In total, ten types of alternatives to the undertaking were assessed. The advantages and disadvantages of each alternative are summarized as follows:

1) Do Nothing

The “do nothing” alternative maintains the status quo of transportation infrastructure and services, with no significant changes or actions being taken to either manage demand, expand infrastructure, or improve operations. Traffic is expected to continue to increase. To do nothing would result in a further deterioration of the level of service; this in turn would result in an increase in travel time, congestion, collisions, fuel wastage and air pollution. The negative consequences of the “Do Nothing” approach clearly suggest that actions must be taken in order to address the existing and projected deficiencies of Highway 400.

2) Traffic Operations Improvements

The implementation of a traffic management system would inform the driver of problems ahead; and with ramp metering, the use of available highway capacity could be improved by an increase of about 5% to 10% (as been observed on the QEW in Mississauga where similar measures have been implemented). This will extend the time frame for the improvements but will not eliminate the need.

3) Transportation Demand Management

Managing transportation demand includes the implementation of measures to sufficiently reduce, shift, or eliminate transportation demand, such that improved transportation infrastructure /operation within the study is not required. This alternative would not significantly improve or eliminate any of the identified deficiencies on Highway 400 and was not considered an acceptable alternative.

4) Adjacent Road System Improvements

Other parallel arterial roads will provide only limited diversion for Highway 400 through-traffic due to the distances of these other roads from Highway 400 and the fact that many are already saturated with local traffic during peak travel periods. Widening of arterial roads will not provide sufficient additional capacity for through-traffic to be significantly diverted from Highway 400.

5) Localized Geometric Improvements

Geometric improvements would marginally improve traffic operations, but would not address the capacity deficiencies. This was not considered a reasonable alternative.

6) Vehicle Occupancy Increase

This would involve reducing the number of vehicles along major highways by encouraging carpooling. This alternative will extend the time frame for the improvements but will not eliminate the need.

7) Rail and Transit Expansion

Rail and transit expansion would provide a more competitive choice of travel modes for some users of Highway 400, and thus reduce the traffic volumes somewhat on Highway 400. The improvements would be limited since Highway 400 significantly serves a diverse nature of trips.

Recently the Province of Ontario announced initiatives to expand transit systems in the Golden Horseshoe and resumed responsibility for GO Transit. While both of these events may lead to increased capacity of transit networks, this will not increase the capacity of overall transportation network in the Highway 400 corridor sufficiently to eliminate the need for roadway-based improvements. This alternative alone would not be able to adequately address travel demand throughout the project limits, and was not considered a reasonable alternative.

8) Combination of Alternatives

The combination of all of the previously stated alternatives will not sufficiently address projected future travel demand.

9) Freeway Capacity Improvements

This alternative would provide the needed capacity to improve Highway 400 to an acceptable level of service. It also would provide the opportunity to improve the facility to current Ministry standards. There would be some property impacts and limited environmental impacts along the corridor.

10) Provincial Highway Network Expansion

A new parallel highway cannot address the immediate and medium terms capacity deficiencies of the Highway 400 Corridor.

Summary of Alternatives to the Undertaking

Improvements to traffic capacity and operations are warranted on Highway 400 through the project limits. The assessment of alternatives to the undertaking concluded that the preferred alternative is "freeway capacity improvements". The capacity and operational proposed improvements are to be achieved through widening Highway 400.

4.5 GENERATION AND ASSESSMENT OF PRELIMINARY DESIGN ALTERNATIVES

The overall objective of generating a reasonable range of Highway 400 widening alternatives was to eliminate alternatives that did not satisfy components of technical considerations. To accomplish this, a multi-step process was employed:

Step 1: Identify Significant Study Area Features

Step 2: Generate Preliminary Design Alternatives

Step 3: Evaluate and Select the Technically Preferred Alternative(s)

Alternative methods of carrying out the undertaking were examined along Highway 400 from the South Canal Bridge to 1 km south of Highway 89 to the year 2021 in three timeframes:

1. Short-term (by 2005)
2. Mid-term (by 2011)
3. Long-term (by 2021)

Short-Term (by 2005) Improvement Requirements

Required intersection improvements in the short-term include:

- Canal Road access at Highway 400 mainline and Wist Road (east of Highway 400)
- Canal Road access at Highway 400 mainline and Davis Road (west of Highway 400)
- Simcoe Road 88 at Highway 400 Ramp S-E
- Simcoe Road 88 at Highway 44 West Ramps (signal warranted)

Mid-Term (by 2011) Improvement Requirements

Required corridor improvements by 2011 horizon year include:

- Widen Highway 400 to 8 lanes between York Region/Simcoe County Boundary to Simcoe Road 88
- Widen Highway 400 to 8 lanes from Simcoe Road 88 to Highway 89/Simcoe Road 89

Required ramp junction improvements by 2011 include:

- Simcoe Road 88 Ramp S-E
- Simcoe Road 88 Ramp N-E/W
- Simcoe Road 88 Ramp W-S

Required weaving improvements by 2011 include:

- Simcoe Road 88 Ramp W-N and Ramp S-W Weave
- Simcoe Road 88 Ramp E-S and Ramp N-E Weave

Required intersection improvements by 2011 include:

- Simcoe Road 88 at Highway 400 Ramp S-W
- Simcoe Road 88 at Highway 400 West Ramps (in addition to signalization improvements)

Long-Term (by 2021) Improvement Requirements

Required corridor improvements by 2021 include:

- Widen Highway 400 to 10 lanes from the South Canal Bridge to Highway 89
- No additional ramp junction improvements are required in 2021
- No additional weaving improvements are required in 2021
- No additional intersection improvements are required in 2021

It should be noted that operations of ramp junctions, weave sections, and mainline segments are closely related. Improvements to the mainline will generally benefit ramp junction and weaving section operations as well. As a result, ramp junction and weaving section requirements in the later years maybe fulfilled by mainline requirements before they ever develop into operational problems.

4.6 GENERATION OF PRELIMINARY DESIGN ALTERNATIVES

To address the operational and capacity deficiencies along the Highway 400 corridor the development of alternatives was completed in two phases. The first phase was examining alternatives for widening Highway 400 and the second phase was examining alternatives to improve the Canal Road access and Simcoe Road 88 interchange. The alternatives developed considered the information gathered on the existing natural, socio-economic and cultural environments. The objectives in developing the various alternatives included the avoidance and/or reduction of impacts to significant natural, social, economic, and cultural features, as well as improving transportation service.

4.6.1 Mainline Highway 400

Future travel demand (2021) will require mainline widening to 10 lanes (5 per direction).

The Ministry is incorporating provisions for High-Occupancy Vehicle (HOV) lanes in an effort to improve the capacity of its 400 series highways, where appropriate.

The section of Highway 400 within the project limits will provide for an HOV lane in the 10-lane ultimate configuration. This will include (per direction):

- A 4 m median shoulder for enforcement of HOV;
- A 3.75 m wide HOV lane; and
- A 1.25 m buffer zone between the HOV lane and the other 4 highway lanes.

Through the Holland Marsh, widening in the median was considered the only reasonable alternative as it would minimize property impacts and address constructability concerns. The right-of-way is constrained by service roads and agricultural operations on both sides of the highway along this section.

Three alternatives were developed to address mainline widening requirements north of the Holland Marsh.

Alternative 1

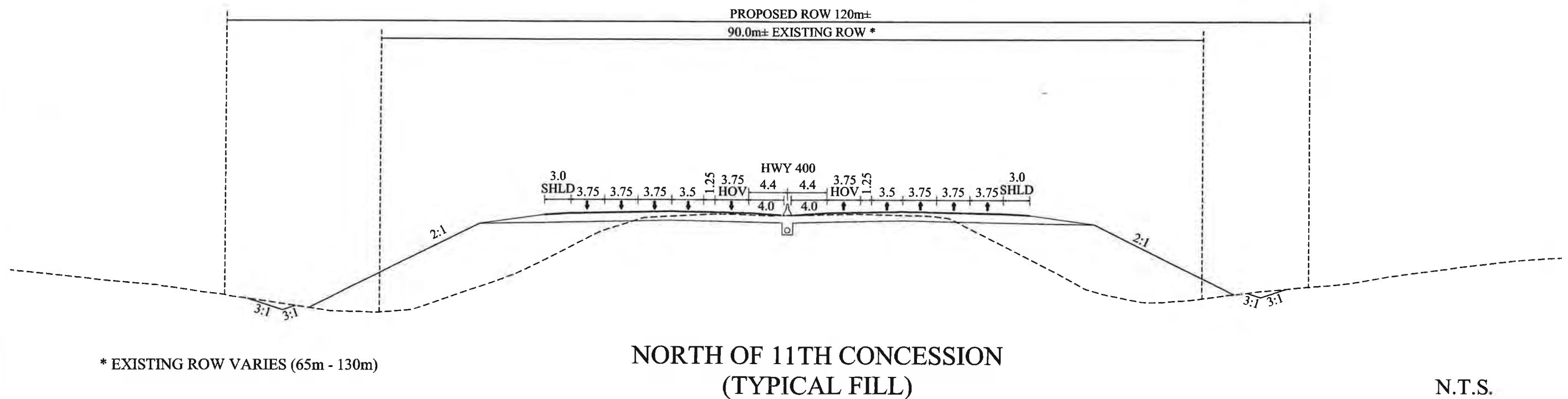
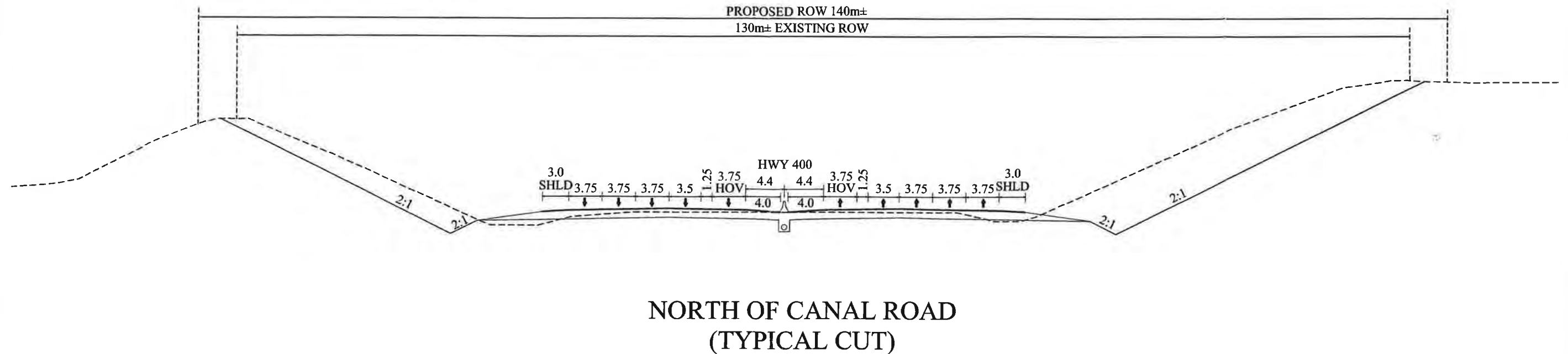
Alternative 1 consists of an 8.8m closed barrier median cross-section. The mainline will be widened on both sides of the existing Highway 400 lanes and will maintain the existing centreline. (See Figure 9).

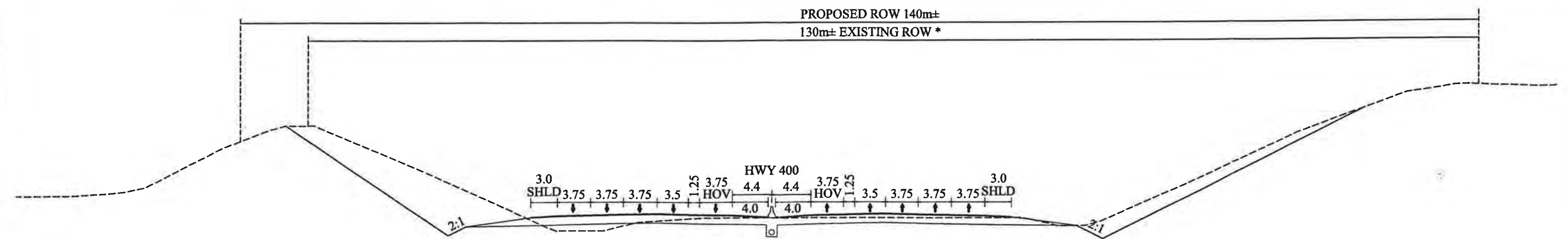
Alternative 2

Alternative 2 provides an 8.8m closed barrier median cross section. North of the Holland Marsh, the centreline will be shifted to the west, and all widening will occur on the outside to the west side of the highway. (See Figure 10).

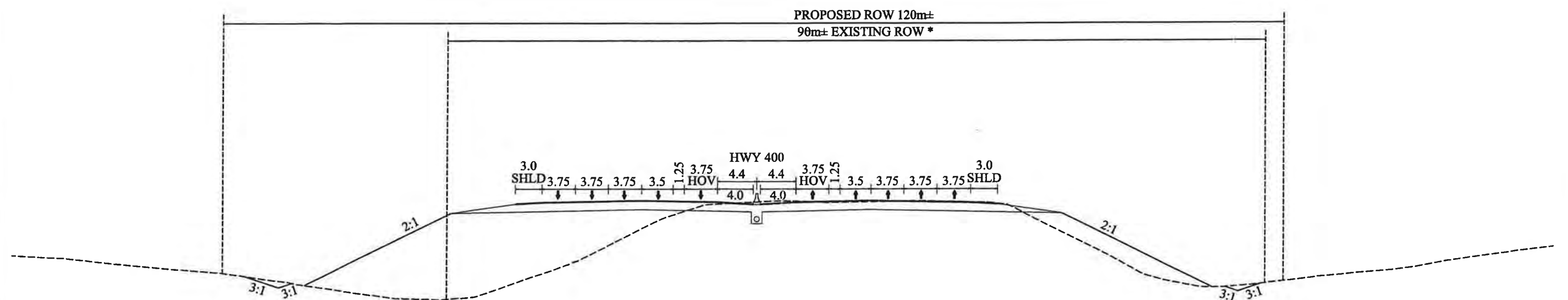
Alternative 3

Alternative 3 provides an 8.8m closed barrier median cross section through the Holland Marsh, while a 22m open median cross section is utilized from south of 5th Concession to the north study limit. Similar to Alternative 2, widening north of the Holland Marsh occurs entirely to the west. (See Figure 11).





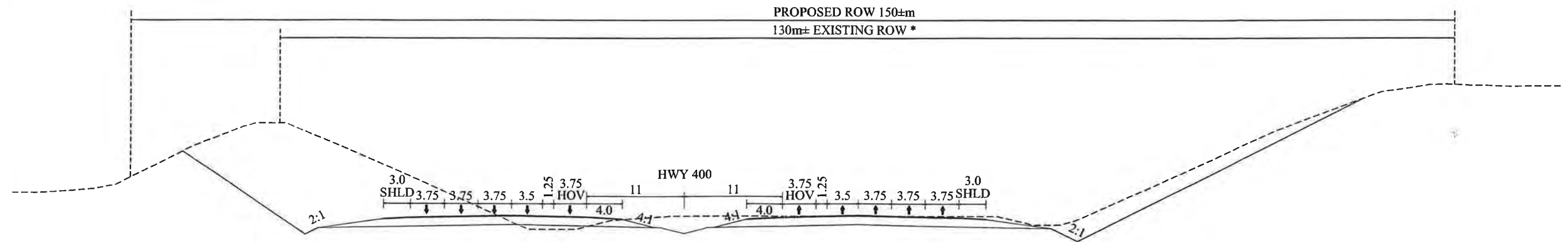
NORTH OF CANAL ROAD



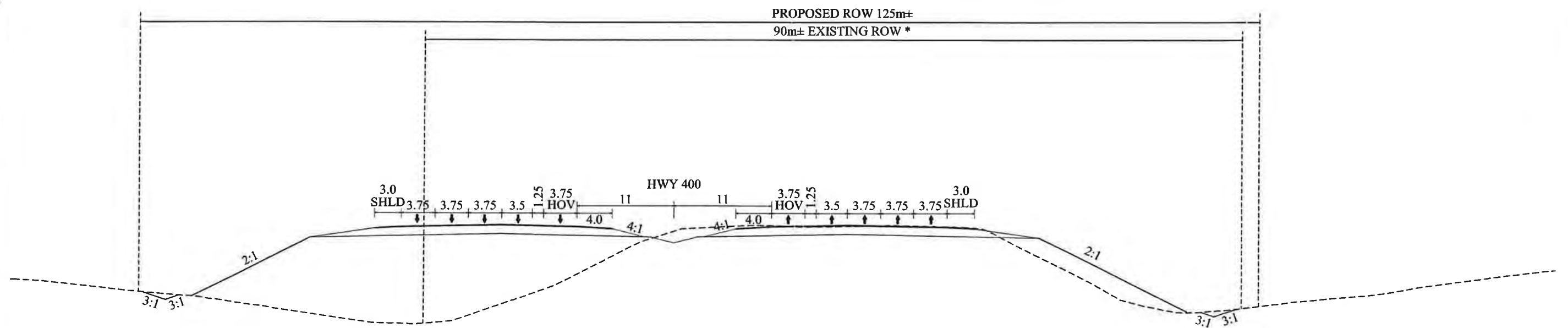
NORTH OF 11TH CONCESSION

* - EXISTING ROW VARIES (65m± - 130m±)

N.T.S.



NORTH OF CANAL ROAD



* - EXISTING ROW VARIES (65m± - 130m±)

NORTH OF 11TH CONCESSION

N.T.S.

4.6.2 Canal Road Access

The Canal Road Access is defined as the north-south sections of roadway on either side of Highway 400, which connect Highway 400 and Canal Road. This access is distinct from Canal Road itself, which is the east-west roadway passing under Highway 400. To address existing and future operational deficiencies at Canal Road access, four alternatives were developed. With all four alternatives, Canal Road would remain open to provide continuous east-west access under Highway 400.

Alternative 1

Alternative 1 considers the closure of the Canal Road access to Highway 400. (See Figure 12).

Alternative 2a

Alternative 2a replaces the existing at-grade intersection with a buttonhook interchange. This includes the relocation of Wist Road and Davis Road in order to maintain the existing road network. (See Figure 13).

Alternative 2b

Alternative 2b replaces the existing at-grade intersection with a diamond interchange. This includes the relocation of Wist Road and Davis Road in order to maintain the existing road network. (See Figure 14).

Alternative 3

Alternative 3 considers the closure of the Canal Road access to Highway 400 with possible interchange at the 5th Concession. In addition, a service road connection between Canal Road and 5th Concession is considered with this alternative. (See Figure 15).

4.6.3 Simcoe Road 88 Interchange

To address existing and future operational deficiencies at Simcoe Road 88 interchange, three alternatives were developed.

Alternative 1

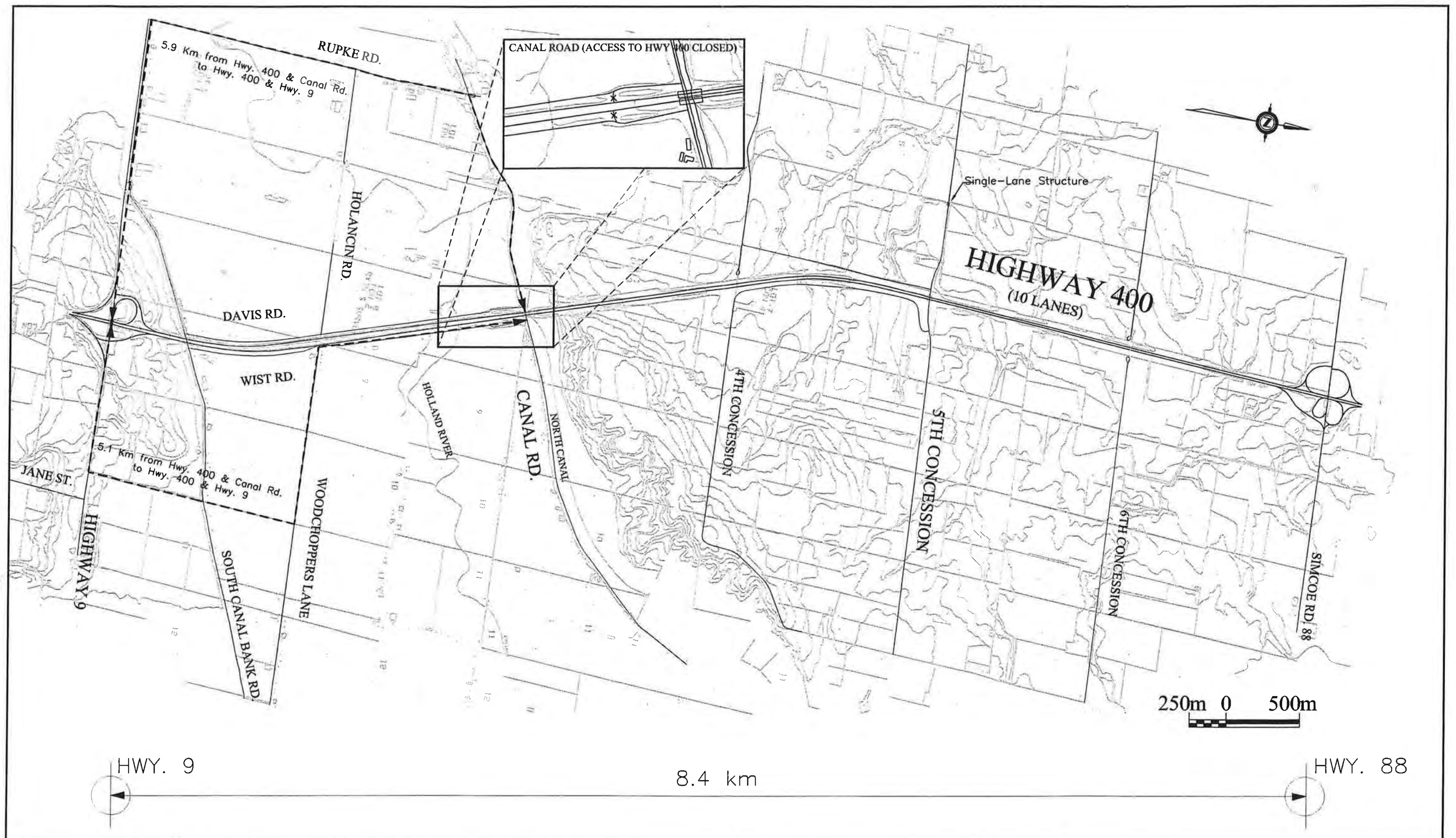
Alternative 1 replaces the existing interchange with a Parclo-A configuration. (See Figure 16).

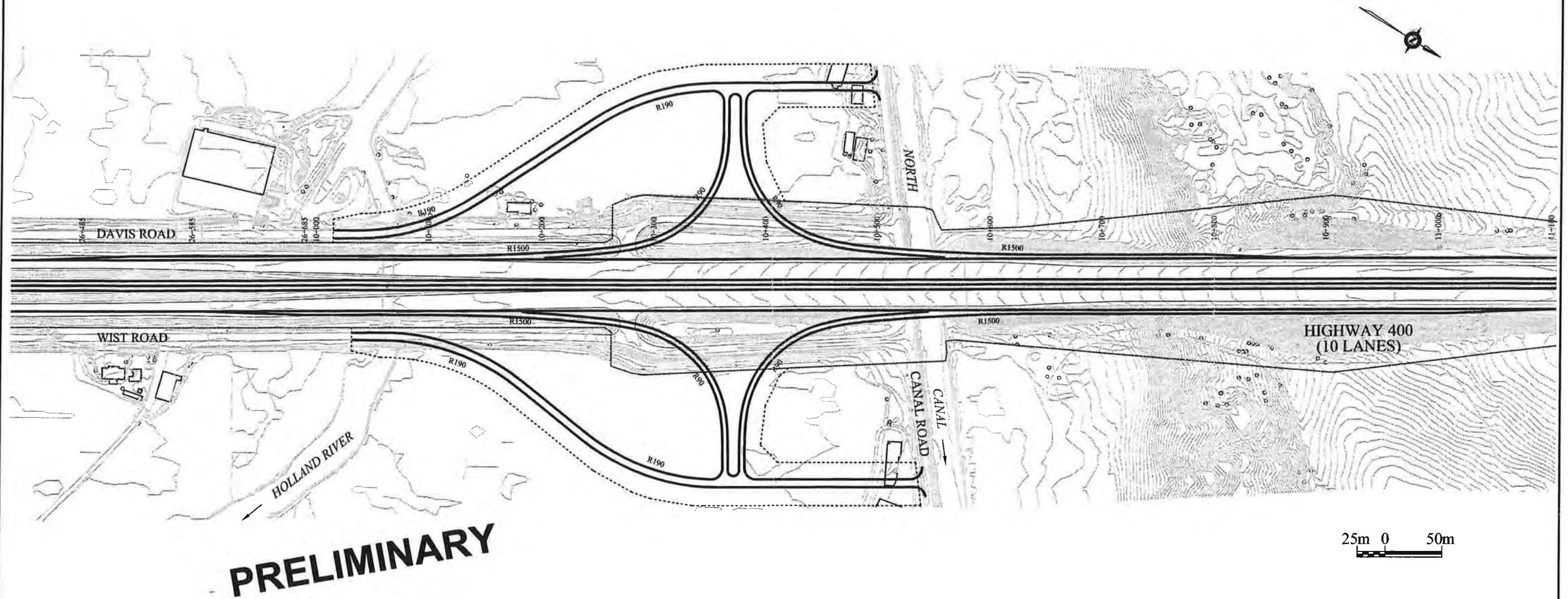
Alternative 2

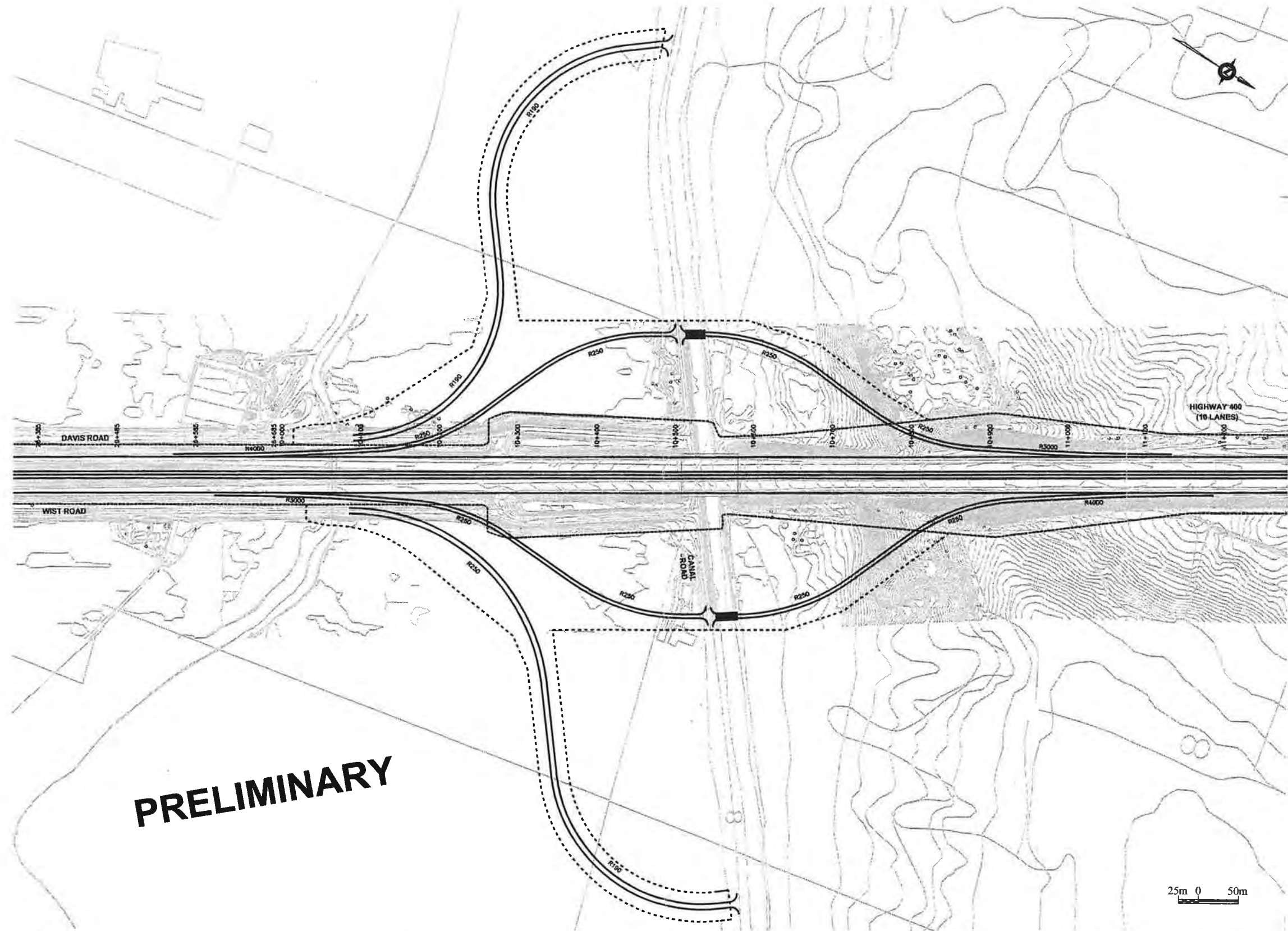
Alternative 2 replaces the existing interchange with a Parclo-B configuration. (See Figure 17).

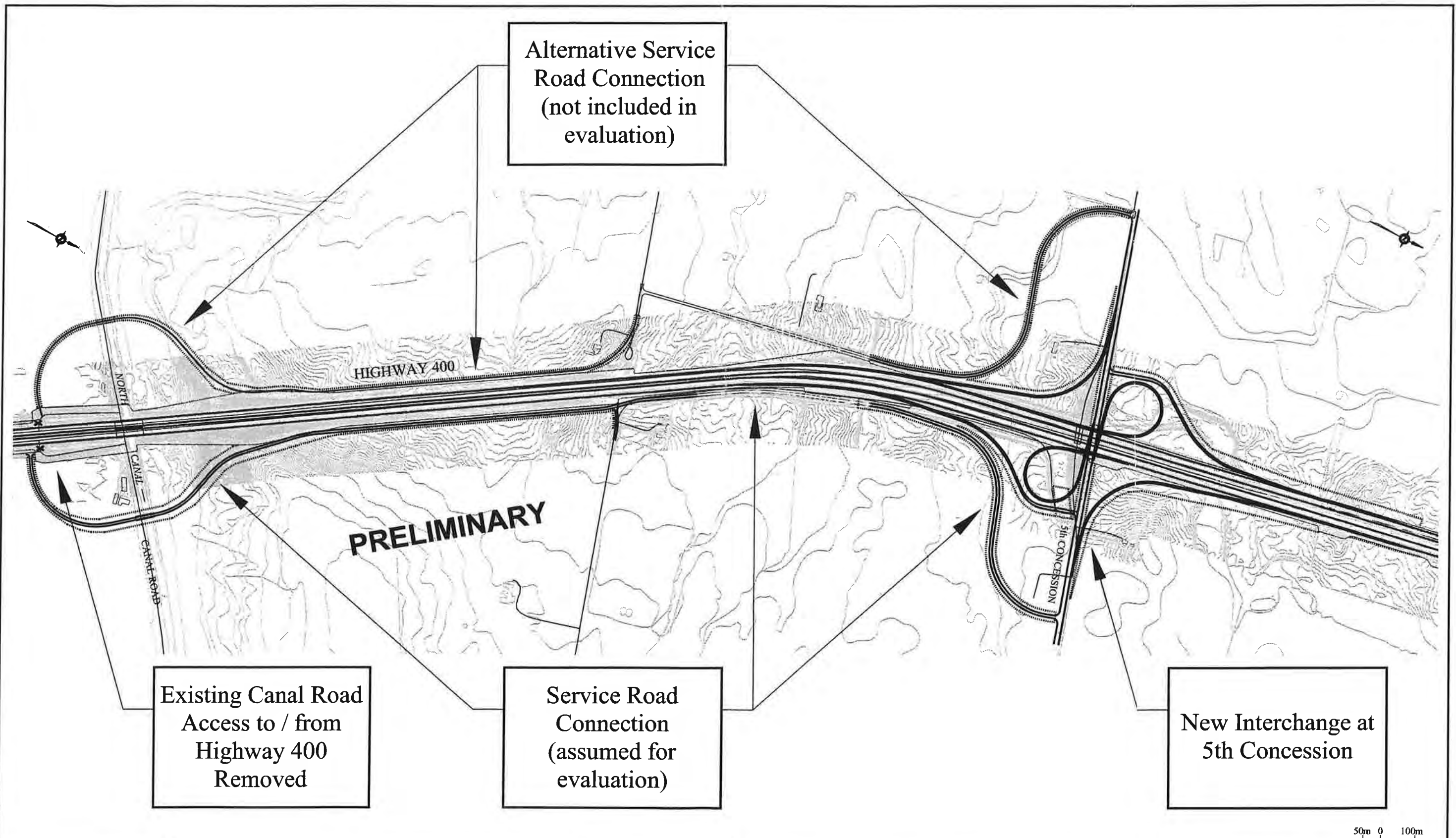
Alternative 3

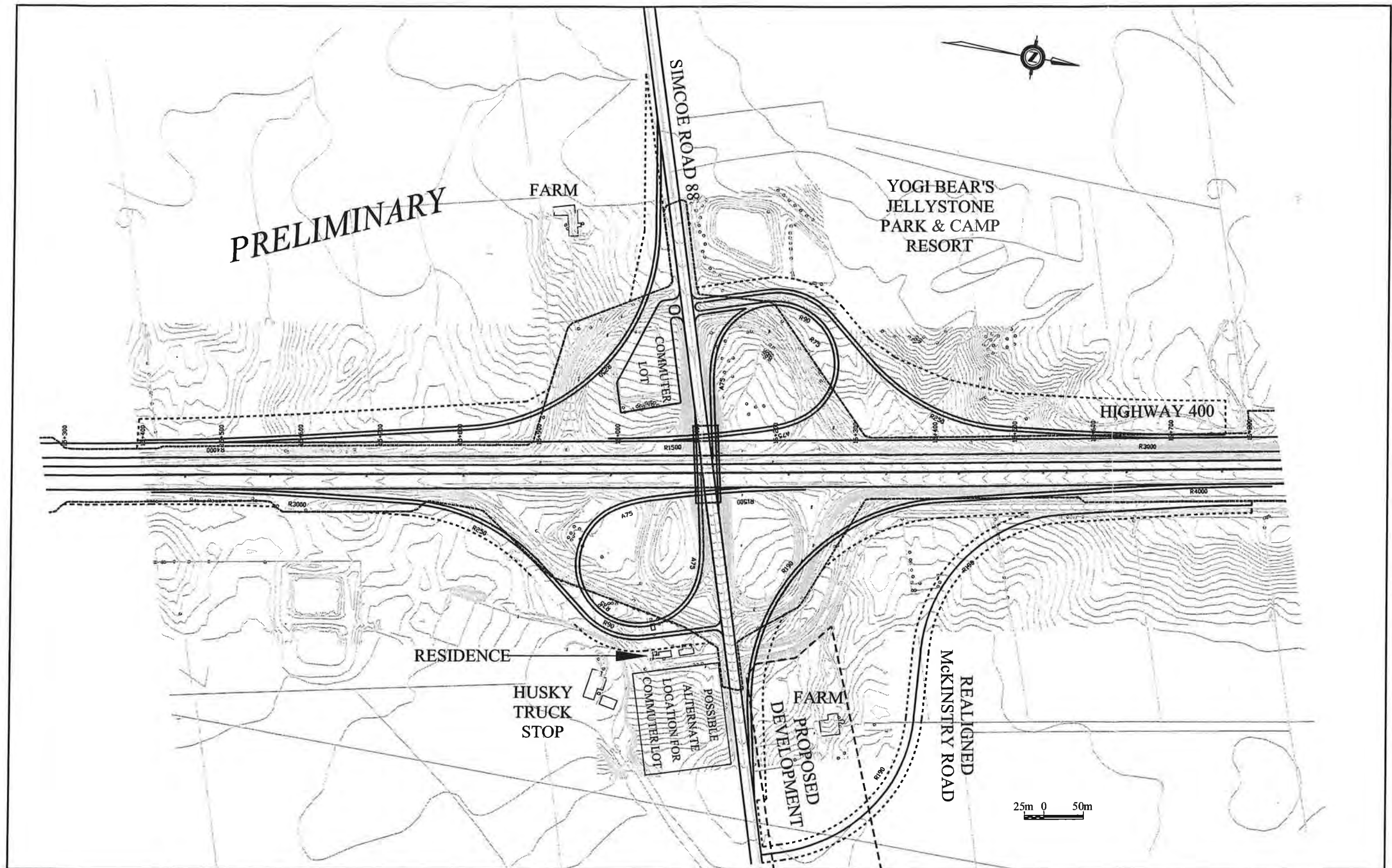
Alternative 3 replaces the existing interchange with a Diamond configuration. (See Figure 18).











PRELIMINARY

FARM

SIMCOE ROAD 88

YOGI BEAR'S
JELLYSTONE
PARK & CAMP
RESORT

HIGHWAY 400

EXISTING
COMPUTER LOT
TO BE
RELOCATED

RESIDENCE

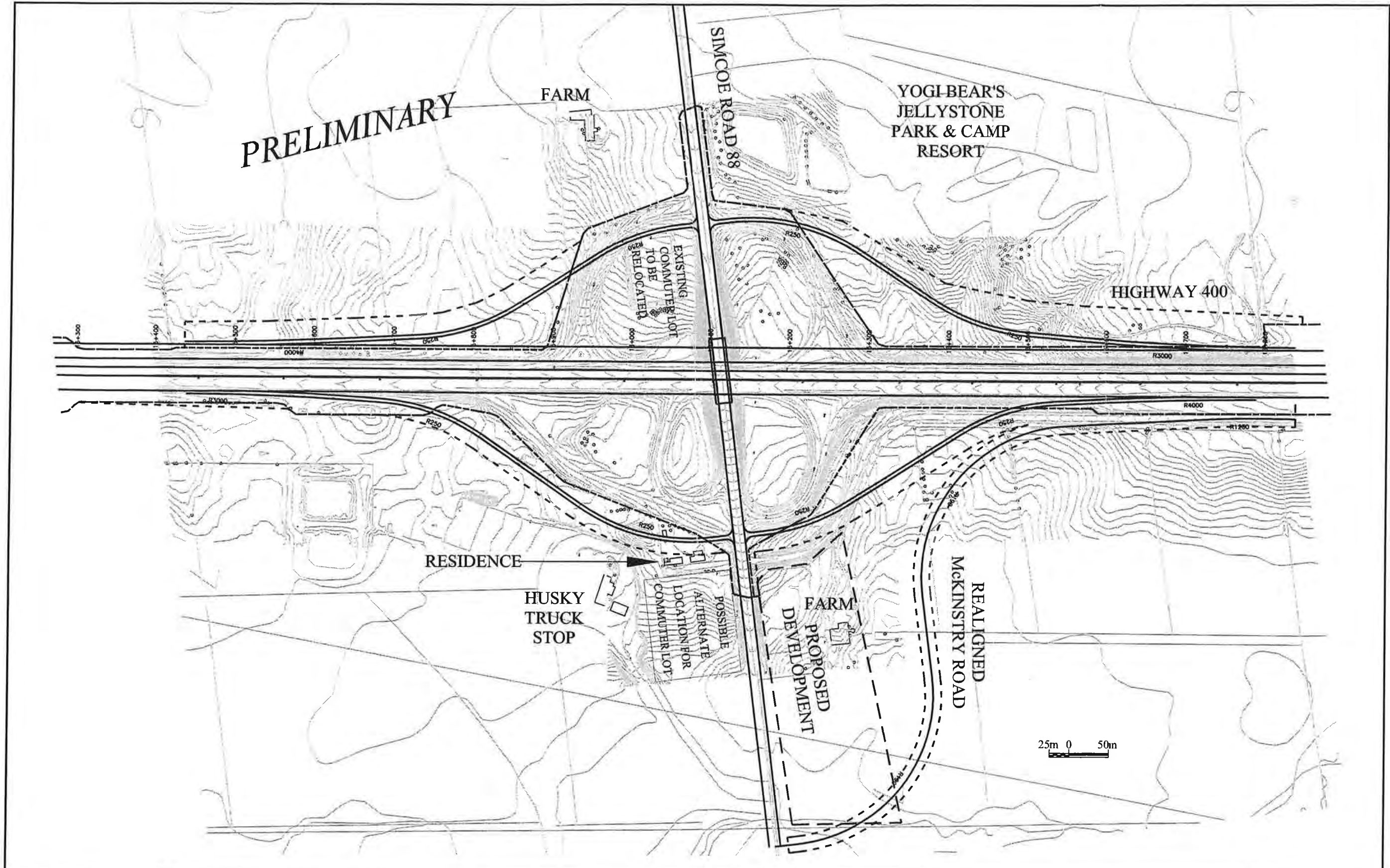
HUSKY
TRUCK
STOP

FARM
PROPOSED
DEVELOPMENT

REALIGNED
MCKINSTRY ROAD

25m 0 50m





4.7 ASSESSMENT OF NET IMPACTS

Once the preliminary designs for the alternatives were finalized, the next step was to assess the impacts and select a preferred alternative. The objective of this process was to select an alternative for each component that resulted in the lowest overall impacts.

The Class Environmental Assessment requires a proponent to describe the effects that will be caused or that might reasonably be expected to be caused on the environment. The broad definition of environment forms the basis for the criteria considered in this study. Evaluation criteria were organized into six factors: Natural, Social, Economic, Cultural, Transportation and Cost. The criteria represent the components of the environment that are directly, indirectly or potentially affected by the undertaking. The criteria used in the analysis and evaluation of alternatives is listed in Table 9.

TABLE 9 ANALYSIS AND EVALUATION CRITERIA

ENVIRONMENTAL COMPONENT	CRITERIA
NATURAL ENVIRONMENT	<ul style="list-style-type: none"> • Effect on Fish and Aquatic Habitat • Effect on Terrestrial Habitat and Vegetation • Effect on Wetlands • Effect on Greenways and Open Space Linkages • Effect on Groundwater / Surface Water • Effect on Naturally Significant Areas
SOCIAL ENVIRONMENT	<ul style="list-style-type: none"> • Aesthetics • Noise • Community Effects (residential, institutional, recreational and community features, and out-of-way travel) • Effect on Future Planned Developments
ECONOMIC ENVIRONMENT	<ul style="list-style-type: none"> • Effects on Commercial/Industrial uses • Effect on Agricultural Operations • Property Waste and Contamination
CULTURAL ENVIRONMENT	<ul style="list-style-type: none"> • Effect on Archaeological Resources • Effect on Heritage Resources
TRANSPORTATION	<ul style="list-style-type: none"> • Traffic Operations • Construction Impacts • Cost

As described in this section, alternative designs were generated for the Mainline, Canal Road access, and Simcoe Road 88 interchange and impacts were assessed for each group of alternatives. The analysis of alternatives for each component is provided in Exhibit 1 (a) and (b) through Exhibit 3 (a) and (b).

4.8 EVALUATION AND SELECTION OF THE PREFERRED ALTERNATIVE

The evaluation of alternatives considered both the impacts generated by the alternative and the relative importance of the impacts. Each factor in the evaluation (i.e. Natural, Social, Economic, Cultural, Transportation and Cost) contributes a relative level of significance to the decision making process.

EVALUATION FACTOR	INDICATOR	MEASURE	ALTERNATIVE 1 8.8 M WIDEN ABOUT THE CENTRELINE	ALTERNATIVE 2 8.8 M WIDEN ALL TO THE WEST	ALTERNATIVE 3 22 M WIDEN ALL TO THE WEST
Economic Environment					
Agricultural	Active agricultural land affected (Class 1 – 6)	ha	14.7 ha	15.2 ha	27.5 ha
	Number of operations displaced	#	0	0	0
	Number of operations affected	#	18	21	24
	Impact to access (out-of-way travel)	Subjective	NA	NA	NA
Commercial/Industrial Uses	Commercial property affected	ha	0.9 ha	1.0 ha	1.7 ha
	Number of businesses disrupted/displaced	#	2 disrupted (Lumber yard/Yogi Bear Jelly Stone Park Camp Resort)	2 disrupted (Lumber yard/Yogi Bear Jelly Stone Park Camp Resort)	2 disrupted (Lumber yard/Yogi Bear Jelly Stone Park Camp Resort)
	Impact to business access	Subjective	NA	NA	NA
Special Policy Areas	Potential effect on Provincial/Federal initiatives	Subjective	NA	NA	NA
Property Waste and Contamination	Number of properties affected that have known or high potential for waste/contamination	Analysis	Low risk	Low risk	Low risk
Cultural Environment					
Archaeological Resources	Known archaeological resources impacted	#	0	0	Rogers Cemetery disrupted (0.1 ha)
Heritage Resources	Number and description of heritage/historical features or cultural landscapes impacted	#	1 Potential impact to Coat of Arms panel on structure at 11 th Concession	2 Potential impact to Coat of Arms panel on structure at 11 th Concession Potential impact to heritage farm complex (3526 13 th Concession)	2 Potential impact to Coat of Arms panel on structure at 11 th Concession Potential impact to heritage farm complex (3526 13 th Concession)
Transportation & Engineering					
Traffic Operations		Subjective	Widening of Highway 400 to 10 lanes will provide acceptable operations to beyond year 2021. Few cross-median collisions today. Provides better traffic operations benefits than open median by reducing the likelihood of cross-over accidents.	Widening of Highway 400 to 10 lanes will provide acceptable operations to beyond year 2021. Few cross-median collisions today. Provides better traffic operations benefits than open median by reducing the likelihood of cross-over accidents.	Widening of Highway 400 to 10 lanes will provide acceptable operations to beyond year 2021. Provides greater room than closed median for errant vehicles to recover but potential to eliminate cross-over accidents is removed.
Drainage	Performance (capacity / event)	Subjective	Performance limited by the capacity of the catchbasin / sewer system. Significant (> 1 in 10 year event) events may result in excess water in the median, which could impact traffic operations.	Performance limited by the capacity of the catchbasin / sewer system. Significant (> 1 in 10 year event) events may result in excess water in the median, which could impact traffic operations.	The 22m open median provides a greater storage capacity than the 8.8m barrier median to accommodate significant storm events.
Operations & Maintenance	Snow Removal	Quantitative	Snow can not be stored in the median. The potential for snow drift occurs at four locations for a total length of approximately 1.6 km from Canal Road to the north study limit. Additional property may be required for snow storage within these areas. Otherwise, concrete barrier may cause snow accumulation on driving lanes.	Snow can not be stored in the median. The potential for snow drift occurs at four locations for a total length of approximately 1.6 km from Canal Road to the north study limit. Additional property may be required for snow storage within these areas. Otherwise, concrete barrier may cause snow accumulation on driving lanes.	Potential for median snow storage. The potential for snow drift occurs at four locations for a total length of approximately 1.6 km from Canal Road to the north study limit. Open median may allow snow to drift across highway without significant accumulation.
	Road Rehabilitation	Subjective	Closed median requires milling before resurfacing. Longer construction time compared to open median resurfacing, resulting in greater traffic impact.	Closed median requires milling before resurfacing. Longer construction time compared to open median resurfacing, resulting in greater traffic impact.	Open median can be resurfaced without milling. Shorter construction time compared to closed median resurfacing, resulting in less traffic impact.
Consistency	Consistency with other sections	Subjective	Section of Highway 400 from Toronto to Holland Marsh utilizes a barrier median design. This alternative will be consistent with design.	Section of Highway 400 from Toronto to Holland Marsh utilizes a barrier median design. This alternative will be consistent with design.	Section of Highway 400 from Toronto to Holland Marsh utilizes a barrier median design. The limited length of application of the 22m open median may diminish the effectiveness of any advantages.
Staging	Construction staging	Subjective	Staged construction is required in order to provide additional lanes, remove and replace existing median.	Staged construction is required in order to provide additional lanes, remove and replace existing median.	Staged construction is required in order to provide additional lanes and remove the existing median.
	Impact on traffic during construction	Subjective	Proximity of construction zone to traffic will impact travel speed. The existing number of lanes will be maintained during construction, but lane widths will be reduced.	Proximity of construction zone to traffic will impact travel speed. The existing number of lanes will be maintained during construction, but lane widths will be reduced.	Open median cross section provides additional room for construction. The existing number of lanes will be maintained during construction, but lane widths will be reduced.
	Estimated Duration	Quantitative			
Cost					
Cost	Construction Cost	% of Lowest	Lowest	110 % cost of Alternative 1	130 % cost of Alternative 1
	Property Cost	% of Lowest	Lowest	270 % cost of Alternative 1	370 % cost of Alternative 1
	Operations & Maintenance Cost	Subjective	Reduced snow storage capacity compared to the 22m open median option. More complex storm water management system than 22m open median option. Closed median requires milling before resurfacing.	Reduced snow storage capacity compared to the 22m open median option. More complex storm water management system than 22m open median option. Closed median requires milling before resurfacing.	Increased snow storage capacity compared to the 8.8m barrier median option. Simplified storm water management system compared to the 8.8m barrier median option. Open median can be resurfaced without milling leading to a reduction in maintenance costs.

EVALUATION FACTOR	INDICATOR	MEASURE	ALTERNATIVE 1 CLOSURE OF CANAL ROAD	ALTERNATIVE 2A BUTTON HOOK INTERCHANGE	ALTERNATIVE 2B DIAMOND INTERCHANGE	ALTERNATIVE 3 CLOSURE OF CANAL ROAD WITH POSSIBLE RELOCATION OF INTERCHANGE TO 5 TH CONCESSION ROAD AND POSSIBLE SERVICE ROAD CONNECTION TO CANAL ROAD
Natural Environment						
Fisheries and Aquatic Habitat	Impact to fish species and aquatic habitat	Subjective	No impact	Low impact Short duration disturbance.	Moderate impact Permanent disturbance to warmwater habitat in ROW additions.	Moderate to High impacts To multiple warmwater habitat in ROW additions.
	Number of additional ramp fish habitat crossings and channel length affected by expanded ROW	#/m	0	2 (platform widening)/ 55 m	2 (new crossings)/ 305 m	7 (new crossings)/ 360 m
Terrestrial Environment	Number of wildlife travel corridors/linkages affected	#	0	0	1 (Dunkerron Forest)	1 (Dunkerron Forest)
	Area of significant wildlife habitats impacted	ha	0	0	4.5 ha (deer wintering)	2.4 ha (deer wintering)
	Number of significant vegetation units and area impacted	#/ha	0	0	3 / 4.5 ha	3 / 2.4 ha
	Number and area of provincially significant wetlands impacted	#/ ha	0	0	0	0
	Area through upland forests impacted	ha	0	0	6.2 ha	4.3 ha
	Potential impact to ANSIs	Subjective	No impact	Moderate impact 1 (Dunkerron Forest - 10.88 ha impacted)	High impact 2 (Dunkerron Forest/Holland Marsh Lowlands - 19.62 ha impacted)	Moderate impact 2 (Dunkerron Forest/Holland Marsh Lowlands - 4.8 ha impacted)
	Groundwater	Potential interference with water wells and area of flowing wells and high water table	# of wells impacted/ha	0	3 wells impacted (20185 - south of Holland River/5146 - south of Canal Road/19824 - west of Canal Road) 10.88ha area of flowing wells and high water table affected.	3 wells impacted (20185 - south of Holland River/5146 - south of Canal Road/19824 - west of Canal Road) 15.12ha area of flowing wells and high water table affected.
Potential impact to groundwater recharge and discharge areas		ha	0	0	0	0
Surface Water	Potential impact to private/municipal water intakes	Subjective	NA	NA	NA	NA
	Effectiveness of Storm Water Management	Subjective	No impact	Opportunity to provide storm water management within interchange area. Potential need to extend culvert to under service road.	Opportunity to provide storm water management within interchange area. Need to extend culvert to under Highway 400. Two additional crossings of North Canal required.	Opportunity to provide storm water management within interchange area. One additional crossing of North Canal required. Increased pavement area increase need for storm water management.
Social Environment						
Aesthetics	Impact to aesthetic quality of existing landscape in the vicinity of ROW	Subjective	No impact	No impact	No impact	Low potential impact to existing vegetative cover.
	Impact to sensitive viewer groups	Subjective	No impact	Low impact 2 residences impacted – additional interchange ramps.	Low to Moderate impact 5 residences impacted – additional interchange ramps.	Low to Moderate impact 6 residences impacted – additional interchange ramps.
Noise	Impact to noise sensitive receivers: ▪ Low (less than 5 dBA increase) ▪ Moderate (5 to 10 dBA increase) ▪ High (greater than 10 dBA increase)	Qualitative Review	No impact	Low to moderate impact to 3 residences (between 0 – 10 dBA) and low impact to 5 residences (below 5 dBA).	Low to moderate impact to 2 residences (between 0 – 10 dBA) and low impact to 3 residences (below 5 dBA).	Low to moderate impact to 6 residences (between 0 – 10 dBA) and low impact to 4 residences (below 5 dBA).
Residential	Number of residences disrupted/displaced	#	0	1 residence disrupted 1 residence displaced	3 residences displaced	4 residences disrupted 1 residence displaced
	Residential property affected	ha	0	0.8 ha	1.3 ha	0.9 ha
Community Effects	Impact to community mobility (out-of-way travel)	Subjective	Low impact 5.1 km out-of-way travel on east side of Highway 400 and 5.9 km on west side of Highway 400.	No impact	No impact	Low impact 3 to 5.1 km out-of-way travel to Highway 400.
	Impact to community/recreational/institutional/park features	#/ha	0	0	0	1/ 0.4 ha
	Impact to municipal utilities/residential services	Subjective	No impact	Low – Moderate impact Requires 3 crossings of the Bell easement containing National Fibre Optics Cable	Low – Moderate impact Requires 3 crossings of the Bell easement containing National Fibre Optics Cable	Moderate – High impact Service Road connection may impact Bell easements containing either National Fibre Optics Cable or Exchange Cable
	Impact to emergency services access	Subjective	Moderate to High impact Reduced access to Highway 400 (northbound lanes south of 5 th Concession).	No impact	No impact	Low to Moderate impact 3 to 5.1 km out-of-way travel to Highway 400 (northbound lanes south of 5 th Concession).
Compatibility with Future Land Use	Impact to future land use plans	Subjective	No impact	No impact	No impact	No impact

EVALUATION FACTOR	INDICATOR	MEASURE	ALTERNATIVE 1 CLOSURE OF CANAL ROAD	ALTERNATIVE 2A BUTTON HOOK INTERCHANGE	ALTERNATIVE 2B DIAMOND INTERCHANGE	ALTERNATIVE 3 CLOSURE OF CANAL ROAD WITH POSSIBLE RELOCATION OF INTERCHANGE TO 5 TH CONCESSION ROAD AND POSSIBLE SERVICE ROAD CONNECTION TO CANAL ROAD
Economic Environment						
Agricultural	Active agricultural land affected (Class 1 – 6)	ha	0	5.5 ha	5.7 ha	19.4 ha
	Number of operations displaced	#	0	0	0	0
	Number of operations affected	#	0	3	5	5
	Impact to access (out-of-way travel)	km	5.1 km out-of-way travel on east side of Highway 400 and 5.9 km on west side of Highway 400.	No impact	No impact	3 to 5.1 km out-of-way-travel to Highway 400.
Commercial/Industrial Uses	Commercial property affected	ha	0	0.2 ha	0.6 ha	0
	Number of businesses disrupted/displaced	#	0	1 displaced (Farmers market)	1 displaced (Farmers market)	0
	Impact to business access	Subjective	Impact to direct highway access to one business. (Farmers market)	No impact	No impact	Impact to direct highway access to one business. (Farmers market)
Special Policy Areas	Potential effect on Provincial/Federal initiatives	Subjective	NA	NA	NA	NA
Property Waste and Contamination	Number of properties affected that have known or high potential for waste/contamination	Analysis	No impact	Low risk	Low risk	Low risk
Cultural Environment						
Archaeological Resources	Known archaeological resources impacted	#	0	0	0	0
Heritage Resources	Number and description of heritage/ historical features or cultural landscapes impacted	#	0	2 Potential impact to Holland River Waterway Potential impact to North Canal Dyke - (additional widening for interchange ramps)	1 Potential impact to North Canal Dyke (2 new structures)	2 Potential impact to North Canal Dyke (1 new structure) Potential impact to Coat of Arms panel on bridge overpass at 5 th Concession
Transportation & Engineering						
Traffic Operations	Interchange operations at Canal Road	Subjective	Not applicable (Interchange Closed).	Acceptable levels.	Acceptable levels.	Not applicable (Interchange Closed). 5 th Concession operating at acceptable levels.
	Area road network access & operations	Subjective	Closure will improve operations on a section of Highway 400 with a higher collision rate. Traffic volumes on Simcoe Road 8 will likely be reduced, as motorists use other accesses to Highway 400. Potential conflicts with commuters / agricultural operators on Simcoe Road 8 substantially reduced; other connections to Highway 400 can accommodate the diverted traffic from Simcoe Road 8. (< 2,500 vehicles per day. By comparison, Simcoe Road 88 interchange serves ~ 18,000 vehicles per day and Highway 9 interchange serves ~ 29,000 per day).	Potential to increase volumes on Simcoe Road 8 increasing potential conflicts with commuters / agricultural operators.	Potential to increase volumes on Simcoe Road 8 increasing potential conflicts with commuters / agricultural operators.	Minor change in travel patterns will not significantly affect area network operations. Potential to increase volumes on 5 th Concession increasing potential conflicts with commuters / agricultural operators. A single lane structure is located on 5 th Concession west of Highway 400 limiting the suitability of an interchange at this location.
	Local access / routes	Subjective	Low impact Approximately 5 to 6 km out-of-way travel to access Highway 400 at Highway 9.	Negligible impact. Access provided to Highway 400 via Canal Road.	Negligible impact. Access provided to Highway 400 via Canal Road. Service roads realigned creating minor out-of-way travel.	Low impact. Service road connection from Canal Road to access Highway 400 provided at 5 th Concession will maintain alternate access to Holland Marsh.
Staging	Construction complexity	Subjective	Not applicable.	Staging required in order to maintain service roads and Canal Road access during construction.	Staging required in order to maintain service roads and Canal Road access during construction.	Interchange at new location. Staging required for structure extension, replacement.
	Impact on traffic during construction	Subjective	No impact.	Proximity of construction zone to existing road may impact traffic with respect to travel time delay. Existing Canal Road access and local service roads will be maintained during construction.	Proximity of construction zone to existing road may impact traffic with respect to travel time delay. Existing Canal Road access and local service roads will be maintained during construction.	Low impact to traffic associated with the construction of possible service road connection from Canal Road to 5 th Concession. 5 th Concession will remain open during construction. Construction vehicle traffic will be greater for this alternative due to the length of job.
	Duration of Construction	Quantitative	Not applicable.	1 season	2 seasons	2 seasons
Cost						
Cost	Construction Cost	% of lowest	Lowest	940 % cost of lowest alternative	800 % cost of lowest alternative	1630 % cost of lowest alternative
	Property Cost	% of lowest	Not applicable	Lowest	220% cost of lowest alternative	390% cost of lowest alternative

EVALUATION FACTOR	INDICATOR	MEASURE	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Natural Environment					
Fisheries and Aquatic Habitat	Impact to fish species and aquatic habitat	Subjective	Low impact	Moderate impact	Moderate impact
	Number of additional ramp fish habitat crossings and channel length affected by expanded ROW	#/m	4 crossings not connected to a known fishery (105 m) 4 warmwater crossings (435 m)	6 crossings not connected to a known fishery (57.5 m) 5 warmwater crossings (420 m)	3 crossings not connected to a known fishery (140 m) 4 warmwater crossings (460 m)
Terrestrial Environment	Number of wildlife travel corridors/linkages affected	#	0	0	0
	Area of significant wildlife habitats impacted	ha	0 ha	0 ha	0 ha
	Number significant vegetation units and area impacted	#/ha	0	0	0
	Number and area of provincially significant wetlands impacted	#/ ha	0	0	0
	Area through upland forests impacted	ha	0 ha	0 ha	0 ha
	Potential impact to ANSIs	Subjective	No impact	No impact	No impact
Groundwater	Potential interference with water wells and area of flowing wells and high water table	# of wells impacted/ha	1 well impacted (17528-south east quadrant of Simcoe Road 88)	0	0
	Potential impact to groundwater recharge and discharge areas	ha	0 ha	0 ha	0 ha
Surface Water	Potential impact to private/municipal water intakes	Subjective	NA	NA	NA
	Effectiveness of Storm Water Management	Subjective	Opportunity to provide storm water management within interchange without requiring more property.	Opportunity to provide storm water management within interchange without requiring more property.	Opportunity to provide storm water management within interchange without requiring more property.
Social Environment					
Aesthetics	Impact to aesthetic quality of existing landscape in the vicinity of ROW	Subjective	No impact	No impact	No impact
	Impact to sensitive viewer groups	Subjective	Low impact 2 residences / 1 business (Yogi Bear Jelly Stone Park Camp Resort) impacted due to additional interchange ramps.	Low impact 2 residences / 1 business (Yogi Bear Jelly Stone Park Camp Resort) impacted due to additional interchange ramps.	Low impact 2 residences / 1 business (Yogi Bear Jelly Stone Park Camp Resort) impacted due to additional interchange ramps.
Noise	Impact to noise sensitive receivers: ▪ Low (less than 5 dBA increase) ▪ Moderate (5 to 10 dBA increase) ▪ High (greater than 10 dBA increase)	Qualitative Review	Low impact to 2 residences (below 5 dBA)	Low impact to 2 residences (below 5 dBA)	Low impact to 2 residences (below 5 dBA)
Residential	Number of residences disrupted/displaced	#	2 residences disrupted 1 residence displaced	2 residences disrupted 1 residence displaced	2 residences disrupted 1 residence displaced
	Residential property affected	ha	2.1 ha	3.2 ha	1.9 ha
Community Effects	Impact to community mobility (out-of-way travel)	Subjective	No impact	No impact	No impact
	Impact to community/recreational/institutional/park features	#/ha	0	0	0
	Impact to municipal utilities/residential services	Subjective	Low impact	Low impact	Low impact
	Impact to emergency services access	Subjective	No impact	No impact	No impact
Compatibility with Future Land Use	Impact to future land use plans	Subjective	Potential impact to possible future development. E-N Ramp may limit direct access to property from County Road 88. Service Road may be relocated to minimize property impacts.	Potential impact to possible future development. Service Road may be relocated to minimize property impacts.	Potential impact to possible future development. Service Road may be relocated to minimize property impacts.

EVALUATION FACTOR	INDICATOR	MEASURE	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
<i>Economic Environment</i>					
Agricultural	Active agricultural land affected (Class 1 – 6)	ha	2.8 ha	3.5 ha	3.3 ha
	Number of operations displaced	#	0	0	0
	Number of operations affected	#	2	2	2
	Impact to access (out-of-way travel)	Subjective	No impact	No impact	No impact
Commercial/Industrial Uses	Commercial property affected	ha	5.2 ha	3.2 ha	5.3 ha
	Number of businesses disrupted/displaced	#	2 disrupted (Husky Service Centre/Yogi Bear Jelly Stone Park Camp Resort)	2 disrupted (Husky Service Centre/Yogi Bear Jelly Stone Park Camp Resort)	2 disrupted (Husky Service Centre/Yogi Bear Jelly Stone Park Camp Resort)
	Impact to business access	Subjective	No impact	No impact	No impact
Special Policy Areas	Potential effect on Provincial/Federal initiatives	Subjective	NA	NA	NA
Property Waste and Contamination	Number of properties affected that have known or high potential for waste/contamination	Analysis	Low risk	Low risk	Low risk
<i>Cultural Environment</i>					
Archaeological Resources	Known archaeological resources impacted	#	0	0	0
Heritage Resources	Number and description of heritage/historical features or cultural landscapes impacted	#	1 Potential impact to farm complex with potential cultural landscape significance. (3657 County Road 88)	1 Potential impact to farm complex with potential cultural landscape significance. (3657 County Road 88)	1 Potential impact to farm complex with potential cultural landscape significance. (3657 County Road 88)
<i>Transportation & Engineering</i>					
Traffic Operations	Interchange operation	Subjective	Signalization will be required at off-ramp terminals to maintain acceptable levels of service during peak travel periods. Provides diverge for critical east to south movement. Critical south to east movement may be improved through a right turn channelization. Configuration favours freeway traffic since exit terminals are located in advance of the structure. Left-turn stops are confined to ramps.	Double left turn required for west off-ramp terminal. Ramp terminals will operate at a poor level of service during peak travel periods due in part to the high volume travelling from the east to the south (left turn required). High speed traffic must exit freeway on a inner loop.	Double left turn required for west off-ramp terminal. Ramp terminals will operate at a poor level of service during peak travel periods due in part to the high volume travelling from the east to the south (left turn required). Speed change lanes are not required on or under the structure. Favours freeway traffic since exit terminals are located in advance of the structure. Possibility of wrong-way movements on the ramps.
	Area road network access & operations	Subjective	Area access / routes maintained.	Area access / routes maintained.	Area access / routes maintained.
	Local access / routes	Subjective	Local access / routes maintained.	Local access / routes maintained.	Local access / routes maintained.
Staging	Construction complexity	Subjective	Complex staging required in order to maintain all traffic movements during construction.	Complex staging required in order to maintain all traffic movements during construction.	Existing ramps, with short-term closures, can be maintained during construction Less complex staging is, therefore, required for this alternative.
	Impact on traffic during construction	Subjective	High impacts to traffic during construction. Temporary signals and ramps may be required.	High impacts to traffic during construction. Temporary signals and ramps may be required.	Moderate impacts to traffic during construction due to the proximity of construction to existing ramps.
	Duration of Construction	Quantitative	2 seasons	2 seasons	2 seasons
<i>Cost</i>					
Cost	Construction Cost	% of Lowest	180 %	170 %	Lowest
	Property Cost	% of Lowest	110 %	Lowest	110 %

Based on the range of issues involved and the nature of the problems, a level of significance was assigned for each factor. Levels of significance are determined based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific study area conditions.

The evaluation of alternatives was conducted based on the comparative evaluation method. Significant net impacts (after consideration of mitigation opportunities) are focused on in the selection of the preferred alternatives. Differences in impacts between alternatives are compared considering both the magnitude and the relative significance of the impact.

4.8.1 Mainline Highway 400 Evaluation

The complete evaluation for mainline Highway 400 is provided in Exhibit 4 (a) and (b). The preferred alternative is Alternative 1 – Widen about (to the east and west of) the existing centerline with an 8.8 m median concrete barrier. The following summarizes the rationale for the selection of Alternative 1.

Overall, Alternative 1 results in the lowest impacts and provides the greatest transportation and engineering benefits for the least cost.

Alternative 3 results in considerably more significant impacts to wildlife habitat, Provincially Significant Wetland (PSW) and agricultural soils. The loss of PSW area will also reduce flood storage and may require compensation on fill-regulated areas. Alternative 3 requires more residential, agricultural and commercial property. In addition, Alternative 3 results in moderate impacts to a cemetery and potentially impacts a heritage farm complex.

Alternatives 1 and 2 provide the same transportation and engineering benefits. Relative to Alternative 1, Alternative 2 results in greater impacts to fish habitat, slightly greater property impacts (residential, agricultural and commercial) and potentially impacts a heritage farm complex. Alternative 2 is also more expensive to construct and results in greater property costs relative to Alternative 1.

Refer to Figure 19 for the typical interim and ultimate Mainline Highway 400 sections.

4.8.2 Canal Road Access Evaluation

The complete evaluation for Canal Road access is provided in Exhibit 5 (a) and (b). The preferred alternative is Alternative 1 – Closure of Canal Road access at Highway 400. The following summarizes the rationale for the selection of Alternative 1.

The Project Team has identified a concern with safety and operation of both the Highway 400 access and Canal Road itself. The access does not meet MTO standards, and there are concerns with higher collision rate and increasing volume on Highway 400 and potential conflicts between commuter and agricultural traffic on Canal Road.

At the first Round of Public Information Centres, municipal team representatives and the public raised issues related to the possible closure of the Canal Road access and other alternatives considered at this location. Table 10 provides a summary of how each alternative compared on the major issues raised.

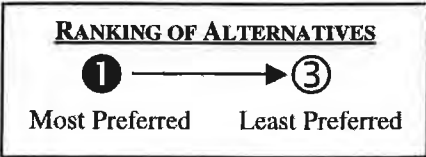
Refer to Figure 20 for the technically preferred alternative at Highway 400 and Canal Road.

CATEGORY – NATURAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 FISHERIES & AQUATIC HABITAT	①	①	②	Alternatives 1 & 2 are very similar. Alternative 2 would require slightly more stream rechannelization. However, enhancement opportunities exist for both alternatives. Alternative 3 will result in approximately twice as much impact as Alternative 1.
2 TERRESTRIAL ENVIRONMENT	①	②	③	Alternatives 1 & 2 will result in approximately the same loss to significant vegetation units. However, Alternative 2 will impact nearly twice as much area of Provincially Significant Wetland (PSW). Alternative 3 impacts key wildlife linkages and significantly more PSW and sensitive vegetation units.
3 GROUNDWATER	①	②	②	Alternative 1 impacts fewer existing wells and a considerably smaller area of flowing wells and high water table.
4 SURFACE WATER	②	②	①	Alternative 3 is more desirable than Alternatives 1 & 2 because it offers better opportunity for storm water treatment within the open median.
5 AREAS OF NATURAL & SCIENTIFIC INTEREST	①	①	①	All alternatives result in similar low impacts.
CATEGORY SUMMARY	①	②	③	
<u>Summary of Effects on the Natural Environment</u> Alternative 2 is slightly less desirable than Alternative 1 due to a greater impact of PSW and agricultural soils. Alternative 3 will result in considerably more significant impacts to wildlife habitat, PSW and agricultural soils. The loss of PSW area will also reduce flood storage and may require compensation on fill-regulated areas. The cumulative effects of reducing critical wildlife habitats can result in the loss of key interior forest species that require larger blocks of forest with less edge habitat. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.				

CATEGORY – SOCIAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 AESTHETICS	①	①	①	All alternatives result in similar low impacts to the aesthetic quality of the existing landscape in the vicinity of the ROW since there is negligible vegetation cover along the corridor.
2 NOISE	①	①	①	All alternatives result in similar low impacts due to minor change in lane distances from houses and identical increase in traffic volume from existing to future for each alternative.
3 RESIDENTIAL	①	②	③	All alternatives result in disruption impacts to residences along the corridor however Alternative 3 will result in greater disruptive impacts since more property will be affected than Alternatives 1 & 2.
4 COMMUNITY EFFECTS	②	②	①	All alternatives result in similar low impacts to community/ recreational/institutional/park features. Emergency service access is slightly improved with Alternative 3 because of the opportunity for median turnarounds.
5 COMPATIBILITY WITH FUTURE LAND USE	①	①	①	None of the alternatives result in impacts to future land use plans.
CATEGORY SUMMARY	①	②	③	
<u>Summary of Effects on the Social Environment</u> All alternatives result in similar low impacts to the social environment. Impacts on residences are minimal since relatively small portions of individual properties will be required for widening sections of the highway. Alternative 1 results in slightly fewer disruption impacts to residences than Alternatives 2 & 3. There are no significant community effects except that in the case of emergency access, Alternative 3 is slightly preferred over the other alternatives because of the opportunity for median turnarounds. The lower property impacts associated with Alternative 1 outweigh the slight difference in emergency service access since Alternative 1 does not change the existing emergency services access condition. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.				

CATEGORY – ECONOMIC ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 AGRICULTURAL	①	①	②	All alternatives affect agricultural land however Alternatives 1 & 2 result in fewer impacts to land and agricultural operations than Alternative 3.
2 COMMERCIAL / INDUSTRIAL USES	①	①	②	All alternatives impact the same business operations (lumber yard/Yogi Bear Jelly Stone Park Camp Resort) however Alternative 3 affects more property than the other alternatives. None of the alternatives impact business access.
3 SPECIAL POLICY AREAS	①	①	①	None of the alternatives will have an effect on Provincial/Federal initiatives for future land use.
4 PROPERTY WASTE & CONTAMINATION	①	①	①	All alternatives have the potential for subsurface impacts related to wood preserving chemicals found at the lumber yard.
CATEGORY SUMMARY	①	①	②	
<u>Summary of Effects on the Economic Environment</u> All of the alternatives result in similar low impacts to the economic environment. Alternatives 1 & 2 affect a lesser amount of agricultural land and commercial property than Alternative 3. THEREFORE, ALTERNATIVES 1 & 2 ARE EQUALLY PREFERRED.				

CATEGORY – CULTURAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 ARCHAEOLOGICAL RESOURCES	①	①	②	Alternative 3 will impact Rogers' Cemetery (0.1 ha) with a greater potential for archaeological finds.
2 HERITAGE RESOURCES	①	②	②	All alternatives will impact the bridge structure at 11 th Concession which features a provincial Coat of Arms panel on the abutments. Alternatives 2 & 3 will impact a historical farm complex located on 13 th Concession.
CATEGORY SUMMARY	①	②	③	
<u>Summary Effects on the Cultural Environment</u> Alternative 3 results in moderate impacts to a cemetery. Alternatives 2 & 3 will result in disruption impacts to a historical farm complex located on 13 th Concession. Alternative 1 avoids the cemetery and does not impact the historical farm settlement. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.				



**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

CATEGORY – TRANSPORTATION AND ENGINEERING				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 DRAINAGE	②	②	①	Alternative 3 is slightly preferred over alternatives 1 and 2 due to better performance during major storm events. The capacity of the catchbasin / sewer system of Alternatives 1 and 2 can withstand a 1 in 10 year event, the current standard.
2 OPERATIONS & MAINTENANCE	②	②	①	Alternative 3 provides potential for median snow storage, which can facilitate snow removal operations. Alternatives 1 and 2 may require additional property for snow storage (due to snowdrift). Alternative 3 can be resurfaced without milling. Milling is, however, a standard practice for pavement rehabilitation.
3 TRAFFIC OPERATIONS	①	①	②	Alternatives 1 and 2 provide better traffic operations benefits than Alternative 3 by reducing the likelihood of cross-over accidents.
4 CONSISTENCY	①	①	②	Alternatives 1 and 2 are consistent with proposed Highway 400 sections south of the study limits. The limited length of application of the 22m open median with Alternative 3 may diminish the effectiveness of any advantages.
5 STAGING	②	②	①	Alternative 3 is slightly preferred over Alternatives 1 and 2 with respect to staging. Each alternative requires staged construction in order to provide additional lanes. The open median associated with Alternative 3 provides additional room for construction. The differences in construction duration are not significant between the three alternatives. All alternatives require lane reductions during construction.
6 COST	①	②	②	Alternative 1 is preferred over Alternatives 2 and 3 with respect to construction and property costs. Alternative 3 is preferred from an operations & maintenance cost perspective. Construction and property costs are considered to be more significant than operations and maintenance costs.
CATEGORY SUMMARY	①	②	②	
<u>Summary of Effects on Transportation and Engineering</u> Traffic operations are considered to be the most significant factor. Therefore, Alternatives 1 and 2 are preferred over Alternative 3. Alternative 3 is slightly better than Alternatives 1 and 2 with respect to drainage, operations & maintenance and staging, but all 3 alternatives will meet design requirements. Between Alternatives 1 and 2, Alternative 1 has the lower property cost and a slightly lower construction cost. ALTERNATIVE 1 IS, THEREFORE, THE PREFERRED ALTERNATIVE FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.				

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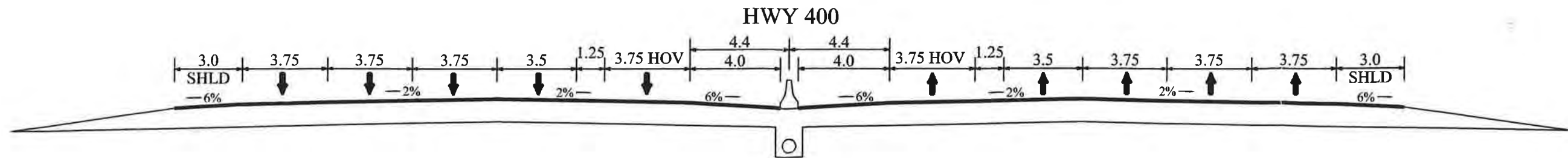
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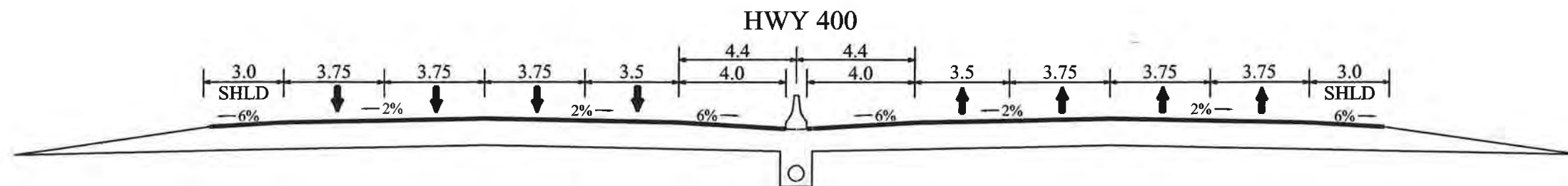
Most PreferredLeast Preferred

**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

FACTOR	Relative Level of Significance *	ALTERNATIVE 1 8.8 m Widen About the Centreline	ALTERNATIVE 2 8.8 m Widen all to the West	ALTERNATIVE 3 22 M Widen all to the West	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	Alternative 2 is only slightly less desirable than Alternative 1 mainly with regards to loss of Provincially Significant Wetlands (PSW) and agricultural soils. Alternative 3 will result in considerably more significant impacts to wildlife habitat, PSW and agricultural soils. The loss of PSW area will also reduce flood storage and may require compensation on fill-regulated areas. The cumulative effects of reducing critical wildlife habitats can result in the loss of key interior forest species that require larger blocks of forest with less edge habitat. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
2 SOCIAL ENVIRONMENT	Low	①	②	③	All alternatives result in similar low impacts to the social environment. Impacts on residences are minimal since relatively small portions of individual properties will be required for widening sections of the highway. Alternative 1 results in slightly fewer disruption impacts to residences than Alternatives 2 & 3. There are no significant community effects except that in the case of emergency access, Alternative 3 is slightly preferred over the other alternatives because of the opportunity for median turnarounds. The lower property impacts associated with Alternative 1 outweigh the slight difference in emergency service access since this alternative does not change the existing emergency services access condition. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
3 ECONOMIC ENVIRONMENT	High	①	①	②	All of the alternatives result in similar low impacts to the economic environment. Alternatives 1 & 2 affect a lesser amount of agricultural land and commercial property than Alternative 3. THEREFORE, ALTERNATIVES 1 & 2 ARE EQUALLY PREFERRED.
4 CULTURAL ENVIRONMENT	High	①	②	③	Alternative 3 results in moderate impacts to a cemetery. Alternatives 2 & 3 will result in disruption impacts to a historical farm complex located on 13 th Concession. Alternative 1 avoids the cemetery and does not impact the historical farm settlement. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
5 TRANSPORTATION & ENGINEERING	High	①	②	②	Traffic operations are considered to be the most significant factor. Therefore, Alternatives 1 and 2 are preferred over Alternative 3. Alternative 3 is slightly better than Alternatives 1 and 2 with respect to drainage, operations & maintenance and staging, but all 3 alternatives will meet design requirements. Between Alternatives 1 and 2, Alternative 1 has the lower property cost and a slightly lower construction cost. Alternatives 1 and 2 provide continuity with the preferred design for Highway 400 under Part A of this study. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
<u>Summary of Evaluation:</u> Alternative 1 is preferred for all factors. OVERALL, ALTERNATIVE 1 RESULTS IN LOWER IMPACTS AND IS THEREFORE THE TECHNICALLY PREFERRED ALTERNATIVE.					



10 LANE ULTIMATE WIDENING



8 LANE INTERIM WIDENING

N.T.S.

CATEGORY – NATURAL ENVIRONMENT					
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B	ALTERNATIVE 3	COMMENTS
1 FISHERIES & AQUATIC HABITAT	①	②	③	④	Alternative 1 has no impact on fisheries and aquatic habitat. Alternative 2A involves only the widening of the platform over the North Canal and affects the least amount of stream channel. Alternative 2B creates two new crossings of the North Canal and affects more stream channel. Alternative 3 results in 7 new ramp crossings and affects more stream channel than either of the other two alternatives.
2 TERRESTRIAL ENVIRONMENT	①	①	③	②	Alternative 1 has no impact on the terrestrial environment. Alternative 2B will result in about twice as much impacted wildlife habitat and significant vegetation units than Alternative 3. Alternative 2A will cause no negative impacts.
3 GROUNDWATER	①	②	③	③	Alternative 1 has no impact on wells. Alternative 2B affects fewer wells than 3 but impacts a larger area of free flowing wells and areas of high water table. Alternative 2A will result in 30% less impacted area.
4 SURFACE WATER	②	①	②	②	Alternatives 1, 2A, 2B & 3 have the opportunity to provide storm water management without requiring additional property, however 2A is slightly preferred over Alternatives 2B & 3 because it does not require two additional crossings of North Canal. Property available for treating runoff with Alternative 1 is limited.
5 GREENWAYS / OPEN SPACES	①	②	③	②	Alternative 1 has no impacts on ESA or ANSIs. Alternative 2A will result in twice as much impacted area than Alternative 3 but only affects the Holland Marsh Lowlands ESA. Alternative 2B results in 4 times the impacted area as Alternative 3.
6 SOIL	①	①	②	③	Alternative 1 has no impacts on soils. Alternative 3 has double the impacted area of Alternative 2A and 50% more than Alternative 2B.
CATEGORY SUMMARY	①	②	③	④	

Summary of Effects on the Natural Environment

Alternative 1 is preferred for all factors except for surface water. The impacts of runoff can be mitigated to acceptable levels.

THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.

CATEGORY – SOCIAL ENVIRONMENT					
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B	ALTERNATIVE 3	COMMENTS
1 AESTHETICS	①	①	①	②	Alternative 3 results in greater impacts to the aesthetic quality of existing landscape than the other alternatives because it will require removal of more vegetative cover to accommodate the new interchange and it also results in higher impacts to sensitive viewer groups.
2 NOISE	①	③	②	④	Alternative 1 has no adverse noise impact on nearby residences because no changes will be made. Alternative 2A & 2B have similar impacts as ramp structure involves ramps that are closer to residences than existing ramps, however, Alternative 2B impacts fewer residences. Alternative 3 involves ramp structures and service roads that are most dissimilar to existing conditions and impact several residences.
3 RESIDENTIAL	①	②	③	②	Alternative 1 will not affect any residences since no changes will be made to the existing interchange. Alternative 2A results in lower impacts to residences than Alternatives 2B & 3 because fewer residences are being displaced and disrupted and less property is being affected.
4 COMMUNITY EFFECTS	②	①	①	③	Alternatives 2A and 2B results in no community effects. Alternatives 1 & 3 results in similar low impacts to community mobility because of the out-of-way travel on to Highway 400. Alternatives 1 & 3 results in moderate to high impacts to emergency service access because of the extra distance to travel to an emergency situation. Alternative 3 results in greater impacts to a community park feature because it will displace the Scotch Settlement Arboretum, a premature plantation. Alternatives 2A, 2B & 3 will potentially have low impacts to Bell fibre optics cable.
5 COMPATIBILITY WITH COMMUNITY CONCEPT PLAN	①	①	①	①	None of the alternatives impact land dedicated to future use.
CATEGORY SUMMARY	①	②	②	③	

Summary of Effects on the Social Environment

All alternatives result in relatively low aesthetic impacts except for Alternative 3 which will require removal of more vegetative cover for the new interchange. Alternative 2B results in higher impacts to residences since it displaces and disrupts more residences and affects more property. Alternative 1 & 3 results in similar low impacts to community mobility because of the out-of-way travel anticipated for local commuters. Alternative 3 will displace a park feature, Scotch Settlement Arboretum and is considered a high impact on a local community trait and is therefore less desirable from a social perspective.

THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.

CATEGORY – ECONOMIC ENVIRONMENT					
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B	ALTERNATIVE 3	COMMENTS
1 AGRICULTURAL	①	②	③	④	None of the alternatives displace agricultural operations, however Alternatives 2A, 2B & 3 affect agricultural property and operations. Alternatives 1 & 3 result in similar low impacts on agricultural access because of the out-of-way- travel onto Highway 400.
2 COMMERCIAL / INDUSTRIAL USES	①	③	③	②	Alternative 1 & 3 will impact direct access to the Farmers Market on North Canal Road. Alternatives 2A & 2B will displace the market but it is not considered a significant impact because it can be relocated. Alternatives 2A, 2B & 3 also have property impacts to agricultural operations.
3 SPECIAL POLICY AREAS	①	①	①	①	There are no Special Policy Areas within the project limits.
4 PROPERTY WASTE & CONTAMINATION	①	②	②	②	Alternatives 2A, 2B, & 3 result in low impacts and potential environmental concerns for farming operations associated with vehicle maintenance, waste disposal, herbicide and pesticide storage. Alternative 1 has no such impacts.
CATEGORY SUMMARY	①	②	④	③	

Summary of Effects on the Economic Environment

Alternatives 2A, 2B & 3 will directly impact the agricultural operations but Alternative 3 results in greater affects to agricultural land. Alternatives 1 & 3 will have low impacts on agricultural access because of the out-of-way travel for local farmers. Alternative 1 will have no impacts on agricultural land and operations and will not impact property with waste and contamination.

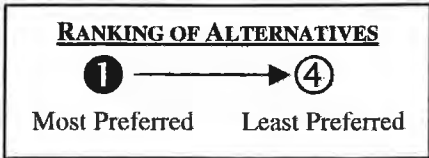
THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.

CATEGORY – CULTURAL ENVIRONMENT					
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B	ALTERNATIVE 3	COMMENTS
1 ARCHAEOLOGICAL RESOURCES	①	①	①	①	None of the alternatives impact known archaeological resources.
2 HERITAGE RESOURCES	①	③	②	③	Alternatives 2A, 2B & 3 result in similar impacts to the North Canal Dyke since new structures are required at the canal. Alternative 2A has slightly higher impacts to heritage resources because it affects the culvert at the Holland River Waterway. The River is considered a significant heritage feature.
CATEGORY SUMMARY	①	③	②	③	

Summary Effects on the Cultural Environment

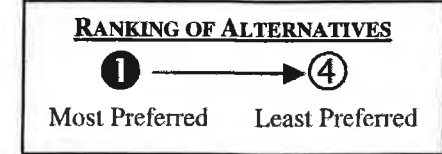
Alternative 1 has no impact to the cultural environment features, while Alternatives 2A, 2B & 3 impact the North Canal Dyke and Alternative 2A impacts the Holland River.

THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.



**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

CATEGORY – TRANSPORTATION AND ENGINEERING & COST					
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B	ALTERNATIVE 3	COMMENTS
1 TRAFFIC OPERATIONS	①	②	②	③	All alternatives improve operations on Highway 400 by either closing or modifying the Canal Road access. Alternatives 1 and 3 reduce the potential conflicts between commuter traffic and agricultural machinery by closing the Canal Road access. Access to 5 th Concession provides marginal benefits to local motorists, but creates potential conflicts between commuter traffic and agricultural machinery on 5 th Concession. Alternative 1 is therefore preferred over Alternative 3. Alternatives 2A and 2B do not reduce potential conflicts between commuter traffic and agricultural machinery along Simcoe Road 8, but have lower impacts to local travel patterns than Alternative 1. The benefits of reducing potential conflicts are considered to be of greater importance than the impacts to local travel patterns. Therefore, Alternative 1 is preferred over Alternatives 2A and 2B.
2 STAGING	①	②	③	③	Alternative 1 does not require any staging. There is no preference between Alternatives 2a, 2b and 3 with respect to construction complexity. Alternative 2a is preferred over Alternatives 2b and 3 from construction duration perspective. Alternative 3 will result in greater construction vehicle traffic due to the length of this alternative.
3 COST	①	③	②	④	Alternative 1 has significantly lower costs and is therefore preferred from a construction and property cost perspective.
CATEGORY SUMMARY	①	②	②	③	Alternative 1 is preferred with respect to traffic operations, staging and cost.
<u>Summary of Effects on Transportation and Engineering</u> Alternative 1 is preferred for all factors. Closing the Canal Road access provides for better overall traffic operations in the study area and is easier to implement than the other alternatives. Although the closure of Canal Road access creates out-of-way travel, the benefits of reduced potential for conflicts between commuter traffic and agricultural machinery on Canal Road are considered more important. THEREFORE, ALTERNATIVE 1 IS PREFERRED FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.					



**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

FACTOR	Relative Level of Significance *	ALT 1 Closure of Canal Road	ALT 2a Button Hook Interchange	ALT 2b Diamond Interchange	ALT 3 Closure of Canal Road with Possible Interchange Relocation	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	④	Alternative 1 is preferred for all factors (fisheries and aquatic habitat, terrestrial environment and groundwater) except for surface water as it provides less of an opportunity to provide storm water management. The impacts of runoff can be mitigated to acceptable levels. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
2 SOCIAL ENVIRONMENT	High	①	②	②	③	All alternatives result in relatively low aesthetic impacts except for Alternative 3 which will require removal of more vegetative cover for the new interchange. Alternative 2B results in higher impacts to residences since it displaces and disrupts more residences and affects more property. Alternative 1 & 3 results in similar low impacts to community mobility because of the out-of-way travel anticipated for local commuters. Alternative 3 will displace a park feature, Scotch Settlement Arboretum and is considered a high impact on a local community trait and is therefore less desirable from a social perspective. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
3 ECONOMIC ENVIRONMENT	High	①	②	④	③	Alternatives 2A, 2B & 3 will directly impact the agricultural operations but Alternative 3 results in greater affects to agricultural land. Alternatives 1 & 3 will have low impacts on agricultural access because of the out-of-way travel for local farmers. Alternative 1 will have no impacts on agricultural land and operations and will not impact property with waste and contamination. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
4 CULTURAL ENVIRONMENT	Moderate	①	③	②	③	Alternative 1 has no impact to the cultural environment features, while Alternatives 2A, 2B & 3 impact the North Canal Dyke and Alternative 2A impacts the Holland River. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
5 TRANSPORTATION & ENGINEERING	High	①	②	②	③	Alternative 1 is preferred for all factors. Closing the Canal Road access provides for better overall traffic operations in the study area and is easier to implement than the other alternatives. Although the closure of Canal Road access creates out-of-way travel, the benefits of reduced potential for conflicts between commuter traffic and agricultural machinery on Canal Road are considered more important. Alternative 1 is, therefore, preferred with respect to staging and cost. THEREFORE, ALTERNATIVE 1 IS PREFERRED FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.
<u>Summary of Evaluation:</u> Alternative 1 (closure of Canal Road access) provides the greatest benefits to transportation and engineering, and results in the least impacts to adjacent properties compared to the other alternatives. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.						

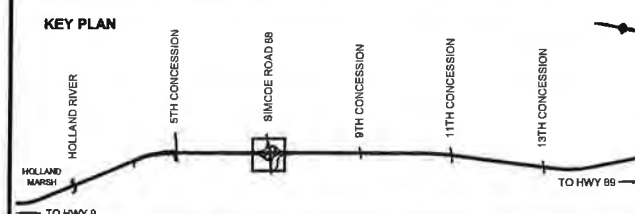
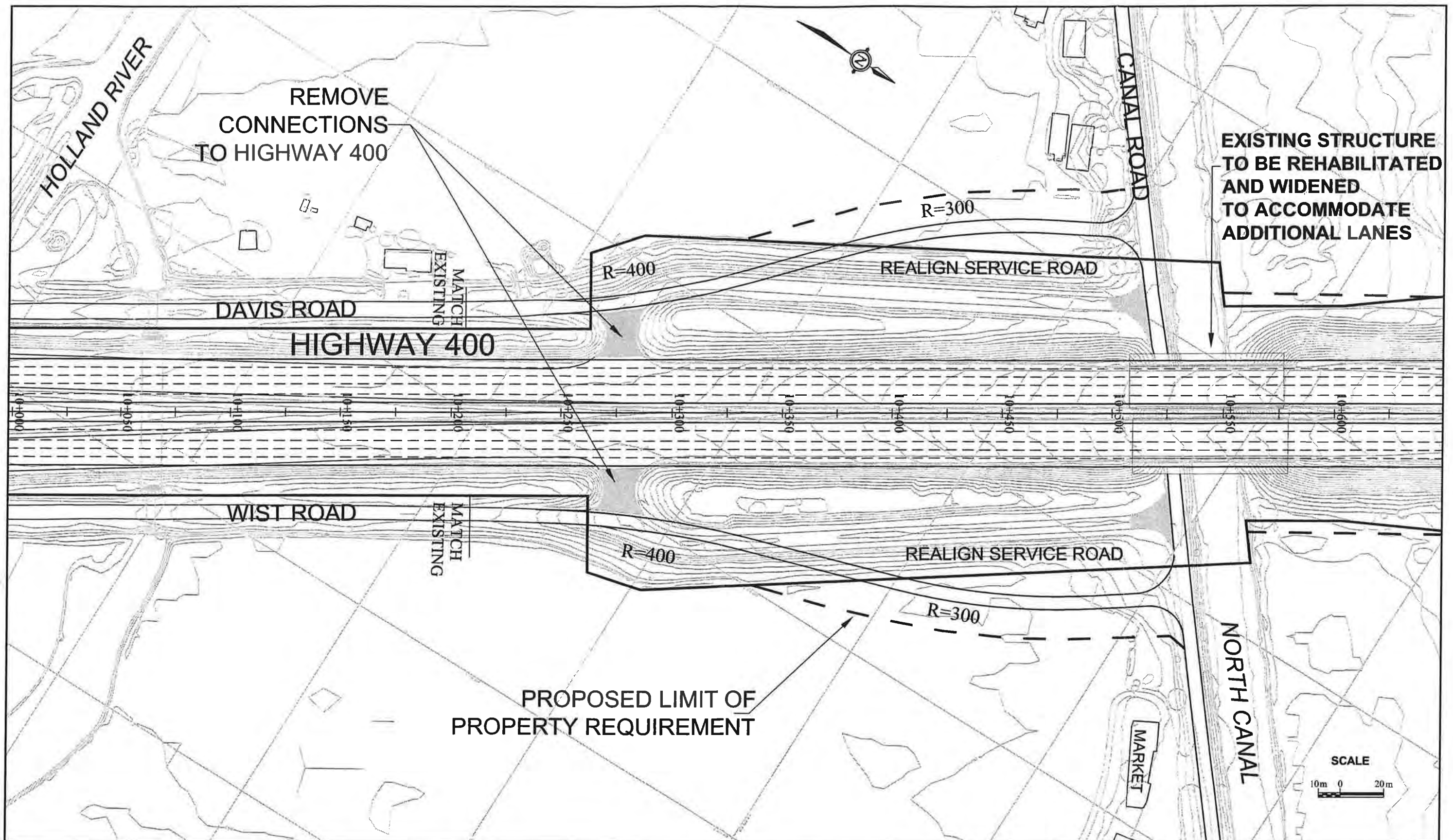


TABLE 10 STAKEHOLDER ISSUES CONSIDERED FOR THE CANAL ROAD ACCESS EVALUATION

Issue Considered	Alt. 1 Close Canal Road Interchange	Alt. 2a & b Improve Canal Road Interchange	Alt. 3 Close Canal Road Interchange Relocate to 5 th Concession
Safety and operation of both the access and Canal Road.	✓	✗	✓
Impacts to the agricultural lands in the Holland Marsh.	✓	✗	✓
Out-of-way travel for marsh residents, agricultural producers and emergency services.	✗	✓	✗
Access to Highway 400 for Bradford West Gwillimbury.	✓	✓	✓
Increasing traffic and associated impacts along the 5 th Concession.	✓	✓	✗
Impacts to lands along Highway 400 between the 5 th Concession and Canal Road.	✓	✗	✗
Cost	✓	✗	✗

✓	Alternative compares favorably on the issue.
✗	Alternative does not compare favorably on the issue.

The closure of Canal Road access was selected as the technically preferred alternative based on the following:

- The technically preferred alternative addresses the problem in that it eliminates a safety and operations problem on Highway 400 and on the local road network;
- Closing the access shares the same advantages as Alternative 3, but results in fewer impacts and is significantly less costly to implement;
- A disadvantage of this alternative is that it results in out-of-way travel for residents, and agricultural producers in the Holland Marsh and emergency services. However, the number of users impacted is relatively small. The existing AM and PM Peak hour Volumes (PM volumes are in parentheses) for the Canal Road ramps are 180 (40) vehicles for the southbound entrance ramp; 20 (25) vehicles for the southbound exit ramp; 20 (35) vehicles for the northbound entrance ramp; and 40 (220) vehicles for the northbound exit ramp. The additional travel time is considered to be minor as the out-of-way travel to access Highway 400 at Highway 9 is approximately 5-6 km;
- The additional access provided by a new interchange at 5th Concession is not warranted to meet projected traffic demand; and

It should be noted that closing the Canal Road access does not directly impact Canal Road itself. This roadway will remain open to provide continuous east-west access under Highway 400.

Following the presentation of the MTO's preferred alternative for the Canal Road interchange, the Town of Bradford West Gwillimbury undertook a Transportation Planning Assessment to determine the community's future road network needs. This Assessment recognized that maintaining the Highway 400 access to Canal Road would be costly and unnecessarily disruptive to the Holland Marsh. On October 14th, 2003, the Town of Bradford West Gwillimbury Council passed a resolution accepting the MTO's recommendation for the closure of the Canal Road access (refer to Appendix B).

It should also be noted that closing the Canal Road access does not preclude an interchange at the 5th Concession if the Town of Bradford West Gwillimbury identified a future need to provide additional access to the Town. MTO has committed to work with the Town of Bradford West Gwillimbury to develop such a connection, pending the Town's completion of the required transportation planning and approval of the municipal environmental assessment (refer to Appendix B).

4.8.3 Simcoe Road 88 Interchange Evaluation

The complete evaluation for Simcoe Road 88 Interchange is provided in Exhibit 6 (a) and (b). The preferred alternative is Alternative 1 – Parclo A interchange configuration. The following summarizes the rationale for the selection of Alternative 1.

Alternative 1 best addresses safety and operation problems on Highway 400 and on the local road network in the vicinity of the interchange because the configuration provides for free flow on the major traffic movements, providing better traffic service through the interchange. A disadvantage of this alternative is that it is the most expensive to construct. The advantages of better traffic operations are considered to outweigh the greater costs.

The fisheries impacts associated with Alternative 2 and Alternative 3 are much more significant than the groundwater impacts (wells) associated with Alternative 1.

There are minor differences in residential, agricultural and commercial property impacts between the three alternatives. All alternatives impact the same number of residences, all have the potential to impact a possible future development, and all alternatives result in low impacts to a heritage farm complex.

Refer to Figure 21 for the technically preferred alternative at Simcoe Road 88.

4.9 VALUE ENGINEERING REVIEW

A Value Engineering review was conducted prior to the second Public Information Centre (PIC #2). The review was held May 21 - 26, 2001 in London, Ontario. Details are provided in the Value Engineering Study available under separate cover from MTO.

As a result of the review, the following refinements to the preferred alternative were adopted:

1. Initial illumination requirements were determined through MTO draft Directive B6. Despite sufficient warrants for full mainline illumination, installation is not recommended at this time. The development of areas adjacent to Highway 400 and consistency of illumination along the Highway 400 corridor will decide future recommendations. Full illumination is, therefore, limited to the Simcoe Road 88 interchange area.
2. Initially it was assumed (for costing purposes) that all existing asphalt and base material would be removed. The Review recommended that salvage of the existing pavement and base material be considered in the recommended design. Subsequent to the Value Engineering review, preliminary geotechnical and pavement design work was completed and costs were updated to reflect the possibility of salvaging asphalt pavement and base materials throughout the study limits.

CATEGORY – NATURAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 FISHERIES & AQUATIC HABITAT	①	③	②	Alternative 1 is the best alternative resulting in the least amount of channel impacts. The 11 crossings associated with ramps of Alternative 2 make it a distant third choice.
2 TERRESTRIAL ENVIRONMENT	①	①	①	No significant terrestrial environments area associated with this interchange location.
3 GROUNDWATER	③	①	②	The location and size of the footprint for Alternative 1 will affect more existing wells than the other two alternatives combined.
4 SURFACE WATER	①	①	①	All alternatives provide the opportunity for storm water management within the interchange without requiring more property.
5 GREENWAYS / OPEN SPACES	①	①	①	NA
CATEGORY SUMMARY	①	②	③	

Summary of Effects on the Natural Environment
The fisheries impacts associated with Alternative 2 and Alternative 3 are much more significant than the groundwater impacts associated with Alternative 1.
THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.

CATEGORY – SOCIAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 AESTHETICS	①	①	①	None of the alternatives impact the aesthetic quality of the existing landscape in the vicinity of the ROW. All alternatives result in low temporary construction impacts to two residences.
2 NOISE	①	①	①	All alternatives impact the same number of residences. Alternative 3 has fewer ramps than exiting interchange and is most similar to existing conditions. Ramp structure of Alternative 1 involves ramps that are further from residences than those of Alternative 2.
3 RESIDENTIAL	①	①	①	All alternatives result in the same number of displacement and disruption impacts to residences, although Alternative 2 results in slightly greater impacts to affected residential property than the other alternatives.
4 COMMUNITY EFFECTS	①	①	①	None of the alternatives have community effects.
5 COMPATIBILITY WITH COMMUNITY CONCEPT PLAN	①	①	①	All alternatives have the potential to impact a possible future development.
CATEGORY SUMMARY	①	①	①	

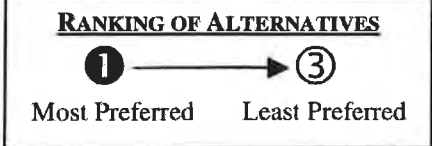
Summary of Effects on the Social Environment
All alternatives result in similar low impacts to the social environment.
THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.

CATEGORY – ECONOMIC ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 AGRICULTURAL	①	②	①	All alternatives result in low impacts to agricultural production and affect the same number of operations, however Alternative 2 affects slightly more agricultural land than the other alternatives.
2 COMMERCIAL / INDUSTRIAL USES	②	①	②	Alternative 2 has less property impact than Alternatives 1 and 3 to the Husky Service Centre and the Yogi Bear Jelly Stone Park Camp Resort.
3 SPECIAL POLICY AREAS	①	①	①	There are no Special Policy Areas within the project limits.
4 PROPERTY WASTE & CONTAMINATION	①	①	①	All alternatives result in potential subsurface impacts to the Husky Service Centre because of the presence of propane, gasoline and diesel pumps.
CATEGORY SUMMARY	②	①	②	

Summary of Effects on the Economic Environment
All alternatives result in similar low impacts to the economic environment. The differences in commercial property being affected between the alternatives are minor, however Alternative 2 results in fewer impacts to property.
THEREFORE, ALTERNATIVE 2 IS THE PREFERRED ALTERNATIVE.

CATEGORY – CULTURAL ENVIRONMENT				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 ARCHAEOLOGICAL RESOURCES	①	①	①	None of the alternatives impact known archaeological resources.
2 HERITAGE RESOURCES	①	①	①	All alternatives result in low impacts to a heritage farm complex.
CATEGORY SUMMARY	①	①	①	

Summary Effects on the Cultural Environment
All alternatives result in similar impacts to the cultural environment with low impacts to a heritage farm complex.
THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.



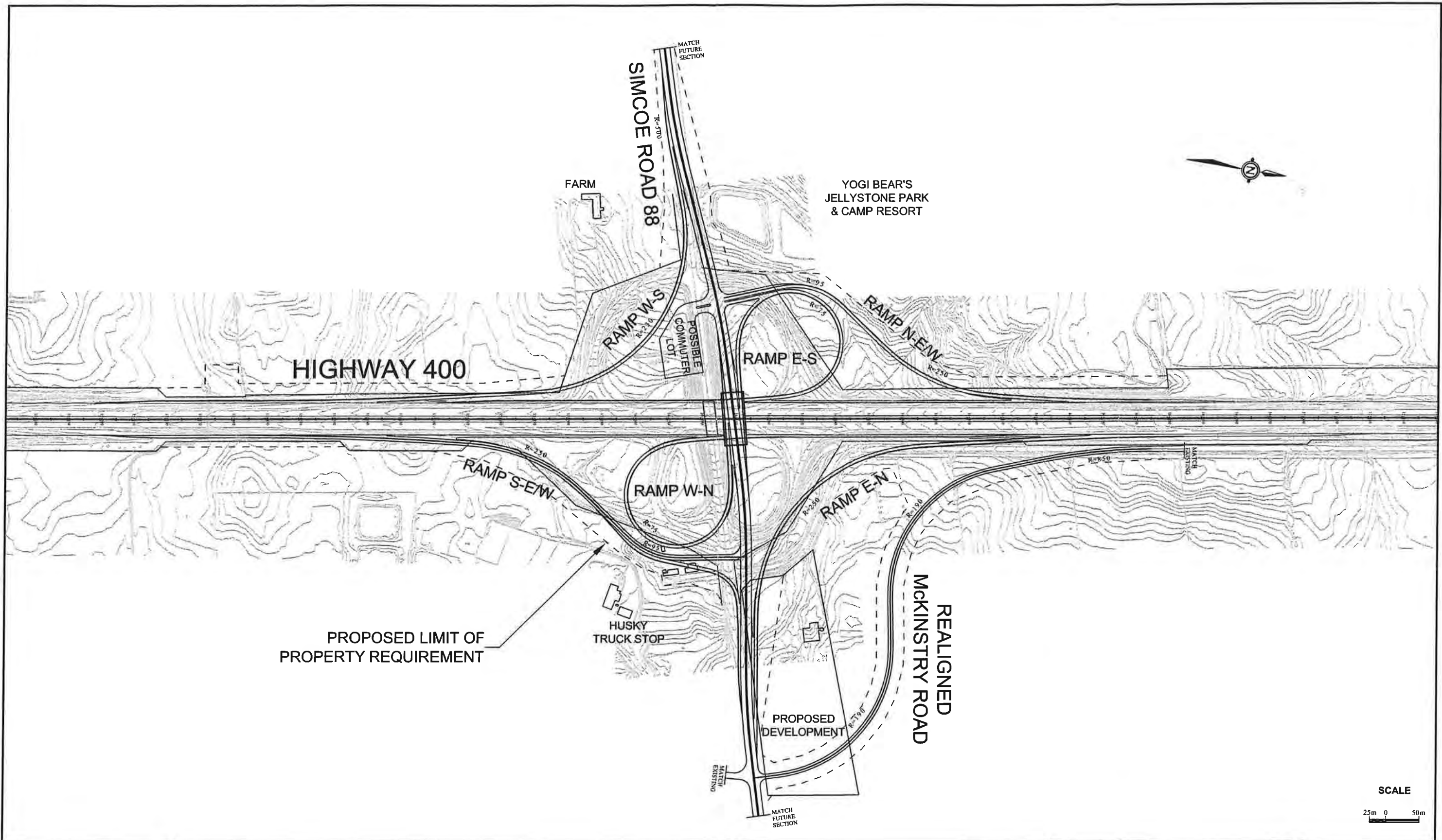
**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

CATEGORY – TRANSPORTATION AND ENGINEERING				
FACTOR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	COMMENTS
1 TRAFFIC OPERATIONS	①	②	②	Alternatives 2 and 3 operate at poor levels of service during peak traffic periods. An adequate level of service is not achievable in part due to the high volume of traffic traveling from the east to the south (left turn required). Adequate level of service is achievable in Alternative 1 with signalized intersections east and west of Highway 400.
2 STAGING	②	②	①	The possibility of utilizing existing ramps (with short term closures) during construction makes Alternative 3 the preferred Alternative. Each Alternative requires similar construction duration.
3 COST	②	②	①	Alternative 3 has the lowest construction cost. Property costs are similar for each alternative.
CATEGORY SUMMARY	①	③	②	
<p><u>Summary of Effects on Transportation and Engineering</u></p> <p>Alternative 2 is not preferred in any transportation factors. Alternative 3 is easier and cheaper to construct, however these advantages are outweighed by the poor traffic operations with this alternative during peak travel time. Alternative 1 provides acceptable traffic operations, but is the most expensive to construct. The advantages of better traffic operations are considered to outweigh the greater costs associated with Alternative 1.</p> <p>THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.</p>				

FACTOR	Relative Level of Significance *	ALTERNATIVE 1 PARCLO A	ALTERNATIVE 2 PARCLO B	ALTERNATIVE 3 DIAMOND	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	The fisheries impacts associated with Alternative 2 and Alternative 3 are much more significant than the groundwater impacts (wells) associated with Alternative 1. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
2 SOCIAL ENVIRONMENT	Moderate	①	①	①	All alternatives result in similar low impacts to the social environment. THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.
3 ECONOMIC ENVIRONMENT	Low	②	①	②	All alternatives result in similar low impacts to the economic environment. The differences in commercial property being affected between the alternatives are minor, however Alternative 2 results in fewer impacts to property. THEREFORE, ALTERNATIVE 2 IS THE PREFERRED ALTERNATIVE.
4 CULTURAL ENVIRONMENT	Low	①	①	①	All alternatives result in similar impacts to the cultural environment with low impacts to a heritage farm complex. THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.
5 TRANSPORTATION & ENGINEERING	High	①	③	②	Alternative 2 is not preferred in any transportation factors. Alternative 3 is easier and cheaper to construct, however these advantages are outweighed by the poor traffic operations with this alternative during peak travel time. Alternative 1 provides acceptable traffic operations, but is the most expensive to construct. The advantages of better traffic operations are considered to outweigh the greater costs associated with Alternative 1. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.
<p><u>Summary of Evaluation:</u></p> <p>Alternative 1 preferred for all factors except Economic Environment. The differences among the alternatives with respect to impacts to the Economic Environment are not significant and can be addressed during preliminary design.</p> <p>OVERALL, ALTERNATIVE 1 ("PARCLO A" INTERCHANGE CONFIGURATION) IS THE TECHNICALLY PREFERRED ALTERNATIVE.</p>					

RANKING OF ALTERNATIVES	
①	③
Most Preferred	Least Preferred

**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*



4.10 REFINEMENTS TO THE TECHNICALLY PREFERRED ALTERNATIVES

Subsequent to the selection of the preferred alternative, design refinements were made to the service road connections at the Canal Road access. The geometry of both Davis Road and Wist Road in the vicinity of the existing Highway 400 access is substandard with respect to minimum radius and sight distance.

For an 80 km/h design speed, the minimum radius is 250 metres. Currently, the radii of the two curves on Davis Road at the access to Highway 400 are 75 metres and 45 metres. The design refinements include a realignment of Davis Road in the vicinity of Canal Road, in which the minimum radius is 300 metres. The radii of the 2 curves on Wist Road at the access to Highway 400 are 75 metres and 65 metres. The design refinements include a realignment of Wist Road in the vicinity of Canal Road, in which the minimum radius is 300 metres.

The sight distance to an intersection for a design speed of 80 km/h is 65 metres, as required by the Geometric Design Standards Manual in Section E.3.2.3. Approximately 25 metres is provided on Canal between the western Highway 400 structure and Davis Road and between the eastern Highway 400 structure and Wist Road. To provide standard sight distances on Canal Road from the Highway 400 structures to Wist Road and Davis Road, the alignments of these roads have been realigned to accommodate the relocation of these intersections 65 metres east and west of the Highway 400 structures.

Details of the Davis Road and Wist Road realignments can be found in Figure 20.

4.11 SUMMARY OF THE TECHNICALLY PREFERRED ALTERNATIVES

The proposed improvements to meet the long-term (2021) transportation needs of the Highway 400 corridor are outlined as follows:

- Ultimate 10-lane section consisting of an 8.8m barrier median with concrete tall wall, one 3.5 m lane and four 3.75 m lanes;
- Ultimate Highway 400 mainline section includes provision for a HOV lane with buffer (1.25 m);
- The mainline will be widened on both sides of the existing Highway 400 lanes and will maintain the existing centreline;
- Closure of the Canal Road access;
- Rehabilitate and widen existing Highway 400 structures over Canal Road and North Canal;
- Realignment of Wist Road and Davis Road in the vicinity of the existing intersection of Canal Road and Highway 400;
- Replace existing 5th Concession overpass structure. Realign 5th Concession north of existing Highway 400 crossing;
- Reconfigure existing Simcoe Road 88 interchange to a Parclo A. Realign Simcoe Road 88 north of existing Highway 400 crossing;

- Signalize ramp S-W and ramp N-E/W terminals at the Simcoe Road 88 interchange;
- Replace existing 9th Concession underpass structure;
- Replace existing 11th Concession overpass structure. Realign 11th Concession south of existing Highway 400 crossing; and
- Rehabilitate and widen existing 13th Concession underpass structure.

5.0 CONSULTATION

The environmental assessment process implemented for this study is consistent with the requirements of a Group "B" project under the Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000).

The sequence of key events (activities) and study schedule is summarized in Figure 22.

The study process used is divided into five major steps:

1. Review Transportation Needs Assessment
2. Generate, Evaluate and Select Preferred Planning Alternatives
3. Generate and Assess Preliminary Design Alternatives
4. Evaluate and Select Preferred Preliminary Design Alternative
5. Develop Preferred Preliminary Design Alternative

The study process is provided for public and external review at key stages during the project, as well as for a continuous approach to the technical work involved. Refer to Figure 23 for an overview of the study process.

There are five features that are key to a successful planning study under the Environmental Assessment Act. The features include:

- Consultation with affected parties;
- Consideration of reasonable alternatives;
- Consideration of all aspects of the environment;
- Systematic evaluation of net environmental effects; and
- Clear and complete documentation of the planning process.

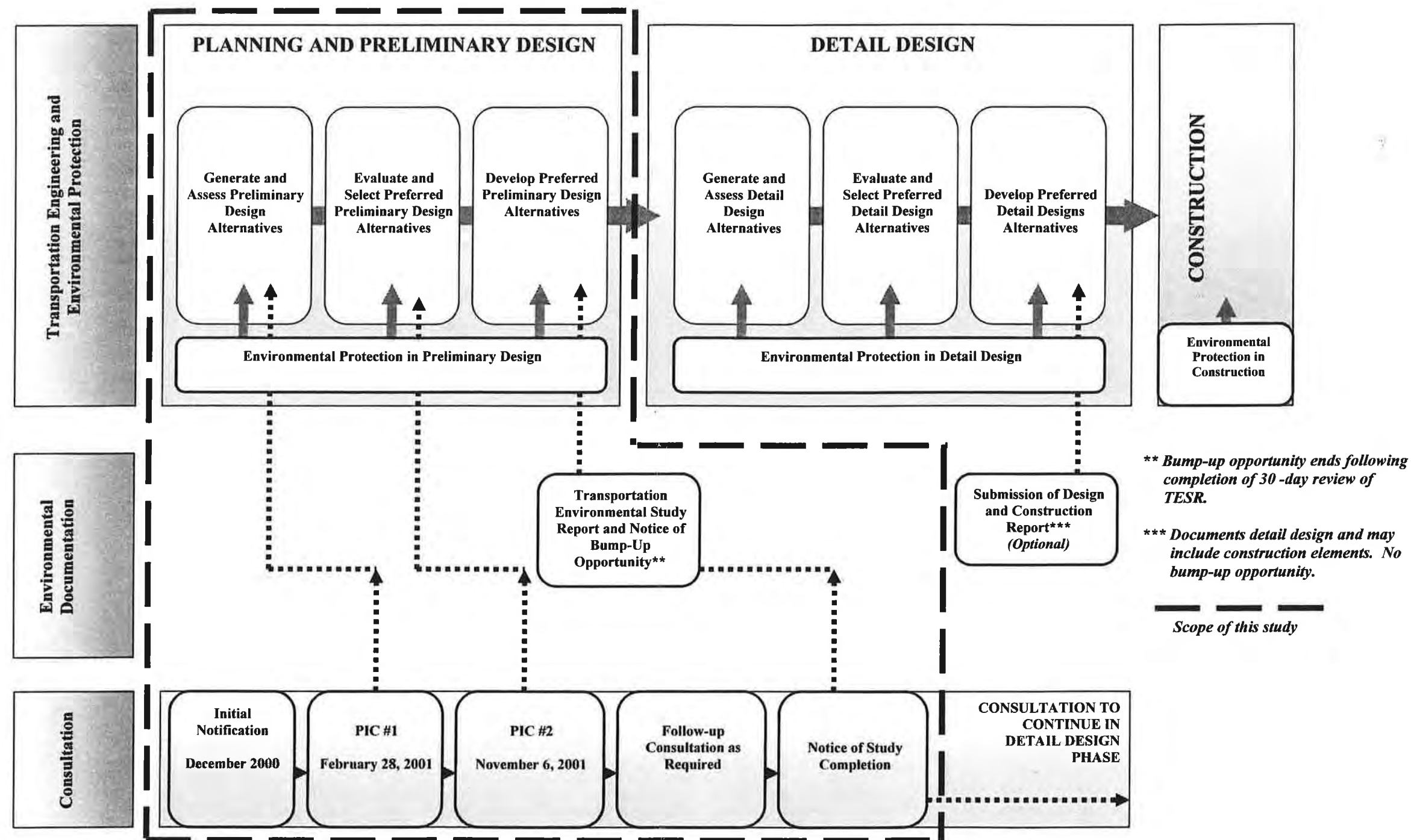
(Source: Interim Guidelines on Environmental Assessment Planning and Approval, Ministry of Environment, 1989).

The consultation process developed for this study assisted in achieving each of these key features.

One of the intentions of this study was to ensure that, from the earliest stages of planning, decisions were made after considering environmental impacts. Consultation with affected parties was an essential component of the planning process and provided a mechanism to define and respond to issues.

As mentioned, the first key feature to successful planning under the EA Act involves early consultation with affected parties. The study was organized so that affected parties were:

- Involved throughout the study at appropriate times;
- Provided access to information;
- Provided sufficient time to respond to questions and data requests; and
- Encouraged to participate in an issue identification/resolution process.



5.1 EXTERNAL MINISTRY / AGENCY AND MUNICIPAL INPUT

External Team was comprised of government ministries and agencies and municipalities including:

- Ministry of Environment Barrie District
- Ministry of Citizenship, Cultural and Recreation
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources Midhurst District
- Ontario Native Affairs Secretariat
- Nottawasaga Valley Conservation Authority
- Ministry of Northern Development and Mines
- CN Rail
- GO Transit
- Simcoe Muskoka Catholic District School Board
- Simcoe County District School Board
- Ministry of Economic Development and Trade
- Management Board Secretariat
- Hydro One Networks Inc. Environmental Services and Approvals
- Ontario Power Generation
- Lake Simcoe and Region Conservation Authority
- Ministry of Health
- Ministry of Agriculture, Food and Rural Affairs
- Ontario Provincial Police Barrie District
- Barrie Ambulance Communications Centre
- Town of Bradford West Gwillimbury
- Town of Innisfil
- Township of King
- County of Simcoe
- York Region

At the start of the study, External Team members were contacted by mail and asked to respond to the following questions:

1. Does your Ministry or Agency have an interest in the study?
2. Who will act as your Ministry's or Agency's spokesperson and our contact?
3. Does your Ministry or Agency have any relevant background information?
4. Does your Ministry or Agency have any comments or concerns?

Subsequent to the formation of the External Team, external consultation took place as follows:

- Initial "Study Commencement" letters, dated December 11, 2000 were distributed to those on the external and agency list including government agencies, ministries, municipalities and interest groups;
- Joint Meeting with the County of Simcoe, Town of Bradford West Gwillimbury, and Township of Springwater on December 14, 2000;
- Meeting with the Town of Bradford West Gwillimbury on January 11, 2001;
- Invitation letters for the first Public Information Centre dated February 14, 2001 were distributed to those on the project mailing list including government agencies, ministries, municipalities, interest groups and property owners/tenants;
- Meeting with the Town of Bradford West Gwillimbury on February 21, 2001;
- Meeting with the Ontario Ministry of Food and Rural Affairs, Simcoe County Federation of Agriculture, Ontario Federation of Agriculture, Bradford West Gwillimbury and District Vegetable Growers Association, Ontario Fruit and Vegetable Growers Association and the Town of Bradford West Gwillimbury on June 25, 2001;
- Invitation letters for the second Public Information Centre dated October 23, 2001 were distributed to those on the project mailing list including those individuals who signed up at the first PIC, affected property owners/tenants, government agencies, ministries, municipalities and interest groups;

- Meeting with the Town of Bradford West Gwillimbury on October 25, 2001;
- Meeting with the Ministry of Natural Resources and the Lake Simcoe Region Conservation Authority on January 24, 2002; and
- Subsequent meetings with the Town of Bradford West Gwillimbury with regard to the closure of Canal Road access.
- An External Team meeting was arranged prior to the first Public Information Centre on February 28, 2001. The objective of the meeting was to update the External Team on the project activities undertaken and the project schedule, discuss problems and opportunities along the Highway 400 corridor, as well as discuss the preliminary alternatives under consideration. No members of the External Team attended the meeting.
- An External Team meeting was held prior to the second Public Information Centre on November 6, 2000. The objective of this meeting was to provide an opportunity to discuss the analysis and evaluation of alternatives and the technically preferred alternatives. Representatives from the Town of Innisfil, Ontario Ministry of Agriculture, Food and Rural Affairs, Lake Simcoe Region Conservation Authority and Barrie O.P.P. attended this meeting. Concerns raised at this meeting include the following:
 - Do not want to promote the use of Canal Road since it is built on peat and is, therefore, in poor condition;
 - Closing Canal Road will impact businesses;
 - Any new bridge across the canal cannot be lower than the existing Highway 400 structure and should clearly span across the canal;
 - Relocation of the Canal Road interchange to the 5th Concession would result in considerable out-of-travel for northbound traffic;
 - The existing road network connecting the marsh to the 5th Concession is poor for truck traffic travelling to and from the marsh;
 - If the Canal Road interchange is relocated to the 5th Concession, southbound traffic can use the interchange at Highway 9, but signals may be required on Highway 9 to accommodate the additional traffic;
 - Emergency access should be provided at Canal Road for flood protection purposes;
 - Highway 400 should be widened to the centre in the vicinity of the marsh, as additional salt spray could result in the loss of agricultural land;
 - Service roads paralleling Highway 400 cannot be changed to one-way access;
 - All movements may not be required at the Canal Road interchange, if modified to provide emergency access only;
 - If the Canal Road interchange is improved, Canal Road would require upgrades to Simcoe Road 88 standards;
 - Fibre optic cable is located just east of the existing ramp terminal on the east side of Highway 400 at the Canal Road interchange;
 - Opening 5th Concession will alleviate traffic on Canal Road; and
 - Significant concern over the sight distance at the Highway 400 / Canal Road structure because the piers obstruct the view of drivers attempting to make turns onto Canal Road from Wist Road and Davis Road.

A meeting with the Ministry of Natural Resources, Nottawasaga Valley Conservation Authority, and Lake Simcoe and Region Conservation Authority was held on January 24, 2002. The objective of the meeting was to provide a project overview and update and to identify the environmental and drainage issues related to the technically preferred alternative.

Refer to Appendix A for the minutes of the above noted meetings.

5.2 PROPERTY OWNERS / AREA RESIDENTS / GENERAL PUBLIC

The general public and interest groups along with the various government agencies were provided the opportunity to review and comment on the alternatives, evaluation method and identify concerns and comment on the proposed mitigation measures. The following section outlines the consultation process implemented for this undertaking.

External and public consultation took place as follows:

- “Notice of Study Commencement” was published in the Barrie Advance, Barrie Examiner and Toronto Star on December 6, 2000 and in the Bradford West Gwillimbury Times on December 9, 2000;
- Invitation letters for the first Public Information Centre dated February 14, 2001 were distributed to those on the project mailing list including government agencies, ministries, municipalities, interest groups and property owners/tenants;
- Notice of First Public Information Centre was published in the Barrie Advance, Barrie Examiner and Toronto Star on February 21, 2001 and in the Bradford West Gwillimbury Times on February 24, 2001;
- First Public Information Centre (PIC) was held on February 28, 2001 at the Bradford Community Centre;
- Potentially affected property owners were couriered letters dated October 23, 2001 regarding the second PIC;
- Invitation letters for the second Public Information Centre dated October 23, 2001 were distributed to those on the project mailing list including those individuals who signed up at the first PIC, affected property owners/tenants, government agencies, ministries, municipalities and interest groups;
- Notice of Second Public Information Centre was published in the Barrie Advance and Toronto Star on October 31, 2001, in the Barrie Examiner on October 30, 2001 and in the Bradford West Gwillimbury Times on November 3, 2001; and
- Second Public Information Centre (PIC) was held on November 6, 2001 at the Bradford Community Centre.

5.2.1 Initial Notice

A Notice of Study Commencement was published in the Barrie Advance, Barrie Examiner and Toronto Star on December 6, 2000 and in the Bradford West Gwillimbury Times on December 9, 2000 notifying area residents of the project and requesting them to contact the Project Team if they require information and/or to be placed on the mailing list.

The public was formally involved in the decision making process through a series of Public Information Centres (PICs) held at two major decision points:

- Preliminary Alternatives / Proposed Evaluation Method and Criteria
- Analysis and Evaluation of Alternatives

Notification of these PICs was provided in the following ways:

- Advertisements in local newspapers
- Letters mailed to individuals on the Project Team mailing list (approximately 250)
- Brochures distributed to over 3000 area businesses and residences

- Letters couriered to individuals directly impacted by the recommended alternative
- Letters mailed directly to external and municipal representatives

The PICs were designed as drop-in centres where members of the public could discuss the project on an individual basis with Project Team representatives.

5.2.2 First Public Information Centre

The first Public Information Centre (PIC) was held on February 28, 2001 at the Bradford Community Centre in the Town of Bradford West Gwillimbury from 4:00 p.m. to 8:00 p.m.

The purpose of the Public Information Centre (PIC) was to introduce the study, present the alternatives under consideration including: mainline widening, improvements to the interchange at Simcoe Road 88 and alternatives for Canal Road access (including eliminating the access, upgrading the access, and relocating with a new interchange).

The PIC also provided the public an opportunity to review and comment on the following:

- Project Limits
- Study Schedule
- Class Environmental Assessment Process
- Study Purpose and Problem Statement
- Existing Conditions
- Planning Alternatives
- Proposed Evaluation Method and Criteria
- Widening Alternatives

A total of 61 members of the public chose to sign the visitor's register for the Public Information Centre. Thirty written comments were received.

The following table summarizes the major issues and concerns raised by the public during the PIC and the Project Team's response to the issues.

TABLE 11 ISSUES/CONCERNS RAISED AT THE FIRST PUBLIC INFORMATION CENTRE

Issue/Concern	Response
Access associated with the closure of the Canal Road access.	Issues concerning traffic operations and out-of-way travel for local residents were factored into the evaluation of alternatives. It is recognized that the closure of the Canal Road access will result in out-of-way travel for some trips but traffic volumes using the interchange are relatively low and alternate access to Highway 400 will be available at Highway 9, Simcoe Road 88 and the future Highway 400 – Highway 404 connecting link (Bradford By-pass) interchanges.
Impacts to business associated with closure of access to Canal Road from Highway 400.	In discussions with agricultural stakeholders during planning, it was noted that closure would not significantly affect operations for most farmers as they could access Highway 400 at Highway 9. One business (a farmers market) is affected by all alternatives.
Widen to the center to minimize encroachment on productive farmland.	The importance of agricultural land and associated operations was recognized in the evaluation of alternatives. Widening to the outside on both sides of the existing Highway 400 lanes would result in the least environmental impacts and is less expensive relative to the other alternatives considered.
Merge lanes from Highway 400 northbound to Simcoe Road 88 eastbound are very dangerous for motorists.	Alternatives for the Simcoe Road 88 interchange have been developed to address traffic operations and safety issues.
Widening Highway 400 from north of Canal Road to the 11 th Concession to Highway 89 is necessary.	This study has examined ways to improve that section of the Highway 400 corridor.
Simcoe Road 88 interchange needs to be changed to a “Parclo A” design to improve traffic operations.	Alternatives for the Simcoe Road 88 interchange have been examined in this study. A “Parclo A” design would provide the greatest benefits to traffic operations with relatively minor / mitigable environmental impacts.
Increase the number and size of commuter lots along the project limits.	The opportunity to increase the number and size of commuter parking lots along the project limits was examined as part of this study. Improvements to the parking lot at the Simcoe Road 88 interchange has been identified.
Increased traffic volumes on Canal Road would negatively impact local farm traffic and local residents.	Impacts to local farm traffic and residential areas at Canal Road were considered in the analysis and evaluation of alternatives.
Impacts / concerns with truck noise and pollution.	Impacts associated with noise levels were considered in the evaluation of project alternatives. The impacts of the preferred alternative are presented in the evaluation of alternatives. A noise study has been undertaken for this study.
Restoration of GO Transit to alleviate traffic along Highway 400.	Rail and transit expansion would provide a more competitive choice of travel modes for some users of Highway 400, and thus reduce the traffic volumes somewhat on Highway 400. However, the improvements would be limited since the Highway 400 serves a diverse nature of trips. Commuter rail service would reduce but not eliminate the need for highway widening improvements in the Highway 400 corridor within the planning horizon for this project.
Concern regarding drainage issues, storm water quality and quantity and impacts on flood levels at water crossings as a result of highway widening.	Storm water quality and quantity issues were considered as part of this study. An appropriate plan for the technically preferred alternative has been developed.
Impacts to natural features.	The significance of natural features within the study area was an important consideration in the evaluation of widening options. Widening on both sides of the existing Highway 400 lanes and using a median barrier design would have the least overall impacts. Mitigation measures will be employed as appropriate to minimize impacts to natural features.
Impacts to the Holland Marsh associated with road salts.	Comments regarding salt contamination and drainage into the Holland Marsh have been noted. The use of salt is necessary to the winter maintenance of highways to ensure public safety.
Snow drifting.	Snow drifting areas along the highway were identified and reviewed as part of this study. Methods for addressing snow drifting were considered during preliminary design.
Impacts to Emergency Services.	Impacts to emergency services have been addressed in the analysis and evaluation of alternatives. It is recognized that the preferred alternative will require adjustments to some emergency service response plans.

5.2.3 Second Public Information Centre

The second Public Information Centre (PIC) was held on November 6, 2001 at the Bradford Community Centre in the Town of Bradford West Gwillimbury from 3:00 p.m. to 8:00 p.m.

The purpose of the PIC was to present the evaluation of alternatives and the selected technically preferred alternatives for widening mainline Highway 400, improvements to the interchange at Simcoe Road 88 and the Canal Road access.

The PIC also provided the public an opportunity to review and comment on the following:

- Project Limits
- Updated Study Schedule
- Class Environmental Assessment Process
- Study Purpose and Problem Statement
- Summary of the First Round of Public Consultation
- Analysis and Evaluation of Alternatives
- Technically Preferred Alternative(s) for Improvements to the Highway 400 Corridor
- What's Next

A total of 97 members of the public chose to sign the visitor's register for the PIC. Thirty-four written comments were received.

The following table summarizes the major issues and concerns raised by the public during the PIC and the appropriate response/mitigation to the issues.

Refer to Appendix C for the summaries and handout material provided at the PICs.

TABLE 12 ISSUES/CONCERNS RAISED AT THE SECOND PUBLIC INFORMATION CENTRE

Issue/Concern	Response
Concerned with the proposed closure of the Canal Road access (access for local farmers only, out of way travel).	Issues concerning traffic operations and out-of-way travel for local residents and farmers was considered in the evaluation of alternatives. It is recognized that the closure of the Canal Road access will result in out-of-way travel for some trips but traffic volumes using the interchange are relatively low and alternate access to Highway 400 will be available at Highway 9, Simcoe Road 88 and the future Highway 400 – Highway 404 connecting link (Bradford By-pass) interchange.
Existing ramp configuration of the Simcoe Road 88 interchange is unsafe.	The proposed configuration for the Simcoe Road 88 interchange will address existing operational concerns with the interchange, particularly the northbound exit/entrance lane.
Concerned with the configuration of the McInistry Road.	The proposed realignment of McInistry Road has been designed to current design standards to accommodate the proposed ramp configuration for the Simcoe Road 88 westbound to Highway 400 northbound ramp and to reduce impacts to property.
Need to upgrade local roads due to closure of Canal Road access.	No improvement to local roads in the marsh area are proposed in this study. By improving the Simcoe Road 88 interchange, closing the Canal Road access and the construction of a proposed east-west connecting link between Highway 400 and Highway 404 north of Bradford, commuter traffic using Canal Road is expected to be diverted to other principle roads in the area.
Impacts to farmland.	Impacts to farmland were carefully considered during the evaluation of Highway 400 widening alternatives. The technically preferred alternative minimizes impacts to farmland relative to the other alternatives considered. Where farmland is required to accommodate the proposed improvements, property owners will be compensated at fair market value.
Signalized intersections at the Simcoe Road 88 interchange are not needed.	Traffic analysis indicates that signalized ramp intersections will be necessary based on projected future traffic volumes to improve traffic operations and safety. The signals will be installed as part of the overall improvements or earlier if warranted.
Property impacts and compensation.	Where property is required, compensation will be provided based on the market value of the property as well as ancillary costs as appropriate.
Timing and method of construction.	The timing for construction has not been determined. A detailed construction staging plan will be developed during detail design.
Concerned with sound level increase.	Sound levels throughout the project limits will climb by approximately 2-3 decibels as a result of increases in road traffic volumes on Highway 400 between 1999 and 2021. Generally, a 3 dBA increase is considered to be imperceptible to the human ear and would occur over a period of many years as traffic volumes increase. Given that the proposed widening of Highway 400 will result in less than a 5 dBA noise increase, noise mitigation is not required based on the MTO / MOE Noise Protocol.
Highway 400 should be widened north to Barrie.	A separate planning study is currently being undertaken for the Highway 400 corridor from south of Highway 89 northerly to the Highway 11 junction north of Barrie.
Need to improve drainage and stormwater quality.	A drainage and hydrology assessment has been undertaken as part of this study. Stormwater management ponds and drainage swales are proposed throughout the highway corridor to address stormwater quality and quantity issues.
Need for electronic message signs between Simcoe Road 88 and Highway 89.	Comment noted and forwarded to appropriate MTO staff for consideration.
Location of the Commuter Parking Lot at Simcoe Road 88.	The proposed design identifies a location for a commuter parking lot within the property envelope of the Simcoe Road 88 interchange. The precise location and configuration of the new commuter parking lot will be refined during detail design.

**TABLE 12 ISSUES/CONCERNS RAISED AT THE SECOND PUBLIC INFORMATION CENTRE
(CONTINUED)**

Issue/Concern	Response
The need and safety concerns associated with the realignment of the bridge at 11 th Concession.	The 11 th Concession bridge crossing over Highway 400 is proposed to be realigned slightly to the south. The purpose of this design is to maintain traffic along 11 th Concession during construction. A detailed construction staging plan will be developed during detail design.
Need to signalize Highway 9 east and west of Highway 400.	Improvements to the Highway 9 / Highway 400 interchange, are being examined under a separate study which comprises the Highway 400 corridor from Major Mackenzie Drive to the South Canal Bridge.
Need for a 427 extension to Collingwood.	MTO is currently completing the "Simcoe Area Transportation Network Needs Assessment" which is a review of the long-term needs for transportation in Simcoe County. Among the options being considered by that study are possible north-south travel corridors other than Highway 400.
Highway 400 right-of-way should be wider than proposed.	The proposed highway right-of-way will accommodate the proposed improvements to the Highway 400 corridor.
Need for a major east-west link to Bradford.	A route planning study for a proposed connecting link between Highway 400 and Highway 404 (between Concession 8 and Concession 9) is being undertaken by MTO as a separate initiative.
Concerned with snow drift.	Snow drift areas have been identified in this study, locations for snow storage areas have been incorporated in the proposed widening.
Need to install cameras on Highway 400 for public viewing (via internet).	Comment noted and forwarded to appropriate MTO staff for consideration. Signage throughout this section of the Highway 400 corridor has been reviewed as part of this study.
Need for an interchange at 5 th Concession.	A new interchange at 5 th Concession was examined as part of the Canal Road access alternatives (Alternative 3). This study has determined that an interchange at 5 th Concession is not warranted to meet projected traffic demand. Interchanges at Simcoe Road 88 and a proposed connecting link between Highway 400 and Highway 404 (between Concession 8 and Concession 9) will provide adequate access to the Bradford area. The proposed improvements as part of this study do not preclude an interchange at 5 th Concession if the Town of Bradford West Gwillimbury identify a future need to provide additional access to the Town.
A 22 metre grass median would accommodate future widening.	The benefits and disadvantages of a 22 metre grass median were examined during the evaluation of Highway 400 mainline alternatives. The technically preferred alternative for Highway 400 mainline includes widening on both sides of the existing Highway 400 lanes with an 8.8 metre wide median and concrete tall wall barrier. This alternative was selected as preferred based on its relatively lower impacts to natural features, agricultural land, cultural heritage features, residential property and its lower property and construction costs. There are currently no plans to widen this section of the Highway 400 corridor beyond the 10 lanes required to meet long-term traffic demands.

5.2.4 Notice of Study Completion

A notice of study completion will be placed in the local newspapers to notify interested parties of the completion of the study and the 30-day review period. Letters will also be sent to individuals on the Project Team's mailing list.

6.0 ENVIRONMENTAL ISSUES AND COMMITMENTS

This section identifies the proposed impacts produced by the preferred alternative on the environmental features and the proposed measures for mitigation.

6.1 NATURAL ENVIRONMENT

The potential environmental impacts on fisheries and aquatic habitat, terrestrial and wildlife areas, and groundwater in the study area have been assessed as described in the following sections.

6.1.1 Hydrogeology

Existing groundwater uses in the vicinity of the study area consist of private domestic and commercial water wells associated with private residences, farms and commercial properties along the Highway 400 right-of-way.

Existing well uses in the area of the site generally consist of drilled wells, which utilize relatively shallow overburden aquifers. Of the 110 water well records reviewed as a part of the Preliminary Geotechnical / Pavement Design Report, 59 of the wells utilize shallow aquifers (less than 15 metres deep) and a further three wells utilize bedrock aquifers. Forty-two wells utilize deep overburden aquifers greater than 15 metres below the ground surface. Twenty-five well records indicated flowing conditions and four were dry to the depth drilled.

A water well location plan is provided in the Preliminary Geotechnical / Pavement Design Report available under separate cover. The report also provides discussion of well characteristics and summary of water well records.

Potential impacts to groundwater resources associated with construction of the proposed improvements include:

- As the recommended Highway 400 improvements involve widening the impermeable pavement surfaces, some reduction in potential ground water recharge within the study limits may occur. The reduction is expected to be variable throughout the project limits, but will be highest in areas of significant recharge, namely within the Peterborough Drumlin Field area. Given the anticipated area to be paved relative to the regional recharge area, however, the impact is not expected to be measurable;
- Dewatering through excavation and disturbance of sediment from equipment vibration could potentially result in physical interference with shallow water well supplies in the immediate vicinity of construction activities (ie. mobilization of sediment within nearby wells). Shallow wells are distributed along much of the project area. Specific well locations are provided in the Preliminary Geotechnical / Pavement Design Report under separate cover. These impacts are expected to be temporary;
- Increases in deicing salts required to treat the additional pavement area are not expected to be significant enough to cause a noticeable change in groundwater quality.

- Accidental fuel releases from vehicle re-fuelling activities during construction could potentially result in impacts to groundwater quality. However, only large volume releases (ie. greater than 100 litres) would likely have an adverse impact on local water well supplies.

The following mitigation measures are proposed:

- A review of wells in the vicinity of significant earth cuts will be undertaken as appropriate during detail design to determine pre-construction well conditions (ie. baseline water quality and quantity data);
- It is anticipated that recharge lost to impermeable surfaces will, in part, be mitigated by direction of runoff to ditches where some additional recharge above what is currently occurring. Impacts to sensitive recharge areas will be examined during detail design and appropriate mitigation will be developed as necessary.
- Opportunities to address potential impacts associated with deicing salt application will be addressed as a part of the Ministry's ongoing review of environmental standards of practice; and
- The risk of spillage will be minimized and managed through standard practices of not permitting contractors to refuel or maintain vehicles in a manner, which would permit entry of spilled fuels into permeable ground surfaces or water sources. Refueling operations in proximity to shallow wells in areas of relatively higher water table such as the northern and southern portions of the study area are potentially most susceptible to fuel impacts will not be permitted. In addition, an emergency response plan must be in place to address accidental releases.

6.1.2 Fisheries and Aquatic Habitat

A total of forty centreline crossings exist within the project limits. These crossings are listed in Table 2 and illustrated in Figure 3 in Section 3.1.2. Sixteen of these crossings are identified as fish habitat, of which one is an intermittent warmwater crossing, fourteen are permanent warmwater crossings, and one is a permanent coldwater crossing.

The vast majority of the watercourses are moderately degraded and heavily influenced by the surrounding agricultural land use. Many of the watercourses experience periods of no flow where fish are confined to refuge pools.

More detailed discussion of the existing conditions at the crossings is provided in Section 3.1.2.

In general, the fish habitat impacts are related to platform widening. A total of thirteen fish habitat crossings will require culvert extensions to accommodate the additional lanes. Culvert extensions will cause a minor reduction in primary productivity as a result of shading. Many of the culverts will be extended in the range of 20 to 40m. The natural meander width for many of the smaller streams would be approximately 10m. The extended culverts effectively straighten and shorten the natural stream length, which in turn increase velocities. This changes the hydraulic properties of the reach and can increase the erosive potential. Changes in velocities that affect the erosive potential in the channel can also negatively impact benthic invertebrate distribution. Stream channel realignments will likely be required at four of the crossings (crossings 9, 10, 30, 32) where they run parallel to the existing right-of-way.

Temporary impacts can be expected during construction including brief interruptions to fish passage, vegetation disturbance and some sedimentation.

The Ministry of Natural Resources has determined that the proposed improvements constitute a Harmful Alteration, Disruption or Destruction (HADD) of fish habitat and that authorization from the Department of Fisheries and Oceans (DFO) will be required. In general, mitigation and compensation strategies will be implemented to address the common negative conditions at most of the crossings and accommodate the enhancement opportunities identified in the Fisheries Inventory and Assessment under separate cover. In terms of a conceptual approach, compensation measures will be focused on each individual watercourse rather than improving one isolated area / watercourse. Under existing conditions, invasive vegetation (cattails) chokes the stream channel at many of the crossings to the extent that open water is limited and fish passage is difficult. The other common negative condition is periods of drought or no flow. To enhance (compensate) for the fish habitat impacts on site, the construction of refuge pools and the addition of hard substrate to decrease the occurrence of invasive cattails is recommended at several of the impacted crossings.

Each of the fish habitat crossings impacted by the widening of Highway 400, and proposed mitigation / compensation strategies are described in the table below.

TABLE 13 POTENTIALLY IMPACTED FISH HABITAT CROSSINGS AND PROPOSED MITIGATION / CONCEPTUAL COMPENSATION STRATEGY

Fish Habitat Crossing Location	Potential Impact and Proposed Mitigation
<p>CROSSING 6 Location: Station 12+399, 12+434, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.5m on the west (downstream) side. ▪ The culvert will be extended ~18.5m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct two small refuge pools, one on either side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows. ▪ Add hard substrate (gravel 80%, cobble 20%) to the stream bottom within the ROW to diversify habitat and to reduce cattail barriers.
<p>CROSSING 7 Location: Station 13+120, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.5m on the west (downstream) side. ▪ The culvert will be extended ~12.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct a small refuge pool, on the east side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows. ▪ Embed flat stones into the bank to provide spawning facilities for fathead minnows. ▪ Add hard substrate (gravel 80%, cobble 20%) to the stream bottom within the right-of-way to diversify habitat and to reduce cattail barriers.
<p>CROSSING 8 Location: Station 13+742, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports a warmwater baitfish (minor panfish/sportfish) community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~15.0m on the west (downstream) side. ▪ The culvert will be extended ~16.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measure is recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Plant riparian shrubs within the right-of-way to provide a buffer and improved shading and prevent erosion.

TABLE 13 POTENTIALLY IMPACTED FISH HABITAT CROSSINGS AND PROPOSED MITIGATION / CONCEPTUAL COMPENSATION STRATEGY (CONTINUED)

Fish Habitat Crossing Location	Potential Impact and Proposed Mitigation
<p>CROSSING 9 Location: Station 14+874, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.5m on the west (downstream) side. ▪ The culvert will be extended ~10.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct two small refuge pools, one on either side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows. ▪ Approximately 10m of the downstream channel will require realignment using natural channel design where it runs parallel to the highway. ▪ Riparian shrubs such as dogwood and willow will be planted along new channel.
<p>CROSSING 10 Location: Station 15+364, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~10.0m on the west (upstream) side. ▪ The culvert will be extended ~10.5m on the east (downstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct two small refuge pools, one on either side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows. ▪ Approximately 25m of the downstream channel will require realignment using natural channel design where it runs parallel to the highway using natural channel design. ▪ Riparian shrubs such as dogwood and willow will be planted along new channel.
<p>CROSSING 13 Location: Station 16+342, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Fraser Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~6.5m on the west (upstream) side. ▪ The culvert will be extended ~9.0m on the east (downstream) side. ▪ New culvert crossing on the southbound exit ramp and 2 new crossings on the northbound entrance ramp from westbound Simcoe Road 88. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct two small refuge pools, one on either side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows. ▪ Remove drop barrier on downstream side of existing culvert. ▪ Riparian shrubs such as dogwood and willow will be planted along channel within new right-of-way.
<p>CROSSING 16 Locations: Station 17+804, 17+830, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Penville Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.0m on the west (downstream) side. ▪ The culvert will be extended ~10.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Steepen grade to construct a riffle with boulder current breaks to remove the drop barrier at the downstream treeline within the right-of-way. ▪ Add hard substrate (gravel 80%, cobble 20%) to the stream bottom within the right-of-way to diversify habitat and to reduce cattail barriers.

TABLE 13 POTENTIALLY IMPACTED FISH HABITAT CROSSINGS AND PROPOSED MITIGATION / CONCEPTUAL COMPENSATION STRATEGY (CONTINUED)

Fish Habitat Crossing Location	Potential Impact and Proposed Mitigation
<p>CROSSING 22 Location: Station 20+857, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Penville Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.0m on the west (downstream) side. ▪ The culvert will be extended ~11.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Remove cattails (2m either side of the channel) and add hard substrate (gravel 80%, cobble 20%) to the stream bottom within the right-of-way on the west side to diversify habitat and to reduce cattail barriers. ▪ Construct one small refuge pool in the stream channel approximately 2.0m long and a maximum depth of 0.30m on the east side to provide fish habitat during low flows. ▪ Embed flat stones into the bank to provide spawning facilities for fathead and bluntnose minnows.
<p>CROSSING 26 Location: Station 23+004, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Coldwater</p> <p>Related Systems: Tributary of Innisfil Creek</p> <p>Fish Communities: Supports a coldwater community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~12.0m on the west (downstream) side. ▪ The culvert will be extended ~12.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and approximately 5m of nursery habitat on the east side resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Replace or remove farm lane crossing on west side with a properly installed culvert within new right-of-way (currently cement block fill impedes fish movement). ▪ Riparian shrubs such as dogwood and willow will be planted along channel within right-of-way.
<p>CROSSING 30 Location: Station 23+922, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Innisfil Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~13.0m on the west (downstream) side. ▪ The culvert will be extended ~9.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Remove flow obstructions (boulders) on west side 10m downstream of culvert. ▪ Construct one small refuge pool in the stream channel approximately 2.0m long and a maximum depth of 0.30m on the east side to provide fish habitat during low flows. ▪ Embed flat stones into the bank to provide spawning facilities for fathead and bluntnose minnows. ▪ Realignment of the poorly defined channel on the east side will be required for a distance of approximately 50m using natural channel design.
<p>CROSSING 32 Location: Station 24+396, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Innisfil Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~15.0m on the west (downstream) side. ▪ The culvert will be extended ~8.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Add hard substrate (gravel 80%, cobble 20%) to the stream bottom on the west side towards the 13th Concession to diversify habitat and to reduce cattail barriers. ▪ Realignment of the roadside ditching on the east side will be required for a distance of approximately 90m using natural channel design. ▪ Riparian shrubs such as dogwood and willow will be planted along new channel. ▪ Adjust existing culvert invert to repair perched condition on downstream end.

TABLE 13 POTENTIALLY IMPACTED FISH HABITAT CROSSINGS AND PROPOSED MITIGATION / CONCEPTUAL COMPENSATION STRATEGY (CONTINUED)

Fish Habitat Crossing Location	Potential Impact and Proposed Mitigation
<p>CROSSING 33 Location: Station 24+613, Town of Bradford West Gwillimbury</p> <p>Type: Intermittent Warmwater</p> <p>Related Systems: Tributary of Innisfil Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.0m on the west (downstream) side. ▪ The culvert will be extended ~8.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measure is recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct two small refuge pools, one on either side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows.
<p>CROSSING 40 Location: Station 26+539, Town of Bradford West Gwillimbury</p> <p>Type: Permanent Warmwater</p> <p>Related Systems: Tributary of Innisfil Creek</p> <p>Fish Communities: Supports a warmwater baitfish community.</p>	<p>Potential impacts to this crossing include:</p> <ul style="list-style-type: none"> ▪ The culvert will be extended ~11.0m on the west (downstream) side. ▪ The culvert will be extended ~11.0m on the east (upstream) side. ▪ There will be some minor loss of primary productivity and temporary disruptions resulting in a HADD. <p>The following mitigation measures are recommended and should be employed:</p> <ul style="list-style-type: none"> ▪ Construct one small refuge pools on the west side of the highway, in the stream channel approximately 2.0m in length and a maximum depth of 0.30m to provide fish habitat during low flows and line it with hard substrate (gravel 80%, cobble 20%). ▪ Remove beaver dam on east side and install a patented Beaver Stop to provide long-term protection and fish passage.

General Mitigation Measures

In order to minimize the potential for construction related impacts, the following standard Ministry mitigation approaches will be implemented. Operational constraints (in the form of special provisions) will be developed during detail design and included in the highway construction contracts:

- No inwater work from March 15 to June 30 (warmwater);
- No inwater work from September 1 to June 1 (coldwater);
- Culvert extension work will be isolated from stream flows;
- All dewatering and flow diversions must be conducted in a manner that prevents sedimentation;
- Areas for refuelling of machinery will be located well away from any watercourse or drainage ditch;
- Sediment and erosion controls will be implemented throughout the construction area, maintained frequently and in response to storm events. These controls will consist of sediment fences, check dams in swales and restoration of exposed soils with application of vegetative cover materials within a maximum 45 days of the start of grading. On steeper slopes, geotextiles should be used to enhance slope stability and the growth of the vegetation. An Environmental Inspector will be employed to monitor the success of the sediment and erosion control methods used and to provide guidance on maintenance requirements. Sediment and erosion controls will remain in place and maintained until such time as the vegetation has taken sufficiently to provide adequate protection for the watercourses;

- All construction debris and litter will be removed frequently. Stockpiles will not be permitted within the regulatory floodplain. All stockpiles will be removed upon completion of the works and the site restored, as appropriate;
- Where instream works are taking place, flows shall be maintained and without excessive sedimentation or erosion. Flows may be diverted by piping or damming and pumping for short duration. In the event temporary channel bypass measures are required in areas known to contain fish species, all fish would be removed and transplanted upstream of construction activities prior to channel dewatering; and
- An Environmental Inspector with a natural channel or biological background and construction experience should be employed for all instream works on permanent watercourses to ensure that mitigation and compensation measures are implemented as designed.

6.1.3 Vegetation, Wetlands, Areas of Natural and Scientific Interest (ANSI)

Vegetation

The following nine communities were identified as possessing high quality, high sensitivity and/or high botanical quality: E28, E26, E22, W5, W7, W22, W26, W32 and W33 (refer to Section 3.1.3 for a detailed description of the vegetation unit). All of these communities are north of the Bradford West Gwillimbury 10th Line and most are associated with the Cookstown Hollows Swamp Provincially Significant Wetland (PSW) and/or the Innisfil/West Gwillimbury deer wintering complex. This section of the project is the only area that offers some contiguous forest cover largely due to unfavourable conditions for agricultural development. Communities W51, E18 and E19 are significant since they form part of the Dunkerron Forest ESA.

The potential loss of approximately 1.87ha of combined vegetation units W5, W7, W22, W26, W51, E18, E19, E22 and E26 is anticipated as a result of the proposed widening improvements to the highway. Since only a small area of vegetation will be removed and the impacts are limited to the edges of the community, no significant impacts are anticipated.

The following mitigation measures are proposed to minimize impacts to the above noted vegetation units:

- Leave vegetation on newly acquired right-of-way wherever possible to reduce loss of native vegetation.
- Mark specific trees (cavity nesting trees) or vegetation (forage species such as Red Oak) for retention where possible.

The following enhancements could also be considered to further reduce the impacts:

- Create small openings in the cattail monoculture and seed native grass species adjacent to the openings to improve leopard frog habitat in vegetation unit W5.
- Plant native conifers along new edge of the right-of-way to improve diversity and provide adequate shielding from the highway in vegetation unit W7.
- Plant additional Eastern White Cedar along new edge of the right-of-way to improve cover component in vegetation unit W22.
- Plant additional native trees and shrubs adjacent to hedgerow W24 and W27 to link significant unit W26 to W28 and W23.
- Stockpiled soil and other materials should be located outside of vegetated areas.
- A Stormwater Management and Drainage Plan will be developed to address impacts related to lost flood storage area in fill regulated zones.

Wetlands

The Cookstown Hollows Swamp Provincially Significant Wetland (PSW) is the only significant wetland that will experience an impact. The features of the Cookstown Hollows Swamp PSW are location-specific and may not necessarily be impacted by the recommended improvements to the Highway 400 corridor. Impacts to specific features within the PSWs should be investigated during detail design. Many of the impacts on the features and functions of this wetland are identified in the components of significant vegetation, VTE species, fish and aquatic habitat, and significant wildlife habitat since many of the natural science values occur within the wetland boundary. The impacts to these components and associated mitigation measures are addressed throughout this chapter (sections 6.1.3., 6.1.4., 6.1.2., and 6.1.4 respectively).

A loss or alteration of approximately 3.4ha of wetland area and flood storage/attenuation area can be expected as a result of the proposed widening and improvements. A Stormwater Management and Drainage Plan will be developed to address impacts related to lost flood storage area in fill regulated zones.

Areas of Natural and Scientific Interest (ANSI)

There are no expected impacts to ANSIs as a result of the recommended improvements.

6.1.4 Wildlife, Wildlife Linkages/Corridors, Vulnerable, Threatened or Endangered Species

Wildlife - Breeding Bird Habitat

A number of significant breeding birds have been observed within the study area that may experience some impacts related to loss or alteration of their habitats. None of these species qualify as Vulnerable, Threatened or Endangered (VTE) species but for various reasons they receive conservation priority. The Chestnut-sided Warbler was observed in a cultural woodland/wetland complex associated with the Cookstown Hollows Swamp PSW in the vicinity of vegetation units E26, 27 and 28. It is a very common breeder in Ontario. It has been assigned a Level 1 Conservation Priority since the early successional forests that it prefers are in diminishing supply in Simcoe County.

A number of other avian species were associated with the Cookstown Hollows Swamp or the Holland River forest valley that have been assigned Level 2-4 Conservation Priority for Simcoe County. They include:

- Scarlet Tanager (CP2)
- Veery (CP3)
- Eastern Kingbird (CP3)
- American Goldfinch (CP3)
- Ovenbird (CP4)
- Wood Thrush (CP4)
- Black-capped Chickadee (CP4)

The ESA Study for Dunkerron Forest records 2 breeding birds as rare or endangered that inhabit the Dunkerron Forest: the Long-eared Owl and the Olive-sided Flycatcher. Although none of these species appears on the current rare species list for Simcoe County they are still significant to some extent.

The proposed widening and improvements will result in the loss or alteration of approximately 0.74ha of breeding bird habitat. The overall impact to bird habitat is not expected to significantly affect the species. To mitigate potential adverse impacts, existing vegetation on newly acquired right-of-way will be retained to the extent possible to reduce loss of native vegetation. Specific trees (cavity nesting trees) or vegetation (forage species such as Red Osier Dogwood) will be marked for retention, where possible.

Wildlife – Amphibian habitat

Based on an Amphibian Calling Survey conducted in April 2000, Spring Peepers and Chorus Frogs were heard calling at two locations within the Cookstown Hollows Swamp (refer to Section 3.1.4). The proposed widening of Highway 400 through this section of the project limits will impact approximately 4160 m² of potential Chorus Frog and Spring Peeper breeding habitat on the west side of Highway 400 (vegetation communities W5 and W6) associated with vegetation clearing within the new right-of-way.

It is expected that the flooded fringes of the small ponds on either side of the highway in this area provide the best existing breeding habitat for these species. By widening Highway 400 evenly (east and west), these habitats have been preserved. Impacts to Spring Peepers and Chorus Frog habitat will be confirmed during detail design in consultation with the Ministry of Natural Resources and if required, feasible mitigation measures will be developed.

Wildlife Corridors

Two identified deer wintering areas within the study area are mapped by the Ministry of Natural Resources (MNR) as polygons including portions of the Dunkerron Forest and a large block from Bradford West Gwillimbury 10th Line to the northerly project limits. Large portions of the polygons include non-forested areas that likely do not contribute to the cover component of the deer wintering areas.

One deer crossing is located north of the Bradford West Gwillimbury 13th Line. In addition to this crossing the Dunkerron Forest also acts as a linear travel corridor for white-tailed deer.

The addition of lanes and centre median barrier associated with the proposed improvements result in potentially adverse impacts to these corridors. In addition, the proposed widening and improvements will result in the loss of 10.9ha of deer wintering area.

Vulnerable, Threatened or Endangered Species (VTE)

According to the Research and Development Branch of the MTO (based on a previous study) there is no significant difference in the kill rate of wildlife with a grassed median and a median barrier on 4 or 6-lane highways. The potential for developing wildlife fencing and/or underpasses is generally only considered for new highway installations. A potential enhancement that could be considered is to plant suitable conifer species along the new right-of-way linking known deer wintering forested areas.

Two VTE species were identified within the study area, Caerulean Warbler and the Red-shouldered Hawk. Both of these species were observed in the same general location that corresponds to vegetation units W4, W5, and W6 in the Cookstown Hollows Swamp. The

minor loss of habitat associated with the platform widening should not have a significant impact on the Caerulean Warbler.

Red-shouldered hawks are considered a species of concern by COSEWIC and are classified as vulnerable by the Ministry of Natural Resources. Nesting sites for Red-shouldered Hawks are becoming scarce in southern Ontario. The loss of large tracts of forested land and competition from Red-tailed Hawks, which are more adaptable to the cultural landscape, has increased the significance of known nesting sites. Red-shouldered Hawks have been observed on more than one occasion during the breeding season in the same general vicinity (W4, W5 and W6). They have a strong fidelity for a particular nesting site. Therefore the loss of a nesting site is significant. No nests have been identified in this area but a thorough search during leaf-off conditions has not been completed.

The proposed widening improvements will result in the following impacts to VTE species:

- Loss of approximately 0.49ha of habitat of VTE species in the Cookstown Hollows Swamp that includes W5 and W6 vegetation units.
- Potential loss of Red-shouldered Hawk nesting site if identified.

Typical mitigation strategies utilized in forest management operations include a 150m buffer around active nests and a timing restriction for activities within the buffer area to protect nesting Red-shouldered Hawks. The following mitigation measures are proposed for this undertaking:

- Conduct a thorough search, at the detail design stage, for Red-shouldered Hawk nests within 150m of the proposed right-of-way in vegetation units W4, W5, W6 during leaf-off conditions.
- Conduct a survey in May to determine if any identified Red-shouldered Hawk nests are still active.
- No construction activities, in areas identified as Red-Shouldered Hawk nesting areas within the proposed right-of-way, that would create noise in excess of the current ambient highway noise are permitted between March 1 and July 31 to protect nesting Red-shouldered Hawks if an active nest is located within 150m of the proposed right-of-way.

6.1.5 Stormwater Management

Drainage associated with the proposed improvements to the Highway 400 corridor will continue to be primarily by roadside highway ditches and the median storm sewer, with the ditches relocated to the edge of the proposed widening.

In order to provide for an adequate drainage system, new median storm sewers are proposed through the majority of the study area. In addition, new median sewers will be added through the Holland Marsh at the south end of the study area. In order to accommodate the proposed widening, culvert extensions will be required at all of the culverts in the study area.

Within the study area, runoff from the highway discharges to a combination of intermittent and permanent watercourses via the median storm sewer system and the highway ditches. In order to assess the potential impacts of the proposed widening on the water quality and quantity of downstream watercourses, as well as the potential for erosion and fish habitat impacts, two types of critical areas were identified:

- Highway areas draining to watercourses that support fish habitat adjacent to the highway; and
- Highway areas that result in a large increase in pavement area relative to their total upstream drainage area, either because the upstream drainage area is relatively small or because the drainage area includes a large section of the highway. This results in a larger potential for erosion, flood risk, and water quality degradation in these watercourses.

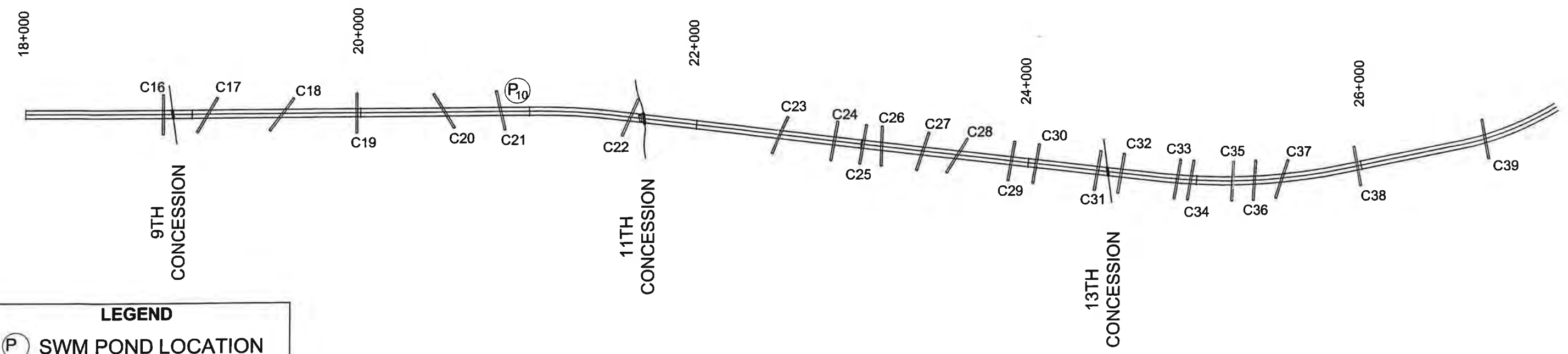
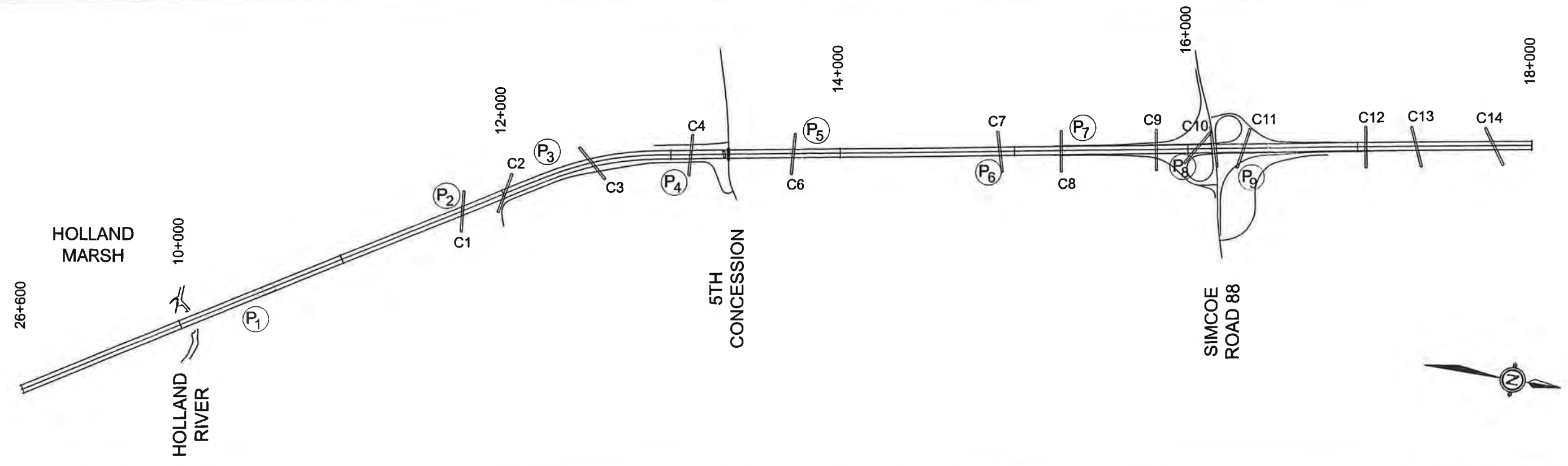
The proposed improvements to the highway will result in an increase in pavement area. The total increase in pavement area from the existing 6 lanes to the ultimate 10 lanes is approximately 42 ha, including interchanges, which represents approximately a 68% increase in pavement area. Of thirty-seven drainage areas, there are eleven areas where the increase in pavement area relative to the upstream drainage area represents more than 5%, identified as culverts 10, 11, 13, 17, 19, 23, 26, 35, 36, 37 and 38. Culvert locations are provided in Figure 24.

The proposed stormwater management strategy consists of flat-bottomed grassed swales in all locations where the design criteria can be met, additional enhanced ditches along critical highway areas, ten water quality and quantity control wet ponds/wetlands, and localized erosion control measures.

Due to the steep grades, portions of the highway are not conducive to treatment with grassed swales, thus grassed swales can be implemented over only 70% of the study area. In the remaining areas, the slope of the highway exceeds 1.5% and the effectiveness of the grassed swales in removing pollutants is reduced.

Implementation of the water quality and quantity control wet ponds/wetlands will require property outside of the existing right-of-way (proposed pond locations are provided in Figure 24). The property requirements identified as a part of this study, however, are sufficient to site the facilities. Detailed layouts for the stormwater management ponds will be developed during detail design. Two of the ten ponds are located within the County Road 88 interchange, while the remaining are located adjacent to the highway. The following is a brief description of the proposed ponds:

- Pond 1 is located on the east side of Highway 400, between the highway and the realigned service road, just south of the North Canal (see Figure 3b). This pond will provide quality control for 400 m of northbound highway, 400 m of southbound highway, and the median runoff, for a total area of approximately 4.5 ha. As a result of space constrictions, it is not feasible to provide a pond to treat the median drainage from Highway 400 between the South Canal and the Holland River. Thus, it is recommended that the new storm sewers be designed to outlet at intervals to the roadside grassed swales, thus providing the opportunity for filtering of the runoff within the swales prior to discharging into the Holland River system.
- Pond 2 is located on the west side of the highway, just south of culvert 1 (station 11+630, see Figure 3b). This pond will treat 670 m of southbound highway, 400 m of northbound highway and the median drainage, for a total area of approximately 9.4 ha.
- Pond 3 is located on the west side of Highway 400 downstream from the storm outlet at station 12+200 (see Figure 3c). This pond will treat 300 m of highway and median drainage, as well as a portion of the drainage from the Fourth Concession, for a total area of approximately 3.0 ha.
- Pond 4 is located on the east side of Highway 400, south of culvert 4 (station 13+120, see Figure 3c). This pond will treat 500 m of northbound highway and the median drainage, for a total area of approximately 4.9 ha.

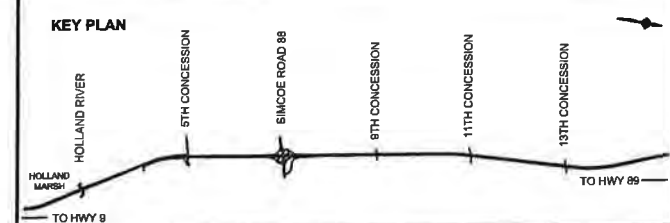


LEGEND

(P) SWM POND LOCATION

/ CULVERT LOCATION

N.T.S.



Culvert and Proposed

SWM Pond Locations

- Pond 5 is located on the west side of Highway 400, north of culvert 6 (station 13+750, see Figure 3c). This pond will treat 650 m of southbound highway and the median drainage, for a total area of approximately 3.8 ha.
- Pond 6 is located on the east side of Highway 400, south of culvert 7 (station 14+880, see Figure 3d). This pond will treat 460 m of northbound highway and the median drainage, for a total area of approximately 4.7 ha.
- Pond 7 is located on the west side of Highway 400, north of culvert 8 (station 15+350, see Figure 3d). This pond will treat 440 m of southbound highway and the median drainage, for a total area of approximately 3 ha.
- Pond 8 is located within the south-east quadrant of the County Road 88 interchange, near culvert 10 (see Figure 3d). This pond will treat 900 m of median sewer from the highway, ramps, and runoff from a portion of County Road 88, for a total area of approximately 11.2 ha.
- Pond 9 is located within the north-east quadrant of the County Road 88 interchange, near culvert 11 (see Figure 3e). This pond will treat 550 m of northbound highway and the median drainage, along with a portion of McKinstry Road and the E-N ramp, for a total area of approximately 3.7 ha.
- Pond 10 is located on the west side of Highway 400, north of culvert 21 (station 20+850, see Figure 3g). This pond will treat 770 m of southbound highway and the median drainage, for a total area of approximately 4 ha.

Additional flat-bottomed grassed swales were also included along critical highway areas where treatment is not feasible with stormwater management ponds. Although these swales do not meet the Ministry of the Environment (MOE) criteria for water quality control, they will provide some additional protection.

It is recommended that plunge pools be placed at the downstream ends of all culverts with watercourses that support fish habitat. The plunge pools will provide energy dissipation for any increased flow as a result of the proposed highway widening, and will enhance the fish habitat. In addition, it is recommended that where possible, storm sewers outlet to the highway ditches, instead of within the culverts, with plunge pools placed at all storm sewer outlets. The pools will provide energy dissipation for any increased flow as a result of the proposed highway widening.

The proposed stormwater management strategy will provide water quality treatment by means of wet ponds and flat bottomed grassed swales for the equivalent of approximately 140% of the increase in pavement area under ultimate conditions.

In response to concerns associated with West Nile, the Ministry is in the process of monitoring to identify any stormwater drainage conditions which may be conducive to the production of mosquito larvae. The results of this monitoring will be considered in the design of Highway 400 stormwater drainage and control facilities.

Holland Marsh Drainage Scheme

The Town of Bradford West Gwillimbury has initiated the *Holland Marsh Drainage Scheme*. The Town has prepared an Engineer's Report under the Drainage Act for better maintenance of the drainage in the area of the Holland Marsh and has proposed a realignment of the North Canal north of its existing location. Subject to approval and agreement between affected parties, the realignment of the canal may impact the Highway 400 right-of-way and proposed Canal Road structure, as recommended by this study, which spans over Canal Road and the North Canal. The design of the proposed Canal Road structure may, therefore, require revisiting. The Town will coordinate with the Ministry of Transportation in the approval process.

6.2 SOCIO-ECONOMIC ENVIRONMENT

6.2.1 Residential

A total of approximately 4.5 ha of property from eight residential properties abutting Highway 400 will be required for the proposed widening and improvements to the Simcoe Road 88 interchange. In addition, one residence located on Lot 7, Concession 6 in the Town of Bradford West Gwillimbury (southeast quadrant of the Simcoe Road 88 / Highway 400 interchange) will be displaced to accommodate the proposed S-EW interchange ramp.

The Ministry is committed to consulting with affected property owners as the project proceeds.

Property impacts will be addressed as identified in Section 6.2.4 of this report. Both permanent and temporary property requirements will be confirmed in detail design when more detailed survey information is available.

6.2.2 Commercial / Industrial

A total property taking of approximately 6.1 ha of property will be required from businesses abutting the Highway 400 right-of-way. The following four businesses will be impacted by the proposed improvements:

- Farmer's Market on the south side of Canal Road east of Highway 400 – impact to 0.4 ha of agricultural lands serving as market garden;
- Husky Service Centre located at the southeast quadrant of the Simcoe Road 88 interchange – impact to vacant lands west of parking lot area;
- Yogi Bear Jelly Stone Park Camp Resort located at the northwest quadrant of the Simcoe Road 88 interchange – impact to vacant lands along Highway 400 and County Road 88 frontage.
- Lumber yard located on the east side of Highway 400 just north of 9th Concession – impact to south and west perimeter of the property.

The impacts to the above noted businesses are property takings of vacant land; no buildings will be affected. The closure of the Canal Road interchange will impact access to the market garden for patrons using Highway 400, resulting in out-of-way travel. Property impacts will be addressed as identified in Section 6.2.4 of this report; opportunities for mitigating/ minimizing impacts to access will be examined during the detail design stage in consultation with affected businesses.

Based on input received during public consultation events, there are concerns that the recommended improvements will adversely impact the Yogi Bear Jelly Stone Camp Resort. These concerns include the timing and method of construction, construction impacts and increased noise and visual impacts to the Camp Resort. During detail design, opportunities for public involvement concerning design issues, property impacts and construction related issues shall be provided. Affected landowners will be contacted directly to determine more specifically the nature and extent of impacts and identify options for mitigation, where appropriate.

Additional concerns regarding Yogi Bear Jelly Stone Camp Resort include access to the park. There is concern that slow-moving vehicles and vehicles with trailers entering and exiting the Park will be crossing traffic accelerating westbound from the ramp terminal

on County Road 88. The recommended plan does not include an acceleration lane on County Road 88 from the N-E/W ramp terminal. Further, traffic signals at the ramp terminal west of Highway 400 will be installed when traffic conditions warrant, which would provide an indirect benefit for campers entering/leaving the Park.

The Park now has approximately 30 acres registered as a reforestation area. A portion of these saplings will likely be displaced by the interchange. These impacts will be addressed as discussed in Section 6.2.4 and 6.2.6.

The ponds at the south end of the resort property are sewage lagoons and are clay lined; therefore, they may be sensitive to construction activities. Although the recommended plan does not impact these ponds, special provisions may be required for construction of the improvements in the vicinity of these ponds. Such provisions, if required, will be identified / developed at the detail design stage.

Property impacts will be addressed as identified in Section 6.2.4 of this report. Both permanent and temporary property requirements will be confirmed in detail design when more detailed survey information is available.

6.2.3 Agricultural

The proposed widening and interchange improvements will impact approximately 17.5 ha of Class 1-6 agricultural land, of which approximately 16 ha is classified as provincially significant (Class 1 to 3). Twenty active farming operations will be affected. The proposed improvements will also result in the loss of direct access to Highway 400 for a local farmers market (located on the eastside of Highway 400 on Canal Road).

Property impacts will be addressed as identified in Section 6.2.4 of this report. Both permanent and temporary property requirements will be confirmed in detail design when more detailed survey information is available.

Mitigation measures to address impacts to agricultural operations include:

- Replace fences removed during construction; and
- Areas used for temporary basis for construction will be restored to current conditions in consultation with the affected agricultural operator.

6.2.4 Property Process

Compensation for residential, commercial and agricultural property impacts will be provided for temporary and permanent property requirements. For permanent property taking, compensation will be provided at fair market value, which is determined at the time of purchase with a property appraisal report forming the basis for negotiations. Other ancillary costs are negotiated on a case-by-case basis. Compensation will also be provided with respect to temporary property requirements. Upon completion of construction, temporary property will be returned to the owner and restored to its original condition.

6.2.5 Future Development

A concern has been expressed that the proposed ramp configuration and realignment of McKinsty Road at the Simcoe Road 88 interchange may impact future commercial development plans at the interchange. A site plan is being prepared for private development in the northwest quadrant of the interchange area. Opportunities to minimize potential property impacts associated with the alignment of McKinsty Road will be reviewed during detail design in consultation with the Town of Bradford West Gwillimbury, upon review of the draft site plan.

Discussions with the Town of West Gwillimbury have identified that growth expected over the next 25 years will place tremendous pressure on the Town's existing transportation network to support the anticipated growth. The Town of Bradford West Gwillimbury undertook a Transportation Planning Assessment to determine the community's future road network needs. This Assessment recognized that maintaining the Highway 400 access to Canal Road would be costly and unnecessarily disruptive to the Holland Marsh. The assessment also identified that the short, medium and long-term travel demands of the Town would be best served by other interchanges, including a new interchange at the 5th Line at Highway 400. MTO has committed to work with the Town of Bradford West Gwillimbury to develop such a connection, pending the Town's completion of the required transportation planning and approval of the municipal environmental assessment (refer to Appendix B).

6.2.6 Aesthetics

The proposed widening and improvements to Highway 400 results in changes to existing views and vistas associated with the erection of a median barrier wall and the widening of the highway platform. Improvements to the Simcoe Road 88 interchange will result in minor aesthetic impacts to sensitive viewer groups (residences and businesses) adjacent to the interchange.

The following measures will be used to mitigate the aesthetic qualities of the highway through this area:

- Retaining/protecting vegetation wherever possible, and keeping removals to a minimum required.
- Undertaking post-construction landscape planning where warranted for mitigative purposes.

6.2.7 Noise

For mainline Highway 400, existing ambient sound levels adjacent to the highway are estimated to be 60-71 decibels (dBA). Sound levels throughout the project limits will climb by approximately 3 decibels as a result of increases in road traffic volumes on Highway 400 between 1999 and 2021, as shown in Table 14. The widening will result in a maximum of a 3 decibel (dBA) increase in sound level compared to future sound levels without the widening. Generally, a 3 dBA increase is considered to be imperceptible to the human ear and would occur over a period of many years as traffic volumes increase. In addition, as traffic volumes for future "With Improvements" and "Do Nothing" scenarios are equal and widening will occur symmetrically about the existing centreline, the increase in sound levels from the "Do Nothing" scenario to the "With Improvements" scenario are expected to be negligible and not perceptible.

TABLE 14 PREDICTED SOUND LEVEL CHANGES FOR NOISE SENSITIVE RECEIVERS

Receptor No.	Predicted Sound Levels (dBA)		Change in Sound Levels from Existing to Future "With Improvements" Scenario	Difference in Sound Levels for Future "With Improvements" and "Do-Nothing" Scenarios
	Future 2021 "Do Nothing" Scenario (No Highway Improvements)	Future 2021 "With Improvements" Scenario		
NR 1	73	73	2	0
NR 2	72	72	3	0
NR 4	68	68	3	0
NR 7	63	63	3	0
NR 9	65	65	3	0
NR 11	70	71	4	1
NR 16	73	73	3	0
NR 18	72	72	3	0
NR A	63	63	3	0
NR B	66	68	5	2

For this project, investigation of noise mitigation is not required. Under current MTO / MOE guidelines, noise mitigation must be considered where proposed improvements result in an increase in sound exposures (considering future build vs. future no-build scenarios) greater than 5 dBA.

Construction Noise

Noise from construction activity, such as bulldozers and dump trucks, has the potential to be noticeable, particularly if construction occurs outside of normal weekday construction periods (when ambient sound levels are lowest). Noticeable noise effects from heavy equipment are typically limited to areas where residences are in close proximity to the road.

Various mitigation measures are available to minimize noise impacts during construction, including:

- Maintenance of mufflers and other noise reduction devices on heavy equipment.
- Enforce construction codes of practice and local municipal noise by-laws and codes to provide means of limiting excessively noisy operations and equipment. If required, noise by-law exemptions will be obtained prior to construction.
- Specify hours of operation during construction.
- Monitor complaints on construction noise and investigate.

6.2.8 Community Effects

Out-of-Way Travel/Impacts to Access

The closure of Canal Road access to / from Highway 400 will result in out-of-way travel for local residents and agricultural operations in the area. For those motorists on the east side of Highway 400 in the vicinity of Canal Road, approximately 5.1 kilometers of out-of-way travel can be expected; on the west side of the highway motorists will have as much as 5.9 kilometers of out-of-way travel. To address the change in access, the Ministry will consider signage improvements in the Highway 400 corridor at a later design stage.

In addition, local residents and agricultural operators expressed concerns with the proposed re-directing of access for Highway 400 to Highway 9. Concerns pertained to safe access at Highway 9. MTO has agreed to provide for installation of traffic signals

on Highway 9 at Rupke Road and Jane Street, subject to a warrant analysis. MTO has also agreed to monitor operations along Highway 9, including the intersections at West Canal Bank Road, Holancin Road and South Canal Bank Road as to whether any substantial decreases in operations/level of service result from the closure of the Canal Road access. Methods to address such problems, if identified, will be negotiated with local municipalities, as appropriate.

As well, MTO is committed to constructing the recently approved Bradford Bypass, however, there is currently no established timeline for construction. This new facility will provide another access for the Town of Bradford West Gwillimbury and may reduce traffic volumes on Highway 9. In addition, MTO has committed to completing the Simcoe Road 88 interchange improvements prior to closing the Canal Road access. This staging commitment will also reduce the effects of out-of-way travel in Bradford West Gwillimbury.

Emergency Service Access

The technically preferred alternative for the Canal Road access will result in additional out-of-way travel for some emergency service vehicles, however, based on discussions with emergency service representatives, this additional travel is within acceptable limits. Emergency service providers may reorganize coverage areas to adapt to the proposed Canal Road access closure.

Snow Drift Areas

Areas with potential for snowdrift occur at the following five locations:

- Holland Marsh area.
- 350 metres south of Simcoe Road 88.
- Vicinity of 9th Concession.
- 850 metres south of 11th Concession.
- 1 km south of 13th Concession.

Drifting snow is a hazard for highway traffic and increases the potential for collisions. Approximately 0.9 ha of property will be required along the west side of the highway right-of-way to provide sufficient area for snow drifting mitigation measures to be implemented. Such measures include berms, fencing and/or tree plantings placed sufficiently distant from the traveled way to allow drifting snow to accumulate. Property required for snowdrift measures will be acquired in accordance with Section 6.2.4 of this document.

Scotch Settlement Arboretum

Minor impacts to the Scotch Settlement Arboretum located on the east side of Highway 400 on the south side of 5th Concession will be incurred by the proposed widening of the highway, approximately 0.5 ha of property will be required. Impacts to trees / vegetation will be minimized to the extent possible.

Commuter Parking Lot

The existing commuter parking lot located at the southwest quadrant of the Simcoe Road 88 interchange will be impacted by the proposed interchange. This study has identified a possible location for the commuter parking lot within the same quadrant of the Simcoe Road 88 interchange. Other alternatives outside the interchange property envelope were considered, including:

- the south side of Simcoe Road 88 east of the interchange (Husky Truck Stop property); and
- incorporating a commuter parking lot in the proposed commercial development on the north side of Simcoe Road 88 east of the interchange at the realigned McKinstry Road.

As these other locations are outside the interchange limits, the feasibility of these alternatives is dependent upon MTO obtaining agreements with landowners. MTO will continue to pursue such agreements in advance of/coordination with construction and investigate other alternatives for locating the commuter parking lot in the vicinity of the Simcoe Road 88 interchange. The precise location and configuration of the new commuter parking lot at Simcoe Road 88 will be identified during later design stages.

The Ministry will continue to identify opportunities for locating additional commuter parking lots in the vicinity of interchanges along the Highway 400 corridor as demand warrants.

6.2.9 Property Contamination and Waste Management

Based on the waste and contamination and excess material assessment conducted on Highway 400, no specific indication of potential environmental concern was observed within the right-of-way. Numerous active farming operations are present along the right-of-way. No specific issues of potential environmental concern were typically noted at the farm properties, however, farming operations typically include vehicle maintenance and refueling, historical waste disposal and fertilizer, herbicide and pesticide storage. Where farm properties are to be acquired that include the farm buildings (as opposed to fields) then the properties should be assessed on a case by case basis.

Subsurface investigations will be undertaken during later design stages on properties identified as having a high potential for contamination (based on known historical and current land uses), which are impacted by the recommended improvements. Lands identified as being required at such properties will typically be subjected to Phase 1 Environmental Site Assessments and limited Phase 2 Environmental Site Assessments.

6.2.10 Management of Excess Materials

During construction it is anticipated that there will be large amounts of excess materials such as: natural wood, treated wood, concrete, asphalt and earth. The contractor will be responsible for properly storing and disposing excess material generated during construction in accordance with Ontario Provincial Standards and Specifications (OPSS) 180 and the Ontario Ministry of the Environment's Guideline "Management of Excess Material in Road Construction Projects".

6.3 CULTURAL ENVIRONMENT

6.3.1 Archaeological Resources

A Stage 1 archaeological assessment for the existing Highway 400 right-of-way and associated interchange lands has determined that the existing right-of-way is considered free of archaeological concern.

Based on the study area's proximity to water and historic land use patterns, there is potential for the identification of pre-contact and historic archaeological resources within the agricultural lands beyond the existing highway right-of-way. It is therefore recommended that:

1. Lands beyond the limits of the existing disturbed right-of-way of Highway 400 or secondary roads, and the Simcoe Road 88 interchange, required for the proposed right-of-way of the technically preferred improvements, will be subject to a Stage 2 archaeological assessment during detail design.
2. Additional lands beyond the proposed right-of-way required for the construction of temporary facilities (staging areas, storage areas, access roads etc.), will be subject to archaeological assessment during detail design.
3. In the event that deeply buried archaeological remains are encountered during construction activities, the office of the Regulatory and Operations Group, Ministry of Tourism, Culture and Recreation (MTCR) will be notified immediately.
4. In the event that human remains are encountered during construction, both MTCR and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations will be notified immediately.

6.3.2 Built Heritage Features

Based on field investigations undertaken on September 27th, 2000, six built heritage features and twenty cultural landscape units were identified within 500 metres of the highway right-of-way.

The proposed widening of Highway 400 will result in the replacement of the existing 11th Concession overpass structure, a built heritage feature. The most significant characteristics from a cultural heritage perspective are the Coat of Arms panels on either side of the structure. Retaining the Coat of Arms panels for use on the new structure is the preferred mitigative approach. This option will be examined during detail design in consultation with appropriate government agencies.

The proposed configuration of the Simcoe Road 88 interchange will impact a farm complex (3657 Simcoe Road 88) with potential cultural landscape significance. The nature of impact to this cultural landscape unit is visual in nature and is not expected to be significant. To mitigate negative aesthetic impacts at the Simcoe Road 88 interchange within the Highway 400 corridor, a landscape plan will be developed during the detail design phase of this project.

6.4 FUTURE CONSULTATION

6.4.1 Agency / Municipal Consultation

During the detail design phase of this project, the Ontario Ministry of Natural Resources (MNR) and the Federal Department of Fisheries and Oceans will be consulted regarding the Harmful Alteration, Disruption or Destruction of fish habitat associated with the proposed improvements (approvals under Section 35 of the Federal Fisheries Act). Detailed mitigation measure and/ or fish habitat compensation will be determined at that time.

The Project Team will arrange meetings during detail design to consult on the potential impacts to agricultural lands and the proposed mitigation measures with the Ontario Ministry of Food and Rural Affairs, Simcoe County Federation of Agriculture, Ontario Federation of Agriculture, Bradford West Gwillimbury and District Vegetable Growers Association and the Ontario Fruit and Vegetable Growers Association.

The Project Team will arrange meetings during detail design to consult on the potential impacts to future development and affects on emergency services and the recommended mitigation with the Township of King, Town of Bradford West Gwillimbury, Town of Innisfil, York Region, and Simcoe County.

6.4.2 Public Consultation

During detail design, there will be complementary consultation activities (i.e. information sessions, individual meetings) made available to the public to consult on the proposed improvements and detailed mitigation measures.

6.4.3 Design and Construction Report

During detail design, a Design and Construction Report will be prepared for each construction contract to provide information for compliance and monitoring purposes and to document existing conditions, potential impacts and mitigation measures. This report will also document how the commitments to future work identified in this Preliminary Design Report have been addressed.

6.5 COMMITMENTS TO FUTURE WORK

Prior to detail design, further survey is required to provide an accurate Digital Terrain Model (DTM), locate precise property lines and accurately tie-in all hard surfaces. Horizontal alignment staking should be completed as part of this survey. In addition, geotechnical and foundations work will be completed during detail design to confirm the feasibility of the structural foundations.

The following outlines the future additional environmental study to be undertaken at subsequent design stages of this project for the purpose of identifying / confirming existing conditions, assessing impacts and developing detailed mitigation measures / compensation strategies:

6.5.1 Natural Environment

- ❑ Hydrogeological Analysis
 - A review of wells in the vicinity of earth cuts will be undertaken as appropriate during detail design to examine potential impacts (contamination, reduction in groundwater quality and quantity);
 - Impacts to sensitive recharge areas will be examined during detail design and appropriate mitigation will be developed as necessary;
- ❑ Supplemental Fisheries and Aquatic Habitat Assessment
 - The purpose of this work will be to confirm watercourse conditions and develop mitigation measures and compensation plans (where required) in consultation with MNR and DFO and to obtain authorization under Federal Fisheries Act.
- ❑ Supplemental Terrestrial Assessment
 - The purpose of this assessment is to examine opportunities for enhancements to address impacts to vegetated and wetland areas and develop the necessary landscape plans.
 - Assess impacts to potentially affected Red-shoulder Hawk habitat. During detail design, a thorough search for Red-shouldered Hawk nests within 150m of the proposed right-of-way in vegetation units W4, W5, W6 during leaf-off conditions will be conducted. Surveys will also be conducted in May to determine if any identified Red-shouldered Hawk nests are still active. Based on the findings of this work, mitigation measures will be developed / confirmed in consultation with the appropriate agencies (i.e. MNR)
 - Confirm impacts to amphibian habitat (Chorus Frogs and Spring Peepers)
- ❑ Detailed Stormwater Management Plan
 - In light of detailed survey information compiled during detail design, the detail design of the stormwater management strategy (as outlined in Section 6.1.5) will be undertaken.

6.5.2 Socio-Economic Environment

- ❑ Public Consultation
 - As noted in Section 6.5.2, additional public consultation and discussions with affected property owners and commercial businesses will be undertaken during the detail design stage. The purpose of these consultation activities will be to identify opportunities to minimize design and construction related impacts.
 - Permanent and temporary property requirements shall be confirmed in detail design when more detailed survey information is available.
- ❑ Landscaping Plan
 - A landscaping plan will be developed during detail design to address aesthetic impacts of the recommended plan.
- ❑ Construction Noise
 - Develop noise control measures for inclusion in contract documentation and obtain any noise by-law exemptions where required.

- ❑ Traffic Monitoring
 - With the proposed closure of Canal Road access to/from Highway 400 and concerns regarding re-directing access for highway 400 to Highway 9 MTO has agreed to provide, subject to warrant analysis, for installation of traffic signals on Highway 9 at Rupke Road and Jane Street. MTO has also agreed to monitor traffic along Highway 9 and intersections along Canal Road, Woodchoppers Lane and South Canal Bank Road.
- ❑ Commuter Parking Lot
 - The recommended plan identifies a location for a commuter parking lot within the property envelope of the Simcoe Road 88 interchange. The precise location and configuration of the new commuter parking lot will be refined during detail design. The Ministry will continue to identify opportunities for locating commuter parking lots in the vicinity of interchanges along the Highway 400 corridor as demand warrants.
- ❑ Property Contamination and Waste Management
 - Subsurface investigations (Phase 1 Environmental Site Assessments and limited Phase 2 Environmental Site Assessments) will be undertaken during detail design for properties impacted by the recommended plan identified as having a high potential for contamination.

6.5.3 Cultural Environment

- ❑ Archaeological Assessment
 - Lands beyond the limits of the existing disturbed right-of-way of Highway 400 or secondary roads, and the Simcoe Road 88 interchange, required for the proposed right-of-way of the technically preferred improvements, will be subject to a Stage 2 archaeological assessment during detail design.
 - Additional lands beyond the proposed right-of-way required for the construction of temporary facilities (staging areas, storage areas, access roads etc.), will be subject to archaeological assessment during detail design.
- ❑ Built Heritage Assessment
 - The existing 11th Concession overpass structure is a built heritage feature. The most significant characteristic of the structure is the Coat of Arms panels. During detail design, retaining the Coat of Arms panels for use on the new structure will be examined in consultation with appropriate government agencies.
 - A landscape plan will be developed during the detail design phase of this project to mitigate negative aesthetic (cultural landscape) impacts at the Simcoe Road 88.

6.5.4 Utility Relocations

A number of utilities require relocation prior to the construction of the Highway 400 improvements. These may include Bell Canada, Hydro One, cable television, the Town of Innisfil and the Town of Bradford West Gwillimbury.

It is expected that utility relocations can be accommodated within the proposed right-of-way. This will be confirmed in consultation with the utilities during detail design. It is recommended that all of these utilities be contacted early during detail design to confirm

plant location and discuss relocation strategies / cost sharing. Impacts and mitigation requirements will be considered in relation to alternative relocation options.

6.5.5 Design and Construction Report

During detail design for each contract, a Design and Construction Report will be prepared to provide information for compliance and monitoring purposes and to document existing conditions, potential impacts and mitigation measures. This report will also document how the commitments to future work identified in this Transportation Environmental Study Report have been addressed.

6.5.6 Legal Agreements and Cost Sharing

Legal agreements, cost sharing and recoverable arrangements will need to be negotiated with affected utility companies for plant relocation.

Legal agreements and cost sharing will need to be discussed with the Town of Bradford West Gwillimbury, Town of Innisfil, Region of York and County of Simcoe to address maintenance of crossing roads, and possible future widening of crossing roads.

6.6 PROJECT MONITORING

6.6.1 Project Specific Technical Monitoring

During construction, MTO or its agent ensures that the implementation of the mitigating measures and key design features are consistent with the contract. In addition, MTO or its agent will assess the effectiveness of its environmental mitigating measures to ensure the following:

1. Individual mitigating measures are providing the expected control and/or protection;
2. Composite control and/or protection provided by mitigating measure is adequate;
3. Additional mitigating measures are provided as required for any unanticipated environmental conditions which may develop during construction; and
4. Information is available for the overview assessment of mitigating measures.

Environmental monitoring after a project is completed may involve follow-up monitoring of significant measures and /or significant concerns.

6.6.2 Project Specific Class EA Process Monitoring

During the planning and design stage, MTO ensures compliance with the Class EA process before MTO issues "environmental clearance" for project implementation.

During construction, MTO ensures that external notification and consultations are consistent with any commitments that may have been made earlier. Following construction, monitoring will ensure that any follow-up information is provided to external agencies as per any outstanding environmental commitments.

6.6.3 Implementation of Environmental Monitoring Framework

Inspection by Construction Staff

Construction is subject daily to general on-site inspection to ensure the execution of the environmental component of the work and to deal with environmental problems that develop during construction. This is the primary method for compliance monitoring.

Site Visits by Environmental Staff

Construction projects with significant mitigating measures/concerns are subject to periodic site visits by consultant environmental staff. The timing and frequency of such site visits are determined by the schedule of construction operations, the sensitivity of environmental concerns and the development of any unforeseen environmental problems during construction. MTO staff will be available should difficulties arise.

6.7 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK

Commitments to future work and mitigation to address specific concerns with the technically preferred alternative are listed in Table 15.



TABLE 15 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK

ID #	Environmental Element/Concern and Potential Impact	Concerned Agencies	ID #	Details/Mitigation
1.0	Groundwater – Impacts to existing wells and groundwater discharge/recharge areas	MNR / MTO / Property Owners	101	<ul style="list-style-type: none"> A review of wells in the vicinity of earth cuts will be undertaken as appropriate during detail design to determine pre-construction well conditions (ie. baseline water quality and quantity data).
			102	<ul style="list-style-type: none"> It is anticipated that recharge lost to impermeable surfaces will, in part, be mitigated by direction of runoff to ditches where some additional recharge above what is currently occurring. Impacts to sensitive recharge areas will be examined during detail design and appropriate mitigation will be developed as necessary.
			103	<ul style="list-style-type: none"> Opportunities to address potential impacts associated with deicing salt application will be addressed as a part of the Ministry's ongoing review of environmental standards of practice.
			104	<ul style="list-style-type: none"> The risk of spillage will be minimized and managed through standard practices of not permitting contractors to refuel or maintain vehicles in a manner, which would permit ready entry of spilled fuels into permeable ground surfaces or water sources. Refueling operations in proximity to shallow wells in areas of relatively higher water table such as the northern and southern portions of the study area are potentially most susceptible to fuel impacts will not be permitted. In addition, an emergency response plan must be in place to address accidental releases
2.0	Aquatic Features – Harmful alteration, disruption or destruction of fish habitat, culvert extensions and stream realignments.	TRCA/MNR/MTO	201	<ul style="list-style-type: none"> No inwater work from March 15 to June 30 (warmwater).
			202	<ul style="list-style-type: none"> No inwater work from September 1 to June 1 (coldwater).
			203	<ul style="list-style-type: none"> Implement a sediment and erosion control plan with typical mitigation measures including sediment fences, check dams and/or straw bales in affected drainages and revegetation of exposed soils will occur within a minimum 45 days of the start of grading.
			204	<ul style="list-style-type: none"> Culvert extension work will be isolated from stream flows.
			205	<ul style="list-style-type: none"> All dewatering and flow diversions must be conducted in a manner that prevents sedimentation;
			206	<ul style="list-style-type: none"> Areas for refuelling of machinery will be located well away from any watercourse or drainage ditch.
			207	<ul style="list-style-type: none"> Sediment and erosion controls will be implemented throughout the construction area, maintained frequently and in response to storm events. These controls will consist of sediment fences, check dams in swales and restoration of exposed soils with application of vegetative cover materials within a maximum 45 days of the start of grading. On steeper slopes, geotextiles should be used to enhance slope stability and the growth of the vegetation. An Environmental Inspector will be employed to monitor the success of the sediment and erosion control methods used and to provide guidance on maintenance requirements. Sediment and erosion controls will remain in place and maintained until such time as the vegetation has taken sufficiently to provide adequate protection for the watercourses.
			208	<ul style="list-style-type: none"> All construction debris and litter will be removed frequently. Stockpiles will not be permitted within the regulatory floodplain. All stockpiles will be removed upon completion of the works and the site restored under the location, as appropriate.
			209	<ul style="list-style-type: none"> Where instream works are taking place, flows shall be maintained and without excessive sedimentation or erosion. Flows may be diverted by piping or damming and pumping for short duration. In the event temporary channel bypass measures are required in areas known to contain fish species, all fish would be removed and transplanted upstream of construction activities prior to channel dewatering.

TABLE 15 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK (CONT.)

ID #	Environmental Element/Concern and Potential Impact	Concerned Agencies	ID #	Details/Mitigation
2.0	Aquatic Features – Harmful alteration, disruption or destruction of fish habitat, culvert extensions and stream realignment. (Continued)	TRCA / MNR / MTO	210	<ul style="list-style-type: none"> An Environmental Inspector with a natural channel or biological background and construction experience should be employed for all instream works on permanent watercourses to ensure that mitigation and compensation measures are implemented as designed. <p>See details in Section 6.1.2 for details of specific mitigation measures at individual fish habitat crossings.</p>
3.0	Terrestrial Features – Displacement of vegetation. Vegetation protection and restoration.	MNR / MTO / Property Owners	301	<ul style="list-style-type: none"> Leave vegetation on newly acquired right-of-way wherever possible to reduce loss of native vegetation.
			302	<ul style="list-style-type: none"> Mark specific trees (cavity nesting trees) or vegetation (forage species such as Red Oak) for retention where possible.
			303	<ul style="list-style-type: none"> Create small openings in the cattail monoculture and seed native grass species adjacent to the openings to improve leopard frog habitat in vegetation unit W5.
			304	<ul style="list-style-type: none"> Plant native conifers along new edge of the right-of-way to improve diversity and provide adequate shielding from the highway in vegetation unit W7.
			305	<ul style="list-style-type: none"> Plant additional Eastern White Cedar along new edge of the right-of-way to improve cover component in vegetation unit W22.
			306	<ul style="list-style-type: none"> Plant additional native trees and shrubs adjacent to hedgerow W24 and W27 to link significant unit W26 to W28 and W23.
			307	<ul style="list-style-type: none"> Stockpiled soil and other materials should be located outside of vegetated areas.
			308	<ul style="list-style-type: none"> A Stormwater Management and Drainage Plan will be developed to address impacts related to lost flood storage area in fill regulated zones.
4.0	Wetlands – The features of the Cookstown Hollows Swamp PSW are location-specific and may not necessarily be impacted by the recommended improvements.	MNR / MTO	401	<ul style="list-style-type: none"> Impacts to specific features within the PSWs should be investigated during detail design.
5.0	Wildlife – Breeding Bird Habitat – loss or alteration of approximately 0.74 ha of breeding bird habitat.	MNR / MTO	501	<ul style="list-style-type: none"> Existing vegetation on newly acquired right-of-way will be retained to the extent possible to reduce loss of native vegetation. Specific trees (cavity nesting trees) or vegetation (forage species such as Red Osier Dogwood) will be marked for retention, where possible.
6.0	Wildlife – Amphibian Habitat – impacts to approximately 4160 m ² of potential Chorus Frog and Spring Peeper breeding habitat	MNR / MTO	601	<ul style="list-style-type: none"> Impacts to Spring Peepers and Chorus Frog habitat will be confirmed during detail design in consultation with the Ministry of Natural Resources and if required, feasible mitigation measures will be developed.

TABLE 15 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK (CONT.)

ID #	Environmental Element/Concern and Potential Impact	Concerned Agencies	ID #	Details/Mitigation
7.0	Vulnerable, Threatened or Endangered Species – Potential impacts to Red-Shouldered Hawk habitat (nesting area).	MNR / MTO	701	<ul style="list-style-type: none"> Conduct a thorough search, at the detail design stage, for Red-shouldered Hawk nests within 150m of the proposed right-of-way in vegetation units W4, W5, W6 during leaf-off conditions.
			702	<ul style="list-style-type: none"> Conduct a survey in May to determine if any identified Red-shouldered Hawk nests are still active.
			703	<ul style="list-style-type: none"> No construction activities, in areas identified as Red-Shouldered Hawk nesting areas within the proposed right-of-way, that would create noise in excess of the current ambient highway noise are permitted between March 1 and July 31 to protect nesting Red-shouldered Hawks if an active nest is located within 150m of the proposed right-of-way.
8.0	Stormwater Management – Potential reduction in stormwater quality and quantity.	MNR / MTO / Town of Bradford West Gwillimbury	801	<ul style="list-style-type: none"> Flat-bottomed grassed swales in all locations where the design criteria can be met.
			802	<ul style="list-style-type: none"> Additional enhanced ditches along critical highway areas.
			803	<ul style="list-style-type: none"> Ten water quality and quantity control wet ponds/wetlands.
			804	<ul style="list-style-type: none"> Localized erosion control measures.
			805	<ul style="list-style-type: none"> Plunge pools should be placed at the downstream ends of all culverts with watercourses that support fish habitat.
			806	<ul style="list-style-type: none"> Storm sewers to outlet to the highway ditches, instead of within the culverts, with plunge pools placed at all storm sewer outlets.
			807	<ul style="list-style-type: none"> In response to concerns associated with West Nile, the Ministry is in the process of monitoring to identify any stormwater drainage conditions, which may be conducive to the production of mosquito larvae. The results of this monitoring will be considered in the design of Highway 400 stormwater drainage and control facilities.
			808	<ul style="list-style-type: none"> The Town of Bradford West Gwillimbury has initiated the Holland Marsh Drainage Scheme and has proposed a realignment of the North Canal north of its existing location. Subject to approval and agreement between affected parties, the realignment of the canal may impact the Highway 400 right-of-way and proposed Canal Road structure, as recommended by this study, which spans over Canal Road and the North Canal. The design of the proposed Canal Road structure may, therefore, require revisiting. The Town will coordinate with the Ministry of Transportation in the approval process.
9.0	Erosion Control – Potential for erosion of newly exposed cut and fill slopes.	MNR / MTO	901	<ul style="list-style-type: none"> Limit the time slopes are exposed prior to stabilization to 45 days from commencement of grading. Use geotextiles on steeper slopes to enhance slope stability.
			902	<ul style="list-style-type: none"> Employ sediment fences and check dams where appropriate.
10.0	Air Quality – Temporary reduction in air quality during construction.	MTO	1001	<ul style="list-style-type: none"> Open burning will not be permitted
			1002	<ul style="list-style-type: none"> Application of calcium chloride flakes and/or water to reduce dust.
11.0	Aesthetics – Impacts to vegetative screening.	MTO / Property Owners	1101	<ul style="list-style-type: none"> Retaining/protecting vegetation wherever possible, and keeping removals to a minimum required.
			1102	<ul style="list-style-type: none"> Undertaking post-construction landscape planning where warranted for mitigative purposes.

TABLE 15 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK (CONT.)

ID #	Environmental Element/Concern and Potential Impact	Concerned Agencies	iD #	Details/Mitigation
12.0	Agricultural – Impact to agricultural land and operations.	MTO	1201 1202 1203	<ul style="list-style-type: none"> Replace fences removed during construction. Areas used for temporary basis for construction will be restored to current conditions in consultation with the affected agricultural operator. Property impacts will be addressed as identified in Section 6.2.4 of this report. Both permanent and temporary property requirements will be confirmed in detail design when more detailed survey information is available.
13.0	Noise – Construction related noise – Noise from construction activity has the potential to be noticeable, particularly outside of normal weekday construction periods (when ambient sound levels are lowest).	MTO	1301 1302 1303 1304	<ul style="list-style-type: none"> Maintenance of mufflers and other noise reduction devices on heavy equipment. Enforce construction codes of practice and local municipal noise by-laws and codes to provide means of limiting excessively noisy operations and equipment. If required, noise by-law exemptions will be obtained prior to construction. Specify hours of operation during construction. Monitor complaints on construction noise and investigate.
14.0	Community Mobility – Impact to emergency vehicle access. Canal Road access to Highway 400 closed. Highway 9 Interchange and Intersections along Canal Road, Woodchoppers Lane and South Canal Bank Road to accommodate additional traffic volumes.	MTO / Town of Bradford West Gwillimbury.	1401 1402 1403 1404 1405	<ul style="list-style-type: none"> To address change in access resulting from the closure of the Canal Road access to/from Highway 400, MTO will consider signage improvements in the Highway 400 corridor at a later design stage. Subject to warrant analysis, provide for installation of traffic signals on Highway 9 at Rupke Road and Jane Street. Monitor traffic on Highway 9 and intersections along Canal Road, Woodchoppers Lane and South Canal Bank Road. Build Bradford Bypass. There is currently no established timeline for construction. Complete the Simcoe Road 88 interchange improvements prior to the closure of the Canal Road access to reduce the effects of the closure.
15.0	Property Requirements	MTO / Property owner	1501	<ul style="list-style-type: none"> Compensation for residential, commercial and agricultural property impacts will be provided for temporary and permanent property requirements. For permanent property taking, compensation will be provided at fair market value, which is determined at the time of purchase with a property appraisal report forming the basis for negotiations. Other ancillary costs are negotiated on a case-by-case basis. Compensation will be provided for temporary property requirements. Upon completion of construction, temporary property will be returned to the owner and restored to its original condition.
16.0	Scotch Settlement Arboretum -	MTO / Local Residents	1601	<ul style="list-style-type: none"> Impacts to trees / vegetation will be minimized to the extent possible.
17.0	Future Development – impacts to future development at McKinstry Road and Highway 88; impacts to Town of Bradford Transportation plans.	MTO / Local Residents / Local Businesses / Town of Bradford West Gwillimbury	1701 1702	<ul style="list-style-type: none"> Opportunities to minimize potential property impacts associated with the alignment of McKinstry Road will be reviewed during detail design in consultation with the Town of Bradford West Gwillimbury. The Town of Bradford West Gwillimbury undertook a Transportation Planning Assessment, which identified that the short, medium and long-term travel demands of the Town would be best served by other interchanges, including a new interchange at 5th Line at Highway 400. MTO has committed to work with the Town to develop such a connection, pending the Town's completion of the required transportation planning and approval of the municipal environmental assessment.

TABLE 15 SUMMARY OF IDENTIFIED CONCERNS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORK (Cont.)

ID #	Environmental Element/Concern and Potential Impact	Concerned Agencies	ID #	Details/Mitigation
18.0	Snow Drift – Areas with potential for snow drift occur at: Holland Marsh area; 350 metres south of Simcoe Road 88; Vicinity of 9th Concession; 850 metres south of 11th Concession; and 1 km south of 13th Concession.	MTO	1801	<ul style="list-style-type: none"> Place berms, fencing and/or vegetation along the new edge of the right-of-way to provide shielding from the snow drifting areas.
19.0	Commuter Parking Lot - The recommended plan identifies a location for a commuter parking lot within the property envelope of the Simcoe Road 88 interchange.	MTO	1901	<ul style="list-style-type: none"> The recommended plan identifies a location for a commuter parking lot within the property envelope of the Simcoe Road 88 interchange. The precise location and configuration of the new commuter parking lot will be refined during detail design.
			1902	<ul style="list-style-type: none"> The Ministry will continue to identify opportunities for locating commuter parking lots in the vicinity of interchanges along the Highway 400 corridor as demand warrants.
20.0	Management of Excess Material - During construction it is anticipated that there will be large amounts of excess materials such as: natural wood, treated wood, concrete, asphalt and earth.	MTO	2001	<ul style="list-style-type: none"> The contractor will be responsible for properly storing and disposing excess material generated during construction in accordance with Ontario Provincial Standards and Specifications (OPSS) 180 and the Ontario Ministry of the Environment's Guideline "Management of Excess Material in Road Construction Projects".
21.0	Property Waste and Contamination	MTO	2101	<ul style="list-style-type: none"> Where farm properties are to be acquired that include the farm buildings (as opposed to fields) then the properties will be assessed on a case by case basis.
			2102	<ul style="list-style-type: none"> Subsurface investigations will be undertaken during later design stages on properties identified as having a high potential for contamination (based on known historical and current land uses), which are impacted by the recommended improvements. Lands identified as being required at such properties will typically be subjected to Phase 1 Environmental Site Assessments and limited Phase 2 Environmental Site Assessments.
22.0	Heritage Resources – Impact to heritage resources due to the 11 th Concession bridge replacement.	MTO	2201	<ul style="list-style-type: none"> Retaining the Coat of Arms panels on the 11th Concession overpass structure for use on the new bridge will be examined during detail design.
			2202	<ul style="list-style-type: none"> A landscape plan will be developed during the detail design phase to minimize impacts to the farm complex at 3657 Simcoe Road 88.
23.0	Archaeological Resources - Based on the study area's proximity to water and historic land use patterns, there is potential for the identification of pre-contact and historic archaeological resources within the agricultural lands beyond the existing highway right-of-way.	MTO	2301	<ul style="list-style-type: none"> Lands beyond the limits of the existing disturbed right-of-way of Highway 400 or secondary roads, and the Simcoe Road 88 interchange will be subject to a Stage 2 archaeological assessment during detail design.
			2302	<ul style="list-style-type: none"> Additional lands beyond the limits of construction required for the construction of temporary interchanges, parking lots, stormwater management facilities, staging areas, storage areas, access road etc., will be subject to archaeological assessment during detail design.
			2303	<ul style="list-style-type: none"> In the event that deeply buried archaeological remains are encountered during construction activities, the office of the Regulatory and Operations Group, Ministry of Tourism, Culture and Recreation (MTCR) will be notified immediately.
			2304	<ul style="list-style-type: none"> In the event that human remains are encountered during construction, both MTCR and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations will be notified immediately.

7.0 APPLICATION OF CLASS EA PRINCIPLES AND PROCESS

The planning and preliminary design of improvements to Highway 400 from the South Canal Bridge to 1 kilometer south of Highway 89 followed the study principles and process set forth in the Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000). This section summarizes how the transportation engineering, environmental protection, external consultation, evaluation, documentation, bump-up, and environmental clearance principles were met through the study process undertaken for this project.

7.1 TRANSPORTATION ENGINEERING PRINCIPLES

The transportation engineering principles set forth in the Class EA were addressed throughout the course of this study. The improvements to this section of the Highway 400 corridor will result in a highway that provides for the safe and efficient movement of people and goods, meets the needs of the travelling public, and addresses transportation problems and opportunities by addressing existing and anticipated deficiencies on this section of the highway (refer to Section 4.0). Throughout this project, sound engineering judgement was used to develop a design that responded to the specific needs of the Highway 400 corridor. An analysis of the existing and projected traffic volumes, accident history, highway geometrics and existing structures was performed to determine where upgrades were required to meet or exceed current provincial design standards and practices and to address future needs.

Various technically feasible design alternatives were evaluated and technically preferred alternatives were selected for preliminary design (refer to Section 5.0). The selection of the technically preferred alternatives was based on a number of factors that included: minimizing environmental impacts, minimizing property requirements and impacts to adjacent properties, and providing the maximum transportation benefits for the lowest cost.

7.2 ENVIRONMENTAL PROTECTION PRINCIPLES

The environmental protection principles described in the Class EA were addressed throughout this study. Minimizing impacts to the environment was a guiding principle at each stage of the planning and preliminary design process. Design alternatives were evaluated, in part, on the basis of potential environmental impacts.

In order to characterize baseline conditions, the existing natural and socio-economic environments were inventoried and described and sensitive and significant features were identified (refer to Section 3.0). Potential environmental impacts and mitigation measures were identified and described (refer to Section 6.0). A strategy for monitoring the implementation of environmental protection and mitigation measures is provided in Table 15.

This study has been conducted to meet the statutory duties and other requirements of federal and provincial environmental legislation and to adhere to MTO's Statement of Environmental Values. In some instances, transportation engineering considerations necessitate activities that would result in impacts to the environment. Appropriate and technically feasible mitigation measures were recommended where such impacts were unavoidable.

Liaison between members of the transportation engineering and environmental teams was an essential component of the study process. This ensured a balance between transportation engineering and environmental considerations and allowed the development of reasonable and technically feasible solutions and minimized environmental impacts through design where impacts cannot be avoided entirely.

7.3 EXTERNAL CONSULTATION PRINCIPLES

The external consultation principles outlined in the Class EA were addressed through the external and public consultation process described in Section 5.0 of this TESR. An initial notification letter advising of study commencement was distributed to external stakeholders on the Project Team's mailing list (refer to Appendix C). Two rounds of Public Information Centres (PICs) were held for this project to provide an opportunity for the public and agencies to provide input. The PICs were scheduled at key stages of the project, namely the generation of alternatives stage, evaluation of alternatives and selection of the preferred alternative stage. Both PICs were held during the late afternoon/early evening at Bradford Community Centre. A public notice ("Notice of Public Information Centre") was placed in the Bradford West Gwillimbury Times, Toronto Star, Barrie Examiner and Barrie Advance for each PIC. The consultant project manager's contact information was provided in the notices for those who were unable to attend the information centre.

Consultation with the public and external agencies was used to obtain information regarding the study area, potential effect on external agency mandates as it pertains to project and identify issues and concerns. Comments raised by the public and external agencies were addressed appropriately. Letters were prepared in response to specific concerns and the design features were reviewed in light of comments received and incorporated appropriately. Issues and concerns raised during consultation are outlined in Section 5.2 and refinements to the technically preferred alternative are outlined in Sections 4.9. Meetings and discussions were held with the Town of Bradford West Gwillimbury and the County of Simcoe to identify issues and concern and seek endorsement on the proposed improvements. Meetings were also held with the Ministry of Natural Resources and the Lake Simcoe and Region Conservation Authority to discuss potential impacts to natural features, stormwater management issues and to obtain agreement on mitigation measure to address adverse environmental impacts.

The project team mailing list was continually updated throughout the project to ensure that all individuals and external agencies were kept apprised of project activities. A letter was directly sent to each person on the project team mailing list upon submission of the TESR to notify individuals of their opportunity to review the document. Public notices were also placed in the Bradford West Gwillimbury Times, Toronto Star, Barrie Examiner and Barrie Advance regarding submission of the TESR.

7.4 EVALUATION PRINCIPLES

The evaluation principles outlined in the Class EA were addressed through the analysis and evaluation of alternative design as described in Section 4.3 of this report. The evaluation process employed and consideration of all factors relevant to the decision making process is discussed in the Section 4.7. The evaluation method used in this study included a combination of subjective reasoning and the evaluation of quantitative data. Alternatives were evaluated based on their benefits/disadvantages to the natural environment, social environment, cultural environment, economic environment, transportation considerations and cost.

7.5 DOCUMENTATION PRINCIPLES

The documentation principles set forth in the Class EA were addressed through the preparation of this TESR, which fulfills the content requirements outlined in the Class EA. This document provides a summary of the needs and justification for the proposed undertaking, outlines existing environmental conditions, identifies the significant features of the preferred alternative, identifies potential environmental impacts and appropriate mitigation measures, and summarizes the consultation process employed throughout this study.

7.6 BUMP-UP PRINCIPLES

The bump-up principles identified in the Class EA will be addressed upon submission of this TESR. A notice of study completion that explains the study process and the bump-up opportunity will be published in the Bradford West Gwillimbury Times, Toronto Star, Barrie Examiner and Barrie Advance and letters will be directly sent to those on the project team's mailing list upon submission of this TESR. Following the publication of the notice of study completion, the TESR will be available for public review for a period of 30 days. No construction activities can commence until bump-up request (if any) have been dealt with.

7.7 ENVIRONMENTAL CLEARANCE PRINCIPLES TO PROCEED

This project has followed the study principles and processes set forth in the Class Environmental Assessment for Provincial Transportation Facilities (2000). The environmental clearance for this project to proceed is subject to the following:

- No bump-up requests submitted during the 30-day TESR review period and all public and external agency comments have been addressed.
- There are no outstanding issues related to the design of this project that prevent it from proceeding.

If a bump-up request is received, the decision rests with the Minister of the Environment on whether the project complies with the requirements of the Class EA.

APPENDIX A

MINUTES OF MEETING

MINUTES OF MEETING

PROJECT NAME: Hwy 400 Planning Study
*From the York / Simcoe Boundary to 1 km South of
Highway 89*
G.W.P. 40-00-00

Agency Meeting No. 1

PROJECT No. CN29900167 **DATE:** January 24th, 2002

LOCATION: Lake Simcoe Region Conservation Authority
Offices **TIME:** 11:00 a.m.

PRESENT: Kathy Woeller - Ministry of Natural Resources (Midhurst District)
Graham Findlay - Ministry of Natural Resources (Midhurst District)
Mike Dodd - Nottawasaga Valley Conservation Authority
Tom Hogenbirk - Lake Simcoe Region Conservation Authority
Kevin Boudreau - MTO
Joel Foster - MTO
Mike Bricks - URS Cole Sherman
Len Kozachuk - URS Cole Sherman
Liza Gervais - URS Cole Sherman
Tyler Drygas - URS Cole Sherman

PURPOSE: Presentation / Discussion of Natural Environment and Drainage Issues Related to the
Technically Preferred Alternative

<u>Items</u>	<u>Description</u>	<u>Action by:</u>
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1.	Introduction / Project Overview	
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Len Kozachuk gave a brief overview of the Highway 400 Planning Study, including the project limits, alternatives considered and adjacent studies currently underway for the Highway 400 corridor.

This Highway 400 Planning Study has been undertaken to address transportation needs to the year 2021. The proposed improvements include widening Highway 400 symmetrically about the centreline including the replacement of the existing median barrier and sewer with a concrete median barrier system. The County Road 88 interchange is proposed to be reconfigured to address operational issues and the Canal Road interchange is proposed to be closed.

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

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As part of the planning process, several alternatives were considered including an open 22 metre median. The preferred alternative was selected because it minimized physical impacts, had lower costs and offered comparable technical benefits.

2. Natural Environment Overview

Rod Bilz (FRi) outlined the key natural features within the project limits. There are three general areas of multiple natural environment constraints: Holland River Valley Complex, Innisfil Creek Tributaries and the Cookstown Hollows Swamp. An information package outlining the significant natural environment features, potential impacts and proposed mitigation was provided to all attendees.

Potential adverse impacts associated with the proposed highway improvements and mitigation measures were summarized as follows:

Significant Vegetation Units

- Loss of approximately 1.87 ha (predominantly fragmented / disturbed by past previous developments, impacts are generally at the forest edge);
- Impacts will be mitigated by committing to a vegetation saving program, prior to / during construction.

Vulnerable, Threatened and Endangered (VTE) Species

- Loss of approximately 0.49 ha - Red-Shouldered Hawk, located in the fringe area of W5 and Caerulean Warbler (an interior species).
- Significant impacts not expected. Proposed mitigation includes checking for nesting sites.

Significant Wildlife Habitat and Travel Corridors

- Loss of 10.9 ha of Deer Wintering Habitat (high proportion is unforested);
- Vegetation removal impacting the Dunkerron Forest linkage (expanded highway ROW with barrier not significantly different from existing condition);
- The proposed improvements will not adversely impact significant core habitat values;
- Mitigation measures includes native vegetation planting in ROW to link forested areas.

Items Description

Action by:

Fish Habitat

The physical description of each watercourse, potential impacts, and mitigation / compensation opportunities were outlined. The project will impact 12 warmwater crossings, and 1 coldwater crossing. The impacts will be primarily related to culvert extensions, some realignments required.

Typical mitigation strategies including timing restrictions are proposed. Mitigation will focus on the provision of refuge pools for the dry season and substrate improvements to support fish movement.

Significant Wetlands

- Loss or alteration of approximately 3.4 ha of Cookstown Hollows Swamp PSW;
- SWMP to address storage and water quality.

The following questions / comments were made regarding impacts to the natural environment:

1. K. Woeller inquired as to the extent of impacts to vegetation along the highway ROW. L. Kozachuk noted that the proposed improvements would expand the road platform by approximately 10 metres evenly on each side of the highway.
2. G. Findlay inquired as to the impacts on key habitat corridors. R. Bilz noted that the impacts of the widening (and barrier treatment) will not significantly effect linkages relative to the existing condition. Attendees agreed that important habitat crossings should be maintained to support wildlife movement (i.e. maintain / improve culvert openings).
3. T. Hogenbirk noted that the Fraser Creek (as referenced in the Ecoplans exhibits) is more appropriately referred to as the North Schomberg River.
4. G. Findlay inquired as to when fish sampling was undertaken for the fisheries assessment. R. Bilz noted that fisheries investigations / sampling was conducted in the summer and fall seasons. G. Findlay noted that seasonal pike habitat at smaller tributaries may exist in the spring (in crossings 6, 7 and 8 in particular). Fish sampling, including observation and electrofishing is recommended to address this issue. The timing of this work will be considered by MTO. It may be more appropriate to undertake this work during the detail design stage.
5. M. Dodd questioned whether the existing culvert at Pinkerton Creek (crossing #26 – coldwater stream) poses barriers to fish movement. R. Bilz noted that there are no impediments to fish movement at this location.

URS

MTO

Items Description

Action by:

6. M. Dodd noted that compensation measures should be focused on each individual watercourse rather than focusing on improving one area / watercourse.
7. K. Woeller noted that there are landowner issues associated with the potential for expansion of wet areas (wetland boundaries) adjacent to the Highway 400 corridor. The Project Team noted that drainage implications on wetlands have been examined and no significant impacts are expected.
8. It was noted that the Fraser Wetland is not a PSW but rather a locally significant wetland.

FRi

Summary of Natural Environment Issues

Attendees were generally in agreement on the assessment of the nature and extent of potential impacts to the natural environment and proposed mitigation measures / concepts for compensation. MNR noted that the proposed improvements constitute a Harmful Alteration, Disruption of Destruction (HADD) of fish habitat and that authorization from the Department of Fisheries and Oceans (DFO) will be required.

MTO

DFO will be consulted during this study phase. FRi will contact DFO to have a project file number assigned and to discuss conceptual compensation strategies.

FRi

Attendees agreed that additional spring pike investigations should be undertaken for crossings 6, 7, 8.

MTO

Copies of the existing conditions reports prepared by Ecoplans were provided to MNR. Copies of the impact / mitigation report will be forwarded for review and comment in the coming weeks.

URS/FRi

3. Drainage and Hydrology Overview

L. Gervais provided a brief overview of the existing drainage and stormwater management conditions within the project limits.

Drainage associated with the proposed improvements to the Highway 400 corridor will continue to be primarily by roadside highway ditches and the median storm sewer, with the ditches relocated to the edge of the proposed widening. New median storm sewers are proposed through the majority of the study area (including the Holland Marsh area). Culvert extensions will be required at all of the culverts in the study area to accommodate the proposed widening. The proposed widening of the bridge over the North Canal will not include any changes to the piers, thus resulting in no impact on the floodlines.

Items Description

Action by:

Two types of critical areas were identified to determine potential impacts on water quality and quantity:

- Areas draining to watercourses that support fish habitat adjacent to the highway; and
- Areas that result in a large increase in pavement area relative to their total upstream drainage area.

The proposed improvements to the highway will result in an increase in pavement area. The total increase in pavement area from the existing 6 lanes to the ultimate 10 lanes is approximately 42 ha, including interchanges. This represents a 68% increase in pavement area.

The proposed stormwater management strategy consists of flat-bottomed grassed swales in all locations where the design criteria can be met, additional enhanced ditches along critical highway areas, 10 water quality control facilities (wet ponds or wetlands), and localized erosion control measures within the project limits.

L. Gervais noted that steep grades at some sections of the highway are not conducive to treatment with grassed swales. Grassed swales can be effectively implemented over only 70% of the study area. In the remaining 30% of the study area, the slope of the highway exceeds 1.5% and the effectiveness of the grassed swales at removing pollutants is reduced.

L. Gervais noted that flat-bottomed grassed swales were also included along critical highway areas where treatment is not feasible with stormwater management ponds (i.e. Innisfil Creek area).

Plunge pools are proposed at the downstream ends of all culverts with watercourses that support warmwater fish habitat primarily to provide energy dissipation, although these pools may also enhance the fish habitat.

The proposed stormwater management strategy will provide water quality treatment by means of wet ponds or wetlands and flat bottomed grassed swales for approximately 135% of the total increase in pavement area under ultimate conditions

The following questions / comments were made in regard to stormwater management issues:

1. T. Hogenbirk noted that sensitive natural areas could be adversely impacted in terms of water quality without treatment. L. Gervais replied that the study area has been reviewed to determine locations where stormwater management ponds can be effectively implemented. Flat-bottomed grassed swales and enhanced ditches will be implemented in critical highway areas where treatment is not feasible with stormwater management ponds.

Items Description**Action by:**

- | | |
|---|-----------|
| 2. T. Hogenbirk inquired as to the opportunities for stormwater treatment where culverts will be replaced. L. Gervais noted that plunge pools are proposed in locations where they would have drainage benefits (i.e. energy dissipation) and not adversely effect fish habitat. L. Gervais to confirm whether any culverts require replacement. | URS |
| 3. T. Hogenbirk inquired as to the cleaning of culverts. MTO to confirm maintenance of culverts. T. Hogenbirk also indicated that, where possible, the median storm sewer should outlet to the ditch and not directly into the culvert. | MTO |
| 4. T. Hogenbirk noted concerns regarding the introduction of sediment into adjacent drainage systems, particularly within the Holland Marsh. L. Gervais reiterated the fact that stormwater management would be provided by means of wet ponds/wetlands and grassed swales. | |
| 5. M. Dodd inquired on the potential for use of dry ponds as a stormwater management tool. L. Gervais noted that the outlet structure for a dry pond would be very small and would not be feasible given the site conditions. | |
| 6. T. Hogenbirk inquired as to how the crown of the highway would be altered with respect to highway drainage. L. Kozachuk noted that the crown would be shifted to provide drainage to the centre median sewer and the balance of the pavement surface would drain to outside ditches. | |
| 7. T. Hogenbirk noted that a grade change to County Road 88 could impact floodlines of the Fraser River tributary potentially impacting the proposed commercial development at the northeast quadrant of the interchange. L. Kozachuk noted that the Project Team would examine the proposed grades at this location. Further, the technically preferred alternative conflicts with the draft site plan. MTO is discussing this area with the developer and a new site plan may need to be developed. | URS |
| 8. The Agencies raised concerns regarding potential impacts on regional flood lines. The Project Team noted that alternatives for reviewing floodline concerns would be examined. M. Dodd noted that if floodlines were contained within a valley system, significant impacts would not be expected. | MTO / URS |
| 9. T. Hogenbirk noted that opening size for any new culverts should be outlined in the TESR. | URS |

Items Description

Action by:

Summary of Stormwater Management Issues

In summary, the Agencies were supportive of the proposed stormwater management strategy. URSCS to forward the Draft Drainage and Hydrology Report to the Conservation Authorities for review and comments pending MTO review.

URS/MTO

Submitted by: Tyler Drygas
 Environmental Planner

Distribution:
Those Present / Distribution List



Cole Sherman

MINUTES OF MEETING

PROJECT:	Highway 400 Planning Study G.W.P. 40-00-00	MUNICIPAL TEAM Meeting No.	3
PROJECT No.	CN29900167	DATE:	25 October 2001
LOCATION:	Bradford West Gwillimbury Offices	TIME:	10:30 am
PURPOSE:	Municipal Team Meeting		
PRESENT:	Paul Feehely - Bradford West Gwillimbury Art Janse - Bradford West Gwillimbury Kevin Boudreau - MTO Planning and Design Joel Foster - MTO Southwestern Region Terrence Mitchell - MTO Planning and Design Michael Vyse - MTO Planning and Design Len Kozachuk - URS Cole Sherman Colin Wong - URS Cole Sherman		

<u>Items</u>	<u>Description</u>	<u>Action by:</u>
1.	<p>Technically Preferred Alternative</p> <p>L. Kozachuk provided a brief summary of the results of the alternatives for mainline and interchange improvements. He discussed:</p> <ul style="list-style-type: none">• A summary of the evaluation of Highway 400 cross section alternatives;• the ultimate preferred alternative on Highway 400 is a 10-lane cross section with a median barrier to be implemented in stages (initially widen from 6 to 8 lanes, then 8 to 10 lanes);• the preferred plan includes the closure of the interchange at Highway 400/Canal Road;• a second interchange on Highway 400 in Bradford at 5th Concession is not justified within the study horizon; and• the Highway 88 interchange would be upgraded to a Parclo A-4 interchange.	

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once otherwise the contents of this document shall be assumed accurate and correct

Items **Description****Action by:**

A. Janse inquired about what assumptions CSA made for a Bypass through Bradford in its recommendations. L. Kozachuk explained that the recommendations were based on the assumption that the "Bradford Bypass" would be constructed and operating by 2021.

A. Janse added that the Drainage Commission is looking into canal improvements. The proposed improvements to Highway 400 structure over the north canal (widen and rehabilitate) will be incorporated in the Drainage Commission's work plan.

L. Kozachuk also noted that there is significant concern over the sight distance at the Highway 400/Canal Road structure. The piers obstruct the view of drivers attempting to make turns onto Canal Road from Wist Road and Davis Road. L. Kozachuk presented preliminary plans showing the relocation of Wist Road to the east and Davis Road to the west to improve sight distance. He noted that since the interchange would be closed, jurisdiction of Wist Road, Davis Road and Canal Road would likely be transferred to the municipality.

L. Kozachuk mentioned that Emergency Services had concerns over out-of-way travel once Canal Road is closed. It was felt by the attendees that these concerns could be addressed readily.

Copies of the presentation material were distributed to the MTO and Bradford representatives for the information of Council. It was noted that the other departments invited to the meeting today would likely be in attendance at the meeting with Council on Tuesday, October 30, 2001.

Submitted by: Colin Wong

Distribution: Those present

MINUTES OF MEETING

PROJECT NAME: Highway 400 Planning Study
G.W.P. 40-00-00

MUNICIPAL TEAM Meeting No. 2

PROJECT No. CN29900167

DATE: January 11, 2001

LOCATION: Bradford West Gwillimbury Offices

TIME: 10:00 a.m.

PRESENT: Paul Feehely - Bradford West Gwillimbury
Ronald Kneeshaw - Bradford West Gwillimbury
Art Janse - Bradford West Gwillimbury
Eric Hodgins - Bradford West Gwillimbury
Robert Myles - Bradford West Gwillimbury
Henry Nelson - Bradford West Gwillimbury
Gord Feniak - Bradford West Gwillimbury
John Gorzo - Councilor
Steve McInnis - MTO Planning and Design
Joel Foster - MTO Environmental
Len Kozachuk - URS Cole, Sherman
Mike Bricks - URS Cole, Sherman
Angela Patterson - URS Cole, Sherman

PURPOSE: Municipal Team Meeting #2

- | <u>Items</u> | <u>Description</u> | <u>Action by:</u> |
|--------------|---|-------------------|
| 1. | Introduction

Paul Feehely provided a brief introduction. Attendees introduced themselves along with their association to the project. | |
| 2. | Project Schedule

A copy of the project schedule was distributed. The first round of Public Information Centres is scheduled for mid-February. | |
| 3. | Concern/Issues

Len Kozachuk gave a brief overview of the project highlighting the following: <ul style="list-style-type: none">- Existing Canal Road interchange is substandard geometrically.- Existing Highway 88 has limitations with respect to operations and safety.- Improvements will be made within the current ROW wherever possible. | |

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

- Proposed mainline improvements include widening to 10 lanes south and 8 lanes north of Highway 88.

The floor was then opened to the municipal representatives to discuss issues and concerns which could assist the project team in generating and evaluating alternatives. The following summarizes the comments received.

Canal Road / 5th Concession

- Improvements to Canal Road should be limited. Don't want to promote use of Canal Road since it is built on peat and is, therefore, in poor condition.
- Closing Canal Road will inconvenience transportation to and from the marsh. Existing business will be affected if Canal Road is closed (i.e. market located at the interchange).
- A control gate is located on the river on the west side of Highway 400. Existing piers in the river are restricting flow. Highway 400 improvements should be clear span across the canal. Any new bridge across the canal can not be lower than the existing Highway 400 structures crossing the canal.
- Relocation of the Canal Road interchange to the 5th concession results in considerable out-of-way travel for northbound traffic. The existing road network connecting the marsh to 5th concession is poor for truck traffic travelling to and from the marsh.
- If the Canal Road interchange is relocated to the 5th concession, marsh traffic destined to points south can use the interchange at Highway 9. Traffic signals may be required on Highway 9 to deal with the additional traffic.
- Emergency access should be provided at Canal Road for flood protection purposes.
- Highway 400 should be widened to the centre in the vicinity of the marsh. The additional salt spray could otherwise result in the loss of agricultural land.
- Service Roads paralleling Highway 400 can not be changed to one-way access.
- All movements may not be required at a Canal Road interchange, if modified to provide emergency access only.
- Emergency access should be provided at Canal Road. Due to the poor condition, emergency vehicles avoid the use of Canal Road whenever possible. For emergencies on northbound 400 between Canal Road and Highway 88, emergency vehicles get on Highway 400 southbound at Highway 88 and then use the Canal Road interchange to access northbound Highway 400.

Items Description

Action by:

- If the Canal Road interchange is improved, Canal Road would require upgrades to Highway 88 standards.
- Fibre optic cable is located just east of the existing ramp terminal on the east side of Highway 400 at the Canal Road interchange.
- Additional access for Bradford is desired. Highway 88 is considered the limiting factor for access to/from Bradford. The 5th concession could be opened to alleviate some of this traffic. In addition, it is believed that opening 5th concession will alleviate commuter traffic on Canal Road.
- The Bradford Official Plan indicates future growth to the south and west. The Official Plan will be provided to CSA.

Bradford

Highway 88

- Noise may be an issue for the campground situated near the northwest quadrant of the Highway 88 interchange.
- The existing cloverleaf configuration of the Highway 88 interchange raises safety concerns.
- Husky intends to make improvements to the Truck Stop at the Highway 88 location, including an addition.
- A new watermain crosses Highway 400 in the vicinity of the Highway 88 interchange.
- An additional 60ft of property outside of the fence line at the Highway 88 interchange is owned by MTO.
- There is noticeable truck traffic coming from the west along Highway 88 to Highway 400 southbound.
- The importance of the commuter parking lot at Highway 88 is stressed.

General Comments

- Other modes of transportation should be considered along the Highway 400 corridor.
- Steve McInnis noted that the timing of this project depends on traffic requirements and availability of funding.

Submitted by: Angela Patterson, P.Eng.

Distribution: Those present

MINUTES OF MEETING

PROJECT NAME:	Highway 400 Planning Study G.W.P. 30-95-00 / G.W.P. 40-00-00	MUNICIPAL TEAM Meeting No.	1
PROJECT No.	CN29900147 / CN29900167	DATE:	December 14, 2000
LOCATION:	County of Simcoe Offices L.E. Clark Room Administrative Centre 1110 Highway 26 Midhurst	TIME:	10:00 a.m.
PRESENT:	Bill Brown - County of Simcoe Rick Newlove - City of Barrie Todd Stocks - Township of Springwater Paul Feehely - Bradford West Gwillimbury Judi Brouse - District of Muskoka Mike Bricks - URS Cole, Sherman Len Kozachuk - URS Cole, Sherman		
PURPOSE:	Municipal Team Meeting #1		

Items Description**Action by:****1. Introduction**

Len Kozachuk began the meeting by introducing the Project Team. He noted that the MTO Project Manager, Steve McInnis was unable to attend the meeting due to weather conditions and noted that Cole, Sherman & Associates Ltd. has been retained by MTO to undertake the study.

2. Purpose of the Project

Len noted that the purpose of this project was to examine short to mid-term operations and issues (to year 2011) to Highway 400 to determine mainline and interchange improvements. It was noted that other MTO studies are examining long-term network improvements required in Simcoe County.

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3. Project Schedule

A copy of the project schedule was distributed (and is attached to these minutes). The project is just getting underway and is at the problem generation/alternative generation stage. Two rounds of Public Information Centres are scheduled (February 2001 and May 2001). The project is anticipated to be complete by September 2001.

4. Concern/Issues

The floor was then opened to the municipal representatives to discuss issues and concerns which could assist the project team in generating and evaluating alternatives. The following summarizes the comments received.

- Barrie – has conducted an O-D Study – a copy of this will be provided to CSA.
- Emergency service access will have to be considered if MTO implements a core/distributor section through the City of Barrie.
- Possible venues for the PICs include Barrie City Hall, Thornton Arena/Community Centre, and Bradford West Gwillimbury Community Centre.
- Information packages should be provided to Councils in advance of the PICs. Staff will determine whether a presentation is required in advance of the PICs.
- In Bradford it was noted that the major issue was the interchange at Canal Road. It was noted that Canal Road was used as a commuter route and that the road has a load restriction due to poor geotechnical conditions. It was agreed that a separate meeting would be arranged with various Bradford representatives (including the Holland Marsh Drainage Commission) to discuss issues related to the marsh.
- Opportunities for new or expanded Commuter Parking Lots should be examined.
- It was noted that there is a letter on file from the Mayor of Barrie to the Minister of Transportation noting that Barrie prefers Highway 400 widening through Barrie as opposed to a Bypass.
- It was noted that VIA was undertaking a business study for rail service which could affect travel demands.

City of Barrie

Items Description

Action by:

5. Data Collection

It was noted that much for the preliminary information required to complete this study has already been obtained. Additional data is required on developments in the corridor. Andrew Hill (Barrie) and Ian Bender (County of Simcoe) were identified as Planning Department Contacts.

Submitted by: Mike Bricks

Distribution:

Those Present

- c. S. McInnis – MTO P & D
- J. Foster – MTO Environmental

MINUTES OF TELEPHONE CONVERSATION

PROJECT NAME: Highway 400 Planning Study
G.W.P. 40-00-00

DATE: December 20, 2001

PROJECT No. CN299000167.00

TIME: 2:30 p.m.

LOCATION: Cole, Sherman's Offices

PRESENT: Emma Fallows – Ministry of Natural Resources – Aurora District
Tyler Drygas – URS Cole Sherman

Tyler Drygas contacted Mr. Ian Buchanan regarding attending a MNR / Conservation Authority meeting for the above noted project. In reply, Ms. Emma Fallows contacted T. Drygas on behalf of Mr. Buchanan. Ms. Fallows noted that although the southerly portion of the project limits are within MNR Aurora's jurisdiction, there is no need for their attendance at the meeting as MNR's interests would be adequately addressed in consultation with MNR Midhurst staff regarding improvements to this section of the Highway 400 corridor.

T. Drygas noted that as a courtesy, Minutes of Meeting would be forwarded to Mr. Buchanan for his information.

Submitted by: Tyler Drygas

Environmental Planner

Distribution:

cc: M. Bricks – CSA
L. Kozachuk - CSA
K. Boudreau – MTO
J. Foster – MTO
I. Buchanan – MNR Aurora
E. Fallows – MNR Aurora
K. Woeller – MNR Midhurst

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

MINUTES OF MEETING

PROJECT NAME: Hwy 400 Planning Study
From the York / Simcoe Boundary to 1 km South of Highway 89
G.W.P. 40-00-00

PROJECT No. CN29900167

LOCATION: Bradford West Gwillimbury Municipal Offices

PRESENT: Dennis Roughley - Bradford West Gwillimbury, Deputy Mayor
Art Janse - Bradford West Gwillimbury / Holland Marsh Drainage Commission
Paul Feehely - Bradford West Gwillimbury
Robert Myles - Bradford West Gwillimbury
Rich Vandezande - Bradford West Gwillimbury
Jim Corneau - Bradford West Gwillimbury
John Gorzo Jr. - Bradford West Gwillimbury / Bradford and District Vegetable Growers Association / Ontario Fruit and Vegetable Growers Association
Don Stevenson - Ontario Federation of Agriculture
Bob Wood - Simcoe County Federation of Agriculture
Ray Valaitis - Ontario Ministry of Agricultural Food and Rural Affairs
Teri Seymour - Bradford and District Vegetable Growers Association
Michael Vyse - MTO
Joel Foster - MTO
Mike Bricks - URS Cole, Sherman
Len Kozachuk - URS Cole, Sherman
Angela Patterson - URS Cole, Sherman

PURPOSE: Agricultural Meeting
Discuss impacts of the proposed alternatives to the agricultural operations in the Holland Marsh.

Agricultural Meeting No. 1

DATE: June 25, 2001

TIME: 2:00 p.m.

Items Description**Action by:****1. Introduction**

Len Kozachuk gave a brief overview of the Highway 400 Planning Study, including issues and concerns raised to date and the proposed alternatives for the Canal Road interchange. The following was noted with respect to interchange alternatives:

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

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Alternative 1 – Closure of the Canal Road Interchange

- Commuter traffic on Canal Road reduced.
- Approximately five to six kilometres out-of-way travel for local traffic to access Highway 400.
- Impact to emergency services access to northbound Highway 400.
- Local traffic would utilize the existing Highway 9 and Simcoe Road 88 interchanges.

Alternative 2a & 2b – Improvements to the existing Canal Road Interchange

- Improvements would increase the interchange footprint in Marsh.
- Structure widening / additional structures required over north canal.

Alternative 3 – Closure of the Canal Road Interchange with Possible Relocation to 5th Concession

- Service Road east or west of Highway 400 connecting Canal Road to 5th Concession.
- Requires new structure over north canal.
- Impact to emergency services to northbound Highway 400.

2. Comments

The following comments were made in the discussion that ensued:

1. The “Do Nothing” alternative could potentially see an increase in accident rates due to the increased traffic volumes and undesirable geometry of the existing Canal Road interchange.
2. Traffic on Highway 9 is a concern if Holland Marsh traffic is to be routed to Highway 9, with closure of Canal Road interchange. Len Kozachuk noted that signalization of intersections on Highway 9 could be considered.
3. The attendees indicated that approximately 60% of agricultural traffic generated in the Holland Marsh heads south to Toronto while the remaining 40% heads east and north. The group estimated that 30 trucks travel to Toronto per day during the peak growing season (10 trucks per day during the winter months).
4. Art Janse indicated that from a drainage perspective, the fewest number of structures over the canal is desired (i.e. close Canal Road interchange). New structures have minimum standard lowest point restrictions and may require clear span over the canal.

Items Description

Action by:

5. The group felt that a new service road between Canal Road and 5th Concession (connecting to an interchange at 5th Concession) would be utilized as a commuter route. This connection could promote commuter use of Canal Road, which is undesirable. The group felt that the majority of commuter traffic (from Bradford) would use 5th Concession to access the interchange.
6. With the closure of Canal Road interchange, an agreement between emergency services in Bradford West Gwillimbury and Schomberg would be required to cover the Highway 400 northbound lanes. Emergency services is least affected by Alternative 2A or 2B.
7. A suggestion of a service road connecting Canal Road to Highway 9 was discussed. It was agreed that such a connection could continue to promote commuter use of Canal Road, which is undesirable.
8. The group's perception was that approximately 90% of the traffic volume utilizing Canal Road is commuter traffic from Bradford.
9. The group generally agreed that Alternative 2A and Alternative 2B are least preferred given the drainage, soil, and commuter traffic concerns.
10. It was noted that residents along the 5th Concession have raised concerns with a possible interchange at this location at the recent PIC.
11. The group generally felt that closure of the Canal Road interchange would not be enough to deter commuter traffic from using Canal Road to get to/from Bradford. An alternative connection to Highway 400 for Bradford commuters is required.

3. Summary

Len Kozachuk summarized the comments as follows:

1. Alternative 1 reduces commuter traffic on Canal Road, but does not provide an option for commuters. Commuter traffic on Canal Road is a concern for agricultural operators. Without the Canal Road interchange, agricultural traffic will likely utilize Highway 9 to get to/from Toronto.
2. Alternative 2 would continue to attract commuter traffic to Canal Road and is, therefore, least preferred by the group.
3. Alternative 3 would attract commuter traffic away from Canal Road to 5th Concession, and would have impacts to the area around 5th Concession.
4. The future growth area in Bradford is the block of land west of Sideroad 10 and just south of Simcoe Road 88. It is unclear as to whether Canal Road would be as attractive a connecting link to Highway 400 as Simcoe Road 88.

Items Description

Action by:

5. Bradford West Gwillimbury Official Plan shows Simcoe Road 88 and Bradford Bypass as providing the primary transportation connections to Highway 400. (The Bradford West Gwillimbury Official Plan indicates that Canal Road will be the subject of a study (in conjunction with Simcoe County) in attempt to improve traffic conditions at Canal Road. It is noted that there is a significant amount of interference between Marsh agricultural operators and commuters travelling to and from Highway 400 on Canal Road.)

Len Kozachuk indicated that the recommendation would be presented at a second round PIC, likely held in September. Prior to the PIC, a municipal team meeting will be held.

Submitted by: Angela Patterson, P.Eng.
 Project Engineer

Distribution:
Those Present / Distribution List

MINUTES OF TELEPHONE CONVERSATION

PROJECT: Highway 400 Planning Study
*From the York / Simcoe Boundary to 1 km
South of Highway 89
G.W.P. 40-00-00*

DATE: June 22, 2001

PROJECT No. CN29900167

TIME:

PARTICIPANTS: Shane Baker, Fire Chief – Township of King

Shane Baker left a message in response to the letter dated June 5, 2001 that requested information regarding emergency services coverage for the Highway 400 corridor.

King Township provides coverage for the Highway 400 corridor from the King / Vaughan line (just south of King Road) northerly to North Canal Bank Road.

These services are provided via two fire halls. One is located in Schomberg, the other in King City.

Submitted by: Angela Patterson, P.Eng.
Project Engineer

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

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APPENDIX B

CORRESPONDENCE



Town of Bradford West Gwillimbury

P.O. Box 160, Bradford, Ontario L3Z 2A8

Administration Centre: 3541 Line 11 at Highway 400 • Tel: 905-775-5366 • Fax: 905-775-0153

October 17, 2003

Ministry of Transportation
659 Exeter Road
London, ON
N6E 1L3

Attention: Kevin Boudreau
Project Engineer
Planning and Design Section
Southwestern Region

Dear Mr. Boudreau:

Re: Highway 400, Preliminary Design Study

I wish to advise that Council, at their Regular Meeting held on Tuesday, October 14, 2003, accepted the recommendations of the Ministry of Transportation Highway 400 Preliminary Design Study (north of Hwy. 9 to Hwy. 89).

Our staff look forward to continuing to work closely with your Ministry regarding this project.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours very truly,

A handwritten signature in black ink, appearing to read "Patricia R. Nash".

Patricia R. Nash
Deputy Clerk

- c. John Klowak, Senior Project Engineer
Lola Vaz, Senior Project Engineer
Ron Kneeshaw, Superintendent of Public Works
Paul Feehely, SET
Susan Turnbull, Treasurer
Gord Feniak, Town Consulting Engineer
Nick Poulos, Poulos & Chung

**Ministry of
Transportation**

Planning and Design Section
Southwestern Region

659 Exeter Road
London ON N6E 1L3
Telephone: (519) 873-4550
Facsimile: (519) 873-4600

**Ministère des
Transports**

Section de la planification et de la conception
Région du Sud-Ouest

659, rue Exeter
London ON N6E 1L3
Téléphone: (519) 873-4550
Télécopieur: (519) 873-4600



RECEIVED

AUG 28 2003

URS

August 26, 2003

Mr. Paul M. Feehely
Senior Engineering Technologist
Town of Bradford West Gwillimbury
31 Barrie Street
P.O. Box 419
Bradford, Ontario
L3Z 2A9

Dear Mr. Feehely:

RE: Highway 400 Preliminary Design Study
Highway 9 to Highway 89

Thank you for the opportunity to meet with you on August 6, 2003 to discuss the results of your Transportation Planning Assessment. The following summary outlines our understanding of the issues and our next steps toward the conclusion of the Highway 400 Planning Study between Highway 9 and Highway 89.

At our meeting we discussed the need to preserve the east-west linkage of Canal Road across Highway 400. We apologize if we caused any confusion in our description of the "closure of the Canal Road access". The ministry proposes to close only the access ramps from Highway 400 to Canal Road and we will be maintaining the crossing bridge that allows Canal Road and the canal to pass under Highway 400. In addition, it is proposed to carry out improvements to Wist Road and Davis Road as part of the construction work to improve the visibility at the intersections with Canal Road. We have enclosed a copy of Exhibit 5.3, which will be included in our Preliminary Design Report, for your information.

The Transportation Planning Assessment undertaken by Bradford West Gwillimbury recognizes that maintaining the Highway 400 access to Canal Road is costly and unnecessarily disruptive to the Holland Marsh. Further, in this report, it states that short, medium and long-term travel demands of the Town would be better served by other interchanges, specifically at 10th Side Road (and the future Bradford By-pass) and at the 5th or 6th Line (at Highway 400). At our meeting you described the growth expected over the next 25 years and the number of development proposals for the area. We agree that plans such as these will certainly place tremendous pressure on your existing transportation network and that it is timely to begin the process of planning for a transportation network to support this growth.

As you can appreciate, the ministry supports growth and development, however, we also strive to preserve the integrity of the provincial highway network by minimizing the number of access points. New Interchanges are considered, if they are technically feasible to construct and the need is fully established by appropriate planning and environmental assessment work. The work, which you have initiated through the transportation planning assessment, is a first step in this planning process. As we discussed, further planning must be take place by the municipality to establish your future transportation network including any proposed connections to the provincial highway network. We would be willing to provide you with support for your future work by means of a technical representative and/or technical reports in the area (such as the Simcoe Study).

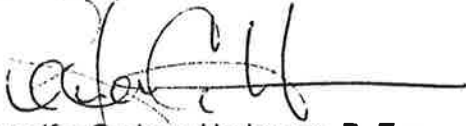
Following our meeting, we reviewed the technical feasibility of the interchange locations that were identified in your report. We found that an interchange at Highway 400 and the 5th Line is technically feasible. We also found that interchanges between the Bradford Bypass and the 10th Side Road and Highway 400 and the 6th Line are not technically feasible. In the both cases, the spacing between the existing and proposed connections to our highway system is not sufficient to permit another interchange to operate acceptably. As a result, the ministry would recommend that the Town's further planning efforts focus on a proposed interchange at Highway 400 and the 5th Line. Once your transportation plan is complete and a municipal environmental assessment is in place for a new interchange, the ministry will work with you to develop this future connection.

With regard to funding of interchanges, there are many recent examples across the province where the local municipality has fully or largely funded the construction of a new interchange or an expanded interchange to support local growth and development. However, as indicated in our September 30, 2002 letter to Ms. Juanita Dempster-Evans, the ministry acknowledges some financial responsibility related to the closure of the Canal Road access and had previously suggested that the ministry could provide funding towards the upgrading the County Road 88 interchange (to meet the Town's needs). However, in light of our most recent discussions, the ministry is prepared instead to discuss cost-sharing a new interchange at the 5th Line once the Town moves closer to completing the necessary planning and environmental assessment work. It should be noted that in order to accommodate the widening of Highway 400 the 5th Line bridge will need to be replaced and the ministry would be willing to provide a new bridge that will accommodate an interchange configuration as selected under the Town's planning work.

The ministry is proceeding to finalize our Highway 400 Planning Study and our report will include references to the discussions we have held regarding Canal Road and your future interchange needs with Highway 400. We will document that your report supports our findings with respect to the Canal Road access to Highway 400, that the Town is considering a future interchange at the 5th Line, and once the appropriate municipal planning and environmental assessment is in place the Ministry will work with the Town to develop a future interchange at the 5th Line.

We trust this letter accurately reflects our most recent discussions and we would be prepared to attend your next Council meeting to seek a resolution on our planning project.

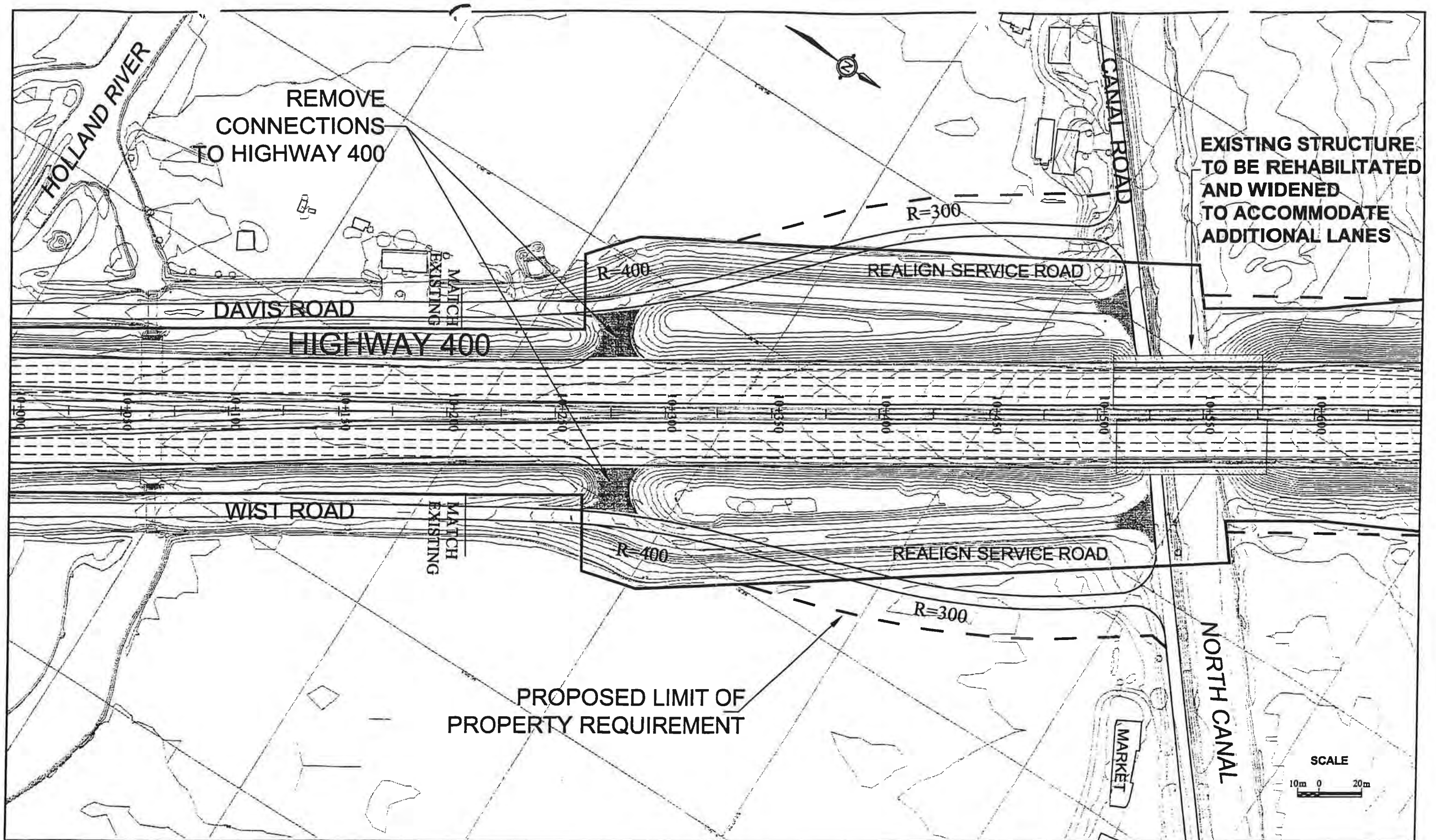
Yours truly,

A handwritten signature in black ink, appearing to read 'Jennifer Harkness', with a long horizontal line extending to the right.

Jennifer Graham Harkness, P. Eng.
Head
Planning and Design Section
Southwestern Region, London

Encl.

c: Lou Politano, Manager of Engineering (Central Region)
Kevin Bentley, Manager of Engineering (Southwestern Region)
Kevin Boudreau, Planning and Design Section (Southwestern Region)
Juanita Dempster-Evans (Clerk-Administrator Bradford West Gwillimbury)
Len Kozachuk (URS Canada Inc.)





**Ministry of
Transportation**

Planning and Design Section
Southwestern Region

659 Exeter Road
London ON N6E 1L3
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Facsimile: (519) 873-4600

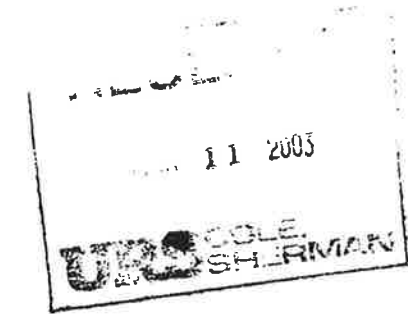
**Ministère des
Transports**

Section de la planification et de la conception
Région du Sud-Ouest

659, rue Exeter
London ON N6E 1L3
Téléphone: (519) 873-4550
Télécopieur: (519) 873-4600

March 7, 2003

Mr. Paul M. Feehely
Senior Engineering Technologist
The Town of Bradford West Gwillimbury
31 Barrie Street, P.O. Box 419
Bradford, Ontario
L3Z 2A9



Dear Mr. Feehely:

RE: Highway 400 Preliminary Design Study
Highway 9 to Highway 89

Thank you for your letter and attached correspondence dated February 11, 2003, in which you provided results of the council resolution, regarding the ministry's Highway 400 widening project.

The ministry appreciates the amount of time and effort that Bradford West Gwillimbury has spent in working with us to try to resolve the outstanding local issues that have been raised over the past few months. We would like to take this opportunity to provide further clarification on issues that were raised at the January 21, 2003 council meeting. If, upon examination of the following information, staff/Council requires a meeting with the ministry, we would be available at your earliest convenience. We would, however, like to emphasize that it has been a year since our last public review of this project and we would very much like to complete this study as soon as possible.

Based on your Council's concerns over the proposed closure of the Canal Road access to Highway 400, we offer the following additional information for staff and Council's consideration:

- The ministry has reviewed the installation of a partial interchange at Canal Road (one ramp on/off). The associated impacts with this type of interchange would be too great in consideration of the overall benefit, as this will serve a very low volume of traffic. In addition, safety risks in providing an interchange merge onto Canal Road will always exist given the agricultural vehicles using Canal Road.
- The proposal to close the Canal Road access is based on current and future capacity projections and the benefits in providing an operationally acceptable access to Highway 400 at this location. Through the evaluation of alternatives it was found that due to the low traffic volume, closure of the access does not necessitate constructing an interchange at a new location.
- The ministry will be improving Wist Road and Davis Road as part of the construction work required to close the Canal Road access. If the Canal Road structure is rehabilitated and widened as proposed in this project, the ministry will also be improving Canal Road, locally, to improve visibility conditions at the intersection of both Wist Road and Davis Road. We are unable however, to fund any additional work for Canal Road since the projected traffic volumes are very low and the local road system will not be unduly impacted by the interchange closure.

- The interchange at Highway 400 and Highway 9 will be upgraded from the current configuration as part of the overall improvements to the corridor, based on operational concerns related to current and future projected traffic volumes in this area. We have enclosed a copy of the preliminary drawings of this area for your review/records.
- The ministry recognizes that some local area farmers will be affected by the improvements proposed under this study. This will be documented in our study, however, as part of the environmental analysis, we reviewed local impacts and determined the following:
 - Minor property acquisition and out of way travel will result from the closure of Canal Road, however, the impacts associated with upgrading this interchange to an acceptable ministry standard (or relocating it to the 5th Concession) are more significant than the proposed closure;
 - From a natural, social, cultural and economic environmental review, the closure of the Canal Road access has less impact than the other alternatives examined;
 - From a transportation engineering review, closure also has less impact than the other alternatives examined.

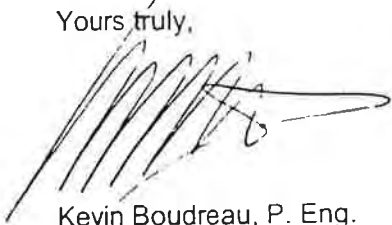
Given all of the additional information noted above, the ministry recognizes the growth potential within Bradford West Gwillimbury. Therefore, should it be determined that a new interchange access to support local growth and development within your community is required, the ministry would be willing to consider such an access on the merits of the growth/development issues.

As noted above, the ministry would like to be in a position to receive a successful Council resolution in support of our study and, if you require, we would be willing to make a council presentation to reflect the our recent discussions.

Although we would like your support of our overall recommendations, we are prepared to publish a notice of commencement for the 30-day review period of the Transportation Environmental Study Report in April 2003.

Should you require a copy of any of the detailed review information please contact the undersigned directly.

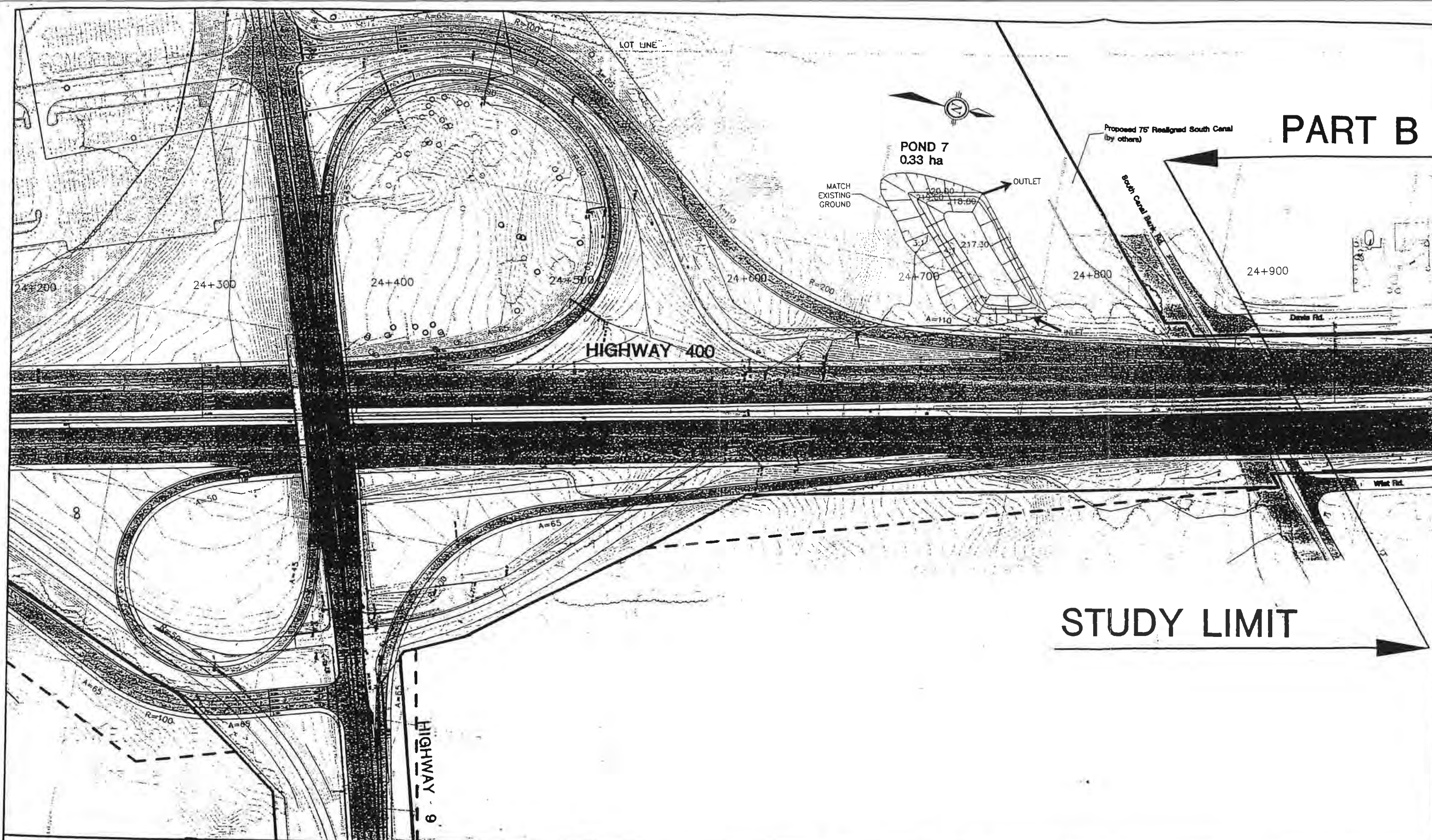
Yours truly,



Kevin Boudreau, P. Eng.
Project Engineer
Planning and Design Section
Southwestern Region, London

Encl.

cc. *Kevin Bentley, Manager of Engineering
Jennifer Graham-Harkness, Area Engineer
Joel Foster, Environmental Planner
Len Kozachuk (URS Cole Sherman)



PART B




STUDY LIMIT

HIGHWAY 400 WIDENING

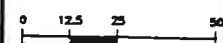
1.0 km NORTH OF MAJOR MACKENZIE DRIVE
TO SOUTH CANAL BRIDGE
PRELIMINARY DESIGN

WP 222-97-00

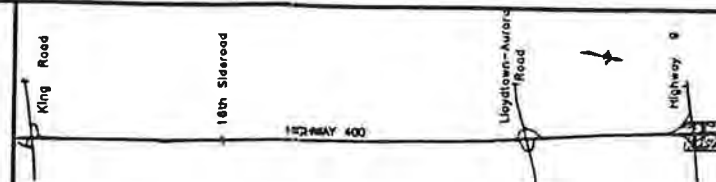
LEGEND

-  EXISTING MTO PROPERTY
-  PROPERTY REQUIRED ULTIMATE
-  PROPOSED IMPROVEMENT

SCALE



1:2000



KEY MAP (North Section)



McCORMICK RANKIN
CORPORATION



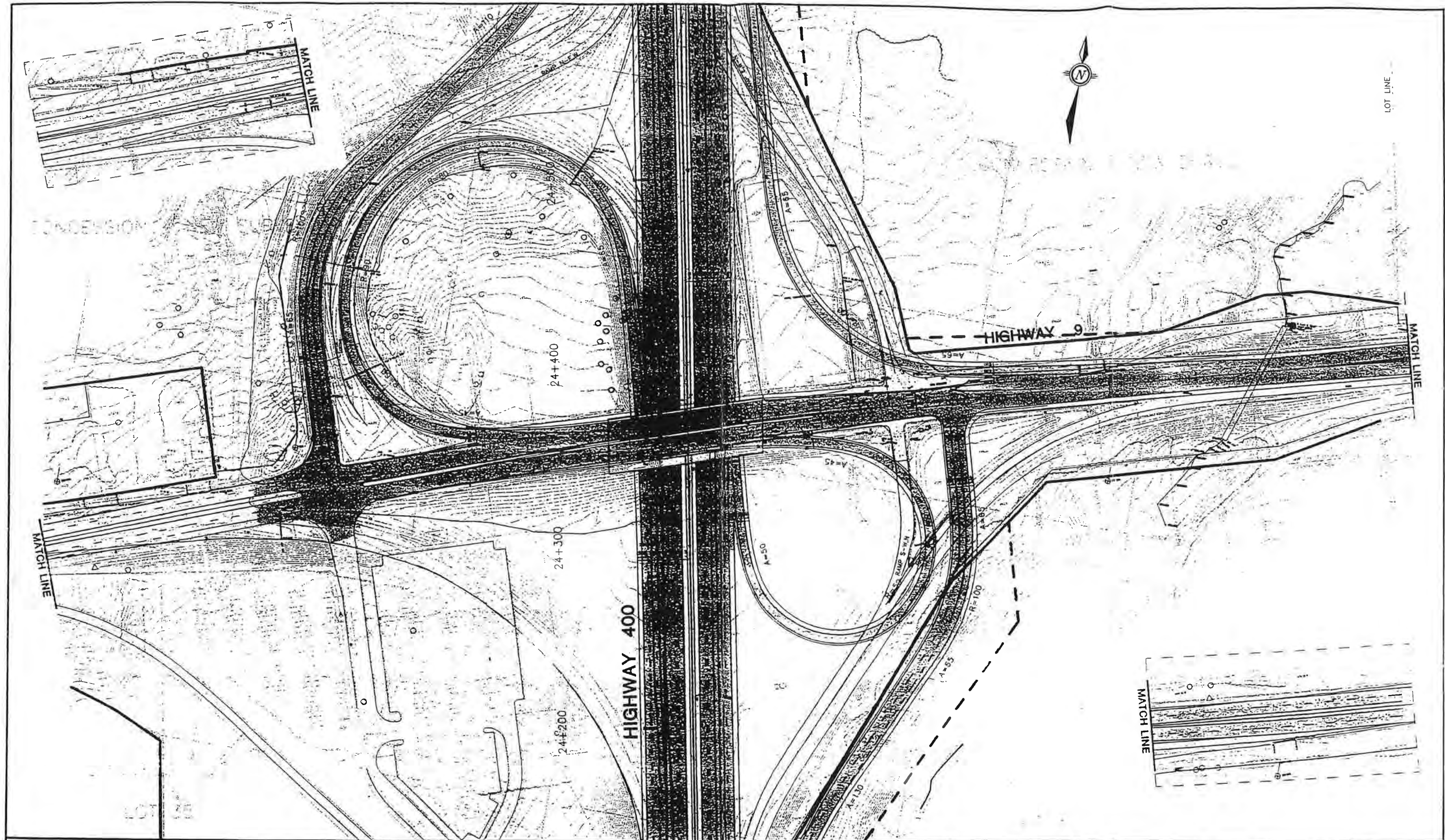
Ministry of
Transportation
Ontario

EXHIBIT 1-2

**RECOMMENDED
PLAN**

PLATE

31



HIGHWAY 400 WIDENING

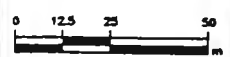
1.0 km NORTH OF MAJOR MACKENZIE DRIVE
TO SOUTH CANAL BRIDGE
PRELIMINARY DESIGN

WP 222-97-00

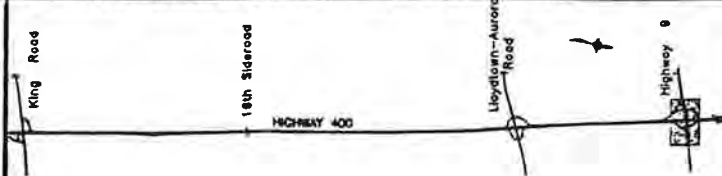
LEGEND

- EXISTING MTO PROPERTY
- PROPERTY REQUIRED ULTIMATE
- PROPOSED IMPROVEMENT

SCALE



1:2000



KEY MAP (North Section)



McCORMICK BANKIN
CORPORATION



Ministry of
Transportation
Ontario

EXHIBIT 1-2
**RECOMMENDED
PLAN**

PLATE

32

AGENCY/PUBLIC CONTACT RECORDMeeting ☐ Phone Call ☒ Other (please specify):**DATE:** March 27, 2003**TIME:** 9:30 a.m.**REF. NO.:** 29900167**PARTICIPANTS:** Bob Myles, BWG Fire Chief
Len Kozachuk, URS Cole Sherman

c.c.: Project Files

If Canal Road access was closed, BWG would need an agreement with King Township to arrange coverage of Highway 400.

- Schomberg is a volunteer department
- to secure such an agreement is probably not a problem; King Township may benefit
- new emergency services accompanying new development in BWG are not yet determined
- new development will be east and north of their station (away from Canal Road/Hwy 400)
- new services will come as needed
- Ministry pays for services provided by BWG E.S. on Hwy 400

To be added to mailing list? ☐**Name:****Address:****Telephone No.:**

Submitted by: Len Kozachuk**of:** URS Cole Sherman

**Ministry of
Transportation**

Planning and Design Section
Southwestern Region

659 Exeter Road
London ON N6E 1L3
Telephone: (519) 873-4550
Facsimile: (519) 873-4600

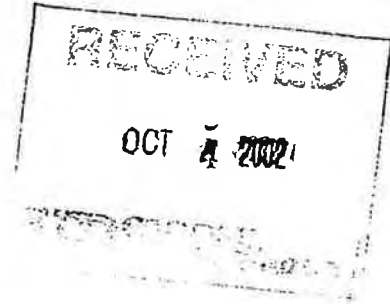
**Ministère des
Transports**

Section de la planification et de la conception
Région du Sud-Ouest

659, rue Exeter
London ON N6E 1L3
Téléphone: (519) 873-4550
Télécopieur: (519) 873-4600



September 30, 2002



Ms. Juanita Dempster-Evans
Clerk-Administrator
The Town of Bradford West Gwillimbury
P.O. Box 160
Bradford, Ontario
L3Z 2A8

Dear: Ms. Dempster-Evans

RE: Highway 400 Preliminary Design Study
Highway 9 to Highway 89

Further to your February 14, 2002 letter and our subsequent meetings of March 12, 2002 and August 7, 2002, regarding the closure of the Canal Road access to Highway 400, we would like to summarize our discussions to date.

The ministry understands that your questions/concerns with the closure, include the following:

- The closure of the Canal Road access will impact the local municipal road system. Can an alternate access be provided at the 5th Concession?
- Could a partial interchange at Canal Road be considered?
- How does the accident data at Canal Road compare to other interchanges?
- Emergency response to Highway 400 will require a new agreement be entered into with King Township
- Can the ministry commit to constructing the Bradford By-Pass

We have determined that the future traffic volumes in this area will not unduly impact your internal road system given the low traffic volumes, as well as the inherent redistribution of traffic patterns that will follow the closure of this access. Highway 9, a ministry facility, will be taking the majority of the redistributed traffic, and we will continue to monitor the operational conditions as part of our normal operational process. The ministry is not able to support an alternate access to Bradford West Gwillimbury (BWG) given traffic projections/travel demands forecasted under the current study. If future development demand drives the need for an alternate interchange, such as at the 5th Concession, we would be willing to meet with you and discuss those details.

The project team reviewed possible interchange improvements at Canal Road and found that the associated impacts with the implementation of a partial interchange at Canal Road are too great in consideration of the overall benefit (this access will continue to serve a very low volume of traffic). A partial interchange at this location is also not acceptable due to the impacts including the associated safety risks with providing a proper interchange merge given the agricultural vehicles utilizing Canal Road.

The collision data at the Canal Road access is an operational concern for the ministry. The total number of collisions at this location is similar to that of Simcoe Road 88, yet Simcoe Road 88 interchange provides access for up to 10 times more vehicles.

As part of the planning study, we discussed the proposed changes with the emergency services providers. We understood that the boundaries for coverage will need to be adjusted to provide an adequate level of service as a result of the Canal Road access closure. During these discussions, we believe that BWG was in agreement that this modified coverage would be acceptable.

We are aware of your concern with the timing for construction of the Bradford By-Pass and your desire for the ministry to commit to this work however, the study for this by-pass has been submitted to the Ministry of the Environment and is currently under review. The ministry is hopeful that this by-pass will be approved and constructed in the future, however, since it is part of a separate Environmental Assessment Study, we cannot control the approval process under this current assignment.

Further to discussions during our meeting of August 7, 2002, once this planning study is approved, the ministry would be in a position to schedule work on Highway 400 within the Multi-Year Capital Construction program. The widening of Highway 400, reconstruction of the Simcoe Road 88 interchange and closure of the Canal Road access would be programmed in accordance with provincial priorities. As part of the funding scenario for the reconstruction of Simcoe Road 88 interchange, based on recent practice, it would be expected that BWG would participate in cost-sharing discussions with regard to any increased structure width, municipal road widening and ramps since the expansion is driven by future development pressures in the municipality.

Given the fact that we are proposing to close an access on Highway 400 that currently exists, we would be willing to absorb the costs associated with the upgrade of this interchange, from ramp terminal to ramp terminal, as a credit against the impact of the Canal Road access closure. Our preliminary estimate for the total value of this work is \$13.5 M. This includes a credit estimate of \$2.75 M, which under a normal funding process would have been attributed to the Town. In addition, the ministry will place a high priority on the reconstruction of the Simcoe Road 88 interchange given the nature of the issues we have discussed. In order to assist in alleviating your concerns with the closure of the Canal Road access, we will document in the Transportation Environmental Study Report (TESR) that this access will not be closed until such a time as Simcoe Road 88 improvements are completed. In other words, the ministry would stage the construction of the overall Highway 400 improvements such that the impacts to your community would be reduced.

The ministry would not be in a position to contribute to any funding scenario for widening Simcoe Road 88 beyond the ramp terminals as this requirement would be due to municipal growth needs rather than the marginal level of traffic diverted from the Canal Road access.

With the successful completion of this Highway 400 Planning Study, and clearance of the TESR, the ministry will be able to move forward and schedule capital works along this corridor. Improvements to the Simcoe Road 88 interchange are of high importance to this ministry, given the results of the detailed review completed as part of this planning assignment.

I trust that this letter accurately reflect our discussions over the recent months and I will contact you in the near future to discuss your municipality's final position with regard to the closure of the Canal Road access.

Yours truly,

A handwritten signature in black ink, appearing to read 'Kevin Boudreau', with a long horizontal stroke extending to the right.

Kevin Boudreau, P. Eng.
Project Engineer
Planning and Design Section
Southwestern Region, London

cc. Kevin Bentley, Manager of Engineering
Jennifer Graham-Harkness, Area Engineer
Joel Foster, Environmental Planner
Len Kozachuk (URS Cole Sherman)



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Coast Guard
Central & Arctic Region

Garde côtière
Région du Centre et de l'Arctique

201 N. Front Street, Suite 703
Sarnia, Ontario
N7T 8B1

Your file Votre référence

Our file Notre référence
8200-02-6316

March 28, 2002

Ontario Ministry of Transportation
c/o Cole, Sherman and Associates Ltd
75 Commerce Valley Drive East
Thornhill, ON L3T 7N9

APR 4 2002

Attention: Tyler Drygas

Dear Sir:

**RE: Navigability Enquiry of various waterway crossings, #30-399, 30-571 to 573,
and 30-415, Highway 400, County of Simcoe, Province of Ontario**

Reference is made to your letter dated January 22, 2002 regarding the above navigability inquiry.

In the opinion of Coast Guard officials, the crossings at the sites indicated are considered **not navigable**. Consequently, we have no interest in any works at these sites.

The project may cause adverse effects on fish and fish habitat and the proponent should contact Fisheries and Oceans, Fish Habitat Management, 3027 Harvester Road, Suite 304, PO Box 85060, Burlington, Ontario, L7R 4K3 for expert advice as it pertains to the Fisheries Act.

Should you have any questions, please contact our office at telephone number 519-383-1866.

Yours truly


Mark Wright
A/NWP Inspections Officer
Navigable Waters Protection

MW/dmp

Canada

**Ministry of
Transportation**

Planning and Design Section
Southwestern Region

659 Exeter Road
London ON N6E 1L3
Telephone: (519) 873-4550
Facsimile: (519) 873-4600

**Ministère des
Transports**

Section de la planification et de la conception
Région du Sud-Ouest

659, rue Exeter
London ON N6E 1L3
Téléphone: (519) 873-4550
Télécopieur: (519) 873-4600



March 6, 2002

Ms. Juanita Dempster-Evans
Clerk-Administrator
The Town of Bradford West Gwillimbury
P.O. Box 160
Bradford, Ontario
L3Z 2A8

Dear: Ms. Dempster-Evans

RE: G.W.P. 40-00-00, Highway 400 Preliminary Design Study
Highway 9 to Highway 89
District 33, Owen Sound

Further to your letter of February 14, 2002, regarding your concerns with the closure of the Canal Road Interchange, the ministry is aware your concerns and, moreover, would like to arrange a meeting in the very near future to discuss these issues.

We will call you shortly, in order to arrange a meeting.

Yours truly,

Kevin Boudreau, P. Eng.
Project Engineer
Planning and Design Section
Southwestern Region, London

- c. Len Kozachuk (URS Cole Sherman)
Joe Tascona MPP (Barrie-Simcoe-Bradford)



Town of Bradford West Gwillimbury

P.O. Box 160, Bradford, Ontario L3Z 2A8

Administration Centre: 3541 Line 11 at Highway 400 • Tel: 905-775-5366 • Fax: 905-775-0153

February 14, 2002

Faxed & Mailed (3 Pages)

Ministry of Transportation
659 Exeter Road
London, Ontario
N6E 1L3

Attention: **Mr. Kevin Boudreau, P. Eng.**

Re: Highway 400 Planning Study & Design

Dear Sir:

The purpose of this letter is to review the current scenario and address all concerns pertaining to the Cole Sherman Highway 400 Planning Study. There is an understanding and considerable support in having the Canal Road/Highway 400 access ramps closed providing the Ministry commits to providing and financing a new interchange at the 5th Concession.

We understand that the Ministry are not receptive to the concept of providing an alternate interchange. In support of our position that an alternate interchange is required we offer the following concerns and implications:

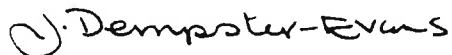
1. Traffic impact with the closure of the Canal Road Interchange.
This will result in increased traffic that will be channelled onto County Road 88 (formerly Highway 88).
2. The proposed 400/404 By-pass interchange will impact traffic flows, and the Ministry are not yet able to commit to a time frame, or whether or not the north location will be an effective alternative for local traffic.

3. We do not feel that this municipality should be financially responsible for the estimated \$5 million expense for the approval and construction of an interchange at the 5th concession. This municipality has not created the need for the Canal Road Ramp Closures, and equally should not be financially responsible to provide an alternate interchange. Provincial Highway interchanges which serve the entire travelling public, do not fall within the realm of municipal responsibility or municipal financial feasibility. Failure to construct the required new interchange will result in much higher and greater maintenance and capital costs to existing municipal roads .
4. Although not within your control, there is a concern that you should nonetheless be aware of. It is very likely that if the Canal Road Access Ramps are closed, Canal Road being a County Road will then be transferred by the County down to this municipality as a local road. The County Road Needs Study conducted in 1999 identifies the need to reconstruct this road within 1 to 5 years. This road is in need of reconstruction particularly having regard to the number of fatalities due to the substandard road design. We are of the belief that this road requires full reconstruction and we estimate the cost to be \$2 million to \$4 million.
5. We understand the importance of the Highway 400 widening however we do not accept that our ratepayers should be expected or responsible to inherit the capital costs for the increased wear and tear on our existing roads until such time as the interchange is built, the \$5 million capital cost of the new interchange , and having the real potential that the County Road (Canal Road) which requires \$2 to \$4 million for full reconstruction will be downloaded to the municipality. All of which is in addition to the fact that our residents as Ontario Taxpayers, will be responsible to finance the 400 widening.
6. In addition to all the above new Provincial and County Capital & Operating Costs that could potentially be downloaded on to our ratepayers, is also the impact and cost of upgrading the affected Service Roads.
7. Impact and cost on Emergency Services, Farm Traffic and Residents.
As to Fire & Emergency Services, our Fire & Emergency Services identified to you at the October 30, 2001 Council meeting the closure of the Canal Road Ramp is going to necessitate that we enter into a new Fire Agreement with

King Township as this closure will add 6 km travelling time due to the need to now have to travel to Highway 9. This pushes our response time beyond the accepted industry expectation, thus the need to enter into a new Fire Agreement with King Township. The financial implications are that we will have an additional expense of \$1500 for every call that King Township responds to that we were previously were able to respond to.

In closing, it is the position of Council that unless the Ministry are prepared to finance and provide an alternate interchange at the 5th line, then the Canal Road Interchange should remain. We are requesting a further meeting at the appropriate time to review and analyse the scenario's, cost, impact and pertinent issues. We would appreciate a reply and advice in regard to arranging the next round of discussions.

Yours truly,

J. Dempster-Evans

Juanita Dempster-Evans
Clerk-Administrator

cc. Mr. Leonard Kozachuk, P. Eng. ✓
Cole Sherman

MPP Joe Tascona

Ministry of Tourism,
Culture and Recreation

400 University Avenue
Toronto ON M7A 2R9

Ministère du Tourisme,
de la Culture et des Loisirs

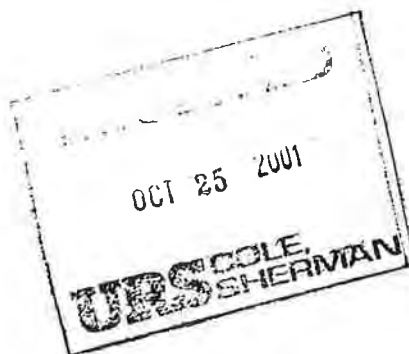
400, avenue University
Toronto ON M7A 2R9



Heritage and Libraries Branch
Heritage Operations Unit
Tel:(416)314-7132 Fax:(416)314-7175

23 October 2001

Len Kozachuk
Senior Project Manager
Cole, Sherman & Associates Limited
75 Commerce Valley Drive East
Thornhill ON L3T 7N9



RE: Highway 400 Planning Study, From the York / Simcoe Boundary, northerly 17 km to 1.0 km south of Highway 89, Class Environmental Assessment, G.W.P. 40-00-00, MTCR File 400H010

This Ministry has reviewed a report prepared by A.M. Archaeological Associates for the Stages 1 and 2 archaeological assessment of the current right-of-way of the above noted study area. No archaeological resources were documented. The report recommends that there are no further concerns for archaeological resources for this property. This Ministry concurs with that recommendation.

Given the above, this Ministry is satisfied that concerns for archaeological resources have been met for the above-noted subject area.

If further impacts are to take place beyond the area cleared by this letter, including land required for parking lots, stormwater management ponds, staging areas, storage areas, etc., there should be a determination of the potential for impacts to archaeological resources, and where such potential exists, it is recommended that archaeological assessment take place.

If deeply buried cultural remains (including human remains) are discovered during construction activities, this office should be notified immediately.

Should you wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,

John MacDonald
Heritage Planner

MINUTES OF TELEPHONE CONVERSATION

PROJECT: Highway 400 Planning Study
*From the York / Simcoe Boundary to 1 km
South of Highway 89
G.W.P. 40-00-00*

DATE: June 22, 2001

PROJECT No. CN29900167

TIME:

PARTICIPANTS: Shane Baker, Fire Chief – Township of King

Shane Baker left a message in response to the letter dated June 5, 2001 that requested information regarding emergency services coverage for the Highway 400 corridor.

King Township provides coverage for the Highway 400 corridor from the King / Vaughan line (just south of King Road) northerly to North Canal Bank Road.

These services are provided via two fire halls. One is located in Schomberg, the other in King City.

Submitted by: Angela Patterson, P.Eng.
Project Engineer

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

N:\Planning\CN29900167 Hwy 400 South\Documents\Meetings\Others\Tel Convrs Baker 22Jun01.doc

00167 -8.2



20 Bay Street, Suite 600
Toronto, Ontario, Canada M5J 2W3

GO Transit

(416) 869-3600 Fax (416) 869-3525

April 4, 2001

Mr. Len Kozachuk
Senior Project Manager
Cole, Sherman and Associates Limited
75 Commerce Valley Drive East
Thornhill ON L3T 7N9

Dear Mr. Kozachuk:

Re: Highway 400 Planning Study

This is in response to your letter of February 14, 2001 regarding the above-mentioned project. Unfortunately, we were not able to attend the February 28, External Team Meeting. GO Transit currently operates a Hwy 400 bus service on this segment of the highway. Could you please advise whether modifications to existing park 'n ride lots or provision for future park 'n ride lots and slip over ramps at interchanges are in the scope of this project.

We would appreciate the opportunity in subsequent design stages, to review plans with respect to park n' ride lots and/or slip over ramps. If you have any further questions, please call.

Sincerely,

A handwritten signature in cursive script, appearing to read 'M.S. Wolczyk'.

M.S. Wolczyk
Manager, Planning and Marketing



00164-8.5

The Corporation of the Town of New Tecumseth

Administration Centre
Box 910, 10 Wellington Street East
Alliston, Ontario
L9R 1A1

Telephone	#1-905-729-0057 or #1-705-435-6219
Admin. & Finance Fax	#1-705-435-2873
Planning Fax	#1-705-435-0407
Public Works Fax	#1-705-435-1689

OFFICE OF THE MAYOR

March 8, 2001

Cole, Sherman & Associates Ltd.
75 Commerce Valley Drive E.
Thornhill, Ontario
L3T 7N9

Att: Len Kozachuk P.Eng.
Senior Project Manager

Dear Len:


On Wednesday, February 28, the evening the Public Information Centre was held in Bradford, we discussed these Highway 400 projects at our council meeting here. There was considerable discussion and concern voiced about the possibility of the Canal Road interchange being eliminated. There was a strong consensus that we did not want to see this alternative being implemented.

I was directed to write to you to express council's opposition to the elimination of this interchange. They would accept changes to the design but did not support it being eliminated.

Many of our residents, including councillors, use this interchange for entry or exit from the market areas both east and west of Highway 400.

Thank you for providing us the opportunity to review and comment on these proposed projects. We wish you the best in your planning and execution of these improvements.

Sincerely


L. P. Keogh
Mayor

LK/rl

00167-8.3



Town of Bradford West Gwillimbury

P.O. Box 160, Bradford, Ontario L3Z 2A8

Administration Centre: 3541 Line 11 at Highway 400 • Tel: 905-775-5366 • Fax: 905-775-0153

March 6, 2001

Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, ON
L3T 7N9

Attention: Mr. Len Kozachuk

Dear Sir:

Re: Highway 400 Expansion

With reference to the above and further to our meeting and site meetings, this correspondence is a follow-up with regards to the proposed plans and alternatives.

Our last correspondence forwarded to you identified specific items which I have taken the liberty of reiterating:

1. The storm drainage pipe that crosses under the Highway 400 bridge from East to West on the South side of the 13th Line Road Allowance.
2. The cemetery just North of the 8th Concession on the West side of Highway 400.
3. The watermain that travels under Highway 400 north of Highway 88.
4. We have provided you with a copy of an Agreement with the Majesty the Queen with regards to the South East corner in the cloverleaf of Highway 88.
5. You were made aware of the drain that travels parallel to the 400 Highway on the West side North of the 5th line.

6. The widening of the Highway through the Marsh preferably to be done on the inside of the existing boulevard so that it will have no impact on the farm land adjacent to the highway.
7. There is a pumping station between the highway and the East Service Road at the South Canal Road Allowance.
8. There is an irrigation line that runs parallel with the highway between the East Service Road and the Highway. This is for the Muck Research Station.
9. There is a gas line that runs parallel with South Canal Road and travels under Highway 400 Bridge and then travels due North between the Highway and the Service Road adjacent to the irrigation line.
10. There is two bell lines (one being an old line and one that is the new fiberoptic line) that is located on the East side of the East Service Road. A small plan is enclosed.
11. You have already received a letter in regards to the bridges, relocation of the canal etc.
12. In regards to the clear span, please note that the bridge will have to be a minimum width of 20 metres if the sheet piling is drove down on either side and to accommodate a depth of 2.7 metres of canal.

If there is no sheet piling then the width will have to be increased to compensate for side slopes.

13. With reference to the cloverleaf at Highway 400 and Canal Road Exit from a drainage perspective we would like to see the cloverleaf (canal road exit) be closed. This will enhance our dyke life expectancy and subsidence due to the fact that under this road there is anywhere from 1 to 5 feet of peat material.

The closure of the cloverleaf should decrease the commuter traffic from Bradford.

Thirdly this also benefits the farming community in regards to accessing on and off Canal Road with their equipment.

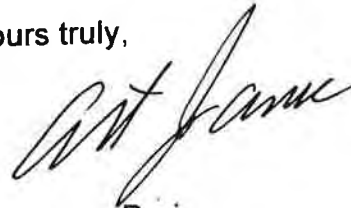
The closure of the cloverleaf at Canal Road will not work if there is no other means taken to compensate the local community for the closing of this cloverleaf.

Suggestions:

- a) Cloverleaf to be constructed at the 5th Line to take the commuter traffic from the bottom end of Bradford to Highway 400 as adverse to using Canal Road.
- b) The proposal of constructing a cloverleaf at the 5th Line should in our opinion address some of the concerns that the Fire and Emergency Services expressed.
- c) Stop lights installed at the bottom end of 5th Sideroad and where Highway 9 meet (also known as Rupke Road) to allow the local public to gain access to the cloverleaf at Highway 9 and Highway 400.
- d) The services road will have to be accessible and maintained on the East and West Side from the North Canal to the South Canal. This is imperative for the movement of farm equipment and the local residents within the Marsh.

In conclusion this is a summary of our comments and submissions. Should you have any questions, please do not hesitate to contact me.

Yours truly,

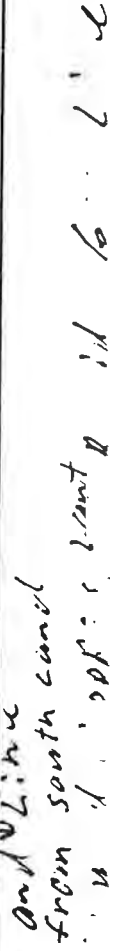


Art Janse, Drainage
Superintendent/Commissioner
for the Town of Bradford West
Gwillimbury and the Township of King

AJ:fh

cc: Mr. Paul Feehely, Senior Engineering Technologist

BELL LINE
TORONTO TO VANCOUVER





a member of the URS group of companies

00167
Corr. M. M. M.

RECORD OF TELEPHONE CALL

PROJECT: Highway 400 Planning Study
*From the York / Simcoe Boundary to 1 km South
of Highway 89*
G.W.P. 40-00-00

DATE: March 2, 2001

PROJECT No. CN29900167

LOCATION: URS Cole, Sherman Office

PURPOSE: Comments on Study

PRESENT: Tom Apparao – Region of York, Manager of Transportation Planning
Tel. (905) 895-1200, ext. 5024

Len Kozachuk – URS Cole, Sherman

A voice message was received from Mr. Tom Apparao of the Region of York regarding the Highway 400 Planning Study, Part 'B'. He commented on the need for commuter parking lots in terms of growth and expansion at both Highway 88 and 89 interchanges along Highway 400.

Submitted by: _____
Len Kozachuk, P. Eng.
Project Manager

Distribution: All Present

c: Steve McInnis - MTO

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once, otherwise the contents of this document shall be assumed accurate and correct.

N:\Planning\CN29900167 Hwy 400 south\Documents\Correspondence\Others\Apparao - ROY Mar 2 01.doc

Cole, Sherman & Associates Limited

75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9
tel 905-882-4401 fax 905-882-4399
www.colesherman.com

00167-1



Town of Bradford West Gwillimbury

P.O. Box 160, Bradford, Ontario L3Z 2A8

Administration Centre: 3541 Line 11 at Highway 400 • Tel: 905-775-5366 • Fax: 905-775-0153

February 23, 2001

Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, ON
L3T 7N9

Attention: Mr. Len Kozachuk

Dear Sir:

RE: Hwy 400 Preliminary Design Review
Hwy 400 from Canal Road Bridge to one km south of Hwy 89

With reference to the above, please be advised that the Town of Bradford West Gwillimbury is the initiating municipality for the Holland Marsh Drainage Scheme.

Presently we are in the process of preparing an Engineer's Report under the Drainage Act for the better maintenance of the drainage scheme. In the work that has been looked at to date, life safety, flood protection and cleaning sediment from channel, effect of bridges on the overall performance of the channel and future maintenance. Each aspect was reviewed individually for cost analysis. The conclusion that was derived from these efforts was that the cost could be reduced substantially from approximately \$17 million to \$12 million. These costs were based on 1998 figures.

If all of the work was commenced at the same time, as adverse to dealing with each aspect separately, you can see that one could gain a substantial reduction of costs.

Items that were reviewed were

- i) life safety
- ii) cleaning of the sediment
- iii) future maintenance
- iv) flood protection
- v) and bridges

By the relocation of the channel, we can achieve life safety by placing a buffer between the existing road and the proposed new channel. The placement of the material from the new channel in the old channel will provide us with future working area for maintenance. To achieve flood protection the construction of a berm with imported material along side the road will be undertaken.

Presently there are 15 bridges that cross over the north and south canal. We have identified nine of these bridges that will either require widening, replacement or removal.

Of these nine bridges three are private bridges. Two are road bridges located in King Township, and two are road bridges within the Town of Bradford West Gwillimbury that cross the canal, and the other two are the 400 highway bridges. Out of the 9 bridges identified, the two Highway 400 bridges are the most restrictive when it comes to flow.

The intent is to conduct all work under the Drainage Act and any cost of widening, or improvements to these bridges will be assessed back to the appropriate owner being Highways, the Town of Bradford West Gwillimbury, King Township and property owner of the private bridges.

We have obtained a rough estimated cost of \$3 million dollars for this structure associated work. The scope of this work is required in order that the flow is not restricted within these channels and leaving us with the risk of potential flooding.

Please be advised that I am forwarding to you and attached herewith a copy of a schematic as to our intentions and the widening through the Highway 400 bridge on the north bound lane. The reason being that the piers are situated in the middle of the canal and there is approximately 44,000 acres of land that drain through the north and south canal under Highway 400.

In 1971 the Minister of Transportation widened the 400 Highway, and at that time we brought forth our concerns with regards to the piers and requested that the piers be removed from the bridge to no avail. The ministry failed to listen or implement our request.

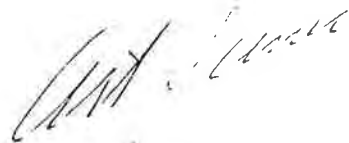
Subsequently, in 1989 or 1990 the Ministry placed filtered cloth and stone around the piers in the centre of the canal. By doing this the Ministry caused severe restriction to the flow through the bridges. Such action left us with no other choice, but to proceed under the Drainage Act to have these matters rectified.

Cole Sherman & Associates Ltd.
February 23, 2001
Page 3

Please be advised that these are draft plans and costs, and amendments or changes could be implemented in the final design and report. I would also like it to be known that the width of the channel may be altered and the top may change depending on the soil investigation that still has to be conducted. Until such time the soil investigation is conducted it is difficult to determine whether the soil is stable enough to go with a steeper slope and reduce the top width or whether we have to go with a flatter slope.

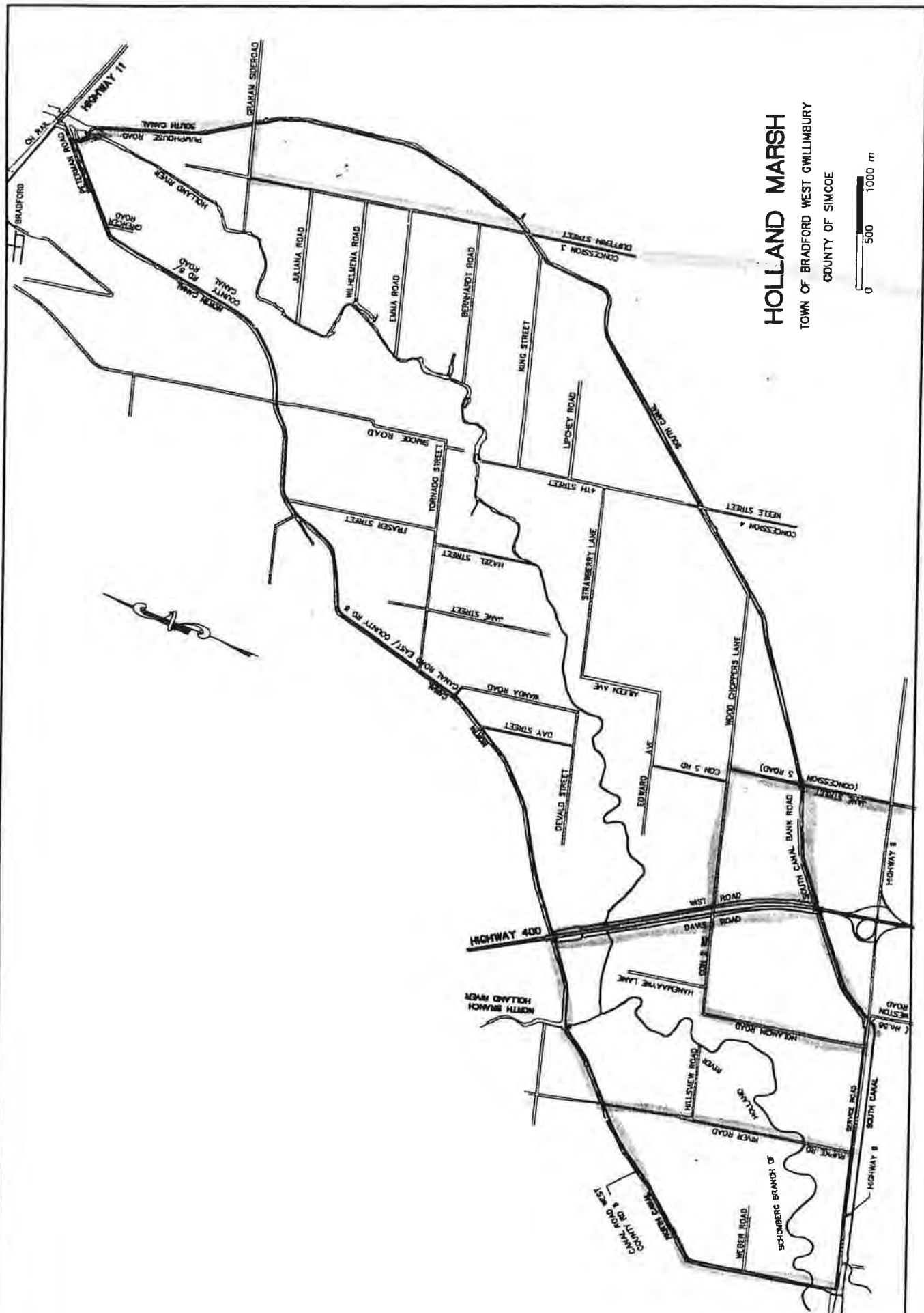
In conclusion, it is our intention to relocate the canal by its entire width as previously stated and again we are providing you with a copy of schematic of our intentions along with a copy of a draft plan as to what the proposal is for widening the channel through the Highway 400 bridges. Should you have any questions, please do not hesitate to contact us.

Yours truly,

A handwritten signature in dark ink, appearing to read 'Art Janse', is written over a faint, illegible printed name.

Art Janse, Drainage
Superintendent/Commissioner
for the Town of Bradford West
Gwillimbury and the Township of King

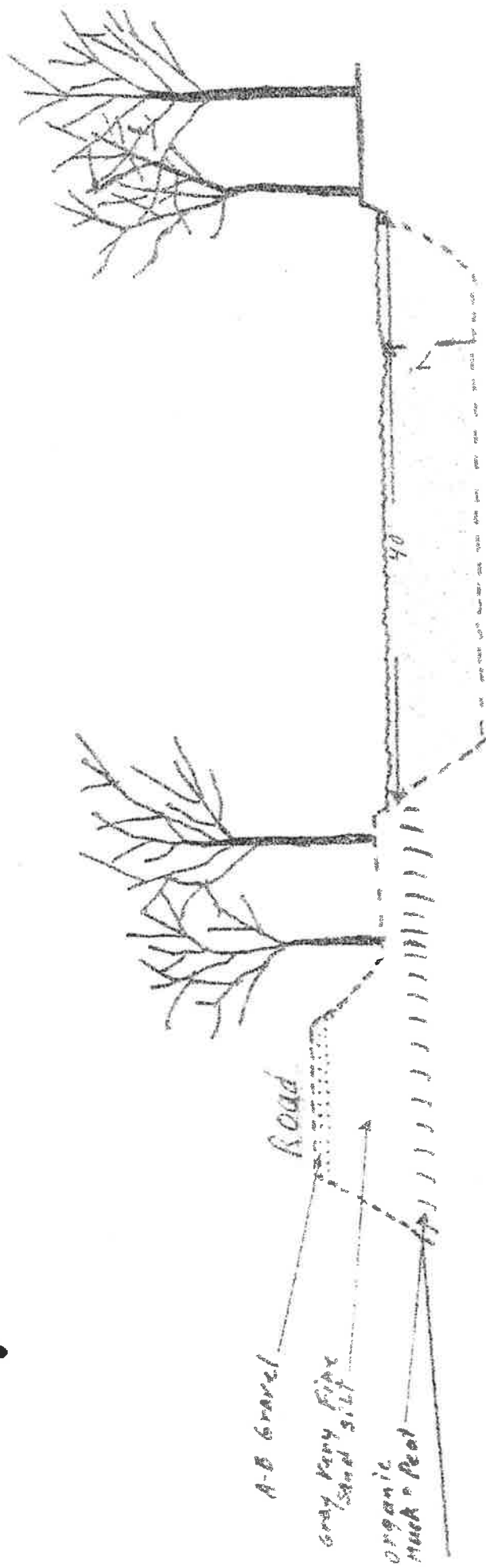
AJ:fh



HOLLAND MARSH
TOWN OF BRADFORD WEST GWILLIMBURY
COUNTY OF SIMCOE



Diagram # 1



Before 1954

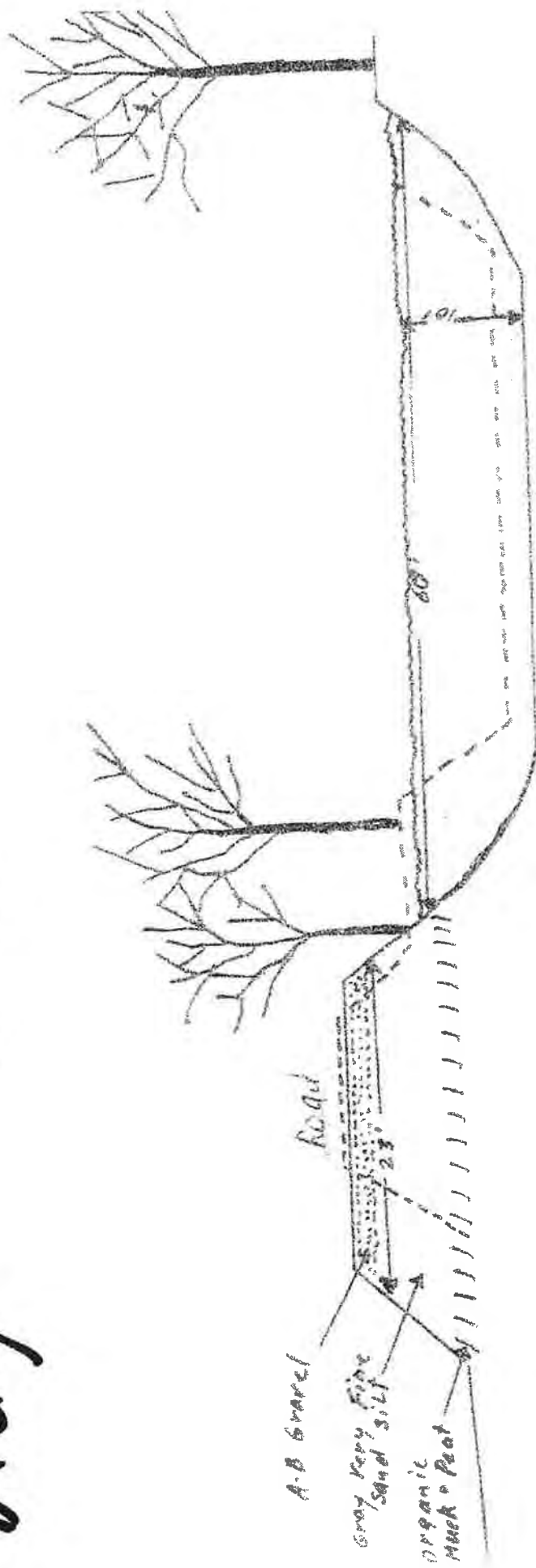
canal Dyke

canal 40' wide

7' Depth

and top 12' - 14'

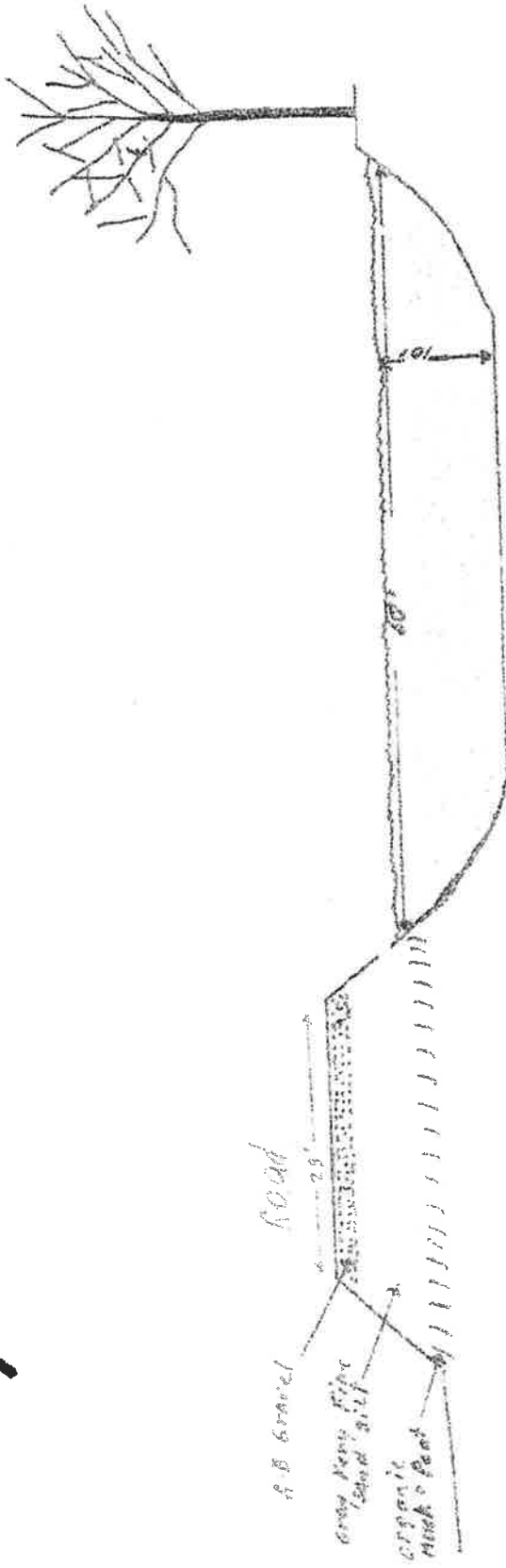
Diagram # 2



canal dredge in 1954-55
canal 60' wide
10' depth
1970-71 Dyke top 23'-25'
raised to 72'

Dotted Line before 1954
canal Dyke
canal 40' wide
7' depth
Dyke top 12-15'

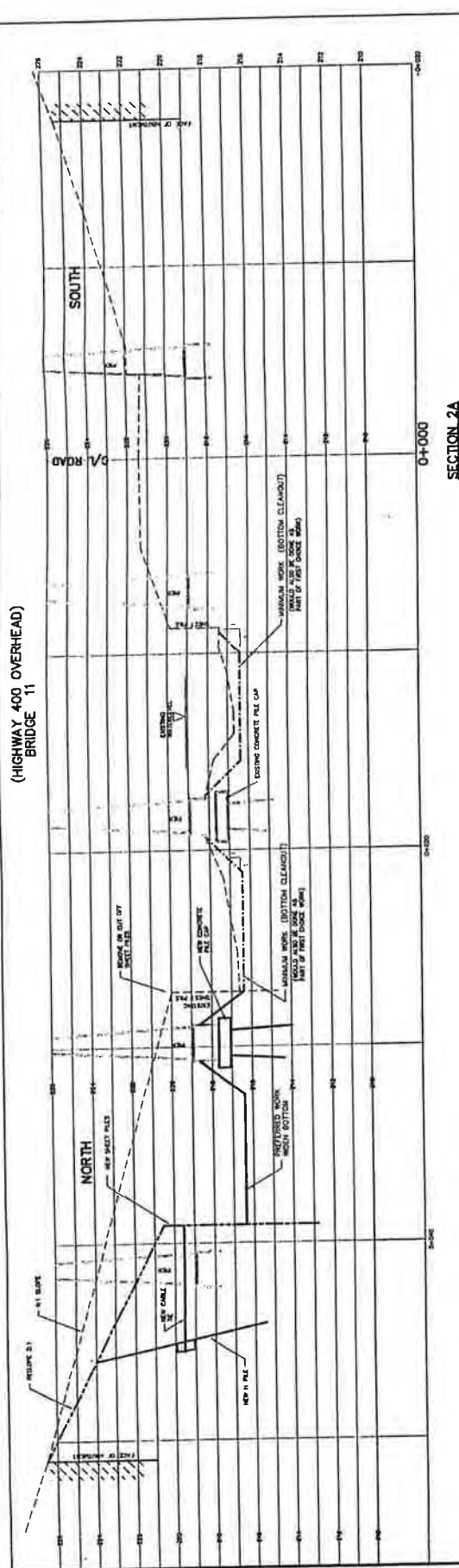
Diagram #3



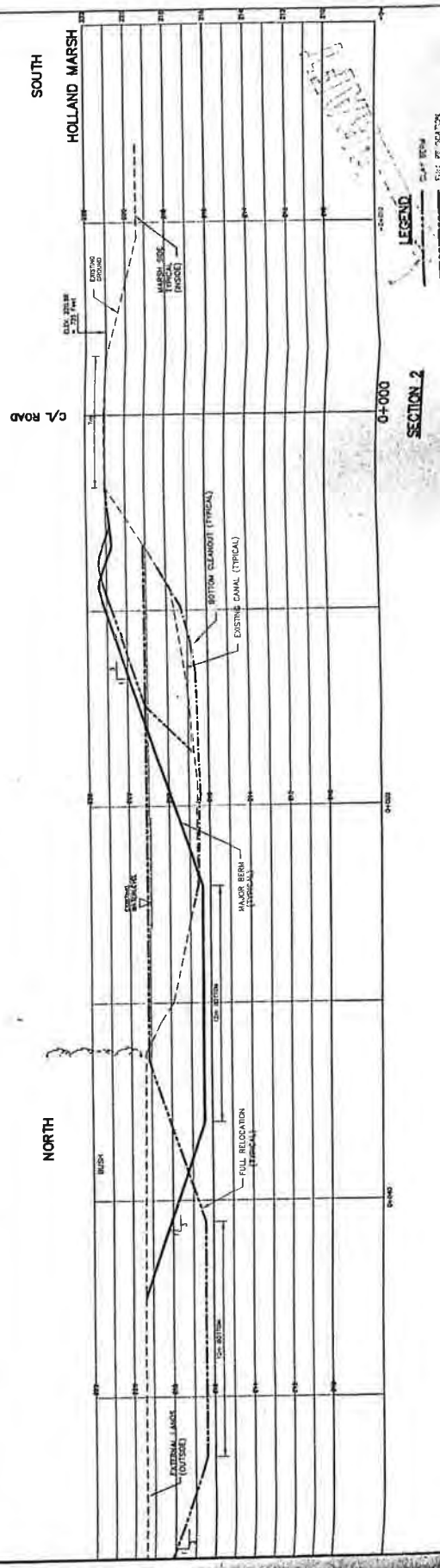
canal dredge in 1954-55
canal 60' wide
10' depth
1940-71 64% top 11.25'
raised to 734'

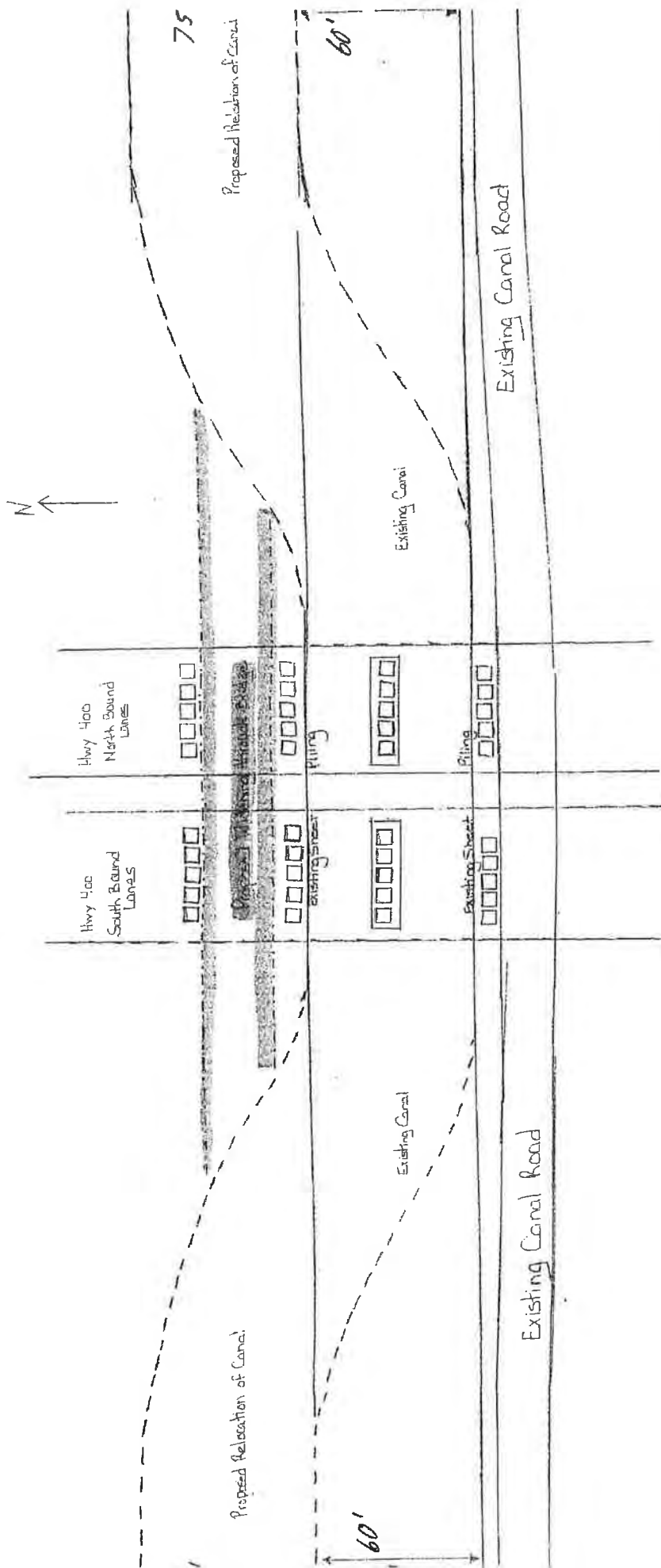
NOTES

(HIGHWAY 400 OVERHEAD)
BRIDGE 11



SECTION 2A





Not To Scale

20147-8.2

**Ontario Native Affairs
Secretariat**

421 S. James St.
Suite 101
Thunder Bay ON P7E 2V6

Tel.: (807) 473-3132
Fax.: (807) 473-3153

**Secrétariat des affaires
autochtones de l'Ontario**

421, rue S. James
Bureau 101
Thunder Bay ON P7E 2V6

Tél.: (807) 473-3132
Télééc.: (807) 473-3153



February 21, 2001

Mr. Len Kozachuk, P. Eng.
Cole, Sherman & Associates Limited
75 Commerce Valley Drive East
THORNHILL, Ontario
L3T 7N9

26 2001

Dear Mr. Kozachuk:

Re: Highway 400 Planning Study – York/Simcoe Boundary

Thank you for your letter dated January 12, 2001, informing us of the above noted information.

We trust that you have been in contact with any First Nations in the area and that they have been notified about the issues under consideration and their opportunities to participate in the process.

Yours truly,

Mary Carl
Associate Negotiator
Thunder Bay

m/pun

February 11, 2002

Our Project # 84

Department of Fisheries and Oceans
501 Towerhill Road
Peterborough ON K9H 7S3

**Subject: Request to Assign File Number, Ministry of Transportation, G.W.P. 40-00-00,
Highway 400 Preliminary Design Study from North Side of South Canal Road Bridge to 1km
South of Highway 89**

Dear Ms. Nunez:

FRi Ecological Services has been retained by URS Cole Sherman (on behalf of the Ministry of Transportation Ontario (MTO)) to conduct Preliminary Design Services related to the platform widening and associated works for the above project. As per the Fisheries Protocol (1993), URS Cole Sherman has evaluated a range of alternatives and has presented the preliminary design of the preferred alternative to MTO and MNR.

We have consulted with Graham Findlay and Kathy Woeller (Midhurst District MNR), Tom Hogenbirk (Lake Simcoe and Region Conservation Authority) and Mike Dodd (Nottawasaga Valley Conservation Authority) to explain the scope of the project and to identify general impacts and potential mitigation or compensation strategies.

At this point, Mr. Findlay feels that a harmful alteration, disruption or destruction (HADD) will occur to fish habitat as a result of the undertaking. Discussions with Mr. Findlay will be ongoing during the development of the mitigation and compensation strategies at the Preliminary Design Stage. Therefore on behalf of the MNR, I am requesting that this project be assigned a file number and habitat biologist as per Section 4.5.4 of the Fisheries Protocol to initiate the FA authorization and compensation approval process. A request for FA authorization will not commence until the project is in detail design, but once a DFO biologist has been assigned we will consult to ensure that they agree with MNR's determination and adequacy of the proposed mitigation/compensation strategy.

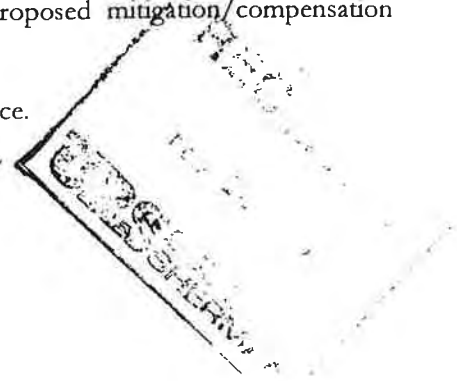
Would you please send me confirmation at your earliest convenience.

Yours truly,



Rod Bilz

Cc Mike Bricks, URS Cole Sherman
Joel Foster, MTO
Graham Findlay, MNR



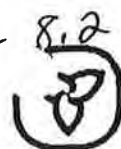
Ministry of Citizenship,
Culture and Recreation

400 University Avenue
Toronto ON M7A 2R9

Ministère des Affaires civiques,
de la Culture et des Loisirs

400 avenue University
Toronto ON M7A 2R9

00167-8.2



File Copy
Ontario

To: M. Bricks, Cole Sherman

Heritage and Libraries Branch
Heritage Operations Unit
Tel:(416)314-7132 Fax:(416)314-7175

15 January 2001

Sandy Nairn
Ecoplans Limited
2655 North Sheridan Way
Mississauga ON L5K 2P8

**RE: Recommendation for Clearance of Archaeological Resource Concerns, Highway 400,
South Canal Bridge to Highway 89, Simcoe County, MTO File G.W.P. 40-00-00,
MCZCR File 400H010**

This Ministry has reviewed the report prepared by A.M. Archaeological Associates for the Stages 1 and 2 archaeological assessment of the study area. No archaeological resources were documented. The report recommends that there are no further concerns for archaeological resources for this property. This Ministry concurs with that recommendation.


Given the above, this Ministry is satisfied that concerns for archaeological resources have been met for the above-noted subject area.

If further impacts are to take place beyond the area cleared by this letter, including land required for parking lots, stormwater management ponds, staging areas, storage areas, etc., there should be a determination of the potential for impacts to archaeological resources, and where such potential exists, it is recommended that archaeological assessment take place.

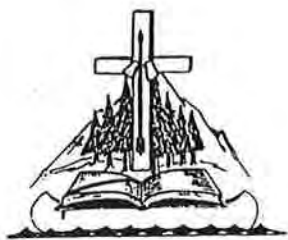
If deeply buried cultural remains (including human remains) are discovered during construction activities, this office should be notified immediately.

Should you wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,


John MacDonald
Heritage Planner

c. A.M. Archaeological Associates



Simcoe Muskoka Catholic District School Board

46 Alliance Blvd.
Barrie, Ontario L4M 5K3

Telephone (705) 722-3555
Fax (705) 722-6534

December 22, 2000

Attention: Mr. Len Kozachuk, P.Eng.
Senior Project Manager
Cole, Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, ON
L3T 7N9

RE: Highway 400 Planning Study
from York / Simcoe boundary, northerly 17 km to 1.0 km South of Hwy 89
Preliminary Design / Class Environmental Assessment, Group 'B' Project
GW.P. 40-00-00
County of Simcoe

Dear Len Kozachuk,

The Simcoe Muskoka Catholic District School Board is responding to your request for information or comments related to the Highway 400 Planning Study for Highway Improvements.

Currently, our Board does not have any buses using Highway 400 within the Planning Study area. Our Board is, however, interested in receiving some additional information about this project.

1. The duration of the construction period.
2. The timelines for the construction projects.
3. The dates and timings of any road closures.

Otherwise, this Board has no real concerns with the project at this time, but would appreciate remaining informed about the project's progress. If you have any questions or require further information, please contact the undersigned or Kristin Dibble at extension 250.

Sincerely,

Jennifer Sharpe
Senior Planner

cc. Mary Ann Pope, Transportation Officer – SMCD SB

00167-8.2



December 13, 2000

Len Kozachuk, P.Eng.,
Senior Project Manager,
Cole, Sherman & Associates Ltd.,
75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9

Dear Mr. Kozachuk:

Ref: CN29900167

This is to acknowledge receipt of your letter dated December 11, 2000. As you may or may not be aware, Health Trust Pre Hospital Services Inc. has been awarded the contract to provide ambulance services for the County of Simcoe commencing January 1, 2001. The current seven (7) employers that previously may have received correspondence from your office may not necessarily be involved directly or indirectly.

As such, this letter will serve to advise you that we indeed would be interested in being involved in any way that would ensure that emergency patient care and ultimately rapid response times to an emergency is not compromised in any way by the construction of, or the finished product dealing with the considered improvements of Highway 400.

Specifically, response times could be affected if:

1. temporary/permanent alternative routes are created during any phase of construction;
2. barriers are created that would not allow "turn-a-rounds";
3. access/egress routes are created or altered that would impair the opportunity to pass during slow traffic conditions.

I would appreciate further updates as they become available.

Yours truly,

A handwritten signature in black ink, appearing to read "R. Wayne Morriss", is written over the "Yours truly," text.

R. Wayne Morriss
Operations Manager - Southern Division

cc. File

11 Victoria Street, Suite 204, Barrie, Ontario L4N 6T3 Tel. (705) 720-7366 Fax (705) 720-2163

"Committed to caring, dedicated to service"

APPENDIX C

SUMMARY OF PUBLIC INFORMATION CENTRES

HIGHWAY 400 PLANNING STUDY
FROM THE HOLLAND RIVER NORTHERLY 17 KM TO 1.0 KM SOUTH OF HIGHWAY 89
G.W.P. 40-00-00



Ministry of Transportation



HIGHWAY 400 PLANNING STUDY

From the Holland River
Northerly 17 km to 1.0 km south of Highway 89
Town of Bradford West Gwillimbury, Region of York
G.W.P. 40-00-00

PUBLIC CONSULTATION ROUND #1

SUMMARY REPORT

JUNE 2001

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 PURPOSE.....	1
3.0 PUBLIC NOTIFICATION.....	1
4.0 PRE PIC MEETINGS.....	2
5.0 DISPLAY MATERIAL.....	2
6.0 ATTENDANCE/ SUMMARY OF COMMENTS	3

APPENDIX A

News Ad / Brochure and Notice Letters

APPENDIX B

Minutes of Meeting

APPENDIX C

Displays / Information Package

1.0 INTRODUCTION

A Public Information Centre was held regarding improvements to address traffic operation, capacity and safety needs associated with Highway 400 from the Holland River 17 km to 1 km south of Highway 89. The Information Centre provided the public an opportunity to review and discuss the project with representatives of the Project Team.

The information centre was held on:

**Wednesday February 28th, 2001
4:00 p.m. to 8:00 p.m.
Bradford Community Centre
Town of Bradford West Gwillimbury**

Representatives of Cole, Sherman & Associates and the Ministry of Transportation staffed the Public Information Centre.

2.0 PURPOSE

The purpose of the Public Information Centre (PIC) was to introduce the study, present the alternatives under consideration including: mainline widening, improvements to the interchange at Simcoe Road 88 and alternatives for Canal Road interchange (including eliminating the interchange, upgrading the interchange, and relocating the interchange). The PIC also provided the public an opportunity to review and comment on the following:

1. Project Limits
2. Study Schedule
3. Class Environmental Assessment Process
4. Study Purpose and Problem Statement
5. Existing Conditions
6. Planning Alternatives
7. Proposed Evaluation Method and Criteria
8. Widening Alternatives

3.0 PUBLIC NOTIFICATION

Prior to the PIC, the following measures were carried out in order to make details of the information centre known to study area residents and interested members of the public:

1. An Ontario Government Notice (Notice of Public Information Centre) was placed in the following newspapers:
 - Toronto Star – Wednesday February 21, 2001
 - Barrie Examiner/Advance – Wednesday February 21, 2001
 - Bradford West Gwillimbury – Saturday February 24, 2001
(see Appendix A for notice).

2. Letters were directly sent to those people on the Project Team's External Team mailing list, including government agencies and ministries, municipalities, interest groups, property owners and tenants and individuals who requested to be added to the mailing list. (see Appendix A for letters).
3. Approximately 3,100 brochures were distributed via Canada Post to businesses and residences immediately adjacent to the Highway 400 throughout the project limits.

4.0 PRE PIC MEETINGS

Municipal Team Meeting

A Municipal Team meeting offered on February 21st, 2001 at the Town of Bradford West Gwillimbury Municipal Offices. The purpose of the meeting was to introduce the study, present and discuss the alternatives under consideration. No municipal team members chose to attend.

External Team Meeting

An External Team Meeting was offered prior to the Public Information Centre on February 28th, 2001. The purpose of the meeting was to discuss project needs, reasonable alternatives and issues concerning the Highway 400 corridor. No agencies chose to attend.

5.0 DISPLAY MATERIAL

The following display material was presented at the Public Information Centre (see Appendix C):

- Welcome to the PIC / Purpose of the PIC;
- Study Area;
- Background;
- Environmental Assessment Process;
- Overview of the Class EA Process;
- Study Schedule;
- Regional Transportation Needs;
- Need and Justification;
- Existing/Future Operational Conditions at Canal Road Interchange;
- Existing/Future Operational Conditions at Simcoe Road 88 Interchange;
- Widening Requirements;
- Planning Alternatives;
- Widening Alternatives;
- Typical Cross Sections;
- Issues Raised to date on the Canal Road Interchange;
- Interchange Improvements;
- Evaluation Process and Criteria; and,
- What's Next.

2. Letters were directly sent to those people on the Project Team's External Team mailing list, including government agencies and ministries, municipalities, interest groups, property owners and tenants and individuals who requested to be added to the mailing list. (see Appendix A for letters).
3. Approximately 3,100 brochures were distributed via Canada Post to businesses and residences immediately adjacent to the Highway 400 throughout the project limits.

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- Study Schedule;
- Regional Transportation Needs;
- Need and Justification;
- Existing/Future Operational Conditions at Canal Road Interchange;
- Existing/Future Operational Conditions at Simcoe Road 88 Interchange;
- Widening Requirements;
- Planning Alternatives;
- Widening Alternatives;
- Typical Cross Sections;
- Issues Raised to date on the Canal Road Interchange;
- Interchange Improvements;
- Evaluation Process and Criteria; and,
- What's Next.

The attendees received an information package that included (see Appendix C –

Display/Information Package):

- Text Display Boards
- Comment Sheet

6.0 ATTENDANCE/ SUMMARY OF COMMENTS

A total of 61 members of the public chose to sign the visitor's register for the Public Information Centre.

In addition to verbal comments, the Project Team encouraged visitors to express, in writing, all concerns or comments they had regarding the information presented. To date, thirty (30) written comments have been received. The comment sheet asked the participants to describe their interest in the project.

Adjacent Landowner	12
Commuter	8
Area Farmer	6
Naturalist	0
Other	- Conservation Authority - Residential Business in Bondhead - Town of Innisfill resident - Interested Road User

The following summarizes the comments, issues and concerns raised at the PIC:

• Close the Canal Road interchange	8
• Widen to the center to minimize encroachment on productive farmland	7
• Merge lanes from Highway 400 northbound to Highway 88 eastbound is very dangerous for motorists	5
• Widening from north of Canal Road to the 11 th Concession is a good idea and should be widen to the outside on each side	4
• Widening from the 11 th Concession to Highway 89 should be considered and widen from each side	4
• County Road 88 interchange needs to be changes to a Parclo A design	3
• Increase the number and size of commuters lots along the project limits	2
• Increased traffic volumes impacting local farm traffic and local residences	2
• Widen the Canal Road interchange to the center	2
• Restoration of GO transit to alleviate traffic along highway 400	2
• Valuable agricultural land will be disrupted	2
• Impacts / concerns with truck noise and pollution	1
• Drainage issues on Highway 400 between south Canal Road and along Davis Road	1
• Widening in the Holland Marsh is very costly	1
• Issues with storm water quality and quantity	1
• Highway 400 and Highway 404 Bradford by-pass	1
• Encouragement of more road traffic is at high expense to the environment and encourages sprawl	1

HIGHWAY 400 PLANNING STUDY

FROM THE HOLLAND RIVER NORTHERLY 17 KM TO 1.0 KM SOUTH OF HIGHWAY 89

G.W.P. 40-00-00



APPENDIX A

News Ad / Brochure and Notice Letters

ONTARIO GOVERNMENT NOTICE

NOTICE OF PUBLIC INFORMATION CENTRE

HIGHWAY 400 PLANNING STUDY PART B FROM THE HOLLAND RIVER TO HIGHWAY 89 TOWNS OF INNISFIL AND BRADFORD WEST GWILLIMBURY, COUNTY OF SIMCOE G.W.P. 40-00-00

THE STUDY:

The Ontario Ministry of Transportation has initiated a Planning and Preliminary Design Study to examine the nature of improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor from Major MacKenzie to 1km south of Highway 89. The study is divided into two parts:

- *PART A - From Major MacKenzie to the Holland River*
- *PART B - From the Holland River to Highway 89*

The need for drainage, illumination, roadside safety, structural and interchange improvements will be examined as part of the study. Reasonable alternatives to address the required improvements will be identified and evaluated to determine the most appropriate solution.

THE PROCESS:

This study is following the approved planning process for a Group B project under the Class Environmental Assessment for Provincial Transportation Facilities (2000). The opportunity for public input will be provided throughout the course of the project. A Transportation Environmental Study Report (TESR) will be available for review and comment upon completion of the study.

PUBLIC INFORMATION CENTRES:

W. P. 40-00-00 - HOLLAND RIVER TO HIGHWAY 89 (PART B)

The first of two rounds of Public Information Centres have been arranged for the public to provide input and discuss the project with representatives of the Project Team. This Information Centre will focus on the identification of project needs and reasonable alternatives within the project limits. Alternatives to be presented include mainline widening alternatives, improvements to the interchange at Simcoe Road 88 and alternatives for the Canal Road interchange (including eliminating the interchange, upgrading the interchange, and relocating the interchange). A second Public Information Centre (PIC) will be held in Spring/Summer 2001 at which time the evaluation of alternatives and technically preferred alternative will be presented. A further notice will be published regarding this PIC.

The initial PIC for Part B of the study is scheduled as follows:

Wednesday February 28th, 2001
4:00 p.m. to 8:00 p.m.
Bradford Community Centre (second floor)
125 Simcoe Road, Bradford

URS Cole Sherman Ltd. has been retained to examine the portion of the study area from the Holland River to 1.0 km south of Highway 89 in Simcoe County. For information regarding Part B of the study please contact:

Mr. Leonard Kozachuk, P.Eng.
Consultant Project Manager
URS Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9
Tel: (905) 882-4401
Fax: (905) 882-4399
E-Mail: len_kozachuk@urscorp.com

Mr. Mike Bricks
Consultant Environmental Planner
URS Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9
Tel: (905) 882-4401
Fax: (905) 882-4399
E-Mail: mike_bricks@urscorp.com

W. P. 222-89-00 - MAJOR MACKENZIE DRIVE TO THE HOLLAND RIVER (PART A)

A PIC was held for Part A of this project on December 12th, 2000. McCormick Rankin Corporation has been retained to examine the portion of the study area from Major Mackenzie Drive within York Region to the Holland River. For information regarding Part A of the study please contact:

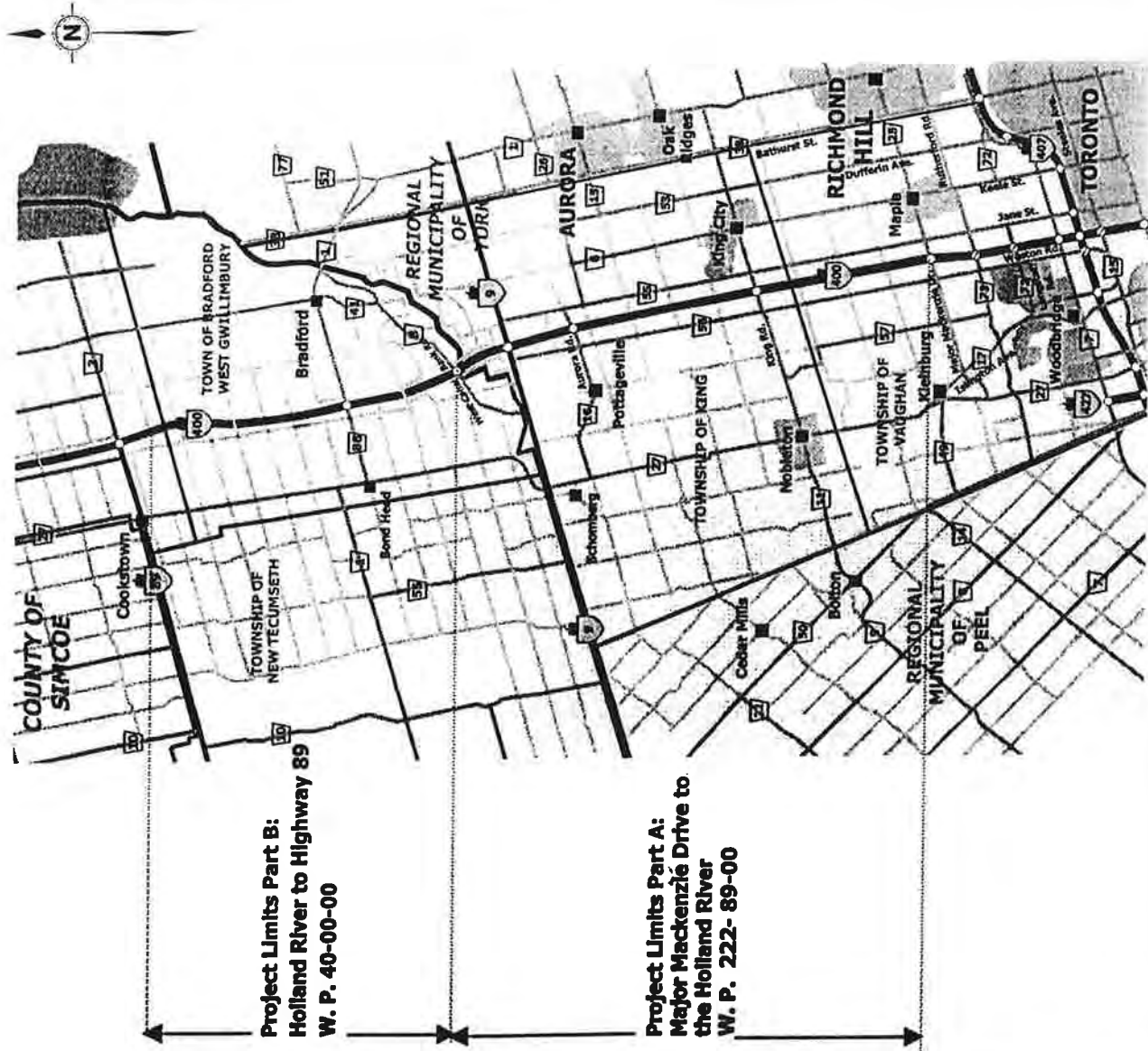
Mr. Michael Chiu, P.Eng.
Consultant Project Manager
McCormick Rankin Corporation (MRC)
2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Tel: (905) 823-8500
Fax: (905) 823-8503
E-Mail: mchiu@mrc.ca

Mr. J.A. (Sandy) Nairn
Consultant Environmental Planner
MRC/Ecoplans Limited
2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Tel: (905) 823-4988
Fax: (905) 823-8503
E-Mail: snairn@ecoplans.ca

COMMENTS:

Comments and information regarding this project are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

5. STUDY AREA



Project Limits Part B:
Holland River to Highway 89
W. P. 40-00-00

Project Limits Part A:
Major Mackenzie Drive to
the Holland River
W. P. 222- 89-00

Not to Scale



NOTICE OF PUBLIC INFORMATION CENTRE

HIGHWAY 400

PLANNING STUDY PART B

FROM HOLLAND RIVER TO 1 KM SOUTH OF
HIGHWAY 89

TOWNS OF INNISFIL AND BRADFORD WEST
GWILLMBURY, COUNTY OF SIMCOE

G.W.P 40-00-00

PRELIMINARY DESIGN

CLASS ENVIRONMENTAL ASSESSMENT, GROUP 'B'

Wednesday February 28th, 2001
4:00 p.m. to 8:00 p.m.
Bradford Community Centre (2nd floor)
125 Simcoe Road, Bradford

This brochure is printed on recycled paper
PLEASE RECYCLE THIS DOCUMENT



1. BACKGROUND AND PURPOSE

The Ministry of Transportation (MTO) has initiated a Planning and Preliminary Design Study to examine possible improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor. The need for drainage, illumination, roadside safety, structural and interchange improvements will also be examined as part of the study. Reasonable alternatives to address the required improvements will be identified and evaluated to determine the most appropriate solution.

The section of Highway 400 currently under study has been divided into two parts:

- Part A: North of Major Mackenzie Drive to Holland River
- Part B: Holland River to South of Highway 89

The purpose of this study is to determine the existing and projected future traffic (2021) on Highway 400, identify the capacity and operational deficiencies, evaluate and select alternatives to address existing deficiencies, and submit a Transportation Environmental Study Reports for environmental approval in order to proceed with the detail design and construction process.

2. STUDY PROCESS

This study is following the approved planning process for a Category B project under the Class Environmental Assessment for Provincial Transportation Facilities (2000). The opportunity for public input will be provided throughout the course of the project. A Transportation Environmental Study Report (TESR) will be available for review and comment upon completion of the study.

3. PROBLEM STATEMENT

This project has been undertaken to examine the nature of improvements needed to address existing and future traffic operating capacity and the need for drainage, illumination, roadside safety, structural and interchange improvements.

4. PUBLIC INFORMATION CENTRES

W. P. 40-00-00: Holland River to Highway 89 (Part B)

The first of two rounds of Public Information Centres have been arranged for the public to provide input and discuss the project with representatives of the Project Team. This Information Centre will focus on the identification of project needs and reasonable alternatives within the project limits. Alternatives to be presented include mainline widening alternatives, improvements to the interchange at Simcoe Road 88 and alternatives for the Canal Road interchange (including eliminating the interchange, upgrading the interchange, and relocating the interchange). A second Public Information Centre (PIC) will be held in Spring/Summer 2001 at which time the evaluation of alternatives and technically preferred alternative will be presented.

The Initial PIC for Part B of the study is scheduled as follows:

Wednesday February 28th, 2001
4:00 p.m. to 8:00 p.m.
Bradford Community Centre (second floor)
125 Simcoe Road, Bradford

W. P. 222-89-00: Major Mackenzie Drive to the Holland River (Part A)

A PIC was held for Part A of this project on December 12th, 2000. McCormick Rankin Corporation has been retained to examine the portion of the study area from Major Mackenzie Drive within York Region to the Holland River. For information regarding Part A of the study please contact Michael Chiu at McCormick Rankin Corporation (905) 823-8500.

You are encouraged to attend this Information Centre and to provide us with your views and comments so that they can be addressed as the study progresses.

Comments and information regarding this study are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation. With the exception of personal information, all comments will become part of the public record.

For further information, or to be added to the mailing list, please contact:

Mr. Leonard Kozachuk, P. Eng.
Senior Project Manager
URS Cole, Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, Ontario, L3T 7N9
Tel.: (905) 882-3540
Fax: (905) 882-4399
Email: len_kozachuk@urscorp.com

Notification - External Letter PIC # 1

February 14, 2001
Our Ref.: CN29900167

«Address»

Dear «Name»:

**Re: Highway 400 Planning Study
From the York / Simcoe Boundary, northerly 17 km to 1.0 km south of Highway 89
Preliminary Design / Class Environmental Assessment, Group 'B' Project
G.W.P. 40-00-00**

URS Cole, Sherman & Associates Ltd. has been retained by the Ontario Ministry of Transportation (MTO) to undertake a Preliminary Design Study to examine improvements to Highway 400 from Holland River to 1.0 km south of Highway 89 in the Town of Innisfil and Town of Bradford West Gwillimbury in the County of Simcoe.

The purpose of this study is to determine the nature of improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor from Major MacKenzie to 1.0 km south of Highway 89. The need for drainage, illumination, roadside safety, structural and interchange improvements will be examined as part of this study. Reasonable alternatives to address the required improvements will be identified and will be evaluated to determine the most appropriate solution. The study is divided into two parts:

- *Part A - From Major MacKenzie Drive to the Holland River*
- *Part B - From the Holland River to Highway 89*

This study is following the approved planning process for a Category B project under the Class Environmental Assessment for Provincial Transportation Facilities (2000). The opportunity for public input will be provided throughout the course of the project. A Transportation Environmental Study Report (TESR) will be available for review and comment upon completion of the study.

W. P. 222-89-00 - Major Mackenzie Drive to the Holland River (Part A)

A PIC was held for Part A of this project on December 12th, 2000. McCormick Rankin Corporation has been retained to examine the portion of the study area from Major Mackenzie Drive within York Region to the Holland River.

W. P. 40-00-00 - Holland River to Highway 89 (Part B)

The first of two rounds of Public Information Centres have been arranged for the public to provide input and discuss the project with representatives of the Project Team. This Information Centre will focus on the identification of project needs and reasonable alternatives within the project limits. Alternatives to be presented include mainline widening alternatives, improvements to the interchange at Simcoe Road 88 and alternatives for the Canal Road interchange (including eliminating the interchange, upgrading the interchange, and relocating the interchange). A second Public Information Centre (PIC) will be held in Spring/Summer

Notification - External Letter PIC # 1

2001 at which time the evaluation of alternatives and technically preferred alternative will be presented. A further notice will be published regarding this PIC.

An External Team Meeting has been arranged to discuss project needs, reasonable alternatives and issues concerning the Highway 400 corridor.

The External Team Meeting will be held as follows:

**Wednesday February 28th , 2001
2:30 p.m. to 3:30 p.m.
Bradford Community Centre (second floor)
125 Simcoe Road, Bradford**

Following the External Team Meeting the Public Information Centre will be held.

You are encouraged to attend the External Team Meeting and to provide us with your views and concerns so that they can be addressed early in the study.

Comments and information regarding this study are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation.

The purpose of this letter is to notify your office of the upcoming External Team Meeting. Should you require further information regarding this request, please feel free to contact the undersigned.

Thank you for your cooperation and assistance.

Yours truly,

COLE, SHERMAN & ASSOCIATES LIMITED

Len Kozachuk, P. Eng.
Senior Project Manager

cc: Steven McInnis - MTO
Joel Foster - MTO

Att.

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

1

<u>Address</u>	<u>Name</u>
"Mr. Peter Balabon District Manager Barrie District Office Ministry of the Environment 54 Cedar Point Drive, Unit 1203 Barrie, Ontario L4N 5R7"	Mr. Balabon
"Mr. Ken Rovinelli, Manager Development and Contract Engineering Management Board Secretariat 777 Bay Street, 15th Floor Toronto, Ontario M5G 2E5"	Mr. Rovinelli
"Mr. John MacDonald Heritage Planner Heritage Operations Unit Ministry of Citizenship, Cultural and Recreation 400 University Avenue, 4 th Floor Toronto, Ontario M7A 2R9"	Mr. MacDonald
"Mrs. Diana Jardine, Director Plans Administration Branch <u>Attn: Dianne McArthur Rogers</u> Ministry of Municipal Affairs and Housing 777 Bay Street, 14th Floor Toronto, Ontario M5G 2E5"	Ms. McArthur Rogers
"Mr. Kathy Woeller, District Planner Midhurst District Office Ministry of Natural Resources 2284 Nursery Road Midhurst, Ontario L0L 1X0"	Ms. Woeller
"Mr. Bill Taylor, Associate Negotiator Negotiations Branch, Thunder Bay Office Ontario Native Affairs Secretariat 421 S. James Street, Suite 101 Thunder Bay, Ontario P7E 2V6"	Mr. Taylor

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

2

“Mr. Ray Valaitis, Rural Planner
Central and Northern Ontario Region
Ministry of Agriculture, Food and Rural Affairs
R.R. 3, 95 Dundas Street
Brighton, Ontario
K0K 1H0”

Mr. Valaitis

“Ms. Ruth Debicki, Planner
Ministry of Northern Development and Mines
Level A-3 Willet Green Miller Centre
933 Ramsay Lake Rd
6th Floor
Sudbury, Ontario
P3E 6B5”

Ms. Debicki

“Ms. Ann Fraser
Business Development Consultant
Ministry of Economic Development and Trade
Midhurst District Office
2284 Nursery Road
Midhurst, Ontario
L0L 1X0”

Ms. Fraser

“Ms. Ruth Alves
Administrative Officer
Health Services Division
Ministry of Health
Hepburn Block. 10th Floor
80 Grosvenor Street
Toronto, Ontario
M7A 1R3”

Ms. Alves

“Mrs. Heather Brown
Environmental Planner
Environmental Services and Approvals
Hydro One Networks Inc.
483 Bay Street, 6th Floor
Toronto, Ontario
M5G 2P5”

Mrs. Brown

“Ms. Helen Howes, Director
Corporate and Environmental Affairs
Ontario Power Generation
700 University Avenue
Toronto, Ontario
M5G 1X6”

Ms. Howes

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

3

“Ms. Eve Wyatt
Manager - Corporate Planning, Project Development
GO Transit
20 Bay Street, Suite 6000
Toronto, Ontario
M5J 2W2”

Ms Wyatt

“Mr. John Mactaggart, Manager
Engineering & Environmental Services
CN Rail
1 Administration Road, P.O. Box 1000
Concord, Ontario
L4K 1B9”

Mr. Mactaggart

“Mr. Mark Neelin, Inspector
Barrie City Police
295 Sperling Drive
P.O. Box 188
Barrie, Ontario
L4M 4T2”

Mr. Neelin

“Staff Sergeant L. J. (Len) Hassberger
Barrie Detachment
Ontario Provincial Police
20 Rose Street
Barrie, Ontario
L4M 2T2”

Sergeant Hassberger

“Mr. Charles Burgess, Director of Planning
Nottawasaga Valley Conservation Authority
R.R. 1 Angus, Ontario
L0M 1B0”

Mr. Burgess

“Mr. Tom Hogenbirk, Conservation Engineer
Watershed Management
Lake Simcoe Conservation Authority
Box 282, 120 Bayview Parkway
Newmarket, Ontario
L3Y 4X1”

Mr. Hogenbirk

“Ms. Jennifer Sharpe, Senior Planner
Simcoe Muskoka Catholic District School Board
46 Alliance Boulevard
Barrie, Ontario
L4M 5K3”

Ms. Sharpe

“Ms. Kristin Dibble, Planning Technician
Planning Department
Simcoe Muskoka Catholic District School Board
46 Alliance Boulevard
Barrie, Ontario
L4M 5K3”

Ms. Dibble

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

4

“Ms. Sharon Bate, Director
Simcoe County District School Board
1170 Highway 26
Midhurst, Ontario
L0L 1X0”

Ms. Bate

“Mr. Mark Desjardins
Central Ambulance Communications Centre
273 Tiffin Street, Suite 102
Barrie, Ontario
L4N 2N3”

Mr. Desjardins

PIC #1 Notification Letter

February 12, 2001

Our Ref.: CN29900167

«Address»

Dear «Name»:

**Re: Highway 400 Planning Study Part B
From the Holland River Northerly to 1.0 km South of Highway 89
Preliminary Design / Class Environmental Assessment, Group 'B' Project
G.W.P. 40-00-00**

URS Cole, Sherman & Associates Ltd. has been retained by the Ontario Ministry of Transportation (MTO) to undertake a Preliminary Design Study to examine improvements to Highway 400 from Holland River to 1.0 km south of Highway 89 in the Town of Innisfil and Town of Bradford West Gwillimbury in the County of Simcoe.

The purpose of this study is to determine the nature of improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor from Major MacKenzie to 1.0 km south of Highway 89. The need for drainage, illumination, roadside safety, structural and interchange improvements will be examined as part of this study. Reasonable alternatives to address the required improvements will be identified and will be evaluated to determine the most appropriate solution. The study is divided into two parts:

- *Part A - From Major MacKenzie Drive to the Holland River*
- *Part B - From the Holland River to Highway 89*

This study is following the approved planning process for a Category B project under the Class Environmental Assessment for Provincial Transportation Facilities (2000). The opportunity for public input will be provided throughout the course of the project. A Transportation Environmental Study Report (TESR) will be available for review and comment upon completion of the study.

W. P. 40-00-00 - Holland River to Highway 89 (Part B)

The first of two rounds of Public Information Centres have been arranged for the public to provide input and discuss the project with representatives of the Project Team. This Information Centre will focus on the identification of project needs and reasonable alternatives within the project limits. Alternatives to be presented include mainline widening alternatives, improvements to the interchange at Simcoe Road 88 and alternatives for the Canal Road interchange (including eliminating the interchange, upgrading the interchange, and relocating the interchange). A second Public Information Centre (PIC) will be held in Spring/Summer 2001 at which time the evaluation of alternatives and technically preferred alternative will be presented. A further notice will be published regarding this PIC.

The initial PIC for Part B of the study is scheduled as follows:

**Wednesday February 28th, 2001
4:00 p.m. to 8:00 p.m.
Bradford Community Centre (second floor)
125 Simcoe Road, Bradford**

PIC #1 Notification Letter

W. P. 222-89-00 - Major Mackenzie Drive to the Holland River (Part A)

A PIC was held for Part A of this project on December 12th, 2000. McCormick Rankin Corporation has been retained to examine the portion of the study area from Major Mackenzie Drive within York Region to the Holland River. For information regarding Part A of the study please contact Michael Chiu at McCormick Rankin Corporation (905) 823-8500.

You are encouraged to attend the Public Information Centre and to provide us with your views and comments so that they can be addressed early in the study.

Comments and information regarding this study are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

The purpose of this letter is to notify you of the upcoming Public Information Centre. Should you require further information regarding this project, please feel free to contact the undersigned.

Thank you for your cooperation and assistance.

Yours truly,

COLE, SHERMAN & ASSOCIATES LIMITED

Len Kozachuk, P. Eng.
Senior Project Manager

cc: Steven McInnis - MTO
Joel Foster - MTO

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
MPP List (Ref No. CN29900167)**

1

<u>Address</u>	<u>Name</u>
“Mr. Joseph Tascona, M.P.P. (Barrie-Simcoe-Bradford) 36 Mulcaster Street Barrie, Ontario L4M 3N1”	Mr. Tascona

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

1

Address	Name
"Ms. Helen MacRae, Clerk County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Ms. MacRae
"Mr. Ian Bender Director of Planning County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Mr. Bender
"Mr. Bill Brown Road Superintendent County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Mr. Brown
"Mr. Paul Landry, Clerk Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Mr. Landry
"Mr. Wayne Young Director of Operational Services Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Mr. Young
"Chief Scott Griffith Fire Department Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Chief Griffith
"Ms. Patricia Middlebrook Clerk and Manager of Administration Town of New Tecumseth Box 910, 10 Wellington Street Alliston, Ontario L9R 1A1"	Ms. Middlebrook

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

2

"Mr. Jim Danby
Acting Director of Public Works
Town of New Tecumseth
Box 910, 10 Wellington Street
Alliston, Ontario
L9R 1A1"

Mr. Danby

"Mr. George DeGroot
Director of Public Works
Town of New Tecumseth
Box 910, 10 Wellington Street
Alliston, Ontario
L9R 1A1"

Mr. DeGroot

"Mrs. Juanita Dempster-Evans
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mrs. Dempster-Evans

"Mr. Ron Kneeshaw
Superintendent of Public Works
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mr. Kneeshaw

"Mr. Eric Hodgins, Town Planner
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mr. Hodgins

"Mr. Dennis Hearse, Clerk
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Hearse

"Mr. Peter Scott
Police Chief
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Scott

"Mr. Ken Beckett
Regional Fire Coordinator
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Beckett

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

3

"Mr. Tom Apparao, Manager,
Transportation and Works
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Apparao

"Mrs. Lynne Spackman
Administrative Assistant
Planning Department
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mrs. Spackman

"Mr. Jim Green
Commissioner of Planning
District of Muskoka
70 Pine Street
Bracebridge, Ontario
P1L 1N3"

Mr. Green

APPENDIX B

Minutes of Meeting

No Municipal Team and External Team Meetings were held.

APPENDIX C

Displays / Information Package



HIGHWAY 400 PLANNING STUDY

From Holland River

Northerly 17 km to 1.0 km south of Highway 89

G.W.P. 40-00-00

Preliminary Design
Class Environmental Assessment, Group 'B'

February 2001

Welcome to the First Round of Public Information Centres

for the

HIGHWAY 400 PLANNING STUDY

From Holland River

Northerly 17 km to 1.0 km south of Highway 89

G.W.P. 40-00-00

Please Sign In

Members of the Project Team are available to discuss and answer any questions you may have.

Purpose of this Public Information Centre

The purpose of this Information Centre is to update you on the progress of the project and obtain comments so your input can be considered as this project progresses. Major elements presented today include:

- Project Limits
- Study Schedule
- Class Environmental Assessment Process
- Study Purpose and Problem Statement
- Existing Conditions
- Planning Alternatives
- Proposed Evaluation Method and Criteria
- What's Next

The Project Team encourages you to fill out a comment sheet recording your comments and concerns.

Background

The Ministry of Transportation (MTO) has initiated a Planning and Preliminary Design Study to examine possible improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor. The need for drainage, illumination, roadside safety, structural and interchange improvements will also be examined as part of the study. Reasonable alternatives to address the required improvements will be identified and evaluated to determine the most appropriate solution.

The section of Highway 400 currently under study has been divided into two parts:

- **Part A:**
North of Major Mackenzie Drive to South Canal Bridge (Public Information Centre held December 12th, 2000)
- **Part B:**
Holland River to South of Highway 89 (subject of this Information Centre)

The purpose of this study is to:

- Determine the existing and projected future traffic (2021) on Highway 400;
- Identify the capacity and operational deficiencies;
- Evaluate and select alternatives to address existing deficiencies; and,
- Submit a Transportation Environmental Study Reports for environmental approval in order to proceed with the detail design and construction process.

The initial Notice of Study Commencement was published in the following newspapers and dates.

- Toronto Star - Wednesday November 8th, 2000 (McCormick Rankin Corporation)
- Barrie Advance - Wednesday November 8th, 2000 (URS Cole, Sherman & Associates)
- Barrie Examiner - Friday November 10th, 2000 (URS Cole, Sherman & Associates)
- Alliston Herald - Friday November 10th, 2000 (URS Cole, Sherman & Associates)

Environmental Assessment Process

This study is following MTO's "Class Environmental Assessment for Provincial Transportation Facilities" (Class EA), which was approved under the Ontario Environmental Assessment Act in Fall 1999. The Class EA defines groups of projects and activities, and the associated environmental assessment process requirements which MTO has committed to following for each group of project. Provided that this process is followed, projects and activities included under the Class EA do not require formal review and approval under the Ontario Environmental Assessment Act.

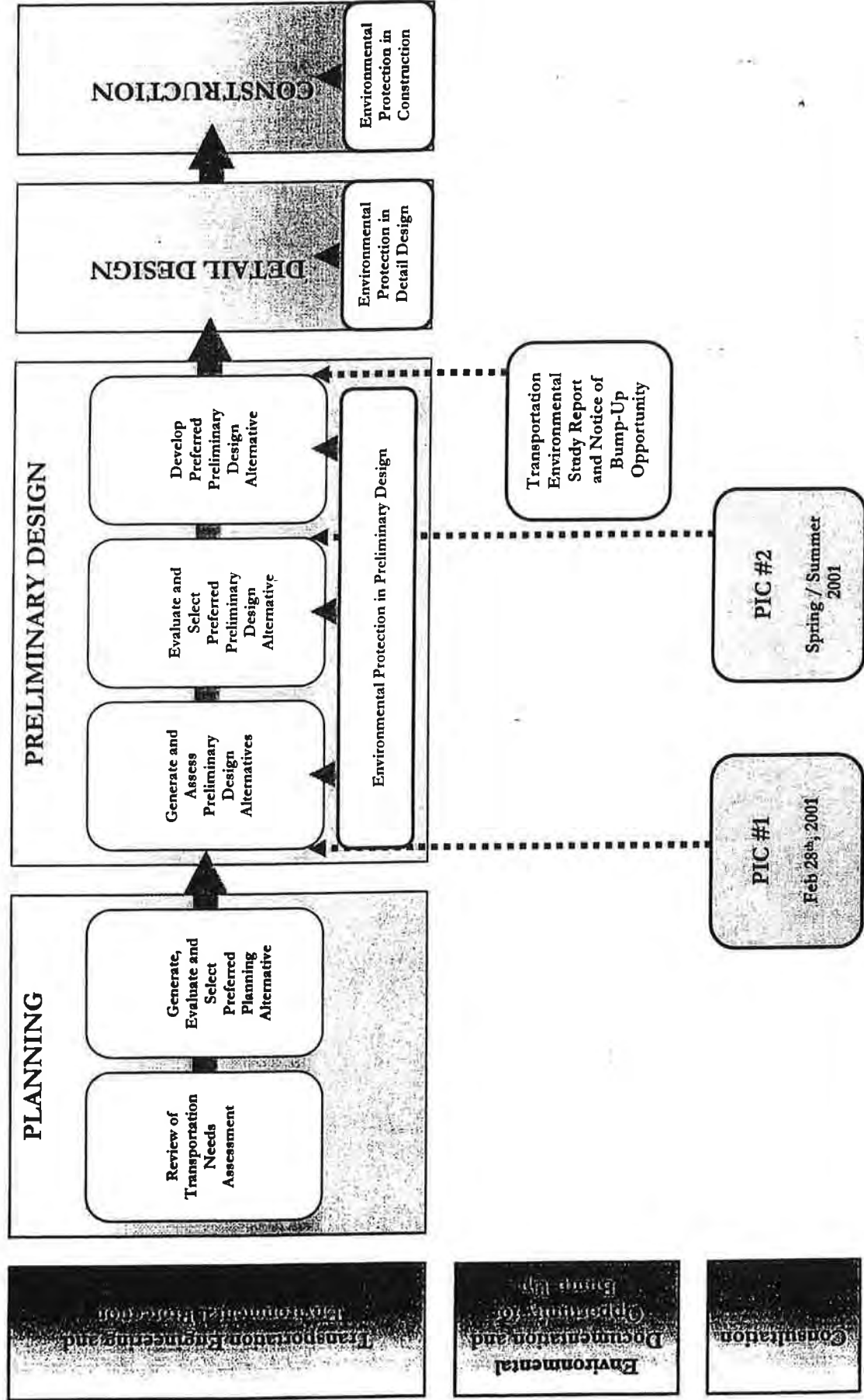
This project is following the Class EA process for Group 'B' projects. The steps involved in the Class EA process are shown in the next display.

The purpose of the Public Information Centre is to update you on the progress of the project and to obtain comments on the project limits, study schedule, Class EA process, study process and problem statement, existing conditions, planning alternatives, and the proposed evaluation method and criteria.

The next steps that follow this Public Information Centre are:

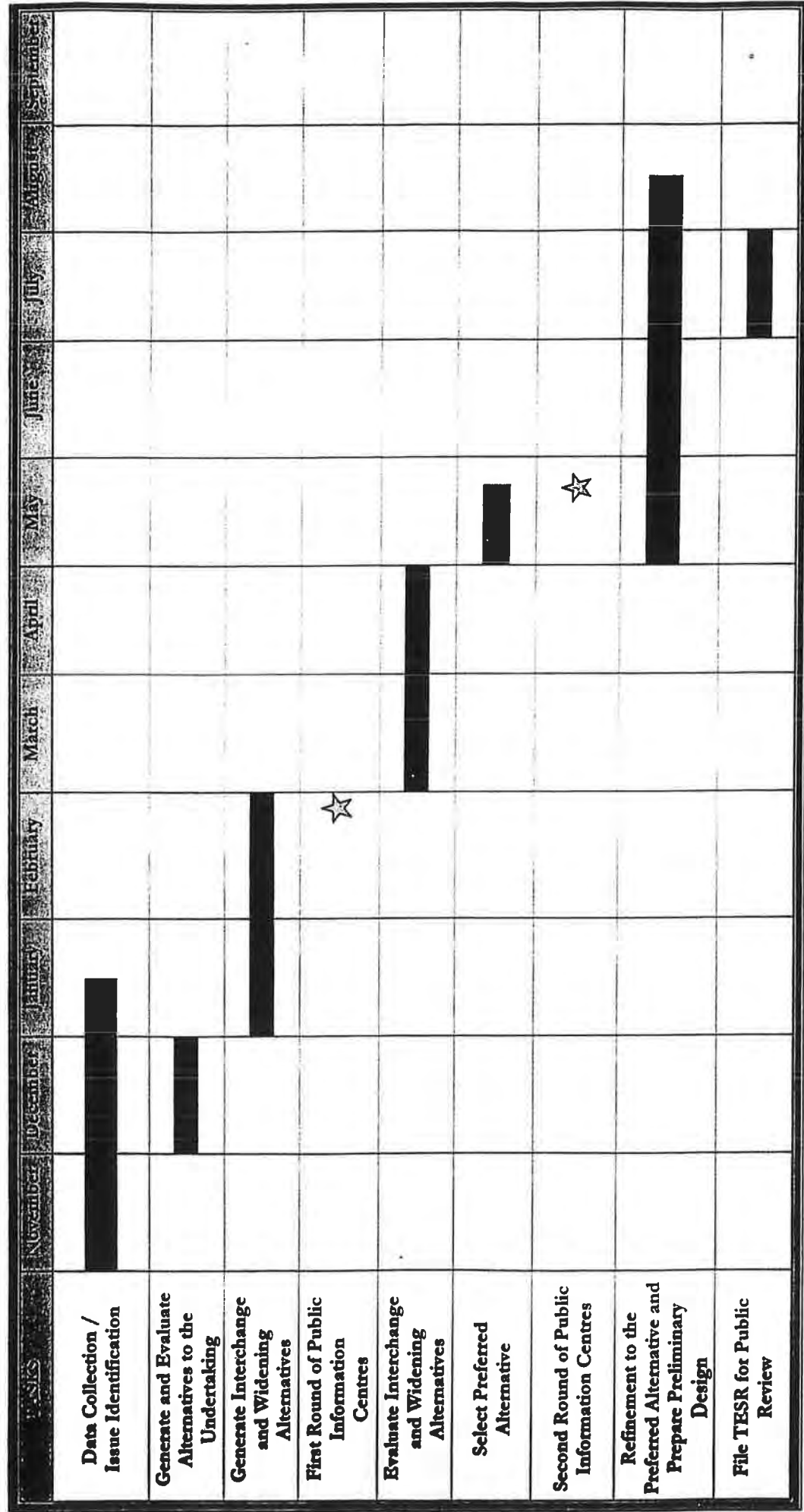
- Review the comments received from the Information Centre and respond to any questions
- Evaluate interchange and widening alternatives
- Select a preferred alternative
- Hold the second Public Information Centre for both Part A and Part B of the study to present the study findings
- Refine the preferred alternative and prepare preliminary design plan of the proposed highway widening including the interchanges
- Identify environmental impacts and develop mitigation measures to minimize the identified impacts
- Prepare a Transportation Environmental Study Report (TESR) and file for public review

Overview of the Class EA Process



Study Schedule / Class EA Process

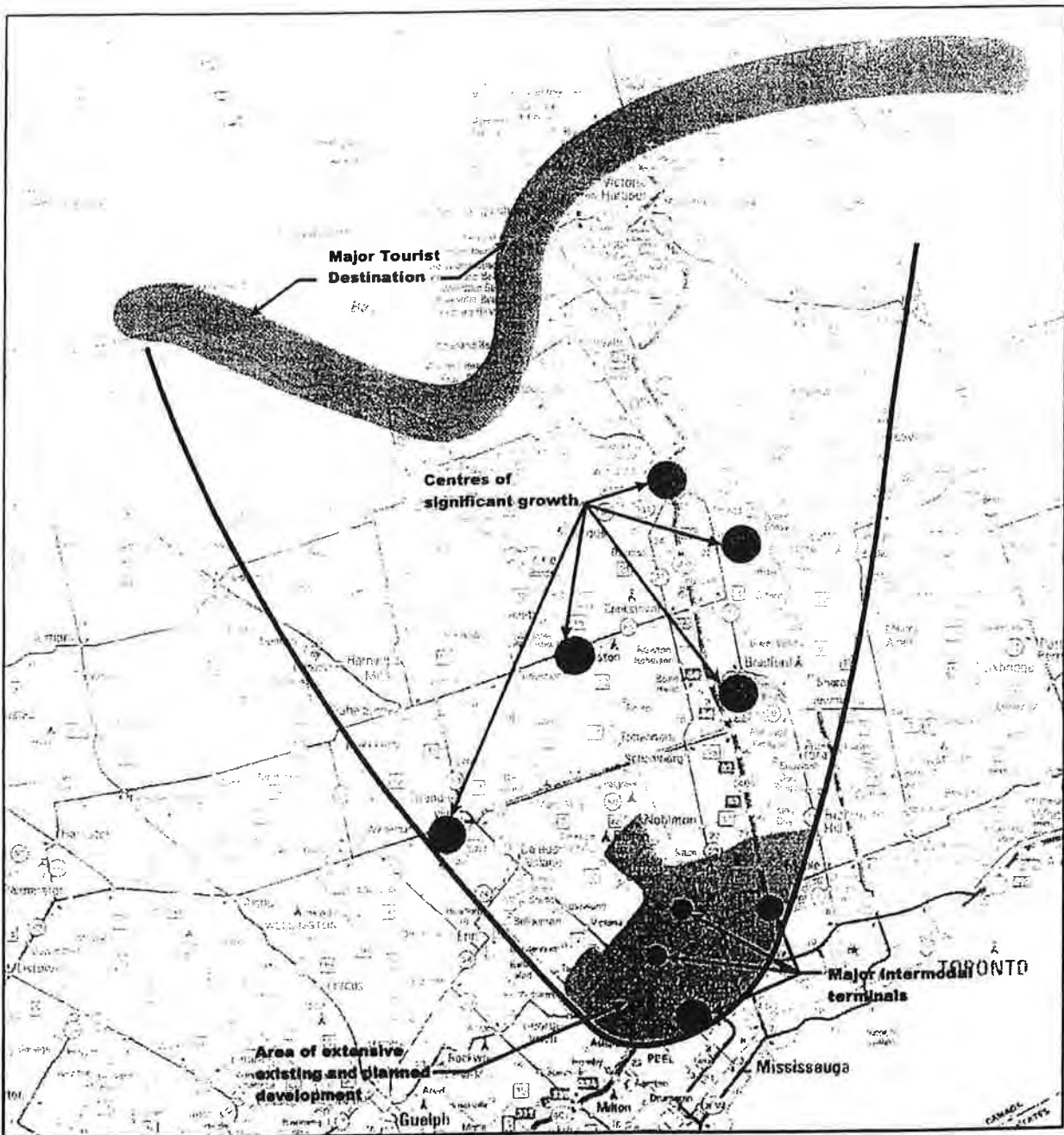
The following chart outlines the major tasks to be completed in the next few months.



Regional Transportation Needs

This area map shows the transportation needs in a regional perspective:

- Recreation and population / employment growth in the north
- Industrial and population / employment growth pressures in the south



Need and Justification

The purpose of this study is to examine the nature of improvements needed to address existing and future traffic operating capacity and the need for drainage, illumination, roadside safety, structural and interchange improvements.

Highway 400 Mainline:

Currently the section of Highway 400 within the project limits operates well during peak travel periods. Roadside safety illumination and drainage features require improvement to reflect current ministry standards.

As traffic volumes continue to increase, congestion on Highway 400 will occur. This will lead to increased driver frustration, potential for collisions, trip delays and associated waste of energy resources, increasing costs of moving goods and significant diversion of traffic to other adjacent roadways.

Traffic volumes are projected to exceed the existing capacity of a 6-lane freeway as early as 2004. By 2021, traffic volumes will warrant 10-freeway lanes on the section of Highway 400 within the project limits. Structures will need to be widened or replaced to accommodate mainline improvements.

Highway 400 Interchanges:

The following display boards describe the existing and future conditions at the Canal Road Interchange and Highway 88 Interchange.

Existing / Future Operational Conditions At Canal Road Interchange

Highway 400
Peak Hour Volume
Exceeds Capacity
in 2005

Canal Road not suitable
for use as a connecting
link for Bradford commuters

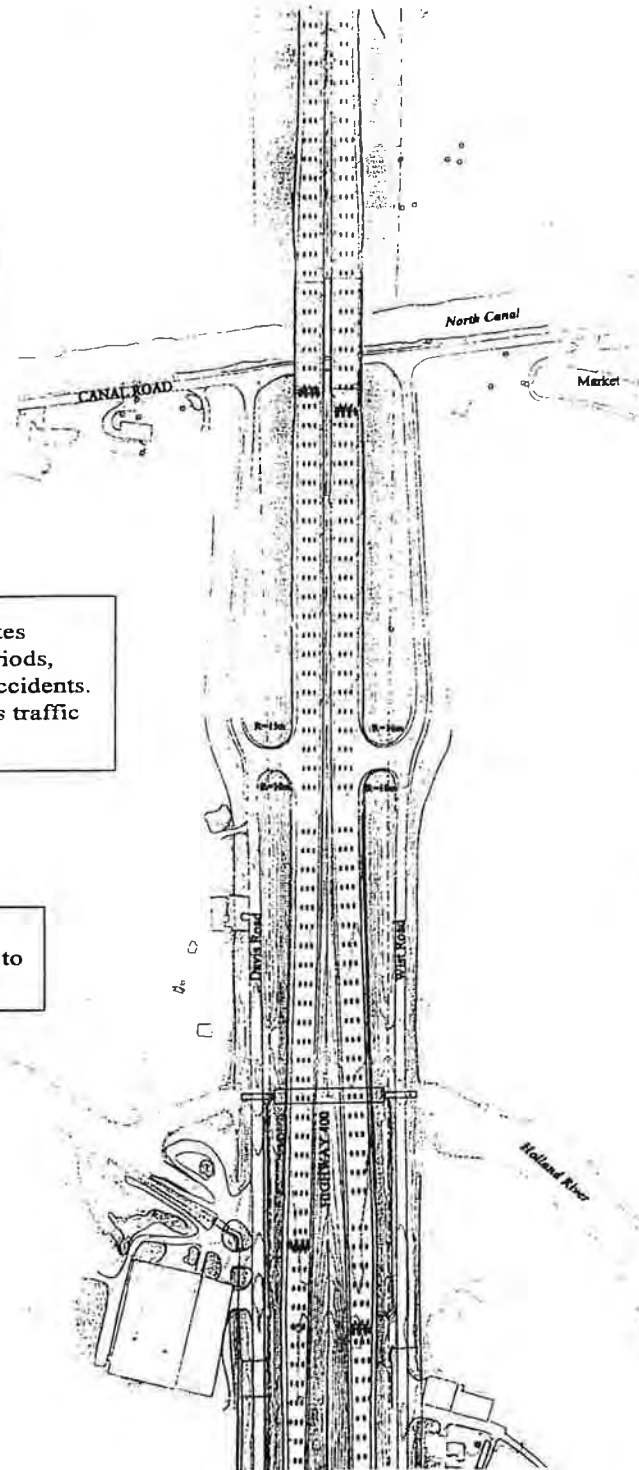
Existing configuration operates
poorly during peak travel periods,
increasing the potential for accidents.
This condition will worsen as traffic
volumes increase.

Significant number of collisions
recorded at Canal Road
interchange.
(29 rear-end and 29 sideswipe
collisions from 1988 to 1999)

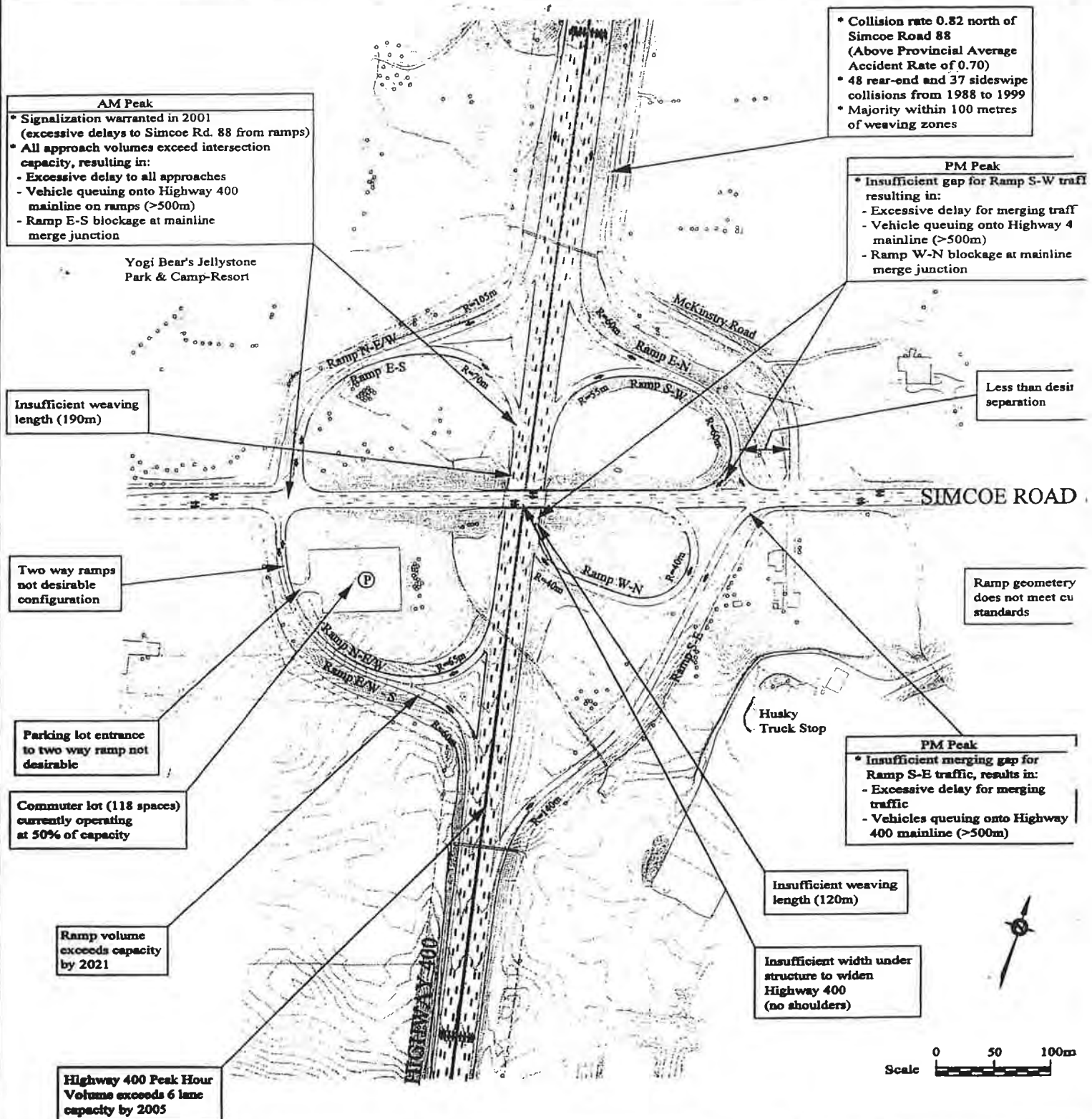
Right-in and right-out access
not consistent with controlled
access interchange design

Existing interchange provides
access for emergency services to
Highway 400 / Holland Marsh

Current accesses are
difficult for large vehicles
to negotiate safely

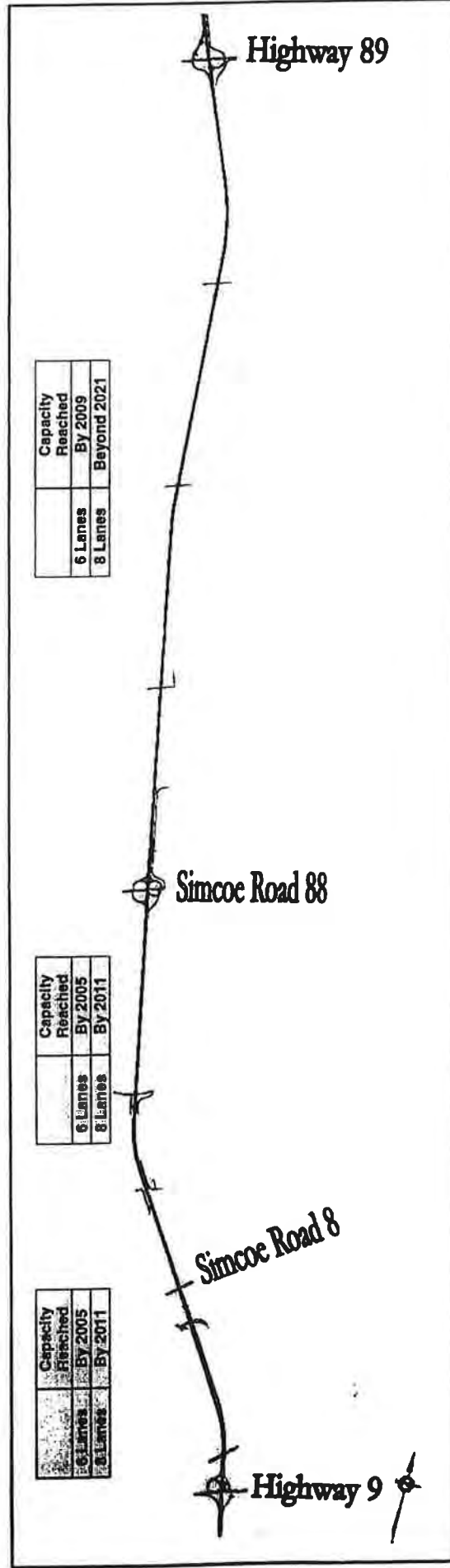


Existing / Future Operational Conditions At Simcoe Road 88 Interchange



Widening Requirements

The timing of projected capacity deficiencies is summarized below.



The improvements to this section of Highway 400 are consistent with those proposed for Part A.

Planning Alternatives

Several planning alternatives were identified and assessed as possible solutions to the identified Highway 400 Corridor capacity-related problems:

- ***Do Nothing:*** Traffic is expected to continue to increase. To do nothing would result in a further deterioration of the level of service; this in turn would result in an increase in travel time, congestion, collisions, fuel wastage and air pollution. The negative consequences of the “Do Nothing” approach clearly suggest that actions must be taken in order to address the existing and projected deficiencies of Highway 400.
- ***Localized Geometric Improvements:*** Geometric improvements would increase traffic operations, but would not address the capacity deficiencies.
- ***Traffic Operations Improvements:*** The implementation of a traffic management system would inform the driver of problems ahead; and with ramp metering, the use of available highway capacity could be improved by an increase of about 5% to 10% (as observed on the QEW in Mississauga). This will extend the time frame for the improvements but will not eliminate the need.
- ***Vehicle Occupancy Increase:*** This would involve reducing the number of vehicles along major highways by encouraging carpooling. Again, this will extend the time frame for the improvements but will not eliminate the need.
- ***Adjacent Road System Improvements:*** Other parallel arterial roads will provide only limited diversion for Highway 400 through-traffic due to the distances of these other roads from Highway 400 and the fact that many are already saturated with local traffic. Widening of arterial roads will not provide sufficient additional capacity for through-traffic to be significantly diverted from Highway 400.

Planning Alternatives (continued)

- ***Rail and Transit Expansion:*** Rail and transit expansion would provide a more competitive choice of travel modes for some users of Highway 400, and thus reduce the traffic volumes somewhat on Highway 400. The improvements would be limited since Highway 400 significantly serves a diverse nature of trips. This alternative alone would not be able to address travel demand.
- ***Combination of Alternatives:*** The combination of all of the previously stated alternatives will not sufficiently address projected future travel demand.
- ***Freeway Capacity Improvements:*** This alternative would provide the needed capacity to improve Highway 400 to an acceptable level of service. It also would provide the opportunity to improve the facility to current Ministry standards. There would be some property impact and limited environmental impact along the corridor.
- ***Provincial Highway Network Expansion:*** A new parallel highway cannot address the immediate and medium terms capacity deficiencies of the Highway 400 Corridor.

Based on the assessment of alternatives, the preferred alternative is “freeway capacity improvements”. The basic feature of the “freeway capacity improvements” is widening Highway 400.

Widening Alternatives

Projected traffic volumes will exceed the capacity of the existing 6-lane freeway. Widening Highway 400 to 10 lanes (5 per direction) will be required to accommodate future (2021) travel demand.

Generally, widening about the existing Highway 400 centreline is the preferred method of achieving the required road widening. This method is preferred in part because;

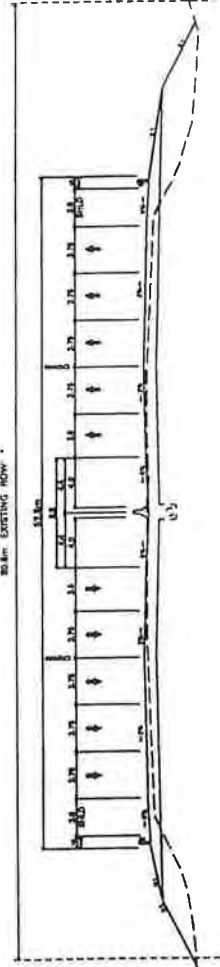
- By splitting the property impacts along the east and west sides of the right-of-way, the overall impacts to adjacent property owners is reduced;
- Such widenings are less disruptive to stage and construct;
- Such widenings are less costly to implement; and,
- Maintaining the existing alignment provides more desirable geometrics.

In areas where property limits and/or physical constraints suggest a shift of the centreline will reduce impacts, alternative methods of widening will be developed. Depending on the extent and significance of the constraint, the following alternatives will be considered:

1. Widening about the existing Highway 400 centreline;
2. Widening to the east;
3. Widening to the west; and,
4. A combination of the above.

Widening alternatives will also consider alternative median designs, as follows:

1. 8.8 metre-wide median: concrete barrier;
2. 15 metre-wide grassed median; and,
3. 22 metre-wide grassed median.



DAVIS RD
E

WEST AD
3

PRELIMINARY

• - EXISTING ROW VARIES (85.7m - 131.5m)

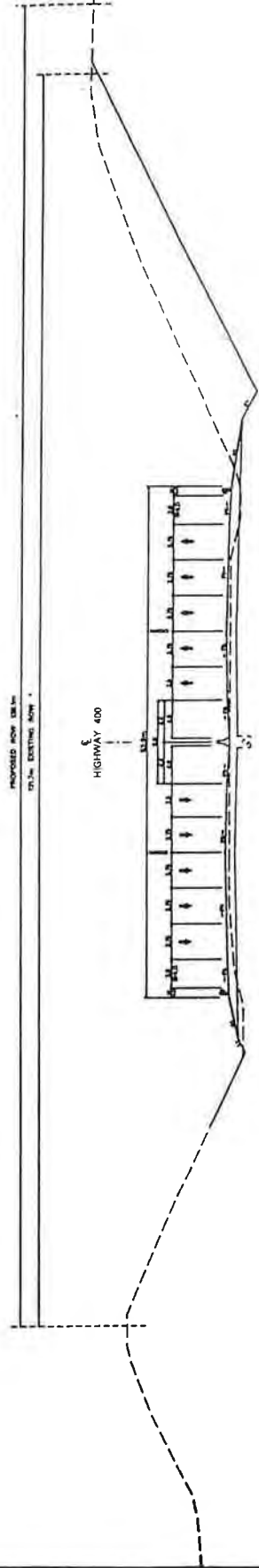
N.T.S.



HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00

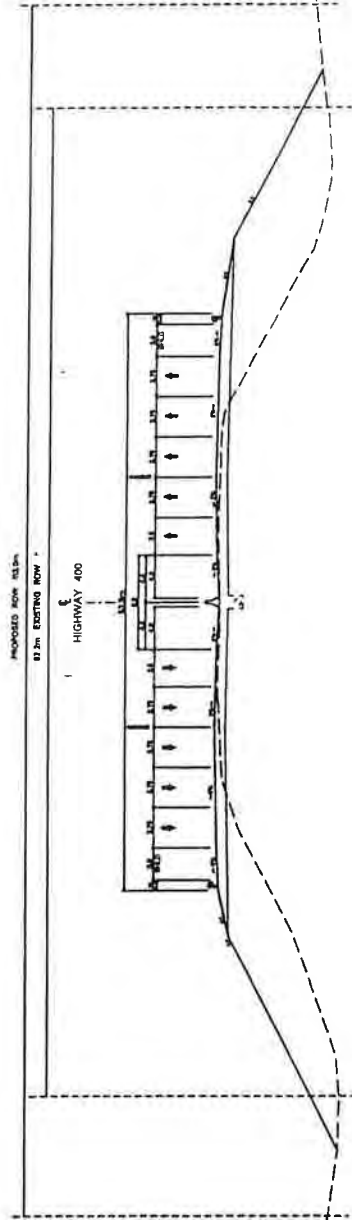
URS COLE, SHERMAN

TYPICAL CROSS SECTIONS - CENTRELINE WIDENING WITH 8.8m BARRIER MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY

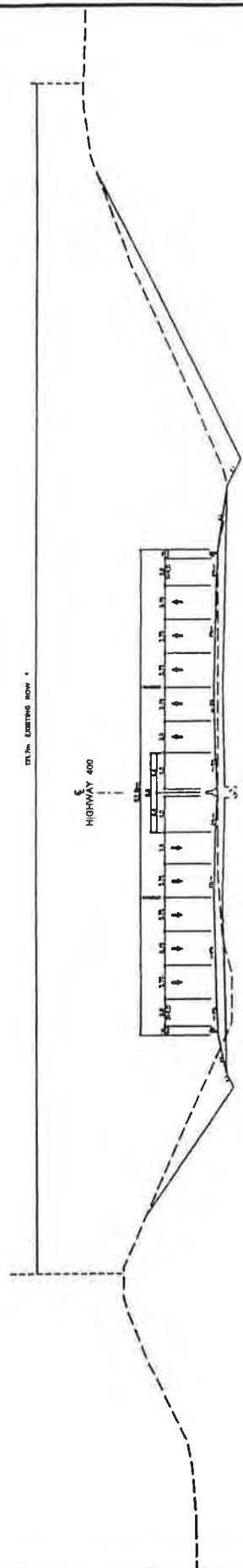


• - EXISTING ROW VARIES (65.7m - 131.5m)

NORTH OF 11TH CONCESSION

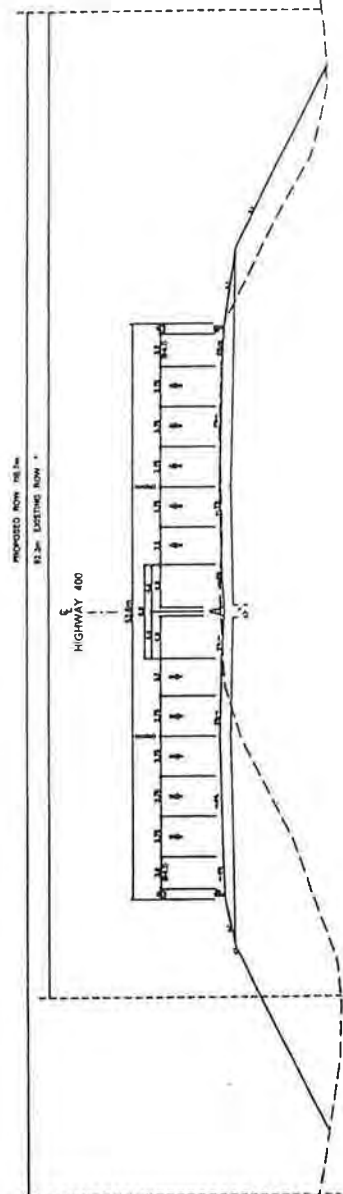
N.T.S.

TYPICAL CROSS SECTIONS - WIDENING TO THE WEST WITH 8.8m BARRIER MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY



• - EXISTING ROW VARIES (85.7m - 131.5m)

NORTH OF 11TH CONCESSION

N.T.S.

HIGHWAY 400 PLANNING STUDY

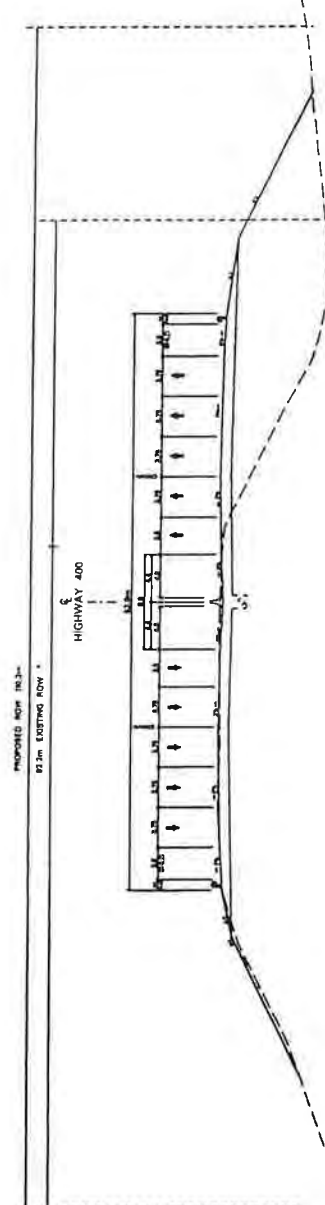
HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00



[illegible]

NORTH OF CANAL ROAD

PRELIMINARY



• -- EXISTING ROW VARIES (65.7m - 131.5m)

NORTH OF 11TH CONCESSION

N.T.S.



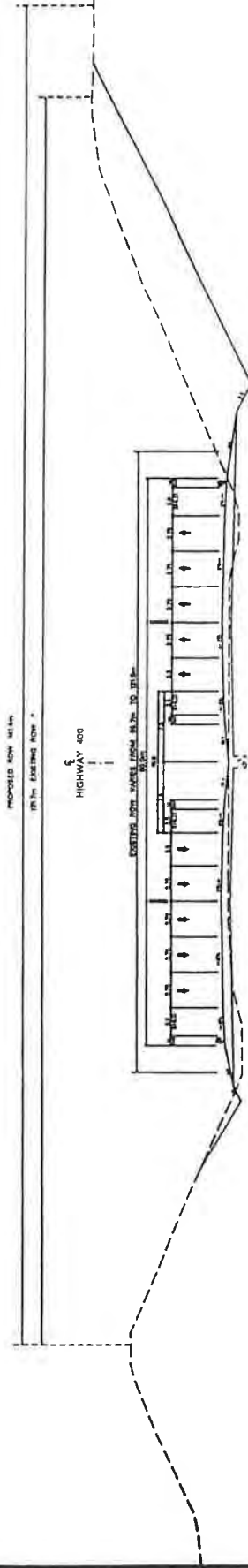
HIGHWAY 400 PLANNING STUDY

HOLLAND RIVER TO HIGHWAY 89

G.W.P. 40-00-00

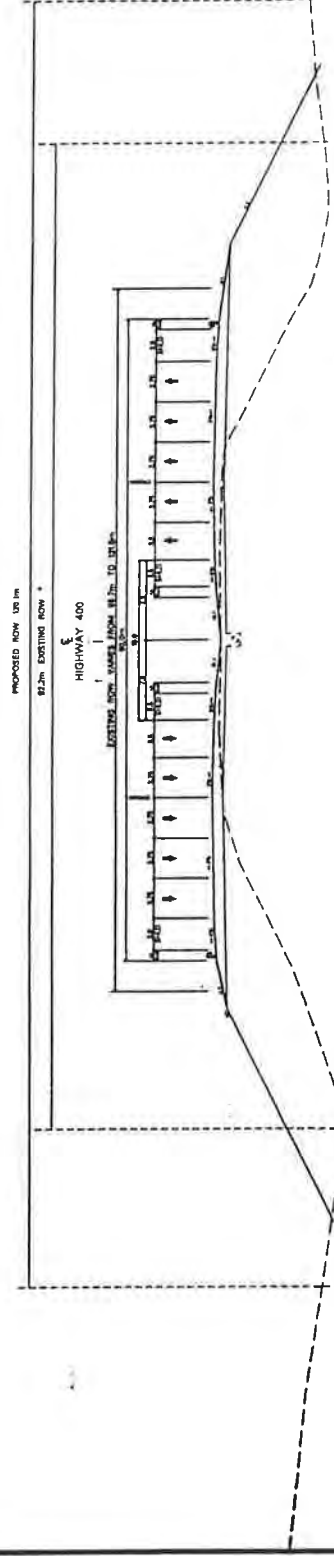


TYPICAL CROSS SECTIONS - CENTRELINE WIDENING WITH 15.0m OPEN MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY



• - EXISTING ROW VARIES (85.7m - 131.5m)

NORTH OF 11TH CONCESSION

N.T.S.

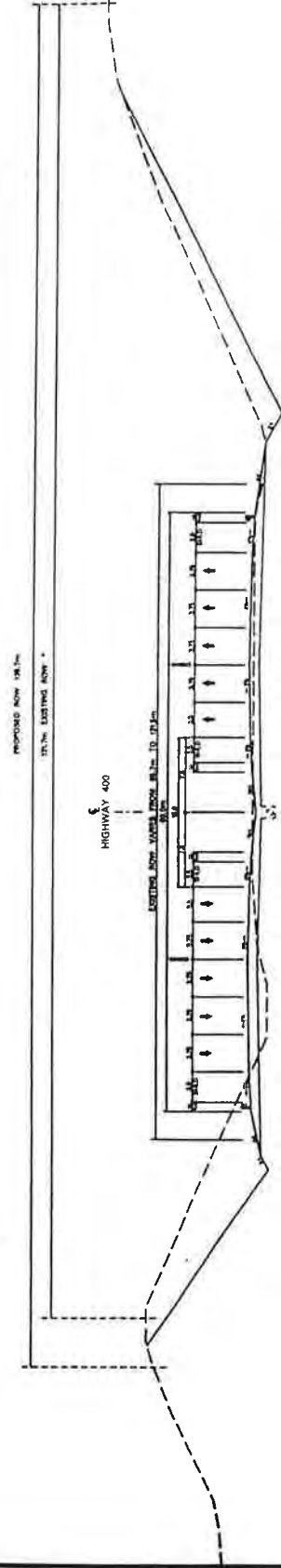


HIGHWAY 400 PLANNING STUDY

HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00

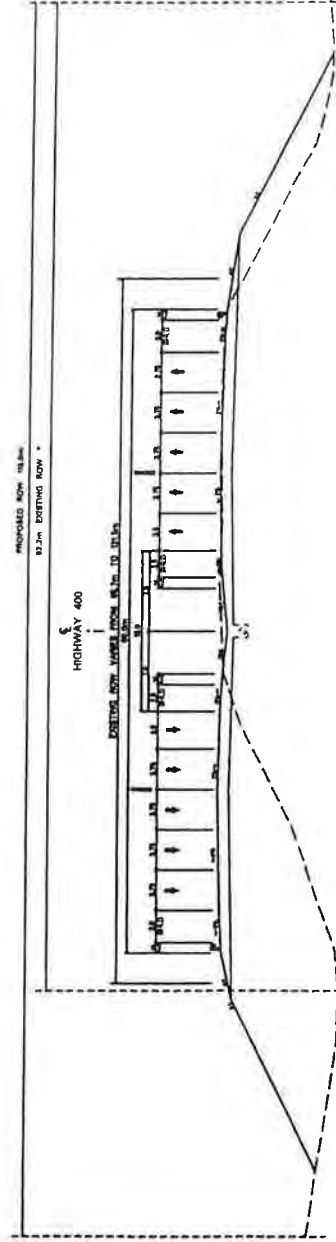
URS COLE, SHERMAN

TYPICAL CROSS SECTIONS - WIDENING TO THE WEST WITH 15.0m OPEN MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY

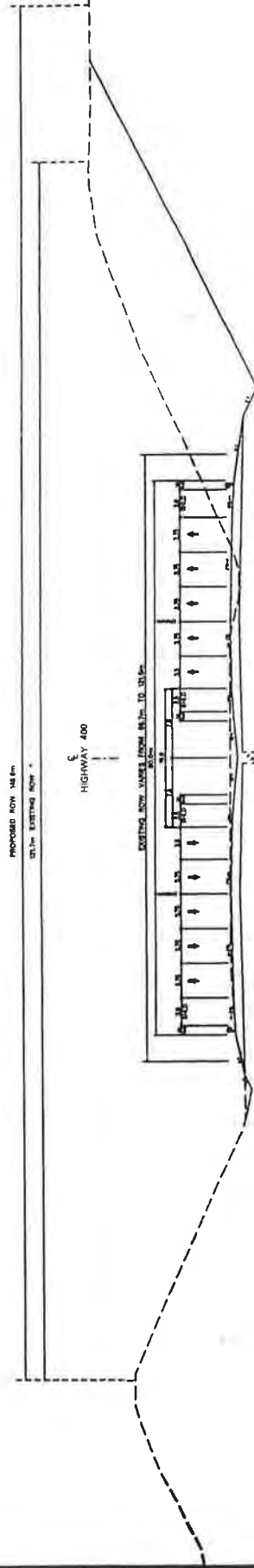


• - EXISTING ROW VARIES (85.7m - 131.5m)

NORTH OF 11TH CONCESSION

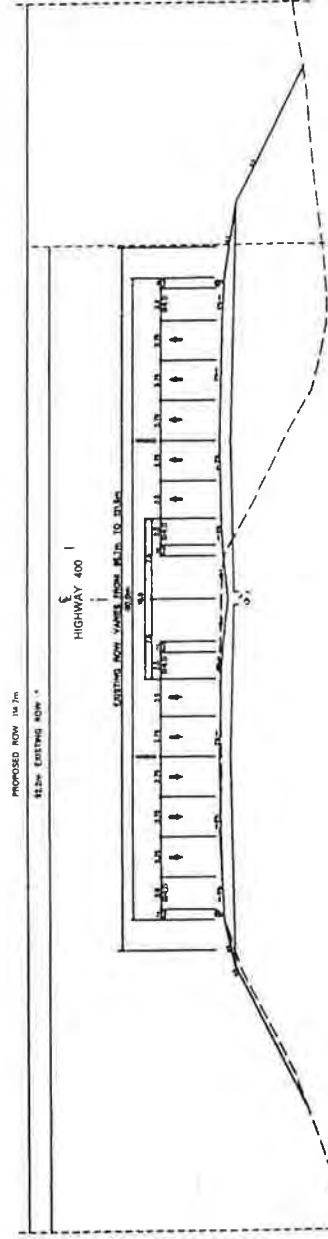
N.T.S.

TYPICAL CROSS SECTIONS - WIDENING TO THE EAST WITH 15.0m OPEN MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY



N.T.S.

NORTH OF 11TH CONCESSION

• - EXISTING ROW VARIES (85.7m - 131.5m)



HIGHWAY 400 PLANNING STUDY

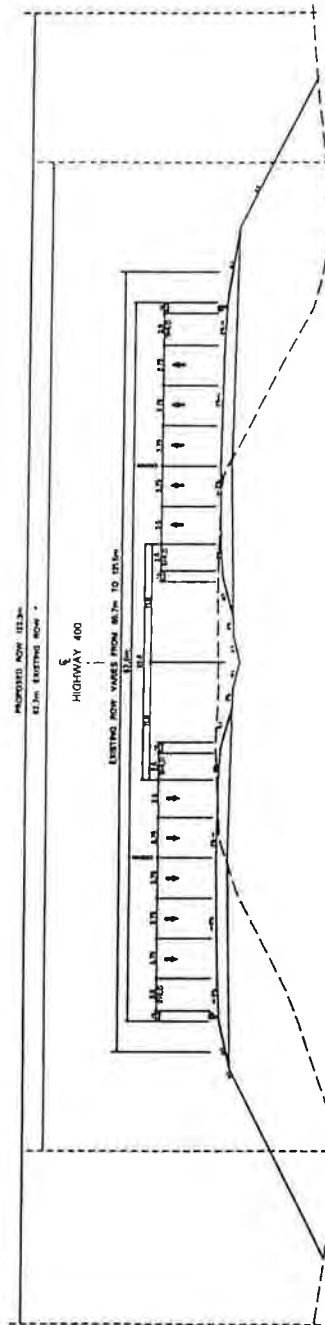
HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00



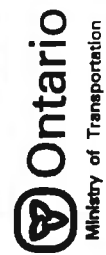
PROPOSED ROW 148.0m
 EXISTING ROW 137.7m
 HIGHWAY 400
 EXISTING ROW WIDEN FROM 86.1m TO 108.4m
 67.2m

The plan view shows a section of Highway 400 with a proposed right-of-way (ROW) of 148.0m and an existing ROW of 137.7m. The highway is 67.2m wide. The existing ROW is widened from 86.1m to 108.4m. The plan view includes stationing and lane widths.

PRELIMINARY



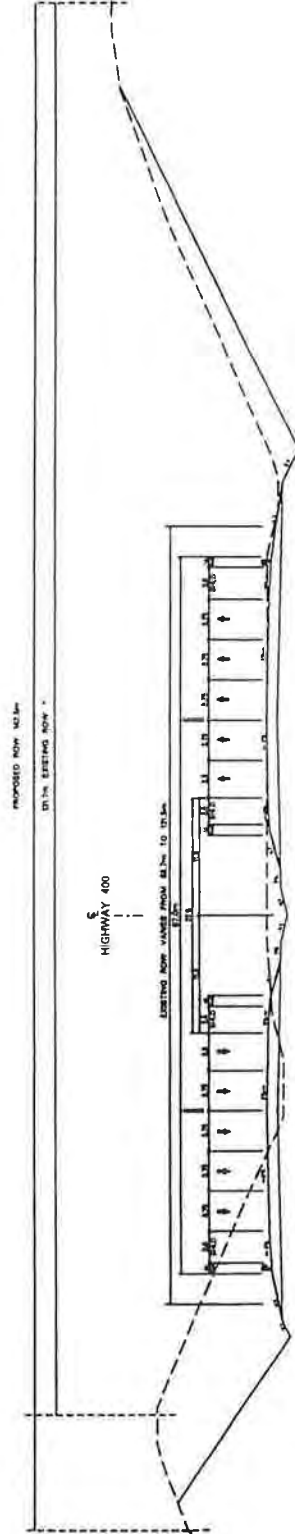
N.T.S.



HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00

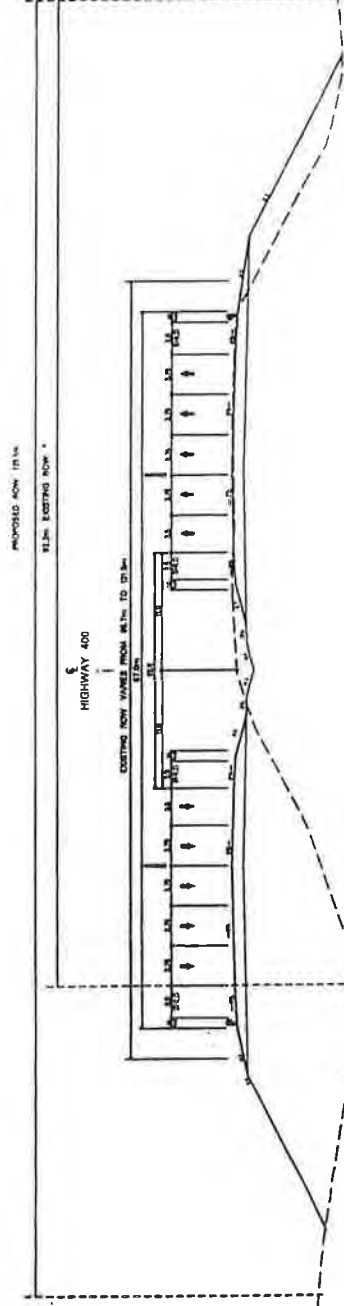
URS COLE, SHERMAN

TYPICAL CROSS SECTIONS - WIDENING TO THE WEST WITH 22.0m OPEN MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY

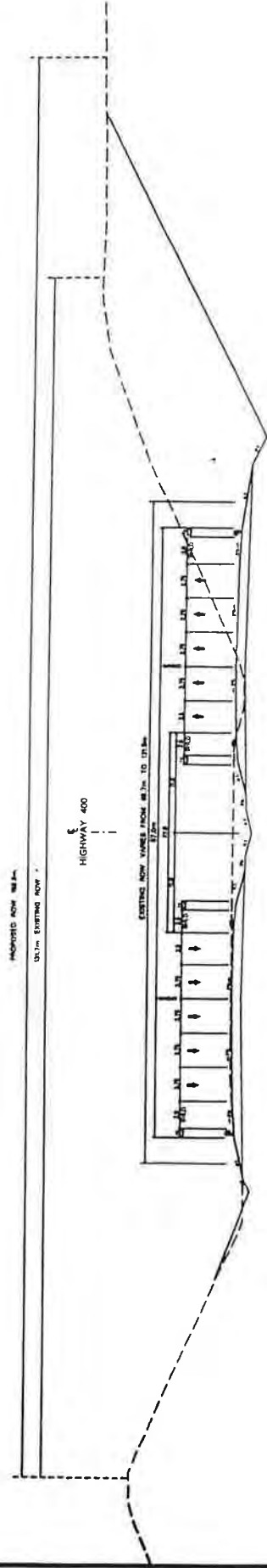


• - EXISTING ROW VARIES (65.7m - 131.5m)

NORTH OF 11TH CONCESSION

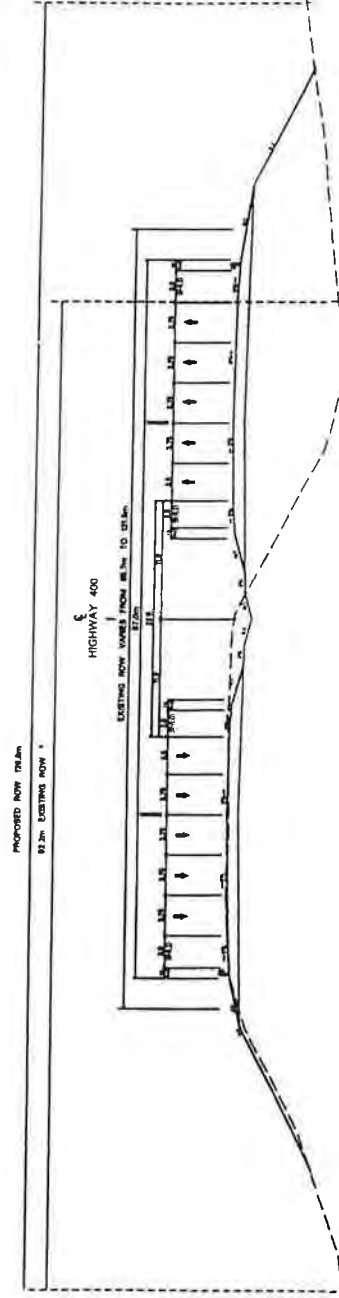
N.T.S.

TYPICAL CROSS SECTIONS - WIDENING TO THE EAST WITH 22.0m OPEN MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY



• - EXISTING ROW VARIES (65.7m - 131.5m)

NORTH OF 11TH CONCESSION

N.T.S.

Interchange Improvements

In addition to mainline improvements, the interchanges at Canal Road and Simcoe Road 88 are being reviewed to identify alternative improvements which address traffic operation issues.

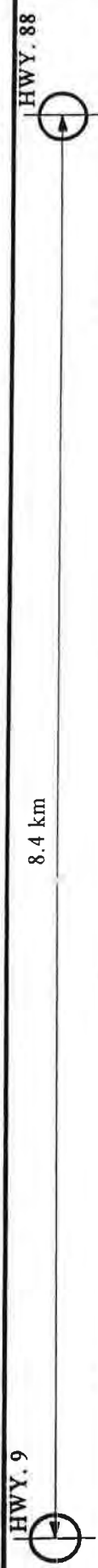
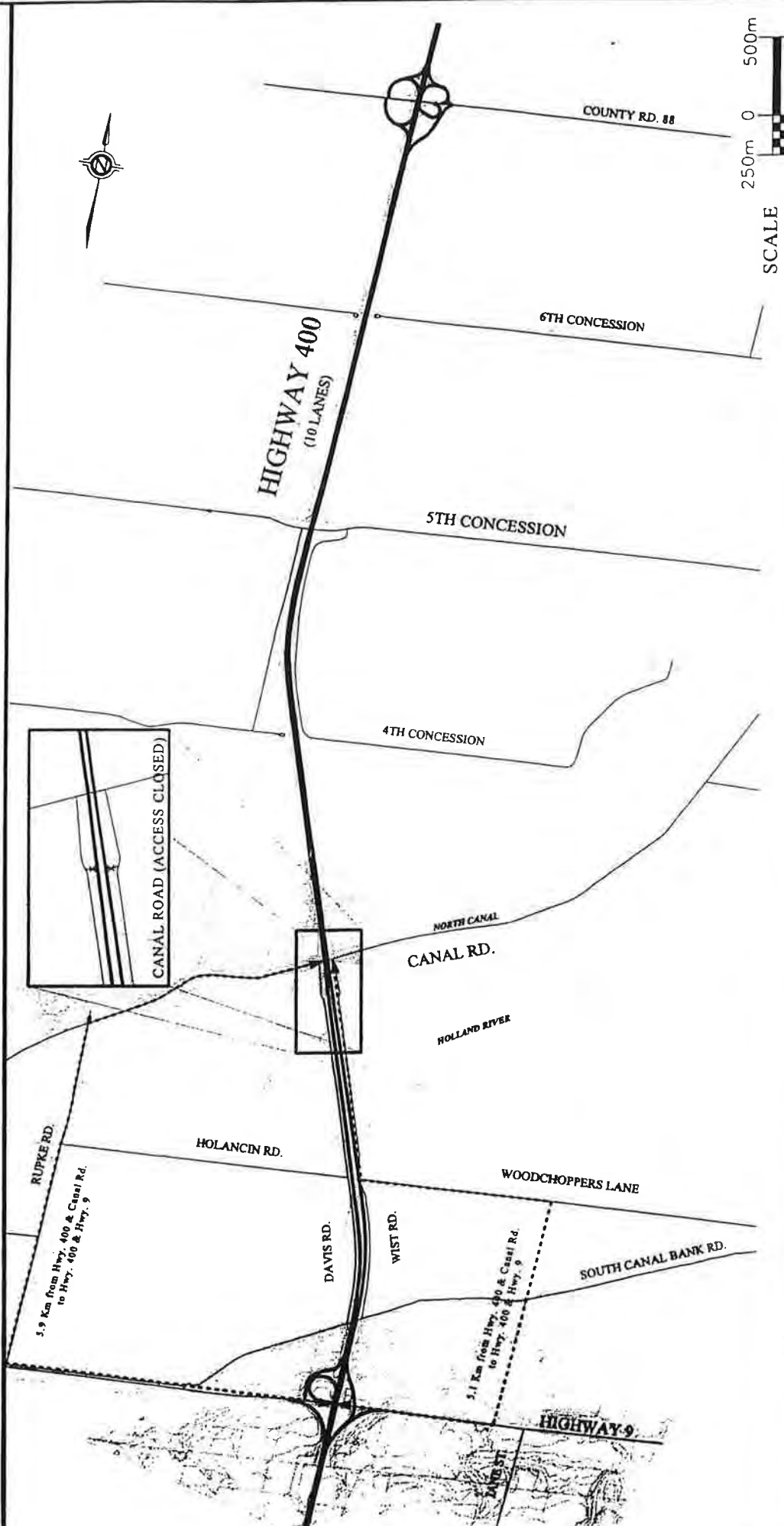
Conceptual design alternatives for each interchange are shown on the following displays.

Issues Raised to Date on the Canal Road Interchange

The following issues have been raised to date regarding the Canal Road Interchange.

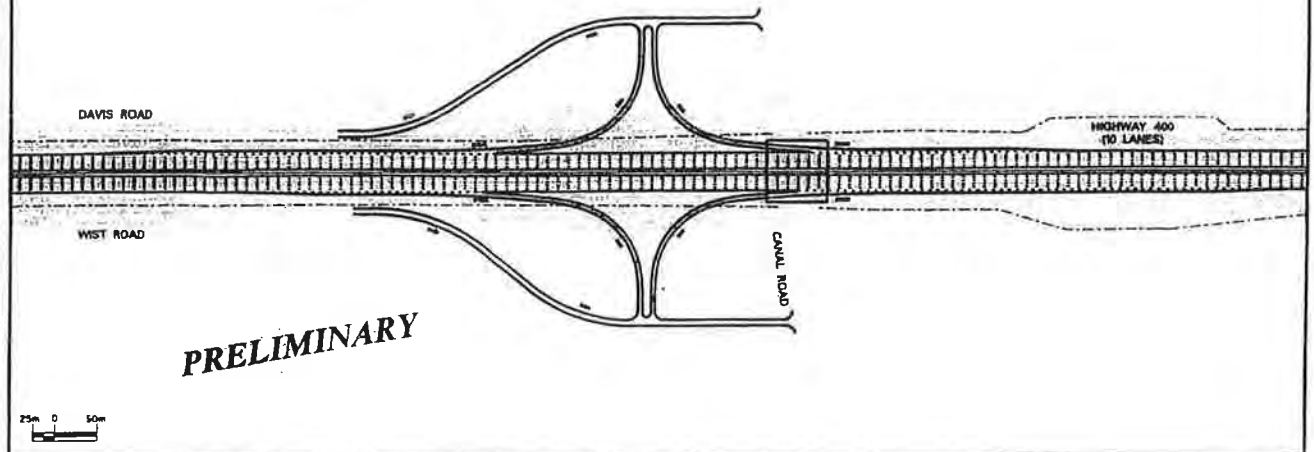
- The current configuration of the Canal Road Interchange does not reflect current Ministry standards and as highway volumes increase, operations will continue to worsen.
- The interchange is situated in the Holland Marsh, which is a significant agricultural area.
- The interchange provides access for emergency services, local agricultural operations and commuters.
- Canal Road is not suitable for use as a commuter route between Highway 400 and the Bradford area.
- Increases in highway traffic and the widening of the Highway 400 make it necessary to consider closing this interchange, modifying the interchange to reflect current MTO standards to accommodate future traffic demands, or relocating the interchange out of the Holland River.
- Modifications to the interchange will directly impact lands in the Holland Marsh.

ALTERNATIVE 1 - CLOSURE OF CANAL ROAD ACCESS

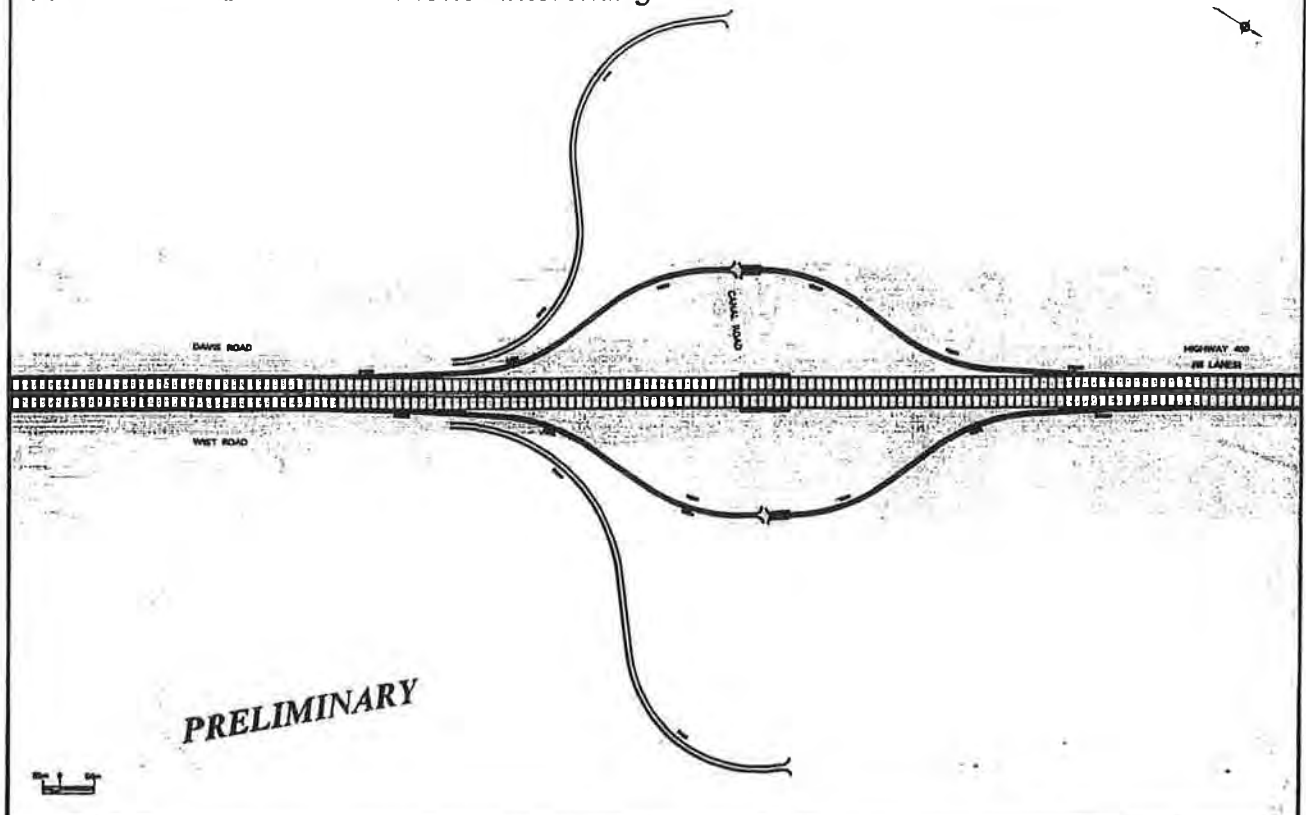


ALTERNATIVE 2 – MODIFICATIONS TO CANAL ROAD ACCESS

ALTERNATIVE 2A – Button Hook Interchange

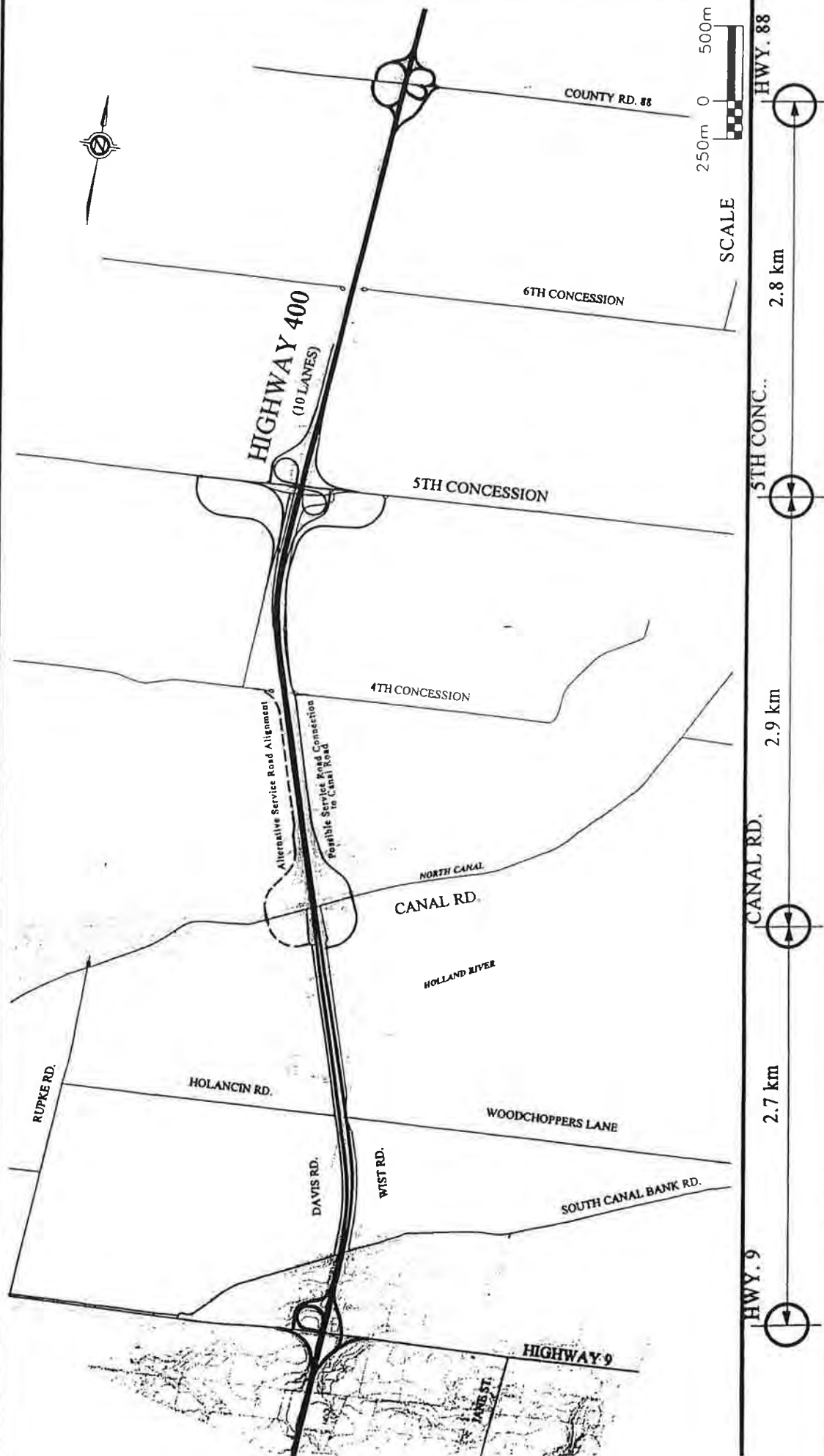


ALTERNATIVE 2B – Diamond Interchange

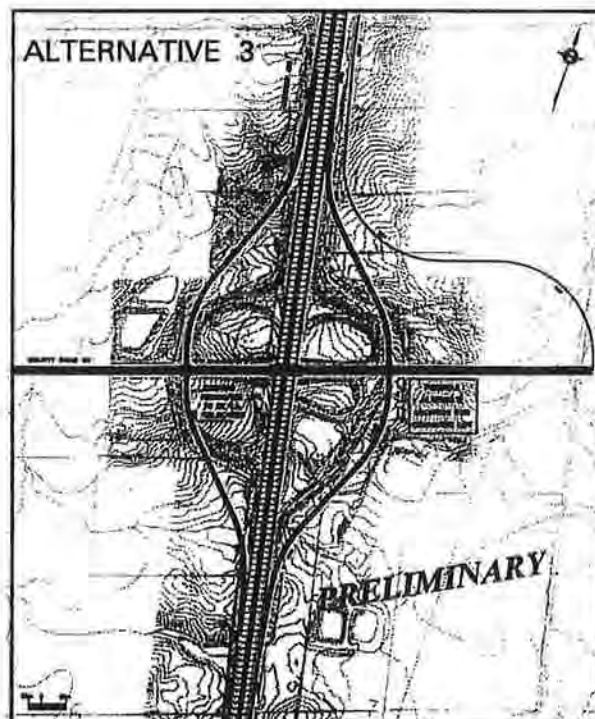
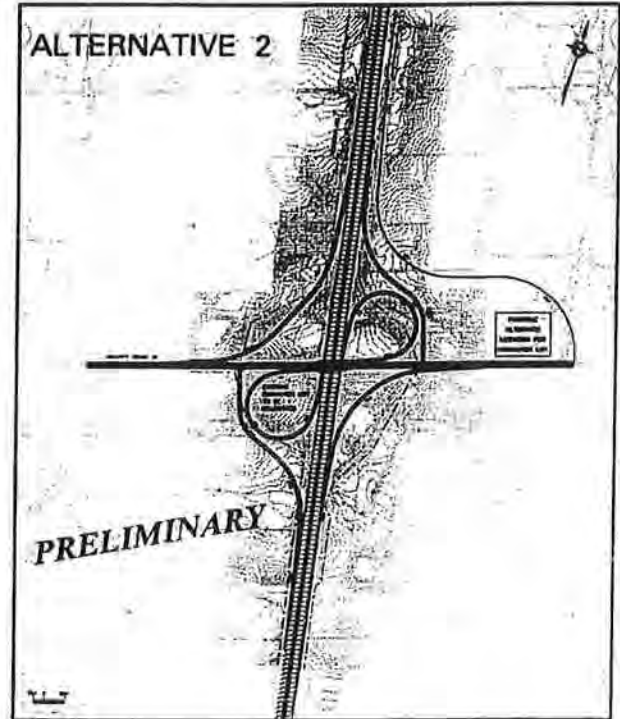
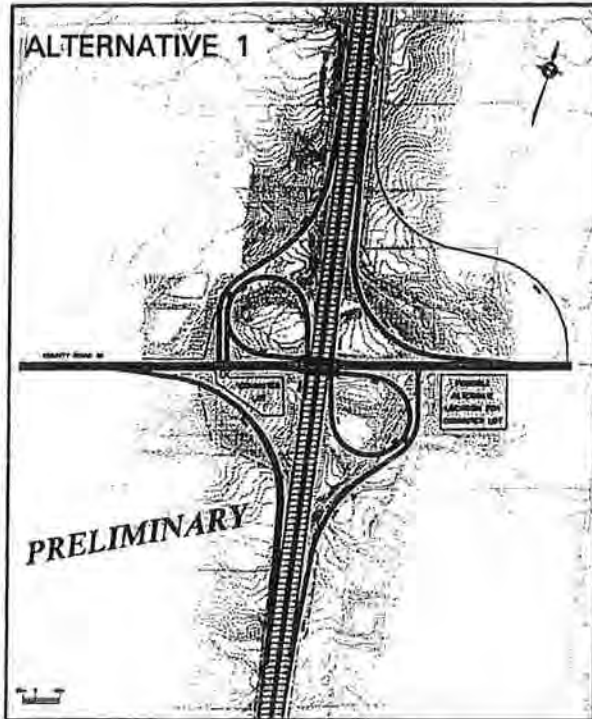


ALTERNATIVE 3

CLOSURE OF CANAL ROAD INTERCHANGE WITH RELOCATION OF INTERCHANGE TO 5TH CONCESSION ROAD AND SERVICE ROAD CONNECTION TO CANAL ROAD



INTERCHANGE ALTERNATIVES AT COUNTY ROAD 88



Evaluation Process and Criteria

Evaluation criteria proposed to be used in the evaluation of median, highway and sideroad alternatives are provided as follows:

ENVIRONMENTAL COMPONENT	CRITERIA
Natural Environment	<ul style="list-style-type: none"> • Effect on Fish and Aquatic Habitat • Effect on Terrestrial Habitat and Vegetation • Effect on Wetlands • Effect on Greenways and Open Space Linkages • Effect on Groundwater • Effect on Naturally Significant Areas • Effect on Agricultural Lands (soils)
Social Environment	<ul style="list-style-type: none"> • Aesthetics • Noise • Community Effects (residential, institutional, recreational and community features, and out-of-way travel)
Economic Environment	<ul style="list-style-type: none"> • Effects on Commercial / Industrial uses • Effect on Agricultural Operations • Property Waste and Contamination
Cultural Environment	<ul style="list-style-type: none"> • Effect on Archaeological Resources • Effect on Heritage Resources
Transportation	<ul style="list-style-type: none"> • Traffic Operations • Traffic Safety • Construction Impacts • Cost

What's Next

After this Information Centre, the following will be carried out:

- Review the comments received and respond to any questions.
- Continue to consult with the public and external agencies for input in the assessment of the proposed highway cross-sections and the interchange improvements.
- Refine alternatives based on comments received.
- Analysis and evaluation of design alternatives.
- Hold the Second Public Information Centres for both Parts A and B of the study to present study findings.
- Develop preliminary design plan of the proposed highway widening including the interchanges.
- Identify environmental impacts and develop mitigation to minimize identified impacts.

Following the second Public Information Centre, a Transportation Environmental Study Report (TESR) will be prepared and placed on the Public Record for the 30-day review period.

Thank you for attending.

Please feel free to ask questions and fill out a comment sheet before you leave.

Freedom of Information and Protection Privacy

Comments and information regarding this study are being collected to assist the Ministry of Transportation (MTO) in meeting the requirements of the Provincial *Environmental Assessment Act*. This material will be maintained on file for use during the study and may be included in study documentation. With the exception of personal information all comments will become part of the public record.

You are encouraged to contact the MTO Project Team if you have questions or concerns regarding the above information.

HIGHWAY 400 PLANNING STUDY
FROM THE HOLLAND RIVER NORTHERLY 17 KM TO 1.0 KM SOUTH OF HIGHWAY 89
G.W.P. 40-00-00



HIGHWAY 400 PLANNING STUDY

From the Holland River
Northerly 17 km to 1.0 km south of Highway 89
Town of Bradford West Gwillimbury, Region of York
G.W.P. 40-00-00

PUBLIC CONSULTATION ROUND #2

SUMMARY REPORT

NOVEMBER 2001

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 PURPOSE.....	1
3.0 PUBLIC NOTIFICATION.....	1
4.0 PRE PIC MEETINGS.....	2
5.0 DISPLAY MATERIAL.....	2
6.0 ATTENDANCE/ SUMMARY OF COMMENTS	3

APPENDIX A

News Ad / Brochure and Notice Letters

APPENDIX B

Minutes of Meeting

APPENDIX C

Displays / Information Package

1.0 INTRODUCTION

The second Public Information Centre was held regarding improvements to Highway 400 from the South Canal Bridge to 1 km south of Highway 89. The Information Centre provided the public the opportunity to review and provide comments on the evaluation of alternatives, and the selection of technically preferred alternatives and to discuss the project with representatives of the Project Team.

The information centre was held on:

Tuesday November 6th, 2001
3:00 p.m. to 8:00 p.m.
Bradford Community Centre
Town of Bradford West Gwillimbury

Representatives of Cole, Sherman & Associates and the Ministry of Transportation staffed the Public Information Centre.

2.0 PURPOSE

The purpose of the Public Information Centre (PIC) was to present the evaluation of alternatives and the selected technically preferred alternatives for widening mainline Highway 400, improvements to the interchange at Simcoe Road 88 and the Canal Road interchange. The PIC also provided the public an opportunity to review and comment on the following:

- Project Limits
- Updated Study Schedule
- Class Environmental Assessment Process
- Study Purpose and Problem Statement
- Summary of the First Round of Public Consultation
- Analysis and Evaluation of Alternatives
- Technically Preferred Alternative(s) for Improvements to the Highway 400 Corridor
- What's Next

3.0 PUBLIC NOTIFICATION

Prior to the PIC, the following measures were carried out in order to make details of the information centre known to study area residents and interested members of the public:

1. An Ontario Government Notice (Notice of Public Information Centre) was placed in the following newspapers:
 - Toronto Star – Wednesday October 31, 2001
 - Barrie Examiner – Tuesday October 30, 2001
 - Barrie Advance – Wednesday October 31, 2001
 - Bradford West Gwillimbury – Saturday November 3, 2001
(see Appendix A for notice).
2. Letters were directly sent to those people on the Project Team's External Team mailing list, including government agencies and ministries, municipalities, interest groups, property owners and tenants and individuals who requested to be added to the mailing list. (see Appendix A for letters).

3. Approximately 3,100 brochures were distributed via Canada Post to businesses and residences immediately adjacent to the Highway 400 throughout the project limits.

4.0 PRE PIC MEETINGS

Municipal Team Meeting

A Municipal Team meeting offered on October 25th, 2001 at the Town of Bradford West Gwillimbury Municipal Offices. The purpose of the meeting was to present and discuss the technically preferred alternatives for this section of the Highway 400 corridor. Representatives from the Town of Bradford West Gwillimbury attended the meeting.

External Team Meeting

An External Team meeting was held prior to the information centre on November 6th, 2001 from 2:00 p.m. to 3:00 p.m. Representative from the Town of Innisfil, Ontario Ministry of Agriculture, Food and Rural Affairs, Lake Simcoe Region Conservation Authority and Barrie O.P.P. attended this meeting.

5.0 DISPLAY MATERIAL

The following display material was presented at the Public Information Centre (see Appendix C):

- Welcome to the PIC / Purpose of the PIC;
- Study Area;
- Background;
- Environmental Assessment Process;
- Overview of the Class EA Process;
- Study Schedule;
- Regional Transportation Needs;
- Need and Justification;
- Existing/Future Operational Conditions at Canal Road Interchange;
- Existing/Future Operational Conditions at Simcoe Road 88 Interchange;
- Widening Requirements;
- Planning Alternatives;
- Summary of Issues and Concerns Raised at the First Public Information Centre;
- Widening Alternatives;
- Typical Cross Sections;
- Summary Evaluation: Highway 400 Mainline Widening Alternatives;
- Technically Preferred Alternative for Widening Highway 400;
- Canal Road Interchange Alternatives;
- Summary Evaluation: Canal Road Interchange;
- Rationale for the Technically Preferred Alternative for the Canal Road Interchange;
- Technically Preferred Alternative for the Canal Road Interchange;
- County Road 88 Interchange Alternatives;
- Summary Evaluation: County Road 88 Interchange;
- Preliminary Noise Assessment;

HIGHWAY 400 PLANNING STUDY

FROM THE HOLLAND RIVER NORTHERLY 17 KM TO 1.0 KM SOUTH OF HIGHWAY 89

G.W.P. 40-00-00



- Summary of Issues and Potential Mitigation Requirements;
- What's Next; and
- Freedom of Information and Protection of Privacy

The attendees received an information package (see Appendix C – Display/Information Package) and were provided a comment sheet.

6.0 ATTENDANCE/ SUMMARY OF COMMENTS

A total of 97 members of the public chose to sign the visitor's register for the Public Information Centre.

In addition to verbal comments, the Project Team encouraged visitors to express, in writing, all concerns or comments they had regarding the information presented. Thirty-four (34) written comments were received. The comment sheet asked the participants to describe their interest in the project.

Adjacent Landowner	16
Commuter	5
Area Farmer	2
Naturalist	1
Other	-- Area Resident (2)
	- O.P.P
	- Conservation Authority

The following summarizes the comments, issues and concerns raised at the PIC:

• Concerned with the proposed closure of the Canal Road interchange (access for local farmers only, out of way travel).	11
• Closure of the Canal Road Interchange is needed	3
• Concerned with the configuration of the County Road 88 Interchange / McInistry Road	3
• Need to upgrade local roads due to closure of Canal Road access.	3
• Impacts to farmland	2
• Signalized intersections at the County Road 88 interchange are not needed	2
• Property Impacts and Compensation	2
• Timing and method of construction	2
• Concerned with noise	2
• Highway 400 should be widened north to Barrie	2
• Need to improve stormwater quality.	2
• Need for electronic message signs between County Road 88 and Highway 89	1
• Location of the Commuter Parking Lot at County Road 88	1
• Realignment of the Bridge at 11 th Concession will create safety problems (sight lines)	1
• Need to signalize Highway 9 east and west of Highway 400	1
• Need for a 427 extension to Collingwood	1
• Highway 400 right-of-way should be wider than proposed	1
• Stoplights should be installed at the County Road 88 / McInistry intersection.	1
• A commuter rail link should be considered	1
• Concerned with an interchange at 5 th Concession	1

HIGHWAY 400 PLANNING STUDY
FROM THE HOLLAND RIVER NORTHERLY 17 KM TO 1.0 KM SOUTH OF HIGHWAY 89
G.W.P. 40-00-00



- Need for a major east-west link to Brädford 1
- Concerned with snow drift 1
- Need to install cameras on Highway 400 for public viewing (via internet) 1
- Need for an interchange at 5th Concession 1
- A 22 metre grass median would accommodate future widening 1
- Existing ramp configuration of the County Road 88 interchange is unsafe 1
- Concerned with water pollution 1

In addition to the above, four requests for information and / or plans illustrating potential property impacts at specific locations were submitted.

APPENDIX A

News Ad / Brochure and Notice Letters

**ONTARIO GOVERNMENT NOTICE
NOTICE OF PUBLIC INFORMATION CENTRE
HIGHWAY 400 PLANNING STUDY
FROM MAJOR MACKENZIE DRIVE TO HIGHWAY 89
REGION OF YORK, COUNTY OF SIMCOE
G.W.P. 222-97-00 AND G.W.P. 40-00-00**

The Ontario Ministry of Transportation is conducting a Planning and Preliminary Design Study to examine the nature of improvements required to address traffic operation, capacity and safety needs associated with this portion of the Highway 400 corridor. The need for drainage, illumination, roadside safety, structural and interchange improvements are being examined as part of the study. The study is divided into the following two parts:

- Part A: Major Mackenzie Drive to the South Canal Bridge (W.P. 222-97-00)
- Part B: South Canal Bridge to Highway 89 (W.P. 40-00-00)

STUDY PROCESS

This Highway 400 planning study is following the approved planning process for a Group B project under the Class Environmental Assessment for Provincial Transportation Facilities (2000). The opportunity for public input will be provided throughout the course of the project. A separate Transportation Environmental Study Report (TESR) will be prepared for Part A and Part B and available for review and comment upon completion of the study.

PART A: MAJOR MACKENZIE DRIVE TO THE SOUTH CANAL BRIDGE (W.P. 222-97-00)

McCormick Rankin Corporation has been retained to examine the portion of the study area from Major Mackenzie Drive to the South Canal Bridge within the City of Vaughan, Township of King and Region of York. Technically preferred alternatives, which include widening of Highway 400 and improvements to the King Road interchange, Lloydtown Aurora Road interchange and Highway 9 interchange have now been identified on the basis of public input to date and the evaluation of reasonable alternatives.

Public Information Centre

A Public Information Centre was held in December 2000 with the focus of identifying project needs and reasonable alternatives. A second Public Information Centre has now been arranged for the public to review and provide comments on the evaluation of alternatives, and the selection of technically preferred alternatives and to discuss the project with representatives of the Project Team.

The second PIC for Part A of the study is scheduled as follows:

Location: Kettleby Public School
3286 Lloydstown/Aurora Road
Kettleby, Ontario, L0G 1J0
Time: 5:00 p.m. to 8:00 p.m.
Date: Tuesday, November 13, 2001

Contact

For information regarding Part A of the study please contact:

Mr. Michael Chiu, P. Eng.
Consultant Project Manager
McCormick Rankin Corporation (MRC)
2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Tel.: (905) 823-8500
Fax: (905) 823-8503
E-mail: mchiu@mrc.ca

Mr. J.A. (Sandy) Nairn, MCIP, RPP
Consultant Environmental Planner
MRC/Cooplans Limited
2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Tel.: (905) 823-4988
Fax: (905) 823-8503
E-mail: snairn@cooplans.com

PART B: SOUTH CANAL BRIDGE TO HIGHWAY 89 (W.P. 40-00-00)

URS Cole Sherman Ltd. has been retained to examine the portion of the study area from the South Canal Bridge to 1.0 km south of Highway 89 within the Towns of Innisfil and Bradford West Gwillimbury and the County of Simcoe. Technically preferred alternatives, which include widening of Highway 400, closure of the Canal Road interchange and improvements to the County Road 88 interchange, have now been identified on the basis of public input to date and the evaluation of reasonable alternatives.

Public Information Centre

A Public Information Centre was held in February 2001 with the focus of identifying project needs and reasonable alternatives. A second Public Information Centre has now been arranged for the public to review and provide comments on the evaluation of alternatives, and the selection of technically preferred alternatives and to discuss the project with representatives of the Project Team.

The second PIC for Part B of the study is scheduled as follows:

Location: Bradford Community Centre (second floor)
125 Simcoe Road, Bradford
Time: 3:00 p.m. to 8:00 p.m.
Date: Tuesday, November 6, 2001

Contact

For information regarding Part B of the study please contact:

Mr. Leonard Kozachuk, P. Eng.
Consultant Project Manager
URS Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9
Tel.: (905) 882-4401
Fax: (905) 882-4399
E-Mail: len_kozachuk@urscorp.com

Mr. Mike Bricks
Consultant Environmental Planner
URS Cole Sherman & Associates Ltd.
75 Commerce Valley Drive East
Thornhill, Ontario L3T 7N9
Tel.: (905) 882-4401
Fax: (905) 882-4399
E-Mail: mike_bricks@urscorp.com

Mr. Michael Vyse
Senior Project Manager
Ministry of Transportation
Southwestern Region
Planning and Design Section
3rd Floor, 659 Exeter Road
London, Ontario N6E 1L3
Tel.: (519) 873-4592
Tel.: 1-800-256-6072 ext. 4592
Fax: (519) 873-4600
E-Mail: michael.vyse@mto.gov.on.ca

COMMENTS:

Comments and information regarding this project are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.





NOTICE OF PUBLIC INFORMATION CENTRE #2

HIGHWAY 400

PLANNING STUDY PART B

FROM HOLLAND RIVER TO 1 KM SOUTH OF
HIGHWAY 89

TOWNS OF INNISFIL AND BRADFORD WEST
GUILMBURY, COUNTY OF SIMCOE

G.W.P 40-00-00

PRELIMINARY DESIGN

CLASS ENVIRONMENTAL ASSESSMENT, GROUP 'B'

Tuesday November 6th, 2001

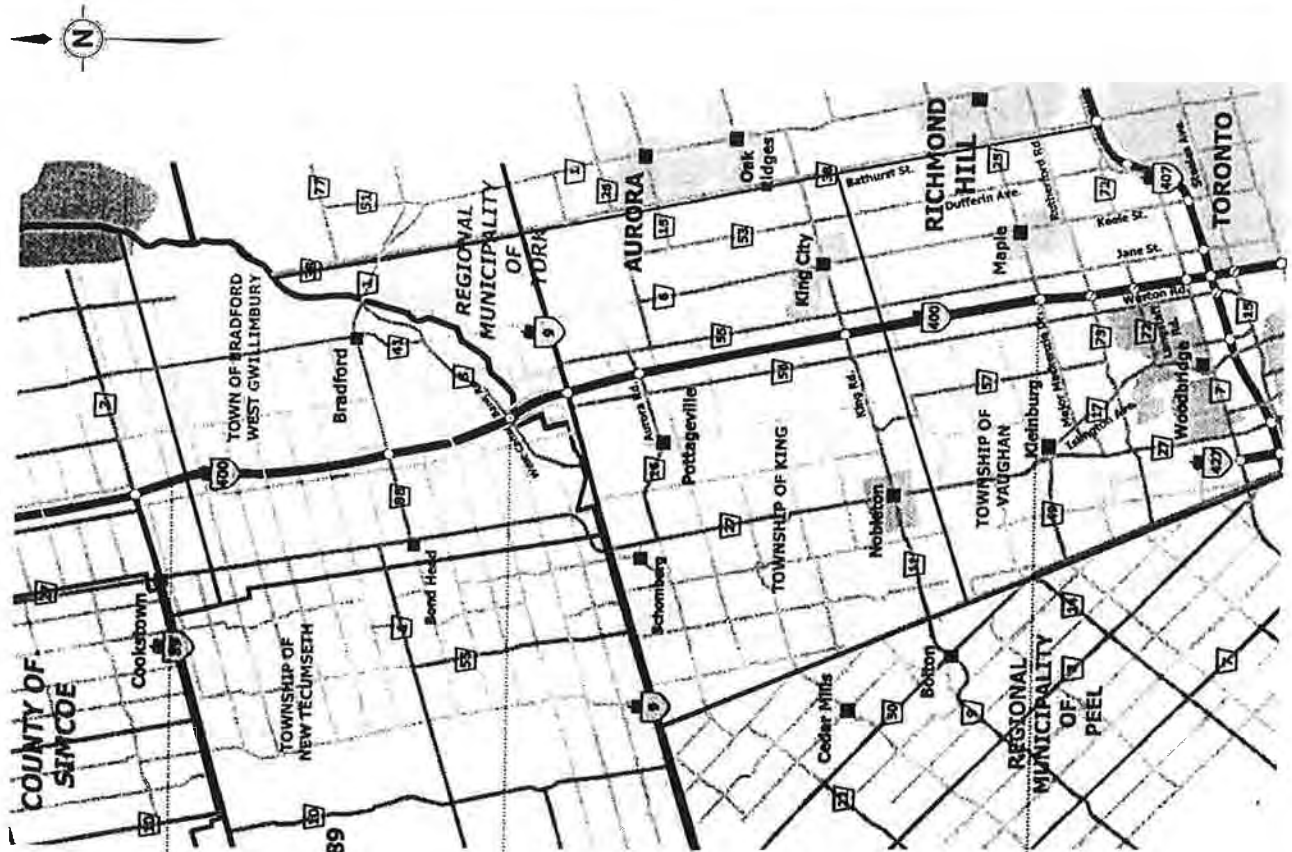
3:00 p.m. to 8:00 p.m.

Bradford Community Centre (2nd floor)
125 Simcoe Road, Bradford

This brochure is printed on recycled paper
PLEASE RECYCLE THIS DOCUMENT



5. STUDY AREA



Project Limits Part B:
Holland River to Highway 89
W. P. 40-00-00

*(Subject of this
Information Centre)*

Project Limits Part A:
Major Mackenzie Drive to
the Holland River
W. P. 222- 89-00

Not to Scale

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

“Mr. Ray Valaitis, Rural Planner
Central and Northern Ontario Region
Ministry of Agriculture, Food and Rural Affairs
R.R. 3, 95 Dundas Street
Brighton, Ontario
K0K 1H0”

Mr. Valaitis

“Ms. Ruth Debicki, Planner
Ministry of Northern Development and Mines
Level A-3 Willet Green Miller Centre
933 Ramsay Lake Rd
6th Floor
Sudbury, Ontario
P3E 6B5”

Ms. Debicki

“Ms. Ann Fraser
Business Development Consultant
Ministry of Economic Development and Trade
Midhurst District Office
2284 Nursery Road
Midhurst, Ontario
L0L 1X0”

Ms. Fraser

“Ms. Ruth Alves
Administrative Officer
Health Services Division
Ministry of Health
Hepburn Block. 10th Floor
80 Grosvenor Street
Toronto, Ontario
M7A 1R3”

Ms. Alves

“Mrs. Heather Brown
Environmental Planner
Environmental Services and Approvals
Hydro One Networks Inc.
483 Bay Street, 6th Floor
Toronto, Ontario
M5G 2P5”

Mrs. Brown

“Ms. Helen Howes, Director
Corporate and Environmental Affairs
Ontario Power Generation
700 University Avenue
Toronto, Ontario
M5G 1X6”

Ms. Howes

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
Government List (Ref No. CN29900167)**

"Ms. Eve Wyatt
Manager - Corporate Planning, Project Development
GO Transit
20 Bay Street, Suite 6000
Toronto, Ontario
M5J 2W2"

Ms Wyatt

"Mr. John Mactaggart, Manager
Engineering & Environmental Services
CN Rail
1 Administration Road, P.O. Box 1000
Concord, Ontario
L4K 1B9"

Mr. Mactaggart

"Mr. Mark Neelin, Inspector
Barrie City Police
295 Sperling Drive
P.O. Box 188
Barrie, Ontario
L4M 4T2"

Mr. Neelin

"Staff Sergeant L. J. (Len) Hassberger
Barrie Detachment
Ontario Provincial Police
20 Rose Street
Barrie, Ontario
L4M 2T2"

Sergeant Hassberger

"Mr. Charles Burgess, Director of Planning
Nottawasaga Valley Conservation Authority
R.R. 1 Angus, Ontario
L0M 1B0"

Mr. Burgess

"Mr. Tom Hogenbirk, Conservation Engineer
Watershed Management
Lake Simcoe Conservation Authority
Box 282, 120 Bayview Parkway
Newmarket, Ontario
L3Y 4X1"

Mr. Hogenbirk

"Ms. Jennifer Sharpe, Senior Planner
Simcoe Muskoka Catholic District School Board
46 Alliance Boulevard
Barrie, Ontario
L4M 5K3"

Ms. Sharpe

"Ms. Kristin Dibble, Planning Technician
Planning Department
Simcoe Muskoka Catholic District School Board
46 Alliance Boulevard
Barrie, Ontario
L4M 5K3"

Ms. Dibble

PIC #2 Public Letter

You are encouraged to attend the Information Centre and to provide us with your views and concerns so that they can be addressed early in the study.

Comments and information regarding this study are being collected to assist the Ministry of Transportation in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation.

Should you require further information in this regard, please feel free to contact the undersigned.

Thank you for your cooperation and assistance.

Yours very truly,

COLE, SHERMAN & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to be 'L. Kozachuk', written over a horizontal line.

Len Kozachuk, P. Eng.
Senior Project Manager

cc: Michael Vyse - MTO
Joel Foster - MTO

**Hwy. 400 – From the York / Simcoe Boundary northerly to 1 km south of Highway 89
MPP List (Ref No. CN29900167)**

1

<u>Address</u>	<u>Name</u>
----------------	-------------

“Mr. Joseph Tascona, M.P.P. (Barrie-Simcoe-Bradford) 36 Mulcaster Street Barrie, Ontario L4M 3N1”	
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	Mr. Tascona
--	-------------

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

1

Address	Name
"Ms. Helen MacRae, Clerk County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Ms. MacRae
"Mr. Ian Bender Director of Planning County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Mr. Bender
"Mr. Bill Brown Road Superintendent County of Simcoe 1110 Highway 26 Midhurst, Ontario L0L 1X0"	Mr. Brown
"Mr. Paul Landry, Clerk Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Mr. Landry
"Mr. Wayne Young Director of Operational Services Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Mr. Young
"Chief Scott Griffith Fire Department Town of Innisfil 2147 Innisfil Beach Road P.O. Box 5000 Stroud, Ontario L0L 2M0"	Chief Griffith
"Ms. Patricia Middlebrook Clerk and Manager of Administration Town of New Tecumseth Box 910, 10 Wellington Street Alliston, Ontario L9R 1A1"	Ms. Middlebrook

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

"Mr. Jim Danby
Acting Director of Public Works
Town of New Tecumseth
Box 910, 10 Wellington Street
Alliston, Ontario
L9R 1A1"

Mr. Danby

"Mr. George DeGroot
Director of Public Works
Town of New Tecumseth
Box 910, 10 Wellington Street
Alliston, Ontario
L9R 1A1"

Mr. DeGroot

"Mrs. Juanita Dempster-Evans
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mrs. Dempster-Evans

"Mr. Ron Kneeshaw
Superintendent of Public Works
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mr. Kneeshaw

"Mr. Eric Hodgins, Town Planner
Town of Bradford West Gwillimbury
Box 160, 61 Holland Street E.
Bradford, Ontario
L3Z 2A8"

Mr. Hodgins

"Mr. Dennis Hearse, Clerk
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Hearse

"Mr. Peter Scott
Police Chief
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Scott

"Mr. Ken Beckett
Regional Fire Coordinator
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Beckett

**Hwy. 400 – From the York / Simcoe Boundary northly to 1 km south of Highway 89
Municipal List (Ref No. CN29900167)**

3

"Mr. Tom Apparao, Manager,
Transportation and Works
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mr. Apparao

"Mrs. Lynne Spackman
Administrative Assistant
Planning Department
Regional Municipality of York
17250 Yonge Street, Box 147
Newmarket, Ontario
L3Y 6Z1"

Mrs. Spackman

"Mr. Jim Green
Commissioner of Planning
District of Muskoka
70 Pine Street
Bracebridge, Ontario
P1L 1N3"

Mr. Green

APPENDIX B

Minutes of Meeting



Cole Sherman

MINUTES OF MEETING

PROJECT: Highway 400 Planning Study
G.W.P. 40-00-00

MEETING No. 3

PROJECT No. CN29900167

DATE: 25 October 2001

LOCATION: Bradford West Gwillimbury Offices

TIME: 10:30 am

PURPOSE: Municipal Team Meeting

PRESENT: Paul Feehely - Bradford West Gwillimbury
Art Janse - Bradford West Gwillimbury
Kevin Boudreau - MTO Planning and Design
Joel Foster - MTO Southwestern Region
Terrence Mitchell - MTO Planning and Design
Michael Vyse - MTO Planning and Design
Len Kozachuk - URS Cole Sherman
Colin Wong - URS Cole Sherman

<u>Items</u>	<u>Description</u>	<u>Action by:</u>
1.	Technically Preferred Alternative L. Kozachuk provided a brief summary of the results of the alternatives for mainline and interchange improvements. He discussed: <ul style="list-style-type: none">• A summary of the evaluation of Highway 400 cross section alternatives;• the ultimate preferred alternative on Highway 400 is a 10-lane cross section with a median barrier to be implemented in stages (initially widen from 6 to 8 lanes, then 8 to 10 lanes);• the preferred plan includes the closure of the interchange at Highway 400/Canal Road;• a second interchange on Highway 400 in Bradford at 5th Concession is not justified within the study horizon; and• the Highway 88 interchange would be upgraded to a Parclo A-4 interchange.	

PLEASE NOTE: If your records of this meeting do not agree with this document, or if there are any omissions, please advise the writer at once otherwise the contents of this document shall be assumed accurate and correct

<u>Items</u>	<u>Description</u>	<u>Action by:</u>
---------------------	---------------------------	--------------------------

A. Janse inquired about what assumptions CSA made for a Bypass through Bradford in its recommendations. L. Kozachuk explained that the recommendations were based on the assumption that the "Bradford Bypass" would be constructed and operating by 2021.

A. Janse added that the Drainage Commission is looking into canal improvements. The proposed improvements to Highway 400 structure over the north canal (widen and rehabilitate) will be incorporated in the Drainage Commission's work plan.

L. Kozachuk also noted that there is significant concern over the sight distance at the Highway 400/Canal Road structure. The piers obstruct the view of drivers attempting to make turns onto Canal Road from Wist Road and Davis Road. L. Kozachuk presented preliminary plans showing the relocation of Wist Road to the east and Davis Road to the west to improve sight distance. He noted that since the interchange would be closed, jurisdiction of Wist Road, Davis Road and Canal Road would likely be transferred to the municipality.

L. Kozachuk mentioned that Emergency Services had concerns over out-of-way travel once Canal Road is closed. It was felt by the attendees that these concerns could be addressed readily.

Copies of the presentation material were distributed to the MTO and Bradford representatives for the information of Council. It was noted that the other departments invited to the meeting today would likely be in attendance at the meeting with Council on Tuesday, October 30, 2001.

Submitted by: Colin Wong

Distribution: Those present

APPENDIX C

Displays / Information Package



Cole Sherman

HIGHWAY 400 PLANNING STUDY (PART B)

From the Holland River

Northerly 17 km to 1.0 km south of Highway 89

G.W.P. 40-00-00

**Preliminary Design
Class Environmental Assessment, Group 'B'**

Public Information Centre #2

November 2001

**Welcome to the
Second Round of Public Information Centres
for the**

**HIGHWAY 400 PLANNING STUDY
(PART B)**

From the Holland River
Northerly 17 km to 1.0 km south of Highway 89
G.W.P. 40-00-00

Please Sign In

Members of the Project Team are available to discuss and answer any questions you may have.

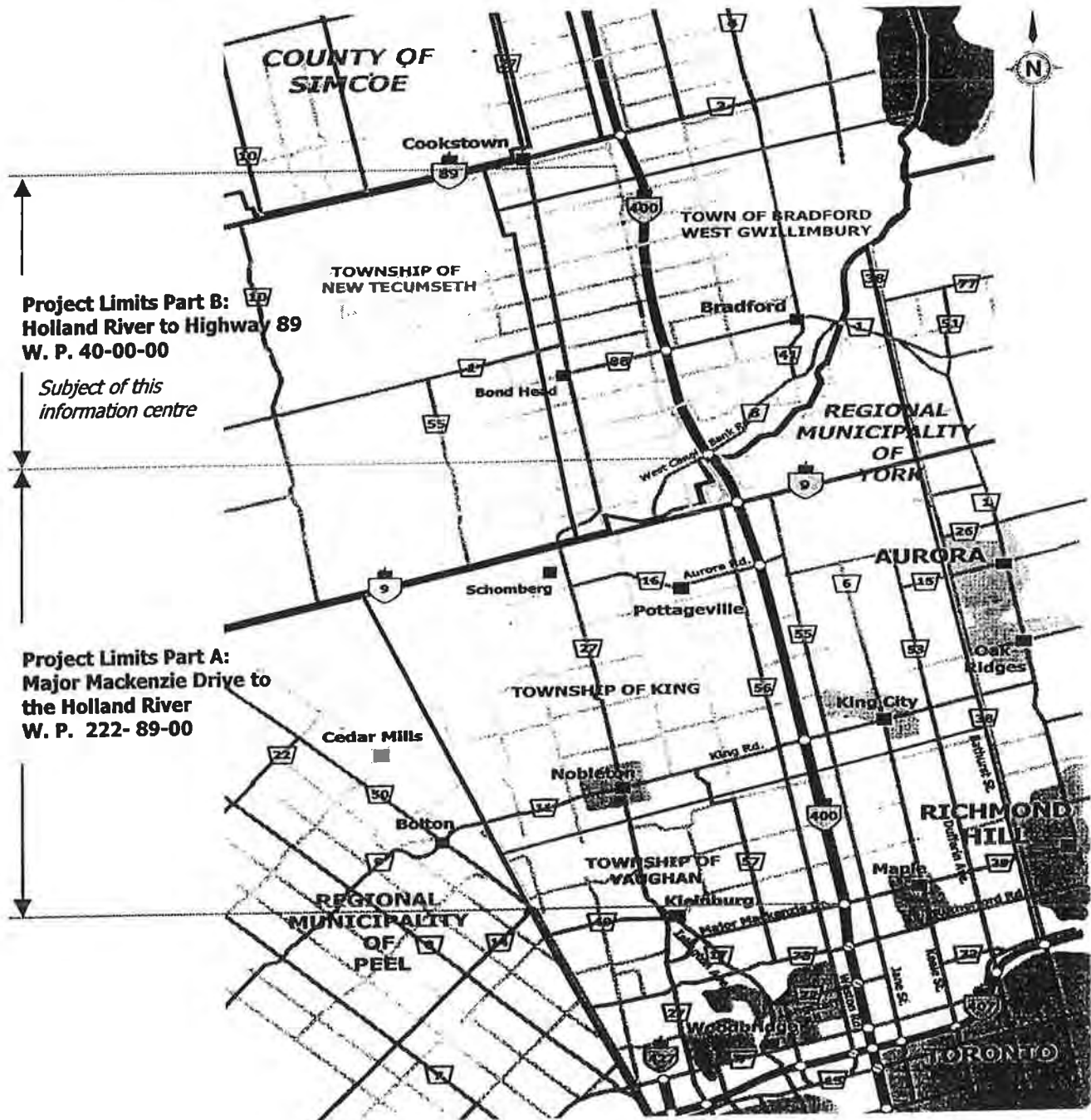
Purpose of this Public Information Centre

The purpose of this Information Centre is to update you on the progress of the project and obtain comments so your input can be considered as this project progresses. A key focus today is the evaluation of project alternatives. Major elements presented today include:

- Project Limits
- Updated Study Schedule
- Class Environmental Assessment Process
- Study Purpose and Problem Statement
- Summary of the First Round of Public Consultation
- Analysis and Evaluation of Alternatives
- Technically Preferred Alternative(s) for Improvements to the Highway 400 Corridor
- What's Next

The Project Team encourages you to fill out a comment sheet recording your comments and concerns.

Study Area



Not to Scale

Background

The Ministry of Transportation (MTO) has initiated a Planning and Preliminary Design Study to examine possible improvements required to address traffic operation, capacity and safety needs associated with the Highway 400 corridor. The need for drainage, illumination, roadside safety, structural and interchange improvements will also be examined as part of the study. Reasonable alternatives to address the required improvements will be identified and evaluated to determine the most appropriate solution.

The section of Highway 400 currently under study has been divided into two parts:

- **Part A:**
North of Major Mackenzie Drive to South Canal Bridge (Public Information Centre scheduled for November 13th, 2001)
- **Part B:**
Holland River to South of Highway 89 (subject of this Information Centre)

The purposes of this study are to:

- Determine the existing and projected future traffic (2021) on Highway 400;
- Identify the capacity and operational deficiencies;
- Evaluate and select alternatives to address existing deficiencies; and,
- Submit Transportation Environmental Study Reports as required under the Class Environmental Assessment for Provincial Transportation Facilities in order to proceed with the detail design and construction process.

Environmental Assessment Process

This study is following the process for Group "B" projects under MTO's "Class Environmental Assessment (Class EA) for Provincial Transportation Facilities" (2000). The Class EA is approved under the Ontario Environmental Assessment (EA) Act and defines groups of projects and activities, and the associated environmental assessment process requirements which MTO has committed to follow. Provided that the applicable process is followed, projects and activities included under the Class EA do not require formal review and approval under the EA Act. The steps involved in the Class EA process are shown in the following display.

An initial Public Information Centre was held for this project in February 2001. The purpose of that information centre was to obtain comments on the project limits, study schedule, Class EA process, study process and problem statement, existing conditions, planning alternatives, and the proposed evaluation method and criteria.

Hwy 400

Hwy 400

Planning & Preliminary Design Study

From the South Canal Bridge to 1.0km South of Highway 89

G.W.P. 40-00-00

TESR Nov. 2003

(plus 1 duplicate copy)

Hwy 400 Widening

Hydrology report

South Canal Bridge to Highway 89

Jan. 2001

(plus 1 duplicate copy)

Hwy 400 Planning Study

W.P. 30-95-00

Preliminary Design Report

From 1km South of Highway 89 Northerly 30km to the Junction at Hwy 11

Dec. 2002

Hwy 400 Planning Study

W.P. 30-95-00

Preliminary Design Report

From 1km South of Highway 89 Northerly 30km to the Junction at Hwy 11

Dec. 2003

Draft Copy

Hwy 400

Final Report

Environmental Noise Impact Assessment

Hwy 400 – Canal Rd. to Hwy 89

G.W.P. 40-00-00

Feb. 2002

Hwy 400 (Hwy 89 to Hwy 11)

Barrie, Ontario

G.W.P. 30-95-00

Sept. 2003

Hwy 400 (Hwy 89 to Hwy 11)

Barrie, Ontario

G.W.P. 30-95-00

Sept. 2003

Draft

Hwy 400
York/Simcoe Boundary to S Hwy 89 – Mitigation & Compensation Strategies
G.W.P. 40-00-00

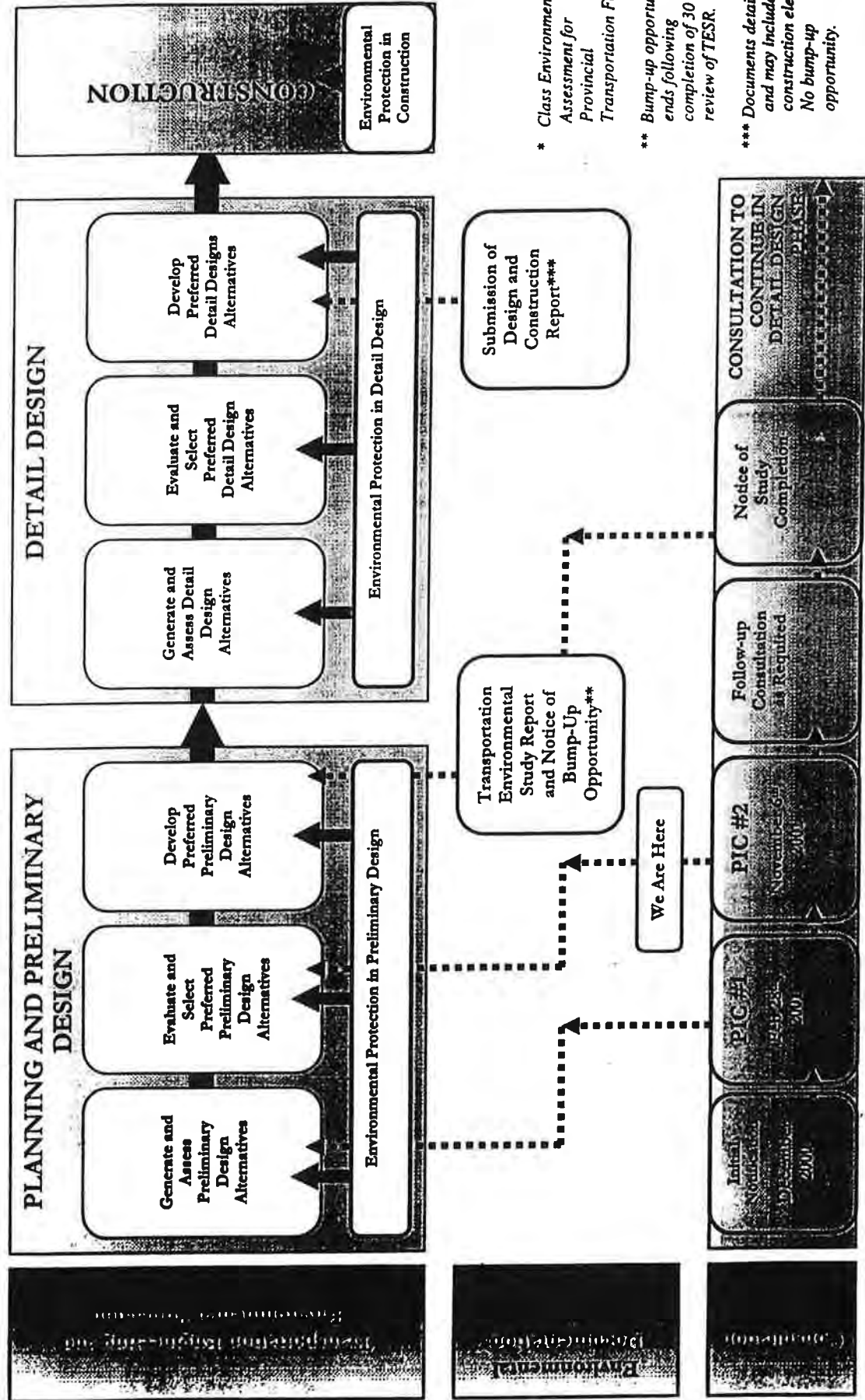
Hwy 400 York/Simcoe Boundary to S Hwy 89 –
Existing Conditions Summary
Natural Sciences
G.W.P. 40-00-00

Hwy 400 Widening
W.P. 30-95-00
Value Engineering Workshop
Book # 1
Feb. 2002

Hwy 400
Fisheries Inventory & Assessment
York/Simcoe Boundary (north side of south Canal Rd. Bridge) to 1.0km south of Hwy 89
Dec. 2000

Drainage & Hydrology Report
Hwy 400 & South Canal to Hwy 89
G.W.P. 40-00-00
Aug. 2002

Overview of the Class EA Process*



- * Class Environmental Assessment for Provincial Transportation Facilities
- ** Bump-up opportunity ends following completion of 30 day review of TESR.
- *** Documents detail design and may include construction elements. No bump-up opportunity.

Study Schedule / Class EA Process

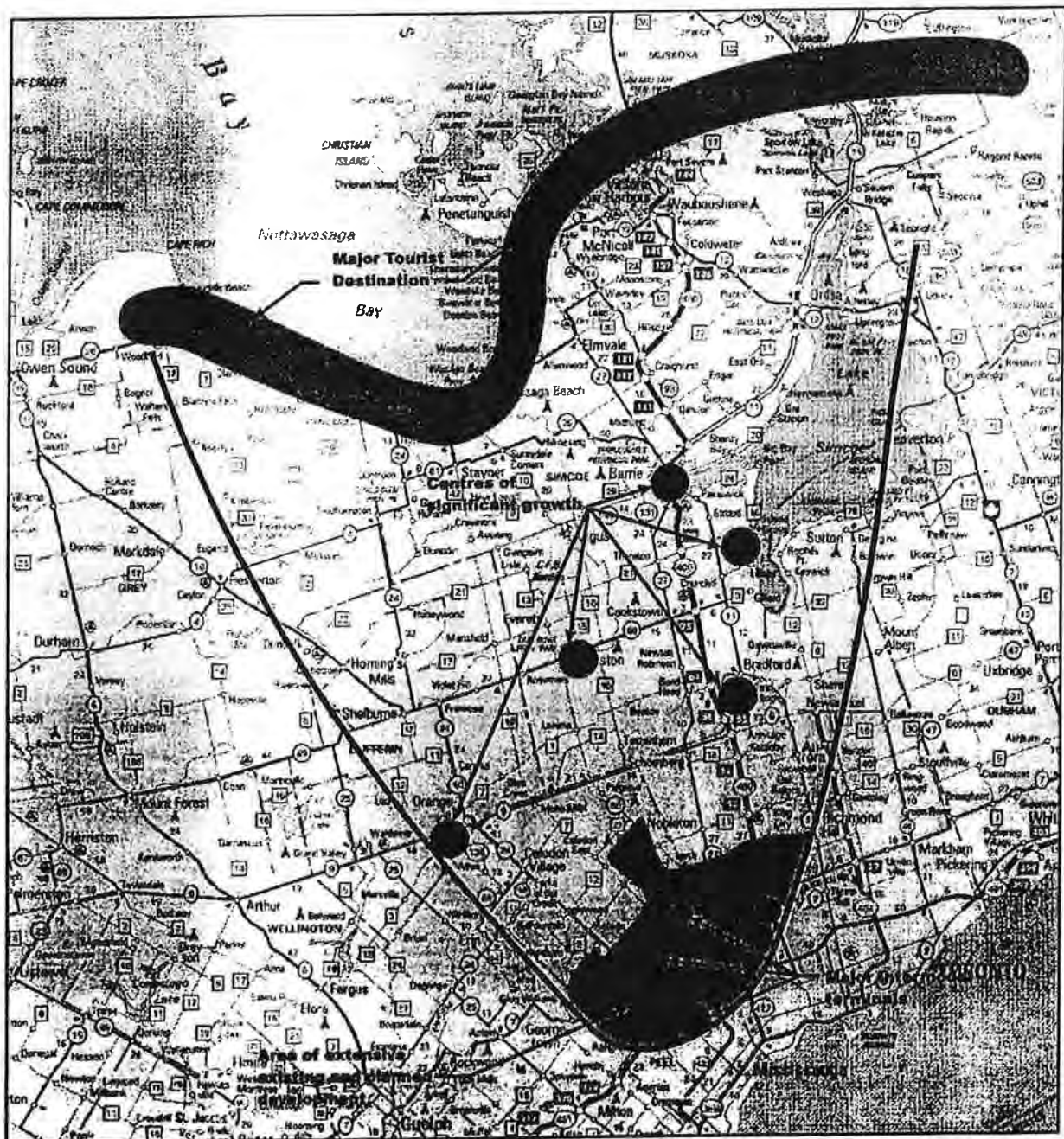
The following chart outlines the major tasks to be completed in the next few months.

TASKS	2000				2001												2002		
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Data Collection / Issue Identification																			
Generate and Evaluate Alternatives to the Undertaking																			
Generate Interchange and Widening Alternatives																			
First Round of Public Information Centres																			
Evaluate Interchange and Widening Alternatives																			
Select Preferred Alternative																			
Second Round of Public Information Centres																			
Refine Preferred Alternative and Prepare Preliminary Design																			
File TBSR for Public Review																			

Regional Transportation Needs

This area map shows the transportation needs in a regional perspective:

- Recreation and population / employment growth in the north
- Industrial and population / employment growth pressures in the south



Need and Justification

The purpose of this study is to examine the nature of improvements needed to address existing and future traffic operating capacity and the need for drainage, illumination, roadside safety, structural and interchange improvements.

Highway 400 Mainline:

Currently the section of Highway 400 within the project limits operates well during peak travel periods. Roadside safety illumination and drainage features require improvement to reflect current ministry standards.

As traffic volumes continue to increase, congestion on Highway 400 will occur. This will lead to increased driver frustration, potential for collisions, trip delays and associated waste of energy resources, increasing costs of moving goods and significant diversion of traffic to other adjacent roadways.

Traffic volumes are projected to exceed the existing capacity of a 6-lane freeway as early as 2004. By 2021, traffic volumes will warrant 10-freeway lanes on the section of Highway 400 within the project limits. Structures will need to be widened or replaced to accommodate mainline improvements.

Highway 400 Interchanges:

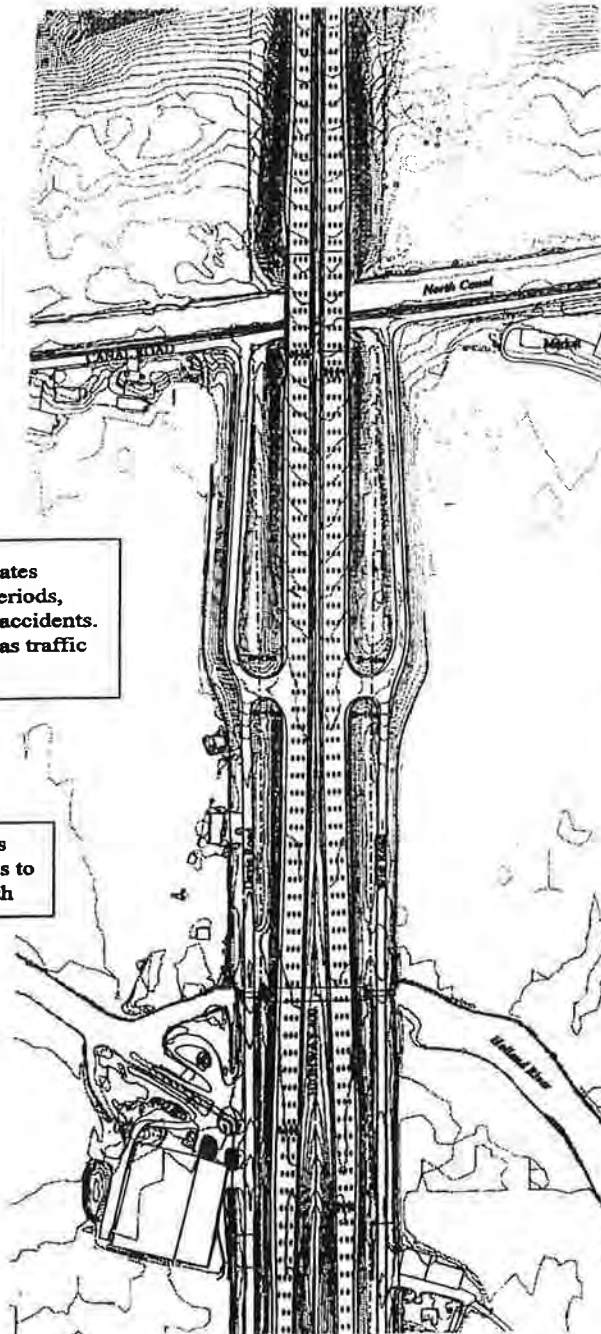
The following display boards describe the existing and future conditions at the Canal Road Interchange and County Road 88 Interchange.

Existing / Future Operational Conditions At Canal Road Interchange

Highway 400
Peak Hour Volume
Exceeds Capacity
in 2005

Existing configuration operates
poorly during peak travel periods,
increasing the potential for accidents.
This condition will worsen as traffic
volumes increase.

Existing interchange provides
access for emergency services to
Highway 400 / Holland Marsh



Canal Road is narrow and
winding with numerous
entrances. Increasing use
of this facility by commuters
raises concerns with traffic
operations.

Significant number of collisions
recorded at Canal Road
interchange.
(29 rear-end and 29 sideswipe
collisions from 1988 to 1999)

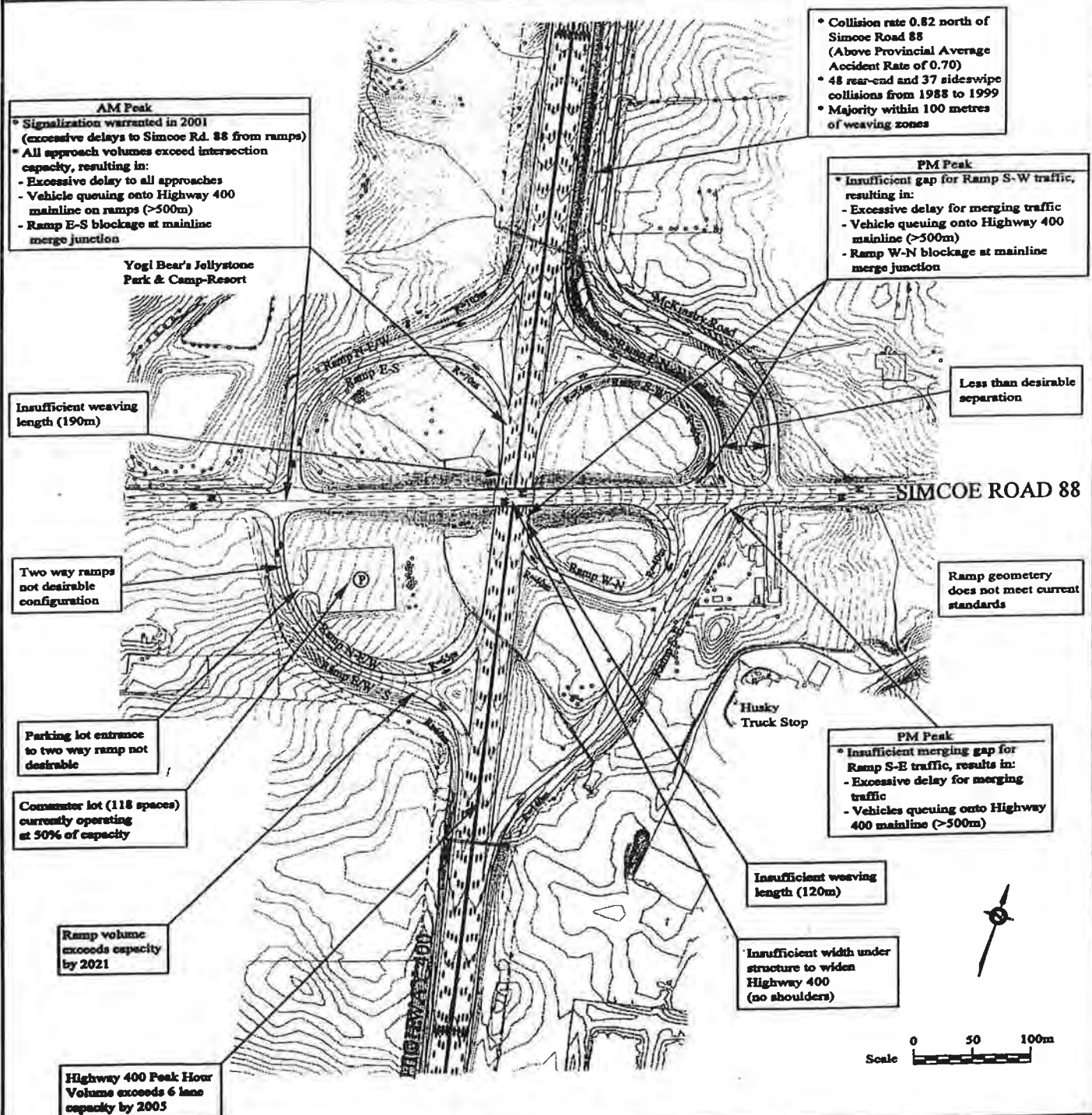
Right-in and right-out access
not consistent with controlled
access interchange design

Current accesses are
difficult for large vehicles
to negotiate safely



Scale 0 50 100m

Existing / Future Operational Conditions At Simcoe Road 88 Interchange



Planning Alternatives

Several planning alternatives were identified and assessed as possible solutions to the identified Highway 400 Corridor capacity-related problems:

- ***Do Nothing:*** Traffic is expected to continue to increase. To do nothing would result in a further deterioration of the level of service; this in turn would result in an increase in travel time, congestion, collisions, fuel wastage and air pollution. The negative consequences of the “Do Nothing” approach clearly suggest that actions must be taken in order to address the existing and projected deficiencies of Highway 400.
- ***Localized Geometric Improvements:*** Geometric improvements would increase traffic operations, but would not address the capacity deficiencies.
- ***Traffic Operations Improvements:*** The implementation of a traffic management system would inform the driver of problems ahead; and with ramp metering, the use of available highway capacity could be improved by an increase of about 5% to 10% (as observed on the QEW in Mississauga). This will extend the time frame for the improvements but will not eliminate the need.
- ***Vehicle Occupancy Increase:*** This would involve reducing the number of vehicles along major highways by encouraging carpooling. Again, this will extend the time frame for the improvements but will not eliminate the need.
- ***Adjacent Road System Improvements:*** Other parallel arterial roads will provide only limited diversion for Highway 400 through-traffic due to the distances of these other roads from Highway 400 and the fact that many are already saturated with local traffic. Widening of arterial roads will not provide sufficient additional capacity for through-traffic to be significantly diverted from Highway 400.

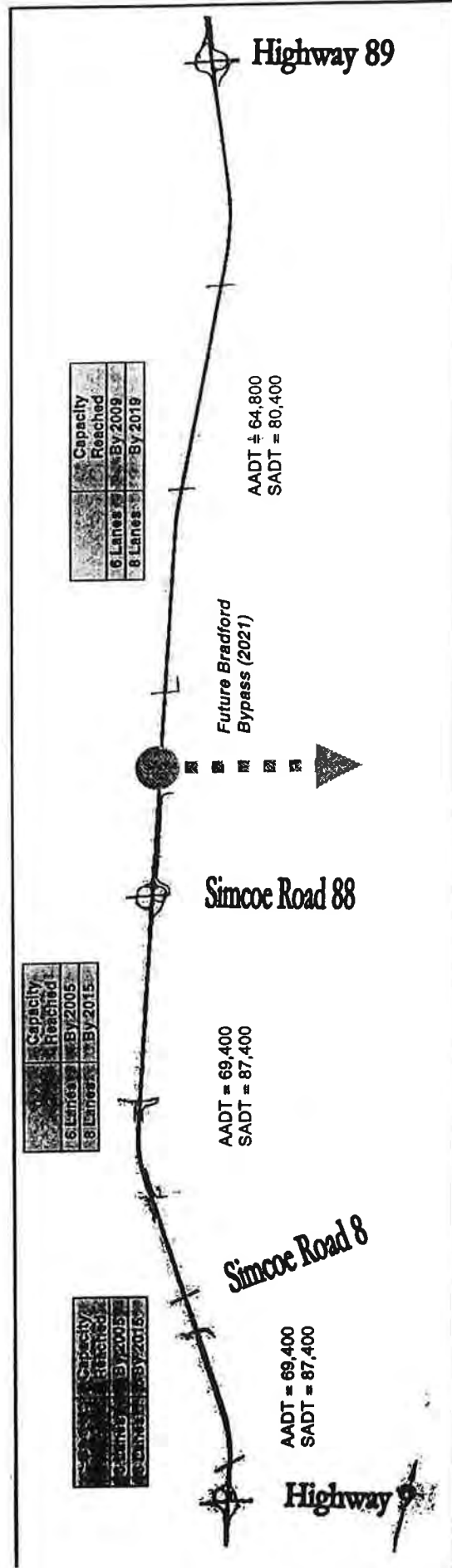
Planning Alternatives (continued)

- ***Rail and Transit Expansion:*** Rail and transit expansion would provide a more competitive choice of travel modes for some users of Highway 400, and thus reduce the traffic volumes somewhat on Highway 400. The improvements would be limited since Highway 400 significantly serves a diverse nature of trips. This alternative alone would not be able to address travel demand.
- ***Combination of Alternatives:*** The combination of all of the previously stated alternatives will not sufficiently address projected future travel demand.
- ***Freeway Capacity Improvements:*** This alternative would provide the needed capacity to improve Highway 400 to an acceptable level of service. It also would provide the opportunity to improve the facility to current Ministry standards. There would be some property impact and limited environmental impact along the corridor.
- ***Provincial Highway Network Expansion:*** A new parallel highway cannot address the immediate and medium terms capacity deficiencies of the Highway 400 Corridor.

Based on the assessment of alternatives, the preferred alternative is "freeway capacity improvements". The basic feature of the "freeway capacity improvements" is widening Highway 400.

Widening Requirements

The timing of projected capacity deficiencies is summarized below.



Legend

AADT = Average Annual Daily Traffic

SADT = Summer Average Daily Traffic

Note: AADT and SADT are 1999 Volumes

The improvements to this section of Highway 400 are consistent with those proposed for Part A.

Summary of Issues and Concerns Raised During the First Round of Public Consultation

The first Public Information Centre (PIC) was held on February 28, 2001. A total of 61 members of the public chose to sign the visitor's register for the Public Information Centre. Thirty written comments were received from the PIC. The following summarizes the key issues and concerns raised.

Issue/Concern	Response
Access associated with the closure of the Canal Road interchange	Issues concerning traffic operations and out-of-way travel for local residents were factored into the evaluation of alternatives. It is recognized that the closure of the Canal Road interchange will result in out-of-way travel for some trips but traffic volumes using the interchange are relatively low and alternate access to Highway 400 will be available at Highway 9, Simcoe Road 88 and the future Bradford By-pass interchanges.
Impacts to business associated with closure of access to Canal Road from Highway 400	In discussions with agricultural stakeholders during planning, it was noted that closure would not significantly affect operations for most farmers as they could access Highway 400 at Highway 9. One business, (a farmers market) is affected by all alternatives.
Widen to the center to minimize encroachment on productive farmland	The importance of agricultural land and associated operations was recognized in the evaluation of alternatives. Widening about the centreline of the highway would result in the least environmental impacts and is less expensive relative to the other alternatives considered.
Merge lanes from Highway 400 northbound to Highway 88 eastbound are very dangerous for motorists	Alternatives for the County Road 88 interchange have been developed to address traffic operations and safety issues.
Widening Highway 400 from north of Canal Road to the 11 th Concession to Highway 89 is necessary	This study has examined ways to improve that section of the Highway 400 corridor.
County Road 88 interchange needs to be changed to a "Parclo A" design to improve traffic operations	Alternatives for the County Road 88 interchange have been examined in this study. A "Parclo A" design would provide the greatest benefits to traffic operations with relatively minor / mitigable environmental impacts.
Increase the number and size of commuters lots along the project limits	The opportunity to increase the number and size of commuter parking lots along the project limits is being examined as part of this study.
Increased traffic volumes on Canal Road would negatively impact local farm traffic and local residents	Impacts to local farm traffic and residential areas at Canal Road were considered in the analysis and evaluation of alternatives.

Summary of Issues and Concerns Raised During the First Round of Public Consultation

Issue/Concern	Response
Impacts / concerns with truck noise and pollution	Impacts associated with noise levels were considered in the evaluation of project alternatives. The impacts of the preferred alternative are presented in the evaluation of alternatives. A noise study has been undertaken for this study.
Restoration of GO transit to alleviate traffic along highway 400	Rail and transit expansion would provide a more competitive choice of travel modes for some users of Highway 400, and thus reduce the traffic volumes somewhat on Highway 400. However, the improvements would be limited since the Highway 400 significantly serves a diverse nature of trips. Commuter rail service would reduce but not eliminate the need for highway widening improvements in the Highway 400 corridor within the planning horizon for this project.
Concern regarding Drainage issues, storm water quality and quantity and impacts on flood levels at water crossings as a result of highway widening.	Storm water quality and quantity issues are being considered as part of this study and an appropriate plan for the technically preferred alternative will be developed.
Impacts to natural features	The significance of natural features within the study area was an important consideration in the evaluation of widening options. Widening symmetrically and using a median barrier design would have the least overall impacts. Mitigation measures will be employed as appropriate to minimize impacts to natural features.
Impacts to the Holland Marsh associated with road salts.	Comments regarding salt contamination and drainage into the Holland Marsh have been noted. The use of salt is necessary to the winter maintenance of highways to ensure public safety. Impacts associated with highway widening and possible mitigation requirements will be considered.
Snow drifting	Snow drifting areas along the highway have been identified and reviewed as part of this study. Methods for addressing snow drifting will be considered during preliminary design.
Impacts to Emergency Services	Impacts to emergency services have been addressed in the analysis and evaluation of alternatives.

Widening Alternatives

Highway 400 Mainline Alternatives

Projected traffic volumes will exceed the capacity of the existing 6-lane freeway. Widening Highway 400 to 10 lanes (5 per direction) will be required to accommodate future (2021) travel demand.

Widening equally on each side of the existing Highway 400 centreline is generally preferred because;

- By splitting the property impacts along the east and west sides of the right-of-way, the overall impacts to adjacent property owners is reduced;
- Such widenings are less disruptive to stage and construct;
- Such widenings are less costly to implement; and,
- Maintaining the existing alignment provides more desirable geometrics.

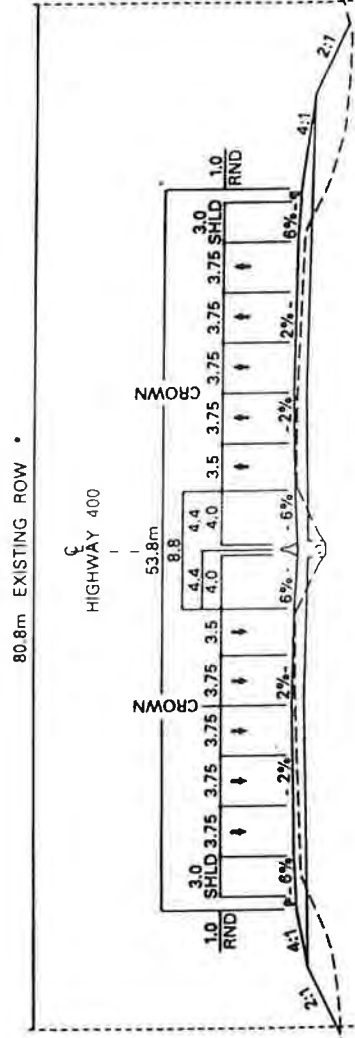
Widening alternatives also considered alternative median designs, as follows:

1. 8.8 metre-wide median: concrete barrier; and,
2. 22 metre-wide grassed median.

The evaluation of alternatives identified widening about the centreline of Highway 400 with an 8.8 metre median concrete barrier as the technically preferred alternative as it results in the least environmental impacts and is less expensive to construct relative to the other alternatives considered.

A plan and a cross-section of the preferred widening and median treatment are shown on the following displays.

TYPICAL CROSS SECTIONS - CENTRELINE WIDENING WITH 8.8m BARRIER MEDIAN



DAVID RD

WEST RD

THROUGH HOLLAND MARSH

PRELIMINARY

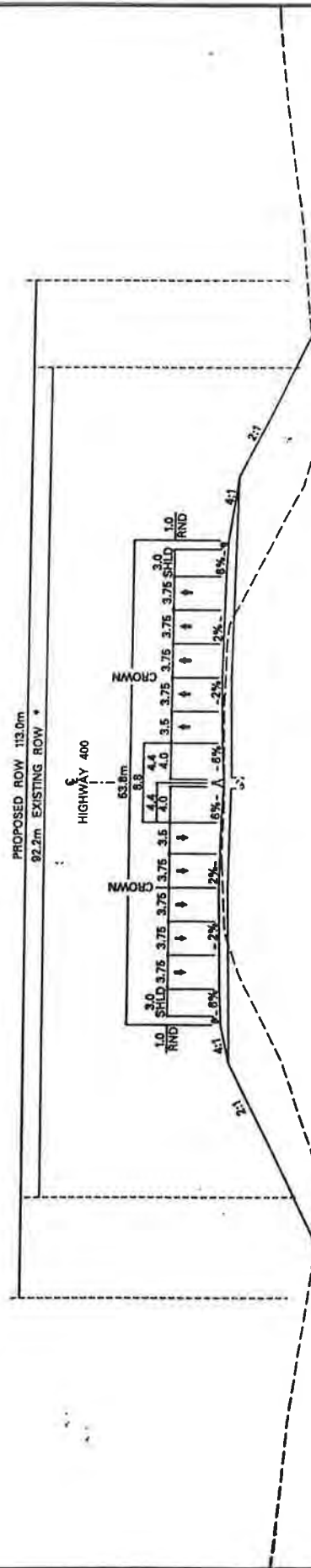
• - EXISTING ROW VARIES (66.7m - 131.8m)

N.T.S.

[illegible]

NORTH OF CANAL ROAD

PRELIMINARY



• - EXISTING ROW VARIES (65.7m - 131.6m)

NORTH OF 11TH CONCESSION

N.T.S.



Ontario
Ministry of Transportation

HIGHWAY 400 PLANNING STUDY

HOLLAND RIVER TO HIGHWAY 89

G.W.P. 40-00-00

URS COLLEGE, SHERMAN

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NORTH OF CANAL ROAD

PRELIMINARY

• - EXISTING ROW VARIES (65.7m - 131.5m)

NORTH OF 11TH CONCESSION

N.T.S.

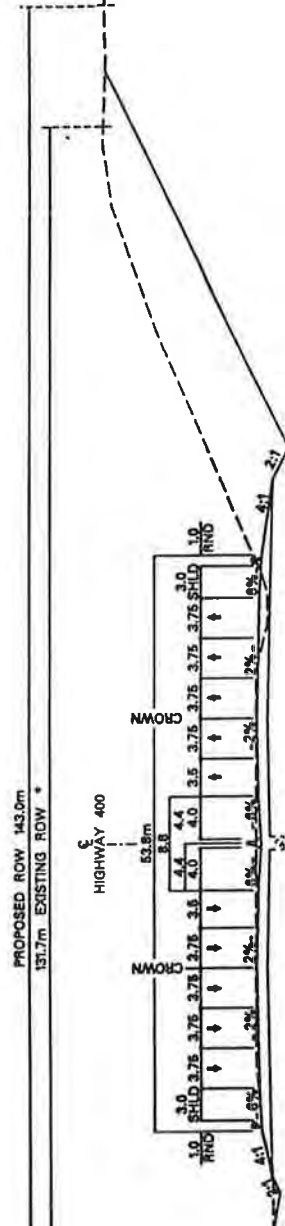


HIGHWAY 400 PLANNING STUDY

HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00

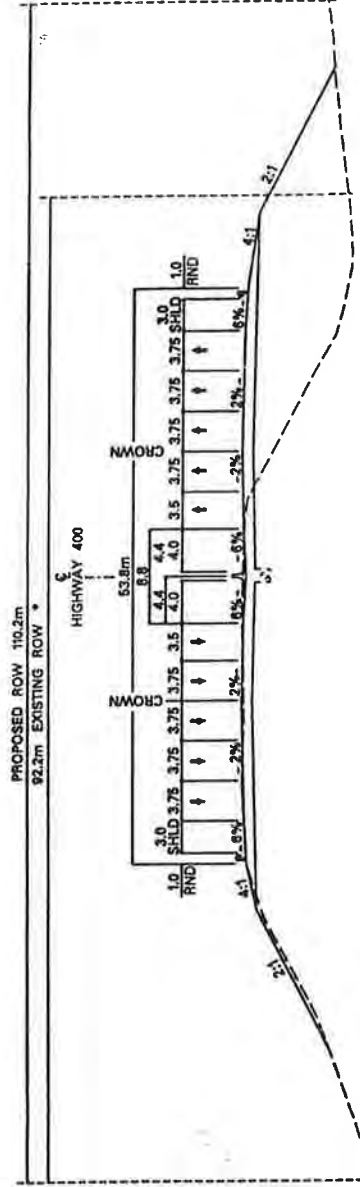
URS COLE, SHERMAN

TYPICAL CROSS SECTIONS - WIDENING TO THE EAST WITH 8.8m BARRIER MEDIAN



NORTH OF CANAL ROAD

PRELIMINARY



NORTH OF 11TH CONCESSION

N.T.S.

• - EXISTING ROW VARIES (85.7m - 131.5m)

HIGHWAY 400 PLANNING STUDY

HOLLAND RIVER TO HIGHWAY 89
G.W.P. 40-00-00

Summary Evaluation: *Highway 400 Mainline Widening Alternatives*

FACTOR	Relative Level of Significance in Making the Decision	ALTERNATIVE 1 8.5 m Widen About the Centreline	ALTERNATIVE 2 8.8 m Widen all to the West	ALTERNATIVE 3 22 M Widen all to the West	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	<p>Alternative 2 is only slightly less desirable than Alternative 1 mainly with regards to loss of Provincially Significant Wetlands (PSW) and agricultural soils. Alternative 3 will result in considerably more significant impacts to wildlife habitat, PSW and agricultural soils. The loss of PSW area will also reduce flood storage and may require compensation on fill-regulated areas. The cumulative effects of reducing critical wildlife habitats can result in the loss of key interior forest species that require larger blocks of forest with less edge habitat.</p> <p>THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE</p>
2 SOCIAL ENVIRONMENT	Low	①	②	③	<p>All alternatives result in similar low impacts to the social environment. Impacts on residences are minimal since relatively small portions of individual properties will be required for widening sections of the highway. Alternative 1 results in slightly fewer disruption impacts to residences than Alternatives 2 & 3. There are no significant community effects except that in the case of emergency access, Alternative 3 is slightly preferred over the other alternatives because of the opportunity for median turnarounds. The lower property impacts associated with Alternative 1 outweigh the slight difference in emergency service access since this alternative does not change the existing emergency services access condition.</p> <p>THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.</p>
3 ECONOMIC ENVIRONMENT	High	①	①	②	<p>All of the alternatives result in similar low impacts to the economic environment. Alternatives 1 & 2 affect a lesser amount of agricultural land and commercial property than Alternative 3.</p> <p>THEREFORE, ALTERNATIVES 1 & 2 ARE EQUALLY PREFERRED.</p>
4 CULTURAL ENVIRONMENT	High	①	②	③	<p>Alternative 3 results in moderate impacts to a cemetery. Alternatives 2 & 3 will result in disruption impacts to a historical farm complex located on 13th Concession. Alternative 1 avoids the cemetery and does not impact the historical farm settlement.</p> <p>THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.</p>
5 TRANSPORTATION & ENGINEERING	High	①	②	②	<p>Traffic operations are considered to be the most significant factor. Therefore, Alternatives 1 and 2 are preferred over Alternative 3. Alternative 3 is slightly better than Alternatives 1 and 2 with respect to drainage, operations & maintenance and staging, but all 3 alternatives will meet design requirements. Between Alternatives 1 and 2, Alternative 1 has the lower property cost and a slightly lower construction cost.</p> <p>Alternatives 1 and 2 provide continuity with the preferred design for Highway 400 under Part A of this study.</p> <p>THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.</p>

Summary of Evaluation:

Alternative 1 is preferred for all factors.

OVERALL, ALTERNATIVE 1 RESULTS IN LOWER IMPACTS AND IS THEREFORE THE TECHNICALLY PREFERRED ALTERNATIVE.

**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public as well as site specific / study area conditions.*

A package detailing the full evaluation of Highway 400 Widening Alternatives can be obtained from a Project Team Representative.

- ① *Most Preferred*

③ *Least Preferred*

Canal Road Interchange

Four alternatives were developed and assessed for the Canal Road Interchange as follows:

Alternative 1: Closure of Canal Road Access

This alternative considers the closure of the Canal Road access to Highway 400.

Alternative 2a: Modifications to Canal Road Access – Button Hook Interchange

This alternative replaces the existing at-grade intersection with a buttonhook interchange. This includes the relocation of Wist Road and Davis Road in order to maintain the existing road network.

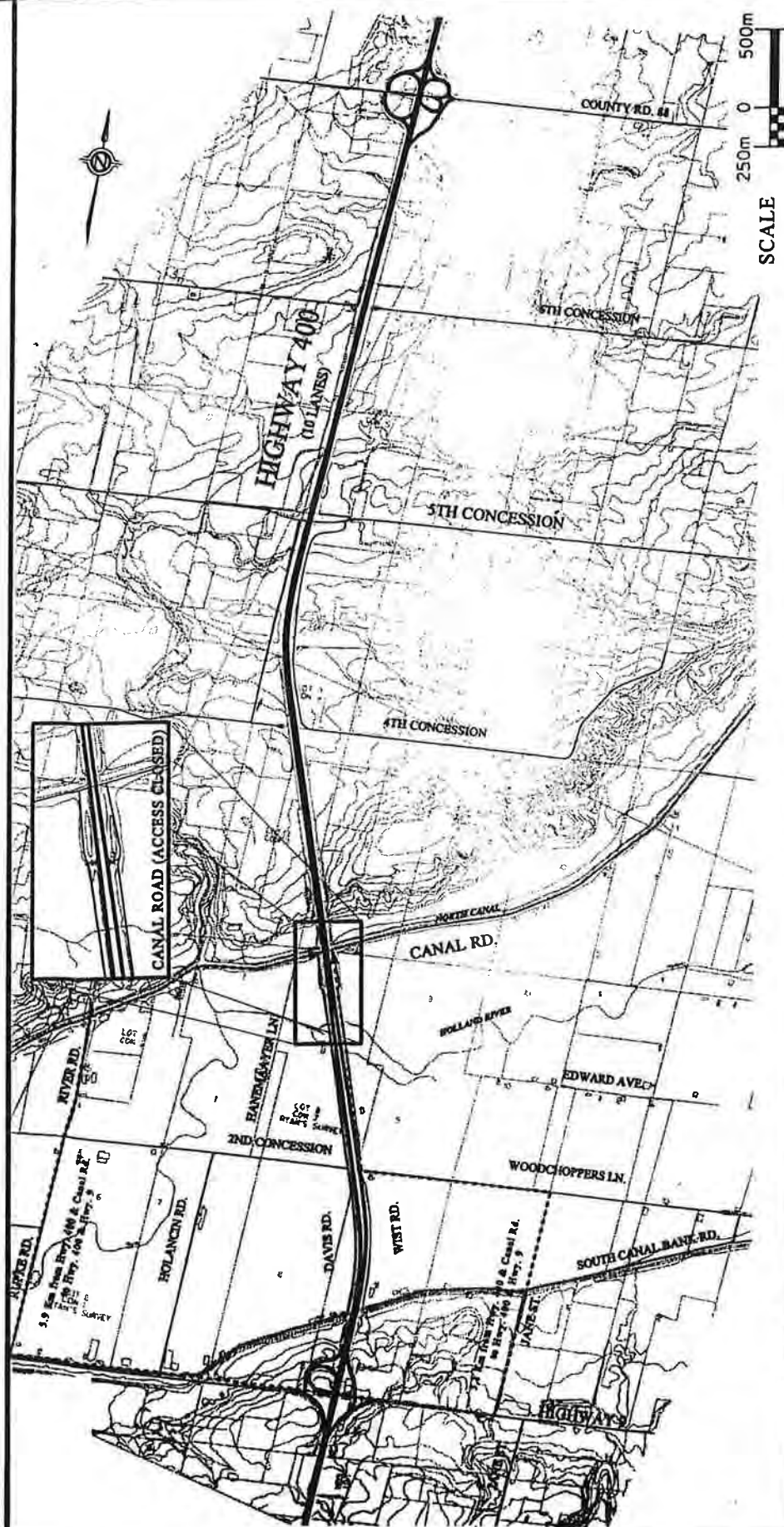
Alternative 2b: Modifications to Canal Road Access – Diamond Interchange

This alternative replaces the existing at-grade intersection with a diamond interchange. This includes the relocation of Wist Road and Davis Road in order to maintain the existing road network.

Alternative 3: Closure of Canal Road Access with Possible Interchange Relocation

This alternative considers the closure of the Canal Road access to Highway 400 with possible interchange at the 5th Concession. In addition, a service road connection between Canal Road and 5th Concession is considered with this alternative.

ALTERNATIVE 1 - CLOSURE OF CANAL ROAD ACCESS



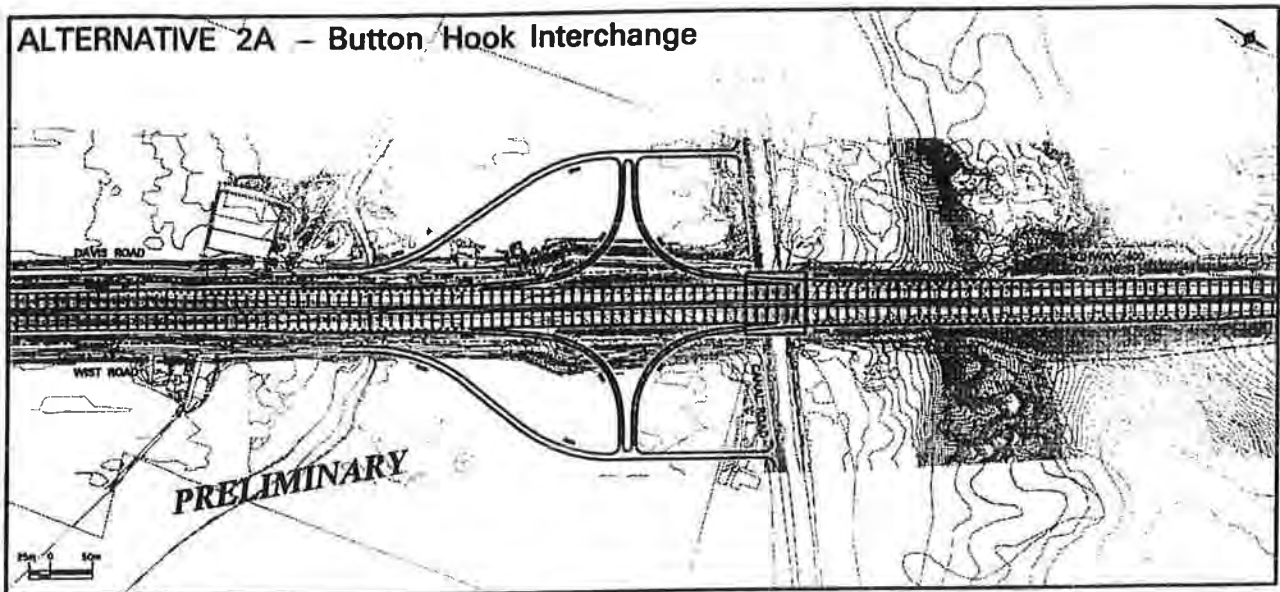
HIGHWAY 400 PLANNING STUDY
 HOLLAND RIVER TO HIGHWAY 89
 (GWP 40-00-00)

URS
 Cole Sherman

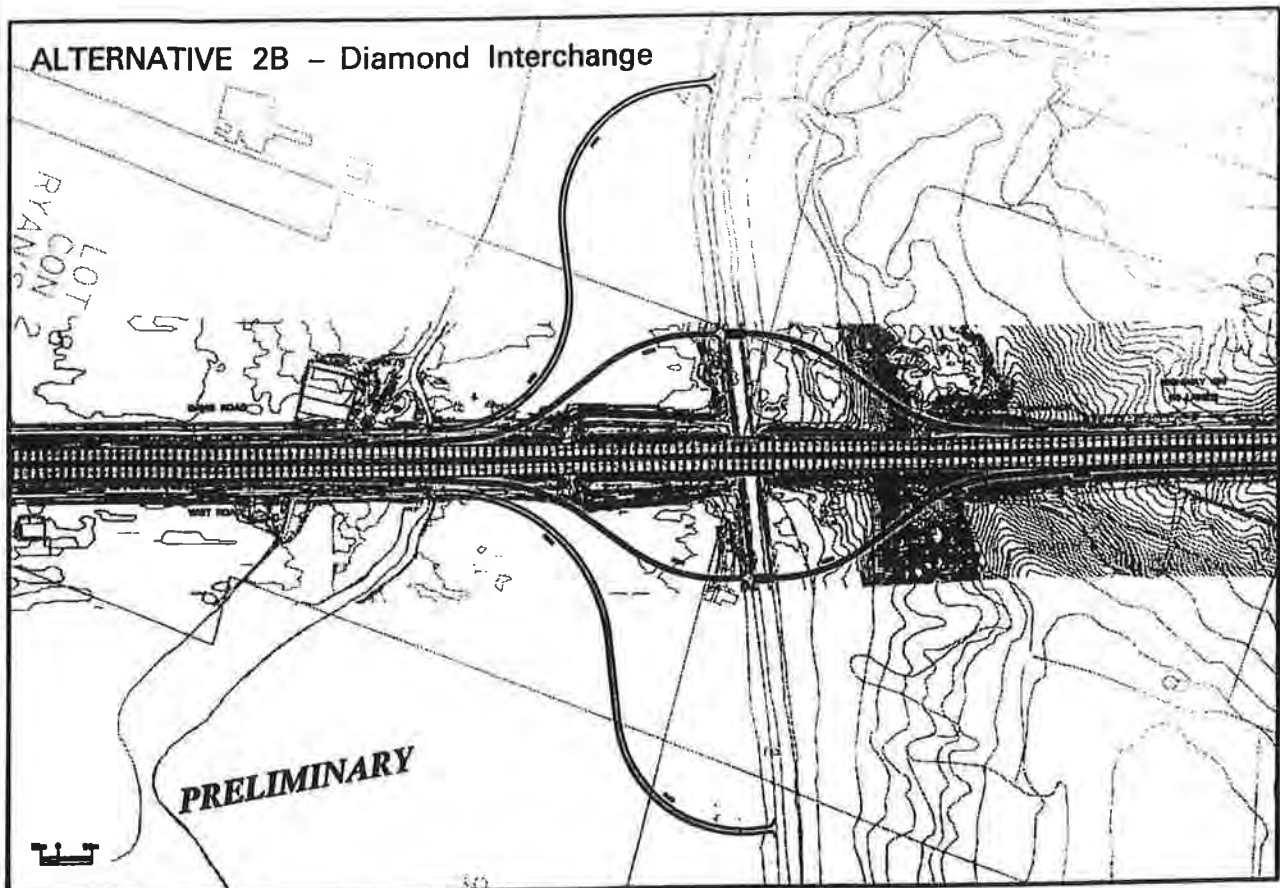
Ontario
 Ministry of Transportation

ALTERNATIVE 2 – MODIFICATIONS TO CANAL ROAD ACCESS

ALTERNATIVE 2A – Button Hook Interchange



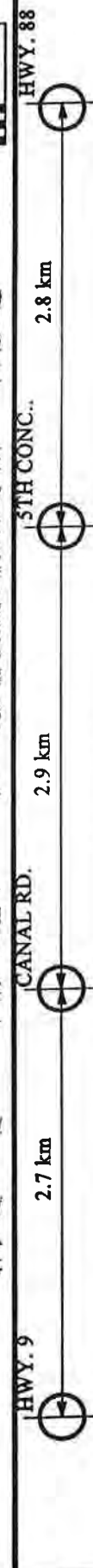
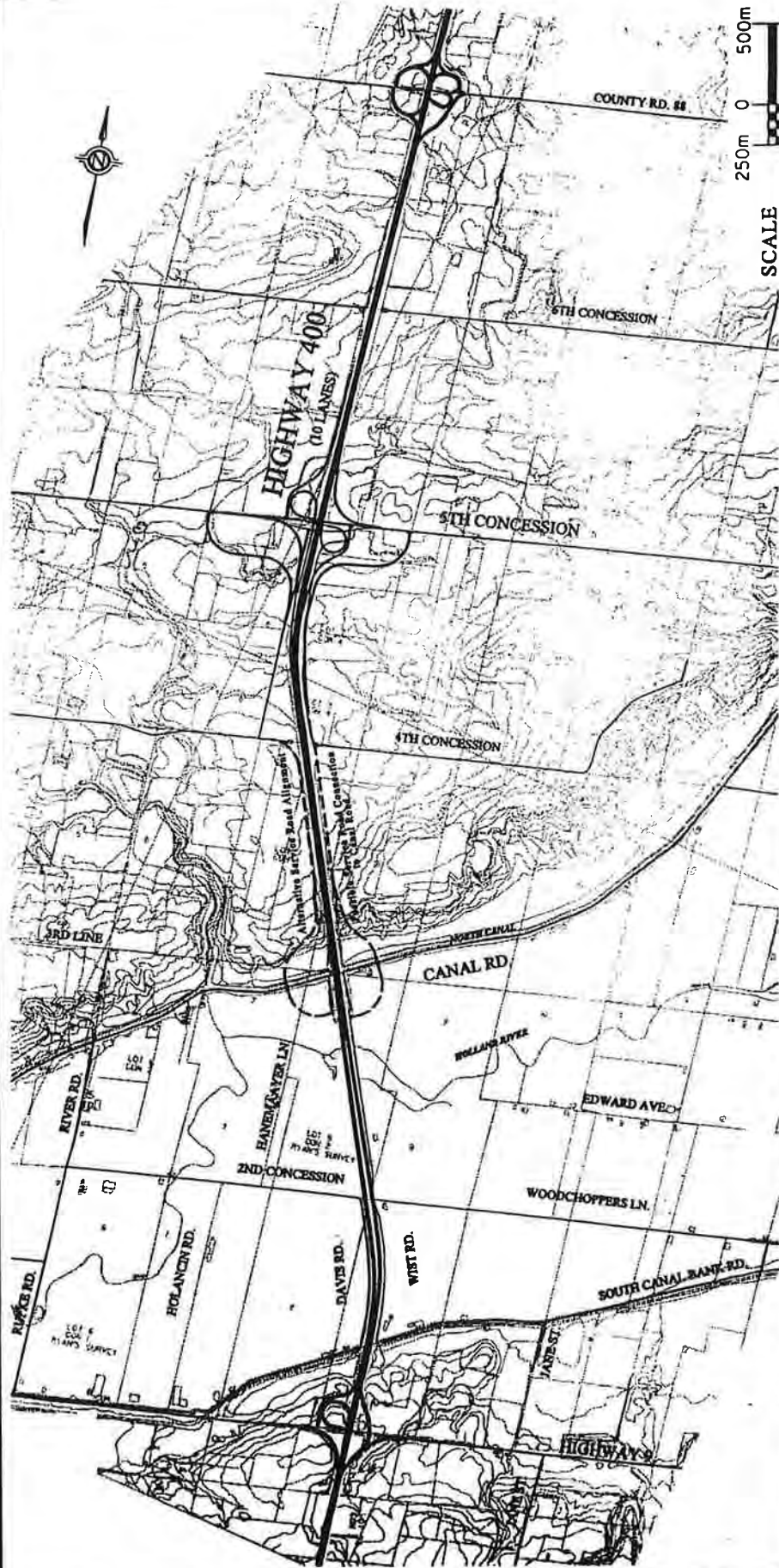
ALTERNATIVE 2B – Diamond Interchange



ALTERNATIVE 3

CLOSURE OF CANAL ROAD INTERCHANGE

WITH POSSIBLE RELOCATION OF INTERCHANGE TO 5TH CONCESSION ROAD
AND POSSIBLE SERVICE ROAD CONNECTION TO CANAL ROAD



HIGHWAY 400 PLANNING STUDY
HOLLAND RIVER TO HIGHWAY 89
(GWP 40-00-00)

URS
Cole Sherman

Summary of Evaluation: Canal Road Interchange

FACTOR	Relative Level of Significance in Making the Decision	ALT 1 Closure of Canal Road	ALT 2a Button Hook Interchange	ALT 2b Diamond Interchange	ALT 3 Closure of Canal Road with Possible Interchange Relocation	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	④	Alternative 1 is preferred for all factors (fisheries and aquatic habitat, terrestrial environment and groundwater) except for surface water as it provides less of an opportunity to provide storm water management. The impacts of runoff can be mitigated to acceptable levels. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
2 SOCIAL ENVIRONMENT	High	①	②	②	③	All alternatives result in relatively low aesthetic impacts except for Alternative 3 which will require removal of more vegetative cover for the new interchange. Alternative 2B results in higher impacts to residences since it displaces and disrupts more residences and affects more property. Alternative 1 & 3 results in similar low impacts to community mobility because of the out-of-way travel anticipated for local commuters. Alternative 3 will displace a park feature, Scotch Settlement Arboretum and is considered a high impact on a local community trait and is therefore less desirable from a social perspective. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
3 ECONOMIC ENVIRONMENT	High	①	②	④	③	Alternatives 2A, 2B & 3 will directly impact the agricultural operations but Alternative 3 results in greater affects to agricultural land. Alternatives 1 & 3 will have low impacts on agricultural access because of the out-of-way travel for local farmers. Alternative 1 will have no impacts on agricultural land and operations and will not impact property with waste and contamination. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
4 CULTURAL ENVIRONMENT	Moderate	①	③	②	③	Alternative 1 has no impact to the cultural environment features, while Alternatives 2A, 2B & 3 impact the North Canal Dyke and Alternative 2A impacts the Holland River. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
5 TRANSPORTATION & ENGINEERING	High	①	②	②	③	The elimination of access to Highway 400 from Canal Road will reduce the potential conflicts with commuters / agricultural operators, but will increase out-of-way travel for local residents. The traffic volumes impacted are relatively low. Canal Road is not suited to commuter traffic so Alternatives 1 and 3 are preferred in this respect. The inappropriate usage of Canal Road as a commuter route and location of a single lane structure on 5 th Concession in combination with potential conflicts with commuters / agricultural operators with Alternatives 2A, 2B and 3 is relatively more significant than the out-of-way travel associated with Alternative 1. Alternative 1 is, therefore, preferred with respect to traffic operations. Construction of Alternative 1 is limited to the closure of the existing access to Highway 400 at Canal Road. Alternative 1 is, therefore, preferred with respect to staging and cost. THEREFORE, ALTERNATIVE 1 IS PREFERRED FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.

Refer to the following displays for a rationale for the selection of the preferred alternative.

**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public. as well as site specific / study area conditions.*

A package detailing the full evaluation of Canal Road Interchange Alternatives can be obtained from a Project Team Representative.

- | | |
|---|-----------------|
| ① | Most Preferred |
| ④ | Least Preferred |

Rationale for the Technically Preferred Alternative for the Canal Road Interchange

The Project Team has identified a concern with safety and operation of both the Highway 400 interchange and Canal Road itself. The interchange does not meet MTO standards, and there are concerns with increasing volume on Highway 400 and potential conflicts between commuter and agricultural traffic on Canal Road.

At the first Public Information Centre, a number of other issues to be considered when considering the alternatives at Canal Road were raised by study participants. The following provides a summary of how each alternative compared on the major issues raised:

<i>Issue Considered</i>	Alt. 1 Close Canal Road Interchange	Alt. 2a & b Improve Canal Road Interchange	Alt. 3 Close Canal Road Interchange Relocate to 5 th Con
Safety and operation of both the interchange and Canal Road	✓	✗	✓
Impacts to the agricultural lands in the Holland Marsh	✓	✗	✓
Out-of-way travel for marsh residents, agricultural producers and emergency services	✗	✓	✗
Access to Highway 400 for Bradford West Gwillimbury	✓	✓	✓
Increasing traffic and associated impacts along the 5 th Concession	✓	✓	✗
Impacts to lands along Highway 400 between the 5 th Concession and Canal Road	✓	✗	✗
Cost	✓	✗	✗

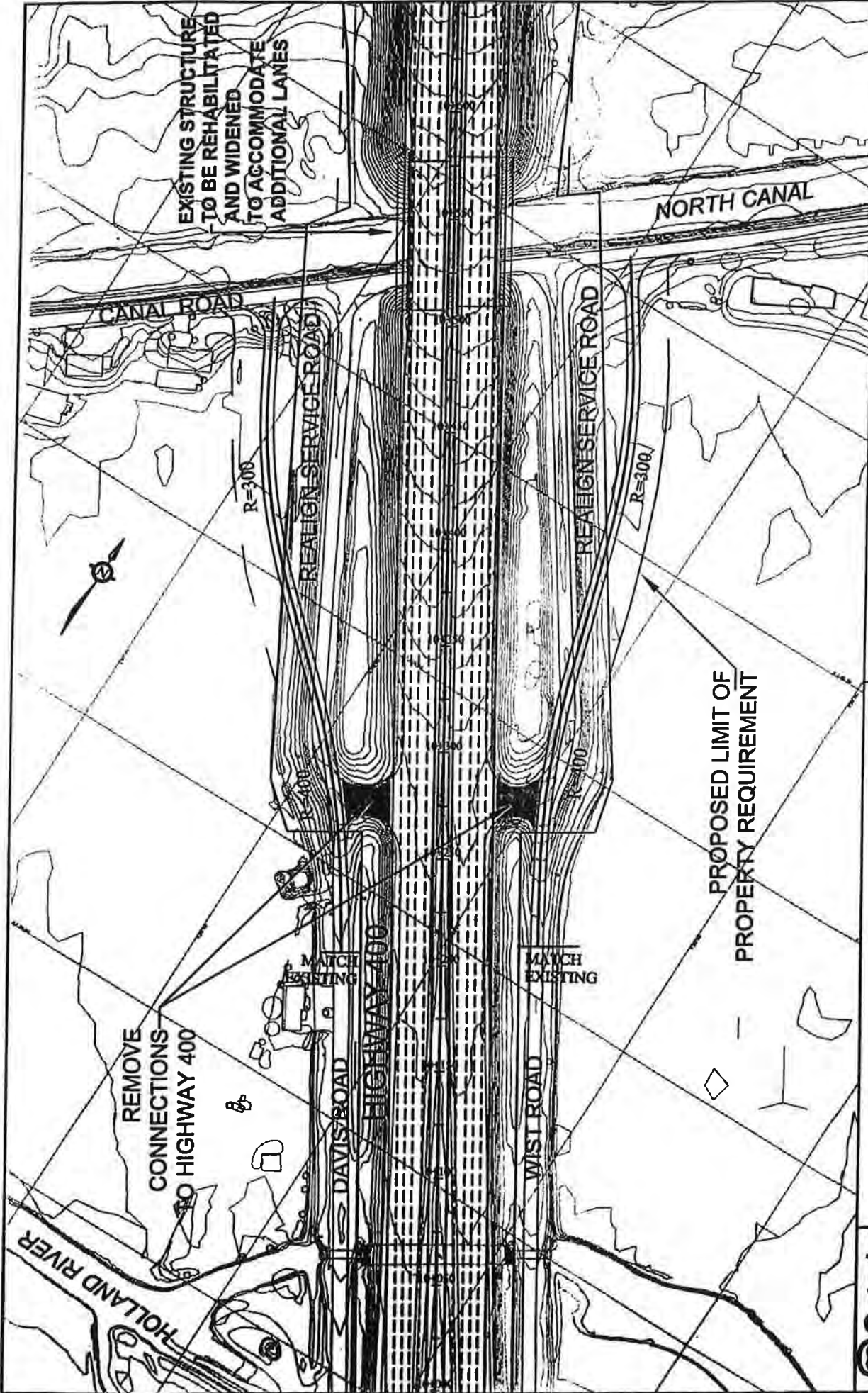
✓	Alternative compares favorably on the issue.
✗	Alternative does not compare favorably on the issue.

A package detailing the full evaluation of Canal Road Interchange Alternatives can be obtained from a Project Team Representative.

Rationale for the Technically Preferred Alternative for the Canal Road Interchange

The Technically Preferred Alternative is to Close the Canal Road Interchange.

- ❑ The technically preferred alternative addresses the problem in that it eliminates a safety and operations problem on Hwy 400 and on the local road network;
- ❑ Closing the interchange shares the same advantages of the relocation option, but results in fewer impacts and is significantly less costly to implement;
- ❑ A disadvantage of this alternative is that this alternative results in out-of-way travel for marsh residents, agricultural producers and emergency services. However, the number of users impacted is relatively small and the additional travel time is considered to be minor.
- ❑ The additional access provided by a new interchange at 5th Concession is not warranted to meet projected traffic demand.
- ❑ Closing the Canal Road interchange does not preclude an interchange at the 5th Concession if the Town of Bradford West Gwillimbury identified a future need to provide additional access to the Town.



HIGHWAY 400 PLANNING STUDY
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PREFERRED ALTERNATIVE
 CLOSE CANAL ROAD

DESIGN	SCALE	DATE	PROJECT
1:2,500	19OCT01	ROAD FILE	DESIGN

County Road 88 Interchange

Three alternatives were developed and assessed for the County Road 88 Interchange as follows:

Alternative 1:

This alternative replaces the existing interchange with a Parclo-A configuration.

Alternative 2:

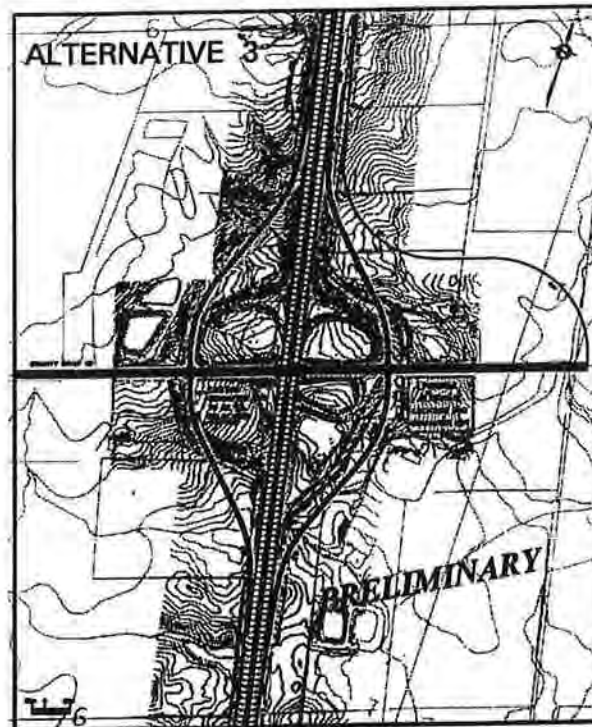
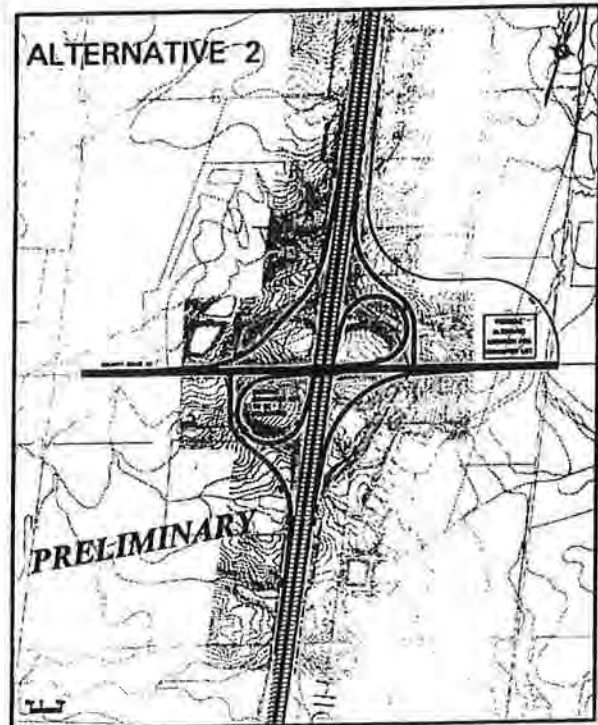
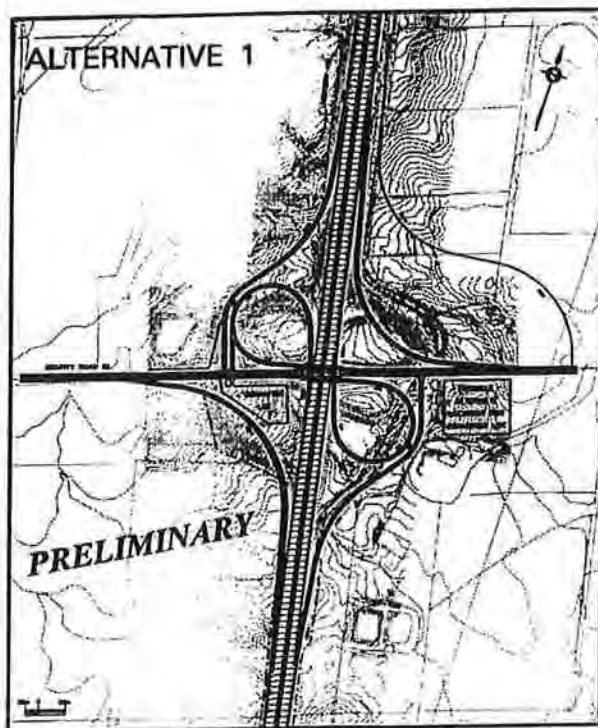
This alternative replaces the existing interchange with a Parclo-B configuration.

Alternative 3:

This alternative replaces the existing interchange with a Diamond configuration.

A summary of the evaluation of alternatives and a plan of the technically preferred alternative are shown on the following displays.

INTERCHANGE ALTERNATIVES AT COUNTY ROAD 88



Summary of Evaluation: County Road 88 Interchange

FACTOR	Relative Level of Significance in Making the Decision	ALTERNATIVE 1 PARCLO A	ALTERNATIVE 2 PARCLO B	ALTERNATIVE 3 DIAMOND	COMMENTS
1 NATURAL ENVIRONMENT	High	①	②	③	The fisheries impacts associated with Alternative 2 and Alternative 3 are much more significant than the groundwater impacts (wells) associated with Alternative 1. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE.
2 SOCIAL ENVIRONMENT	Moderate	①	①	①	All alternatives result in similar low impacts to the social environment. THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.
3 ECONOMIC ENVIRONMENT	Low	②	①	②	All alternatives result in similar low impacts to the economic environment. The differences in commercial property being affected between the alternatives are minor, however Alternative 2 results in fewer impacts to property. THEREFORE, ALTERNATIVE 2 IS THE PREFERRED
4 CULTURAL ENVIRONMENT	Low	①	①	①	All alternatives result in similar impacts to the cultural environment with low impacts to a heritage farm complex. THEREFORE, ALL ALTERNATIVES ARE EQUALLY PREFERRED.
5 TRANSPORTATION & ENGINEERING	High	①	③	②	Alternative 2 is not preferred in any transportation factors. Alternative 3 is easier and cheaper to construct, however these advantages are outweighed by the poor traffic operations with this alternative during peak travel time. Alternative 1 provides acceptable traffic operations, but is the most expensive to construct. The advantages of better traffic operations are considered to outweigh the greater costs associated with Alternative 1. THEREFORE, ALTERNATIVE 1 IS THE PREFERRED ALTERNATIVE FROM A TRANSPORTATION AND ENGINEERING PERSPECTIVE.
<p>Summary of Evaluation:</p> <p>Alternative 1 preferred for all factors except Economic Environment. The differences among the alternatives with respect to impacts to the Economic Environment are not significant and can be addressed during preliminary design.</p> <p>OVERALL, ALTERNATIVE 1 ("PARCLO A" INTERCHANGE CONFIGURATION) IS THE TECHNICALLY PREFERRED ALTERNATIVE.</p>					

**Ranking of factors based on consultation and input received from government ministries, agencies, local municipalities and the general public. as well as site specific / study area conditions*

- | | |
|---|-----------------|
| ① | Most Preferred |
| ③ | Least Preferred |

A package detailing the full evaluation of County Road 88 Interchange Alternatives can be obtained from a Project Team Representative.

Preliminary Noise Assessment

Background

A preliminary noise analysis has been carried out for this section of the Highway 400 corridor (from the South Canal Bridge to 1 kilometer south of Highway 89) for the technically preferred alternatives widening mainline Highway 400 and interchange improvements. The purpose of this analysis was to determine the following:

- Ambient noise conditions adjacent to Highway 400;
- Future Noise Conditions in the vicinity of interchanges; and
- Future Noise Conditions in the vicinity of mainline Highway 400.

Factors used in the noise assessment include highway grades, local elevations and contours, ground cover (absorption), traffic volumes (Summer Average Daily Traffic) and percentage of trucks and vehicle speeds.

Results

Future Noise Conditions for the technically preferred alternative for widening mainline Highway 400

- Existing ambient sound levels adjacent to the Highway 400 corridor are estimated to be 60-71 decibels (dBA).
- Sound levels throughout the project limits will climb by approximately 2-3 decibels as a result of increases in road traffic volumes on Highway 400 between 1999 and 2021. Generally, a 3 dBA increase is considered to be imperceptible to the human ear and would occur over a period of many years as traffic volumes increase.

Future Noise Conditions for the technically preferred alternative for the County Road 88 interchange

Existing ambient sound levels for noise sensitive receivers in the vicinity of the interchange are estimated to be 60-63 dBA. Noise sensitive receivers are expected to experience increases of 3 and 6 dBA from existing levels, and an increase of less than 3 dBA from the future "no build" scenario.

A complete set of results from the preliminary noise analysis will be incorporated into the Transportation Environmental Study Report. (TESR). The Ministry will continue to monitor noise levels along the Highway 400 corridor.

About Noise

The Ministry realizes that noise levels associated with a highway can be annoying to adjacent residents. For purposes of analysis, noise levels are measured in dBA (decibels in the A scale). "Decibels" indicates sound level, while the "A scale" relates to the hearing range of the human ear.

The following chart indicates approximate dBA levels associated with some common noises / activities.

Sound Level in Decibels (dBA)	Average Human Perception	Typical Source (measured at operator / listener distance from source)
140	Average Human Ear Pain Threshold	Shotgun blast, jet plane at takeoff, exploding firecrackers
130	<i>Uncomfortably Loud</i>	Rock music (amplified), hockey game crowd, severe thunder. Pneumatic jackhammer
120		
110		
100		
90	<i>Extremely Loud</i>	Power lawn mower, farm tractor, interior of subway train, motorcycle, snowmobile
80	<i>Moderately Loud</i>	Window air conditioning, crowded restaurant
70		
60		
50	<i>Quiet</i>	Singing birds, normal conversation
40	<i>Very Quiet</i>	Rustle of leaves, dripping faucet, light rainfall
30		
20	<i>Just Audible</i>	Whisper
10		
0		

Traffic noise near a highway varies from approximately 55 dBA to 75 dBA depending on a number of factors including:

- ☐ Traffic volumes
- ☐ Number of trucks
- ☐ Road profile
- ☐ Distance between highway traffic and noise sensitive receivers (residences)

Summary of Issues and Potential Mitigation Requirements

Outstanding Issues	Response
Property	Compensation is based on the market value of the property. Market value is determined at the time of purchase by a property appraisal report. Other ancillary costs are negotiated on a case by case basis.
Highway Noise	No significant increases in noise levels which would require mitigation are anticipated as a result of the widening.
Stormwater Management (SWM)	Requirements for stormwater management to address the increased pavement area will be determined as part of this study.
Sediment and Erosion Control	Possible erosion sensitive areas and consideration of design options such as limiting slope height and steepness will be identified during preliminary design. Specific erosion and sediment control requirements will be developed in detail design.
Vegetation Protection and Restoration	An inventory of existing vegetation has been conducted and significant trees and shrubs will be retained where possible. Requirements for barriers for tree protection will be determined during detail design.
Fisheries Protection	No significant fisheries impacts are anticipated. Protection measures, such as timing restrictions, erosion control measures, and minimizing in-water work, will be developed during detail design. The need for any specific mitigation for specific crossings will be determined in consultation with appropriate agencies (i.e. MNR, Conservation Authority)
Impacts to Groundwater / Wells	Requirements for road salt / run-off controls (i.e. lining of the ditches on either side of the highway) will be considered in hydrogeologically sensitive areas (i.e. permeable soil). The potential to cause interference with well water supply will be assessed during the detail design stage. Generally, this will only occur where there are major excavations in close proximity to shallow sources of groundwater. Where a potential for interference is identified, monitoring of the water supply during construction may be necessary.
Utilities	Some utility relocation will be required as a result of this project. On-going discussions with utility companies will be maintained to eliminate or reduce service disruptions during construction.
Illumination	No mainline illumination is proposed; Partial illumination at the interchanges will be provided.
Commuter Parking Lots	The proposed design identifies a possible location for a commuter parking lot at the Simcoe Road 88 interchange. MTO will continue to identify opportunities for locating commuter parking lots in the vicinity of interchanges along the Highway 400 corridor.
Snow Drifting	Measures to reduce the effects of snow drifting may require additional property at certain areas along Highway 400 corridor. These areas have been identified on the plans presented at this Public Information Centre. MTO will continue to investigate options for implementing snow drifting countermeasures through later design stages.
Emergency Services	The technically preferred alternative for the Canal Road interchange will result in additional out-of-way travel for emergency service vehicles, however this additional travel is within acceptable limits. Emergency service providers may reorganize coverage areas to reflect the technically preferred alternative for the Highway 400 at Canal Road.

What's Next

After this Information Centre, the following will be carried out:

- Review the comments received and respond to any questions.
- Continue to consult with the public and external agencies for input on the preliminary design of the proposed improvements.
- Refine alternatives based on comments received.
- Develop preliminary design plan of the proposed highway widening including the interchange improvements.
- Identify potential environmental impacts, consider design options to avoid impacts and develop requirements for mitigation to be further developed in detail design to minimize identified residual impacts.

Following this Public Information Centre, a Transportation Environmental Study Report (TESR) will be prepared and placed on the Public Record for the 30-day review period. Notice of the TESR review locations will be provided in advance.

Thank you for attending.

Please feel free to ask questions and fill out a comment sheet before you leave.

Freedom of Information and Protection Privacy

Comments and information regarding this study are being collected to assist the Ministry of Transportation (MTO) in meeting the requirements of the Provincial *Environmental Assessment Act*. This material will be maintained on file for use during the study and may be included in study documentation. With the exception of personal information all comments will become part of the public record.

You are encouraged to contact the MTO Project Team if you have questions or concerns regarding the above information.