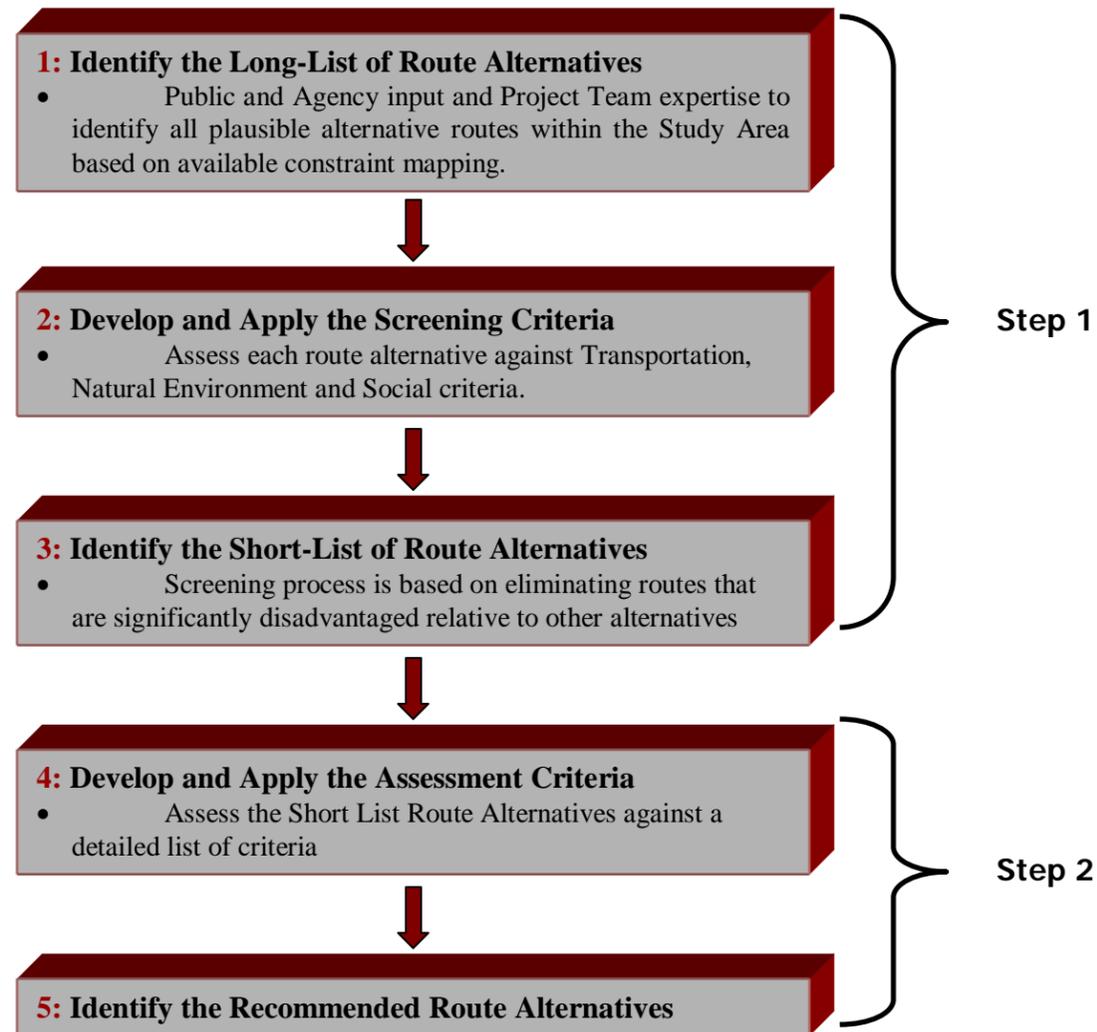


## 6 ALTERNATIVE DESIGN CONCEPTS

Alternative design concepts represent alternative ways of carrying out the preferred solution. In this case, the alternative design concepts are alternative routes throughout the Study Area.

**Exhibit 6-1** illustrates the process for identifying, screening, accessing and selecting a recommended route alternative. The process is more fully described in subsequent sections of the report.

**Exhibit 6-1: Process for Generating and Assessing Route Alternatives**



### 6.1 IDENTIFYING THE LONG LIST OF ROUTE ALTERNATIVES

A long list of route alternatives was first identified by the Project Team based on constraint mapping, field investigations and input from external agencies. Through further consultation with stakeholders, additional route alternatives were developed and added to the long list of route alternatives. **Exhibit 6-2** illustrates the routes developed by stakeholders at the July 6, 2005 Stakeholder Group Meeting and **Exhibit 6-3** illustrates what was

termed the North Oakville Secondary Plan (NOSP) route, the NOMI<sup>3</sup> route and additional routes developed by the Project Team. **Exhibit 6-4** displays the final long list of route alternatives considered for the New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek.

<sup>3</sup> North Oakville Management Incorporated (NOMI) is an organization of land owners within the area known as Regional Official Plan Amendment No. 8 (OPA 8).

Exhibit 6-2: Alternative Routes Developed by Stakeholder Group

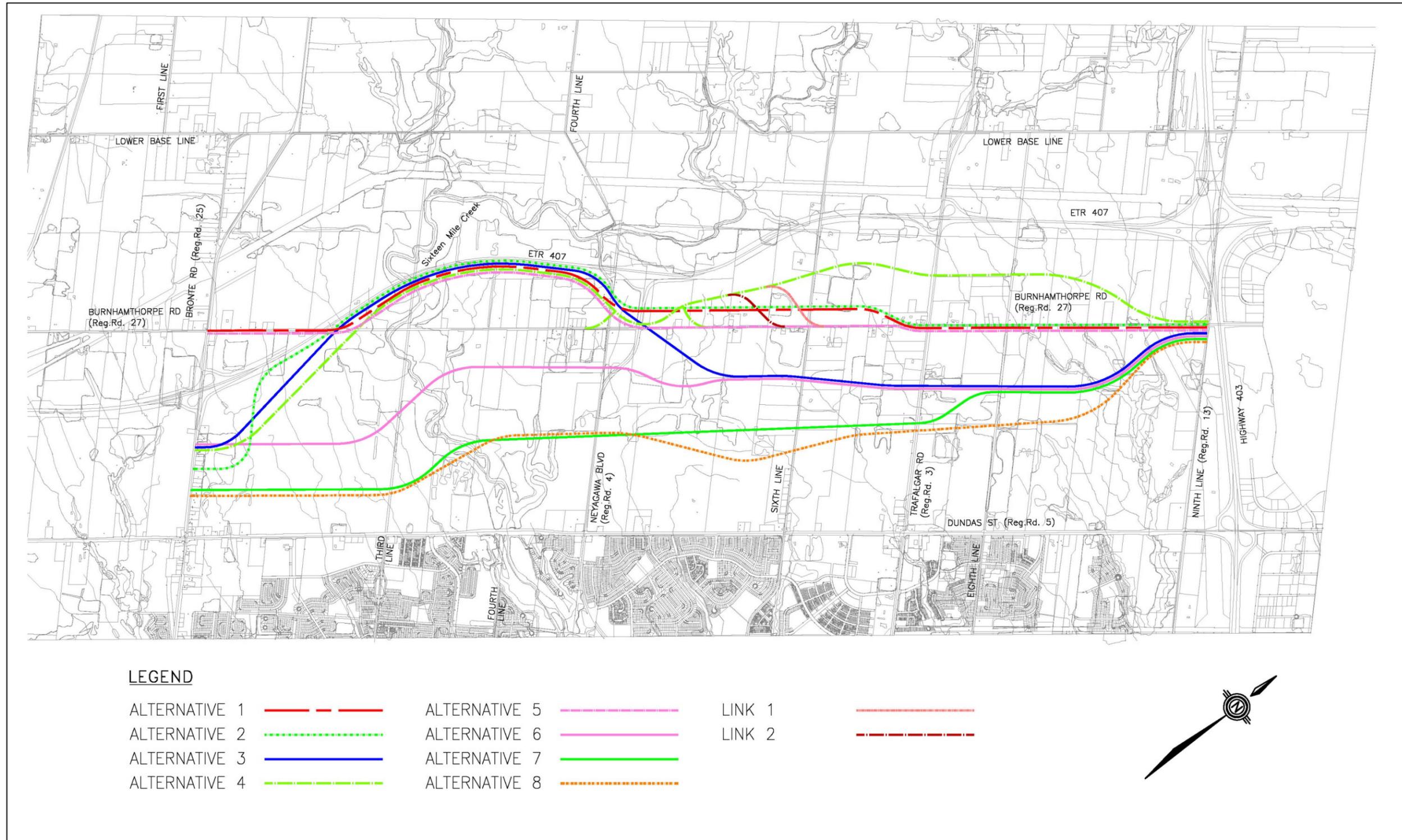


Exhibit 6-3: NOSP, NOMI and Additional Routes Developed by Project Team

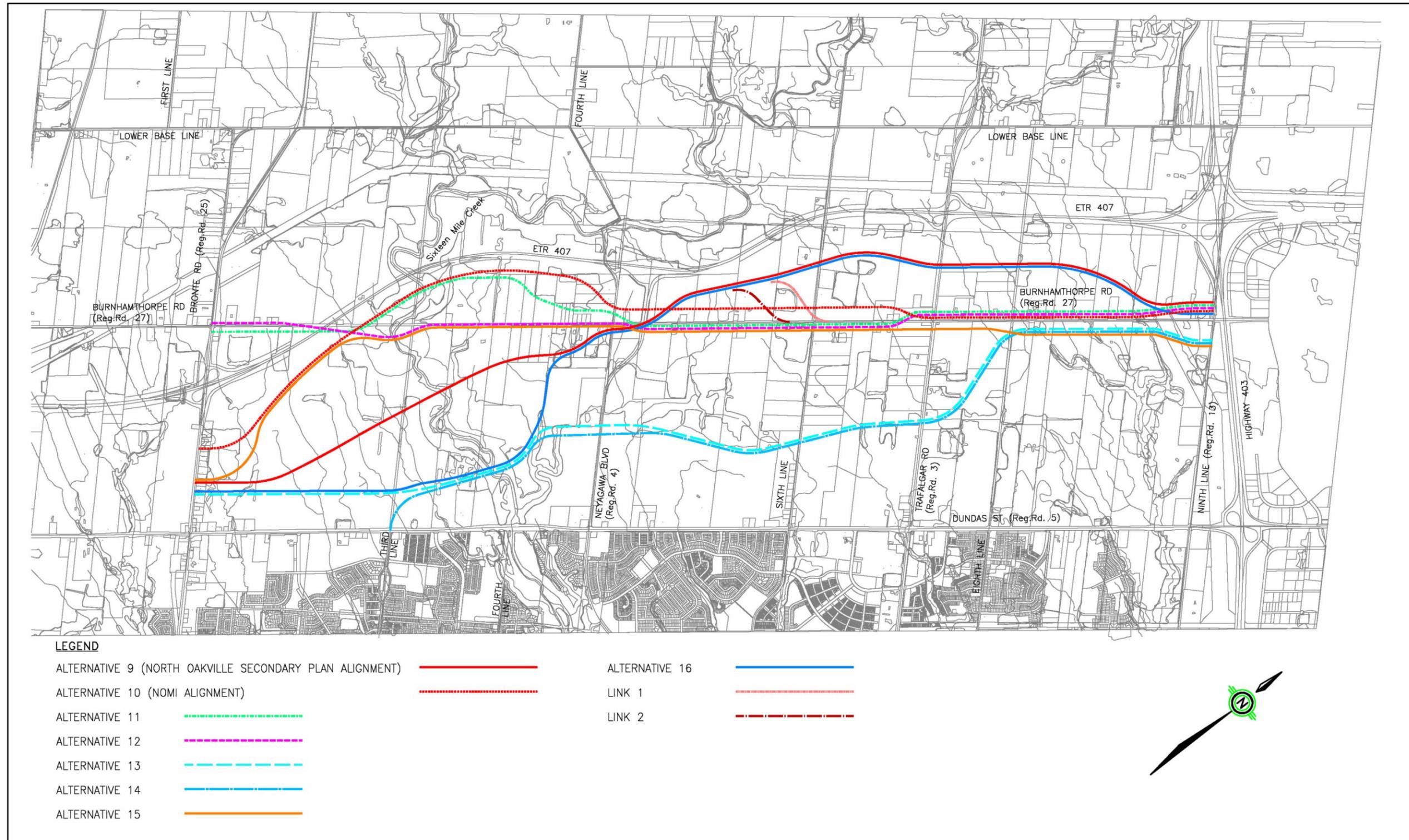
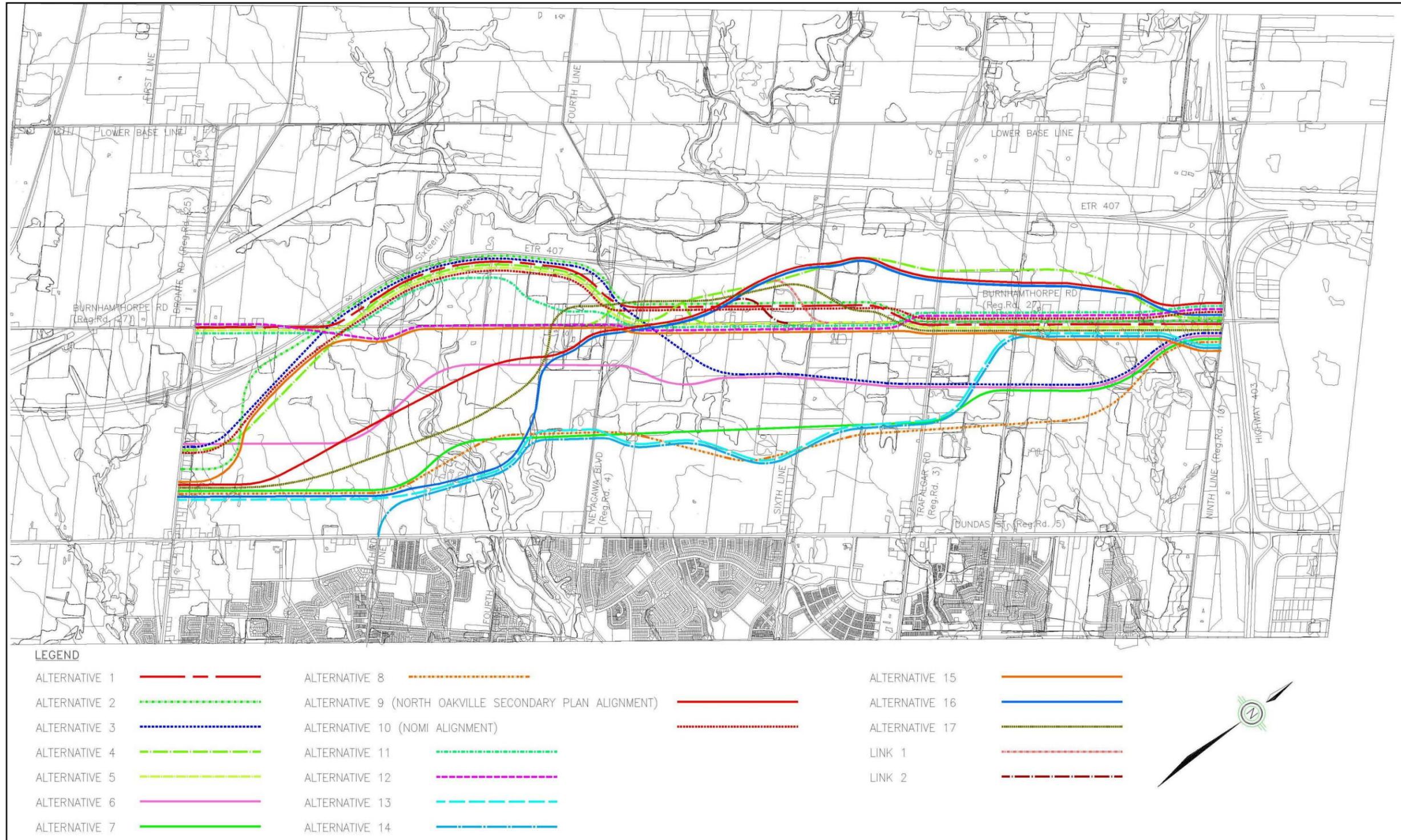


Exhibit 6-4: Long List of Route Alternatives



## 6.2 SCREENING THE LONG LIST OF ROUTE ALTERNATIVES

The purpose of the screening process was to eliminate alternative routes that were considered to be significantly disadvantaged relative to other available alternatives. The following criteria were used in the screening process:

- **Transportation Engineering** - design constraints and operational considerations;
- **Social Environment** - direct impacts to existing residences/buildings; and
- **Natural Environment** - impacts to natural heritage features/linkages including significant woodlots (avoidance preferred) and impacts to cold and warm water creek crossings (fewer crossings preferred).

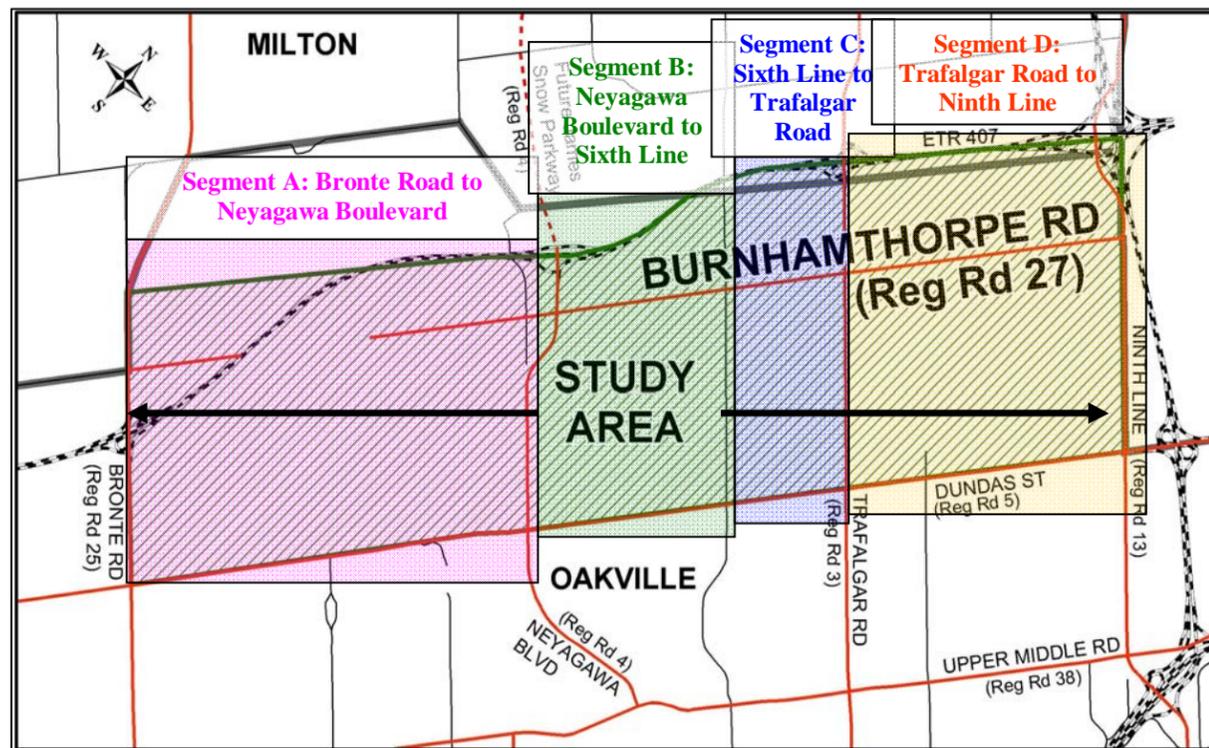
To facilitate the assessment of the potential disadvantages of each of the route alternatives on the above-listed criteria, the Study Area was divided into four segments. The segments were chosen on the basis of:

- Each segment area exhibited relatively consistent characteristics in terms of land use and environmental sensitivity.
- The segment boundaries were in some cases coincident with a common intersection of two or more routes.

As can be seen from **Exhibit 6-4**, each of the routes on the long list traverses the full Study Area from Ninth Line to Bronte Road. There are also two short links that allow for combining route sections in different ways. Many routes also have common points of intersection along their lengths, affording the opportunity to “mix and match” route segments where appropriate to combine routes to their best advantage.

**Exhibit 6-5** below illustrates the four segments used to screen the long list of alternative routes.

**Exhibit 6-5: Route Alternative Screening Segments**



**Exhibit 6-6** provides a detailed review of the screening process as outlined above. The following provides a brief summary of the results of the screening process:

### Segment A: Bronte Road – Neyagawa Boulevard

The key factors considered in this section include:

- Significant natural heritage system elements within this area include the Sixteen Mile Creek and the woodlot east of Bronte Road.
- Social features include homes along Burnhamthorpe Road and Bronte Road.
- Transportation engineering factors related to potential crossing of a new corridor with Neyagawa Boulevard between Burnhamthorpe Road and Highway 407, and the potential terminus of a new corridor on Dundas Street.

The most significant natural feature in the segment is the Sixteen Mile Creek. There are eight alternative crossings of Sixteen Mile Creek. The northern crossing at Highway 407 and the southern crossing at Lions Valley Park were selected due to their close proximity to relatively disturbed valley areas. The remaining alternatives were identified because of potential short crossing lengths (Alternatives 6, 7, 8, 9 and 17), or due to their alignment with existing Burnhamthorpe Road (Alternatives 12 and 15). Alternatives 6, 7, 8, and 17 were removed as they crossed the valley in the most undisturbed locations, a significant disadvantage over other comparable alternatives. Alternative 9 was retained for comparison purposes as it represents the route put forward in the North Oakville Secondary Plan. Alternatives 12 and 15 were retained as a benchmark for comparing a solution that focused on improvements in the existing Burnhamthorpe Road corridor.

A significant woodlot exists east of Bronte Road behind existing rural residential properties. Those routes that impact the woodlot east of Bronte Road include Alternatives 3, 4, 6 and 10. Alternative 6 was previously removed due to its disadvantaged crossing location of Sixteen Mile Creek. Alternatives 3, 4 and 10 are identical within this segment; all cross the Sixteen Mile Creek at Highway 407. Comparable routes that cross Sixteen Mile Creek at Highway 407 that do not impact the woodlot include Alternatives 1, 2, 5, 11 and 12. Alternatives 3, 4 and 10 were therefore removed as comparable alternatives exist that do not cross this woodlot.

Rural residential properties on Bronte Road and Burnhamthorpe Road were affected differently by the various alternatives. Alternatives 2, 3, 4, 6 and 10 had direct impacts to homes on Bronte Road, a disadvantage not shared by other available alternatives. They were therefore removed.

Transportation engineering considerations also factored into the short-listing process. The proposed connection of a new corridor to Dundas Street at Third Line was considered significantly disadvantaged to those alternatives that connected directly to Bronte Road. Dundas Street would not be able to accommodate the added traffic through this section and the lands proposed for redevelopment between Third Line and Bronte Road would be significantly underserved by having one rather than two east west arterials through this area. Alternative 14 was therefore removed from further review.

A number of alternatives cross Neyagawa Boulevard between Highway 407 and existing Burnhamthorpe Road. The distance between Highway 407 and Burnhamthorpe Road is inadequate to accommodate an additional intersection at grade. As a result, a grade separation of the new corridor and Neyagawa Blvd. would be necessary, with no direct connections for access between the two roadways. This is a significant disadvantage over alternatives that do not require this grade separation and lack of connection. Alternatives 1, 2, 3, 4, 5 and 10 were removed for this reason.

In summary, the following alternatives were screened out in this segment:

- Alternatives 1 and 5 due to significant transportation disadvantage at Neyagawa Boulevard;

- Alternatives 2, 3, 4 and 10 due to significant property and woodlot impacts at Bronte Road and transportation disadvantages at Neyagawa Boulevard;
- Alternative 6 due to impacts at Sixteen Mile Creek, and property and woodlot impacts at Bronte Road;
- Alternatives 7, 8 and 17 due to significant impacts associated with crossing locations of Sixteen Mile Creek; and
- Alternative 14 due to significant transportation disadvantages at Dundas Street.

#### **Segment B: Neyagawa Boulevard – Sixth Line**

The key factors considered in this section include:

- A significant woodlot located north of Burnhamthorpe Road;
- Transportation engineering factors related to the requirement for a grade separated crossing of a new corridor with Neyagawa Boulevard between Burnhamthorpe Road and Highway 407 as discussed in detail above;
- Location of a planned transitway station in the south-east quadrant of Highway 407 and Neyagawa Boulevard.

Alternatives 1, 2 and 10 were removed due to conflicts with the planned Highway 407 Transitway Station at Neyagawa Blvd., the crossing at Neyagawa Blvd. and impacts to the woodlot north of Burnhamthorpe Road.

Alternatives 3, 4 and 17 were removed due to conflicts with the planned Highway 407 Transitway Station at Neyagawa Blvd. and the crossing at Neyagawa Blvd.

Alternatives 6 and 7 were removed due to woodlot fragmentation.

#### **Segment C: Sixth Line – Trafalgar Road**

The key factors considered in this section include:

- A significant woodlot located north of Burnhamthorpe Road;
- High potential for direct residential property impact on Burnhamthorpe Road.

Alternatives 1, 2 and 10 were removed due to impacts to the woodlot north of Burnhamthorpe Road and the direct residential property impact.

Alternatives 3, 6 and 9 were removed due to woodlot fragmentation.

Alternative 17 was removed due to the direct residential property impact.

#### **Segment D: Trafalgar Road – Ninth Line**

The key factors considered in this section include:

- Significant natural heritage system elements are affected by different alternatives to differing degrees. The elements include numerous significant woodlots, LS ANSIs, cold and warm water streams and pitted depressions.
- Social features include potential for impacts to residence/business at Burnhamthorpe Road and Ninth Line.

Alternatives 3, 6, 7 and 8 were removed as a result of the screening process due to the significant potential for impacts to the natural environment features described above and to residences/businesses.

**Exhibit 6-7** illustrates the ten short listed alternative routes as determined by the screening process. The following Alternatives were retained in their entirety: 9, 11, 12, 13, 15 and 16. A number of the Alternatives share common alignments through parts of their lengths as follows:

- Alternatives 9 and 16 share a common alignment from Ninth Line to west of Neyagawa Blvd.
- Alternatives 11, 12 and 15 share a common alignment from Ninth Line to east of Trafalgar Road.
- Alternatives 12 and 15 share a common alignment from Ninth Line to west of Sixteen Mile Creek.
- Alternatives 11 and 12 share a common alignment from west of Sixteen Mile Creek to Bronte Road.
- Alternatives 13 and 16 share a common alignment from east of Sixteen Mile Creek to Bronte Road.

Integrating the common sections noted above allows the reduction of the total number of individual routes to seven alternative routes from Bronte Road to Neyagawa Boulevard and three alternative routes from Neyagawa Boulevard to Ninth Line. Common points of intersection are shown as “nodes” on **Exhibit 6-7**. These nodes allow for the pairing of alternatives to the east and west in order to generate additional possible overall alternatives – effectively mixing and matching for optimal route selection.

**Exhibit 6-6: Summary of Screening Results from the Long List of Alternative Routes to a Short List**

Colour Code	Alt	Segment				Screening Result
		(A) Bronte Road - Neyagawa Boulevard	(B) Neyagawa Boulevard - Sixth Line	(C) Sixth Line - Trafalgar Road	(D) Trafalgar Road. - Ninth Line	
Red Long Dashed	1	<ul style="list-style-type: none"> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Requires crossing of Highway 407 to connect to existing Burnhamthorpe Road west of Highway 407</li> <li>Fragments significant woodlot and proposed LS ANS14 west of Neyagawa Boulevard</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> </ul>	<ul style="list-style-type: none"> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> <li>Potential to directly impact residence north of Burnhamthorpe Road and west of Trafalgar Road</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Remove</i>	<i>Remove</i>	<i>Retain</i>	
Green Dashed	2	<ul style="list-style-type: none"> <li>Fragments significant woodlot east of Bronte Road</li> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Fragments significant woodlot and proposed LS ANS1 west of Neyagawa Boulevard</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> </ul>	<ul style="list-style-type: none"> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> <li>Potential to directly impact residence north of Burnhamthorpe Road and west of Trafalgar Road</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Remove</i>	<i>Remove</i>	<i>Retain</i>	
Blue Dashed	3	<ul style="list-style-type: none"> <li>Fragments significant woodlot east of Bronte Road</li> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Fragments significant woodlot and proposed LS ANS1 west of Neyagawa Boulevard</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Fragments one significant woodlot</li> </ul>	<ul style="list-style-type: none"> <li>Fragments three significant woodlots</li> <li>Fragments proposed LS ANS1 in three locations</li> <li>Crosses two coldwater streams</li> <li>Is in close proximity to pitted depression</li> <li>Potential impact to residence/business at Burhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Remove</i>	<i>Remove</i>	<i>Remove</i>	
Green Long & Short Dashed	4	<ul style="list-style-type: none"> <li>Fragments significant woodlot east of Bronte Road</li> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Fragments significant woodlot and proposed LS ANS1 west of Neyagawa Boulevard</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Generally follows North Oakville Secondary Plan alignment</li> <li>Avoids impacts to significant woodlots</li> <li>Crosses one stream</li> </ul>	<ul style="list-style-type: none"> <li>Generally follows North Oakville Secondary Plan Alignment</li> <li>Avoids impacts to significant woodlots north of Burnhamthorpe Road</li> <li>Crosses six intermittent warmwater streams</li> <li>Potential impact to residence/business at Burhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Remove</i>	<i>Retain</i>	<i>Retain</i>	
Light Green Dashed	5	<ul style="list-style-type: none"> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Requires crossing of Highway 407 to connect to existing Burnhamthorpe Road west of Highway 407</li> <li>Fragments significant woodlot and proposed LS ANS1 west of Neyagawa Boulevard</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	

<sup>4</sup> LS ANS1 – Life Science Area of Natural and Scientific Interest

**Exhibit 6-6: Summary of Screening Results from the Long List of Alternative Routes to a Short List**

Colour Code	Alt	Segment				Screening Result
		(A) Bronte Road - Neyagawa Boulevard	(B) Neyagawa Boulevard - Sixth Line	(C) Sixth Line - Trafalgar Road	(D) Trafalgar Road. - Ninth Line	
Fuchsia Solid	6	<ul style="list-style-type: none"> <li>Fragments significant woodlot east of Bronte Road</li> <li>Fragments significant woodlot west of Neyagawa Boulevard</li> <li>Requires mid-point crossing of Sixteen Mile Creek (undisturbed valley area)</li> <li>Similar to North Oakville Secondary Plan alignment</li> </ul>	<ul style="list-style-type: none"> <li>Fragments three significant woodlots</li> </ul>	<ul style="list-style-type: none"> <li>Fragments one significant woodlot</li> </ul>	<ul style="list-style-type: none"> <li>Fragments three significant woodlots</li> <li>Fragments proposed LS ANSI in three locations</li> <li>Crosses two coldwater streams</li> <li>Is in close proximity to pitted depression</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		Remove	Remove	Remove	Remove	
Green Solid	7	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Results in longer crossing distance at Sixteen Mile Creek (undisturbed valley area)</li> </ul>	<ul style="list-style-type: none"> <li>Fragments significant woodlot and proposed LS ANSI in four locations</li> </ul>	<ul style="list-style-type: none"> <li>Crosses intermittent coldwater stream</li> </ul>	<ul style="list-style-type: none"> <li>Fragments three significant woodlots</li> <li>Fragments proposed LS ANSI in three locations</li> <li>Crosses two coldwater streams</li> <li>Is in close proximity to pitted depression</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		Remove	Remove	Retain	Remove	
Orange Dashed	8	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Results in longer crossing distance at Sixteen Mile Creek (undisturbed valley area)</li> </ul>	<ul style="list-style-type: none"> <li>Avoids fragmentation of significant woodlots between Neyagawa Boulevard and Sixth Line</li> </ul>	<ul style="list-style-type: none"> <li>Crosses intermittent coldwater stream</li> </ul>	<ul style="list-style-type: none"> <li>Fragments three significant woodlots</li> <li>Fragments proposed LS ANSI in three locations</li> <li>Crosses two coldwater streams</li> <li>Is in close proximity to pitted depression</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		Remove	Retain	Retain	Remove	
Red Solid	9 NOSP	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Provides mid-point crossing of Sixteen Mile Creek (undisturbed valley area)</li> <li>Directly impacts residences west of Neyagawa Blvd.</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots</li> <li>Crosses three intermittent warmwater streams</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots</li> <li>Crosses one stream</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots north of Burnhamthorpe Road</li> <li>Crosses six intermittent warmwater streams</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W1-E1)
		Retain	Retain	Retain	Retain	
Red Short Dashed	10 NOMI	<ul style="list-style-type: none"> <li>Fragments significant woodlot east of Bronte Road</li> <li>Facilitates northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Fragments significant woodlot and proposed LS ANSI west of Neyagawa Boulevard</li> <li>Directly impacts residences west of Neyagawa Blvd</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to 407 Interchange</li> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> </ul>	<ul style="list-style-type: none"> <li>Fragments significant woodlot north of Burnhamthorpe Road</li> <li>Potential to directly impact residence north of Burnhamthorpe Road and west of Trafalgar Road</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		Remove	Remove	Remove	Retain	
Teal Dashed	11	<ul style="list-style-type: none"> <li>Allows for northern crossing of Sixteen Mile Creek near Highway 407 (disturbed valley area)</li> <li>Requires crossing of Highway 407 to connect to existing Burnhamthorpe Road west of Highway 407</li> <li>Allows for proper intersection spacing at Neyagawa Boulevard</li> <li>Avoids significant woodlot and proposed LS ANSI west of Neyagawa Boulevard</li> <li>Directly impacts residences west of Neyagawa Blvd and Bronte</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W2-E2)
		Retain	Retain	Retain	Retain	

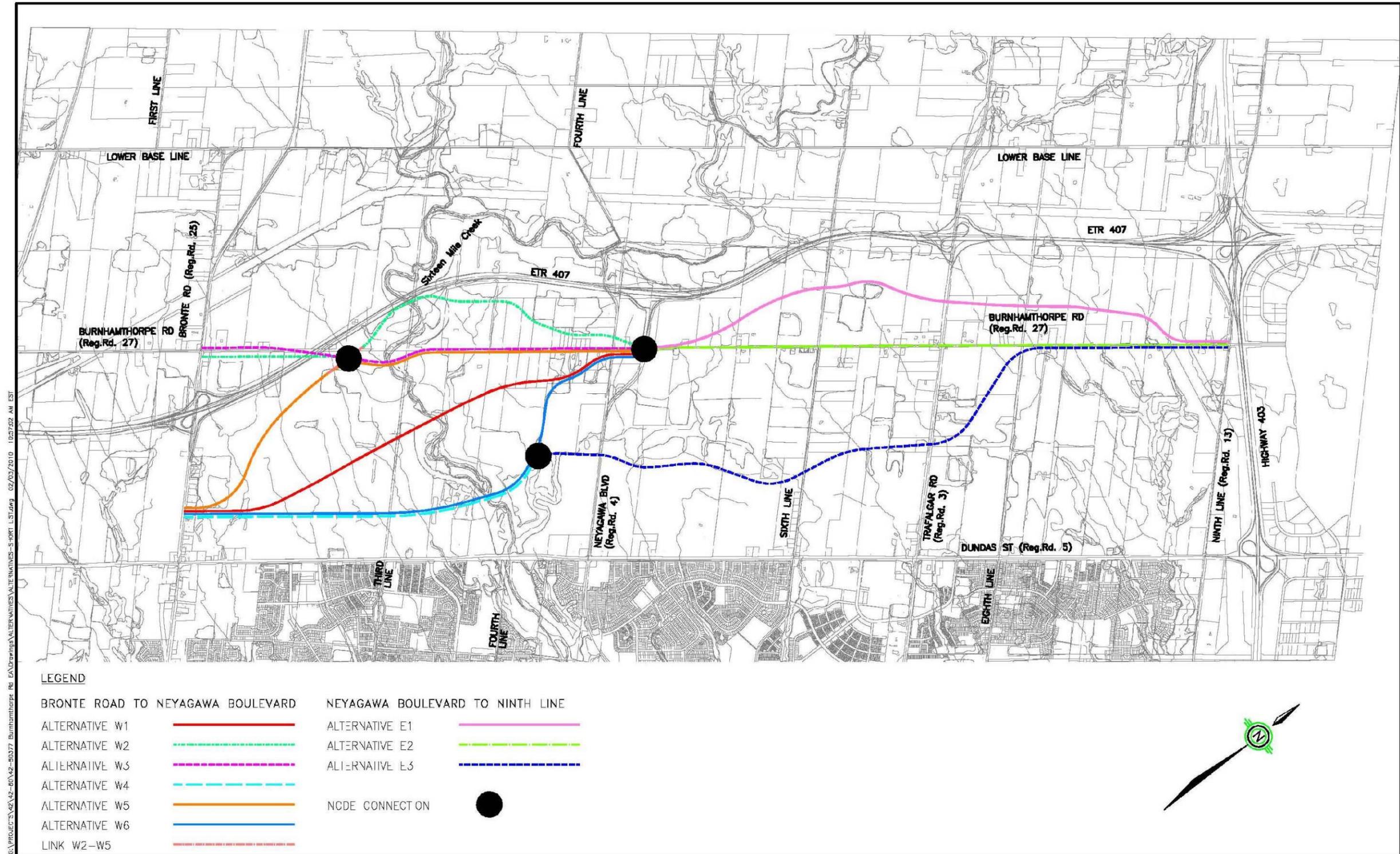
**Exhibit 6-6: Summary of Screening Results from the Long List of Alternative Routes to a Short List**

Colour Code	Alt	Segment				Screening Result
		(A) Bronte Road - Neyagawa Boulevard	(B) Neyagawa Boulevard - Sixth Line	(C) Sixth Line - Trafalgar Road	(D) Trafalgar Road. - Ninth Line	
Fuchsia Dashed	12	<ul style="list-style-type: none"> <li>Requires crossing of Highway 407 to connect to existing Burnhamthorpe Road west of Highway 407</li> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Crosses Sixteen Mile Creek immediately south of Burnhamthorpe Road (shorter crossing distance; undisturbed valley area; shortest crossing of interior habitat)</li> <li>Directly impacts residences west of Neyagawa Blvd</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W3-E2)
		<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	
Light Blue Long Dashed	13	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Allows for southerly crossing of Sixteen Mile Creek with a reduced crossing distance and in proximity to disturbed valley area</li> <li>Directly impacts residences west of Neyagawa Blvd</li> </ul>	<ul style="list-style-type: none"> <li>Avoids significant woodlots and proposed LS ANSI</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlot</li> <li>Crosses coldwater intermittent stream</li> </ul>	<ul style="list-style-type: none"> <li>Avoids significant woodlots between Trafalgar Road and Ninth Line</li> <li>Reduces number of watercourse crossing locations</li> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W4-E2)
		<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	
Blue Long & Short Dashed	14	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Allows for southerly crossing of Sixteen Mile Creek with a reduced crossing distance and in proximity to disturbed valley area</li> <li>Connects to Third Line</li> <li>Requires additional capacity on Dundas Street between Third Line and Bronte Road</li> </ul>	<ul style="list-style-type: none"> <li>Avoids significant woodlots and proposed LS ANSI</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlot</li> <li>Crosses coldwater intermittent stream</li> </ul>	<ul style="list-style-type: none"> <li>Avoids significant woodlots between Trafalgar Road and Ninth Line</li> <li>Reduces number of watercourse crossing locations</li> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	
Orange Solid	15	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Crosses Sixteen Mile Creek immediately south of Burnhamthorpe Road (shorter crossing distance; undisturbed valley area; shortest crossing of interior habitat)</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Property frontage impacts to adjacent residences</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W5-E2)
		<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	
Blue Solid	16	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Allows for southerly crossing of Sixteen Mile Creek with a reduced crossing distance and in proximity to disturbed valley area</li> <li>Directly impacts residences west of Neyagawa Blvd.</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots</li> <li>Crosses three intermittent warmwater streams</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots</li> <li>Crosses one stream</li> <li>Follows NOSP alignment</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to significant woodlots north of Burnhamthorpe Road</li> <li>Crosses six intermittent warmwater streams</li> <li>Follows NOSP alignment.</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Retain (W6-E1)
		<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	<i>Retain</i>	
Olive Green Short Dashed	17	<ul style="list-style-type: none"> <li>Avoids significant woodlot east of Bronte Road</li> <li>Crosses Sixteen Mile Creek in undisturbed valley area; longest crossing of interior habitat</li> <li>Directly impacts on residences west of Neyawaga Boulevard</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Situated too close to planned MTO transitway station</li> <li>Would require grade separation at Neyagawa Boulevard due to proximity to Highway 407 Interchange</li> </ul>	<ul style="list-style-type: none"> <li>Potential to directly impact residence north of Burnhamthorpe Road and west of Trafalgar Road</li> </ul>	<ul style="list-style-type: none"> <li>Utilizes existing Burnhamthorpe Road alignment</li> <li>Potential impact to residence/business at Burnhamthorpe Road and Ninth Line</li> </ul>	Remove
		<i>Remove</i>	<i>Remove</i>	<i>Remove</i>	<i>Retain</i>	

**Exhibit 6-6: Summary of Screening Results from the Long List of Alternative Routes to a Short List**

Colour Code	Alt	Segment				Screening Result
		(A) Bronte Road - Neyagawa Boulevard	(B) Neyagawa Boulevard - Sixth Line	(C) Sixth Line - Trafalgar Road	(D) Trafalgar Road. - Ninth Line	
Salmon Dashed	Link 1	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	<ul style="list-style-type: none"> <li>Created as a local area bypass connection</li> <li>Section too short to warrant diversion</li> </ul>	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	Remove
		N/A	Remove	N/A	N/A	
Brown Long & Short Dashed	Link 2	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	<ul style="list-style-type: none"> <li>Created as a local area bypass connection</li> <li>Section too short to warrant diversion</li> </ul>	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	<ul style="list-style-type: none"> <li>Not Present</li> </ul>	Remove
		N/A	Remove	N/A	N/A	

Exhibit 6-7: Short List of Route Alternatives



### 6.3 ASSESSMENT OF THE SHORT LIST OF ROUTE ALTERNATIVES

**Exhibit 6-7** illustrates the ten (10) Short Listed Alternative Routes as determined by the screening process.

The following assessment factors and criteria were identified through consultation with Project Team members, Technical Agencies Committee (TAC) members and the Stakeholder Group. These factors and criteria were used to assess the short list of route alternatives to identify a recommended alternative route.

#### Transportation

- Accommodation of future travel demand
- Traffic operations
- Travel safety
- Emergency services
- Road network compatibility with Halton Region's Transportation Master Plan
- Transit network connectivity and support
- Commercial goods movement
- Accommodation of pedestrian and cyclists

#### Natural Environment

- Watercourses and fisheries
- Vegetation and woodlots
- Terrestrial wildlife
- Natural heritage systems connectivity
- Wetlands and marsh areas
- Fluvial geomorphology conditions
- Groundwater and surface water interaction

#### Social/Cultural/Economic Environment

- Proximity impacts (noise, aesthetics)
- Property impacts and compatibility with existing land use
- Future development/redevelopment potential (compatibility with future land uses/plans and accessibility to existing and planned land uses)
- Consistency with Local and Regional Official Plans, and Provincial planning policies
- Archaeological and built heritage resources and rural character
- Recreational opportunities
- Community connectivity and integration
- Air quality

#### Engineering

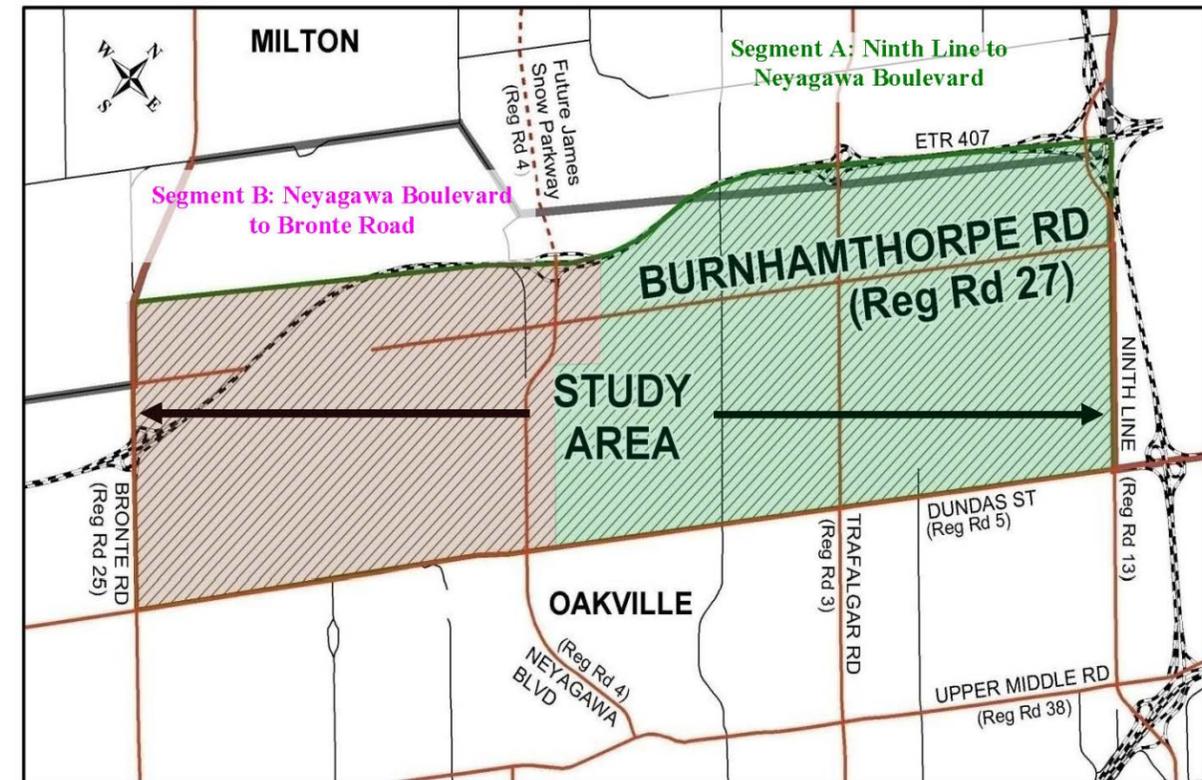
- Construction impacts
- Utility and service relocations
- Property requirements
- Capital costs

The Study Area was divided into two segments for the assessment of the route alternatives:

- Segment A - Neyagawa Boulevard to Ninth Line
- Segment B - Neyagawa Boulevard to Bronte Road

This enabled the Project Team to evaluate the unique qualities of each section of the route in more detail. **Exhibit 6-8** illustrates the distinct route assessment segments used to identify the recommended route alternative.

**Exhibit 6-8: Route Assessment Segments**



The assessment of route alternatives for Segment A and Segment B are included as **Exhibit 6-9** and **Exhibit 6-10**.

#### 6.3.1 Segment A: Ninth Line to Neyagawa Boulevard

**Exhibit 6-9** below describes in detail the assessment of the short list of route alternatives for the section between Ninth Line and Neyagawa Boulevard. The results indicate that Route E1 (Pink) is the preferred route alternative for the following reasons:

- Allows for better access control limiting potential conflict points;
- Majority of impacts to the Natural Environment can be mitigated;
- Supports future development/redevelopment and future recreational opportunities;
- Rural character of the existing roadway could be maintained with no impact to existing "character" buildings that are beyond the section of the alignment that is used for the NNOTC;
- Majority of properties fronting Burnhamthorpe Road can be avoided. The alignment severs approximately 10 existing farm properties; has the potential to displace 2 existing rural non-farm dwellings and 1 home/business at Ninth Line.;
- There would be relatively minor impacts and disruption to existing residences and businesses, existing utilities and services; and
- There is potential for property to be dedicated to Halton Region through development applications.

Route E2 (Dashed Green) was not recommended because:

- There are numerous existing driveways creating an increased potential for conflict points;
- It is inconsistent with future development/redevelopment plans;
- Has the greatest relative impacts on properties;
- There would be significant impacts and disruption to existing residences and businesses and existing utilities and services; and
- Property acquisition would be required along the existing alignment.

Route E3 (Dashed Blue) was not recommended because:

- Least compatible with the Region's Transportation Master Plan;
- Greatest impacts to natural heritage system connectivity, groundwater and surface water and moderate impacts to wetlands, marsh areas and fluvial geomorphology conditions;
- Inconsistent with the NOESP and impacts future recreational opportunities;
- Greatest relative impacts on properties; and
- Moderate impacts and disruption to existing residences and business and existing utilities and services.

The Short List of Alternate Routes was assessed with input from a number of disciplines including transportation, natural environment, social environment, cultural environment, economic environment and engineering, to identify the overall preferred alternative.

Alternative E1 was identified as the most overall preferred of the three Short List alternatives located between Newagaya Boulevard and Ninth Line by transportation, social, cultural and economic environments and engineering disciplines. E1 is not the most preferred alternative in natural environment because it requires construction of a new road; however it provides least impacts when compared to the other "cross country" alignment (E3).

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
<b>TRANSPORTATION</b>				
Accommodation of Future Travel Demand	Ability to provide sufficient capacity to accommodate projected traffic volumes	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Traffic Operations	Relative impact on traffic operations due to factors such as access and auxiliary lanes	<ul style="list-style-type: none"> <li>Provides improved traffic operations controlling intersection spacing and limiting or by restricting private entrances.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by controlling intersection spacing.</li> <li>Existing alignment contains numerous existing accesses that would adversely affect traffic operations.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by controlling intersection spacing and limiting or restricting private entrances over most of the section.</li> <li>Existing alignment section contains a number of existing accesses that would adversely affect traffic operations.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Travel Safety	Potential for collisions recognizing alignment, side road intersections, presence of auxiliary lanes, number/spacing of accesses	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment provides opportunity for better access control, limiting potential conflict points.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>Existing alignment contains numerous existing accesses resulting in increased potential for turning conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment section provides opportunity for better access control limiting potential conflict points. Existing alignment section contains a number of existing accesses resulting in increased potential for turning conflicts.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Emergency Services	Potential impact on response time of emergency vehicles	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an improved east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Road Network Compatibility with Halton Region's Transportation Master Plan (TMP)	Compatibility with Region's TMP	<ul style="list-style-type: none"> <li>Consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Least consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>
		MOST PREFERRED	MOST PREFERRED	LEAST PREFERRED
Transit Network Connectivity	Ability to support transit network	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> </ul>	<ul style="list-style-type: none"> <li>Improved east-west connection allows for improved transit network.</li> </ul>	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Commercial Goods Movement	Ability to serve commercial goods movement	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
Accommodation of Pedestrian and Cyclists	Relative scope of impacts on existing pedestrians and cyclists and opportunities for future accommodation of pedestrians and cyclists	<ul style="list-style-type: none"> <li>Improved pedestrian safety for crossing existing Burnhamthorpe Road by re-routing through traffic to new alignment.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, etc.) along new route.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian safety for crossing existing Burnhamthorpe Road affected by road widening and higher traffic volumes.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along upgraded Burnhamthorpe route.</li> </ul>	<ul style="list-style-type: none"> <li>Improved pedestrian safety for crossing existing Burnhamthorpe Road by re-routing through traffic to new alignment.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, etc.) along new route.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	MOST PREFERRED
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for better access control limiting potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Numerous existing driveways; increased potential for conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for improved access control; moderate number of potential conflict points.</li> <li>Improves emergency response times.</li> <li>Least compatible with Region's TMP.</li> <li>Supports transit network improvements.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
<b>NATURAL ENVIRONMENT</b>				
Watercourses and Fisheries	Number of watercourse crossings by Ministry of Natural Resources Thermal Status <sup>5</sup>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 8</li> <li>Total existing watercourse crossings to be modified: 2</li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 10</li> <li>Total existing watercourse crossings to be modified : 0</li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 7</li> <li>Total existing watercourse crossings to be modified: 5</li> </ul>
		---	MOST PREFERRED	LEAST PREFERRED
	Number of watercourse crossings by NOSP Hydrogeological Features <sup>6</sup>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 0</li> <li>Medium Constraint: 2</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 0</li> <li>Medium Constraint: 3</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 2</li> <li>Medium Constraint: 4</li> </ul> </li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED

<sup>5</sup> Ontario Ministry of Natural 1984-2000. NRVIS data: thermal status of Halton watercourses. Mosaic of data used from 1984 – 2004.

<sup>6</sup> Town of Oakville 2006. North Oakville Subwatershed Study. Natural Heritage Component of Natural Heritage and Open Space System including Other Hydrogeological Features, Figure NOW3 and NOE3. Draft – Confidential without Prejudice. April 12, 2006.

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
Vegetation and Woodlots	Length of feature crossings: Woodlands <sup>7</sup> , Interior Forest <sup>8</sup> , Sixteen Mile Creek (Regional) LS ANSI <sup>9</sup> , and Candidate Trafalgar Moraine ES ANSI <sup>10</sup>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 120 m</li> <li>Interior Forest: 0 m</li> <li>Sixteen Mile Creek LS ANSI: 0 m</li> <li>Trafalgar Moraine ES ANSI: 2580 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 130 m</li> <li>Interior Forest: 0 m</li> <li>Sixteen Mile Creek LS ANSI: 0 m</li> <li>Trafalgar Moraine ES ANSI: 1840 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 130 m</li> <li>Interior Forest: 0 m</li> <li>Sixteen Mile Creek LS ANSI: 0 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>
		LEAST PREFERRED	---	MOST PREFERRED
Terrestrial Wildlife	Proximity (120m) to Provincially significant species <sup>11</sup> , and Regionally/Locally significant species assemblages <sup>12</sup>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 0</li> <li>Regionally or locally significant species assemblages: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 0</li> <li>Regionally or locally significant species assemblages: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 0</li> <li>Regionally or locally significant species assemblages: 0</li> </ul> </li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Natural Heritage Systems Connectivity	Length of crossing of NOSP Natural Heritage System <sup>13</sup>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~200 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~200 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~1000 m</li> </ul> </li> </ul>
		MOST PREFERRED	MOST PREFERRED	LEAST PREFERRED
Wetlands and Marsh Areas	Number of wetlands within 120m of alignment Length of crossing of Candidate Oakville-Milton Wetlands & Upland LS ANSI <sup>14</sup>	<ul style="list-style-type: none"> <li>13 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 55 m</li> </ul>	<ul style="list-style-type: none"> <li>8 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 340 m along the edge (involves no fragmentation)</li> <li>Impacts to features are minimized due to expansion of existing road.</li> </ul>	<ul style="list-style-type: none"> <li>11 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 0 m</li> </ul>
		LEAST PREFERRED	MOST PREFERRED	---

<sup>7</sup> As defined by: Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray, 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

<sup>8</sup> Ontario Ministry of Natural Resources 1999. Natural Heritage Reference Manual for Policy 2.3 of the Provincial Policy Statement. June 1999.

<sup>9</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

<sup>10</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

<sup>11</sup> Based on provincially significant species location data provided by the OMNR. Additional location data is pending from the OMNR.

<sup>12</sup> Based GLL flora and fauna mapping to date.

<sup>13</sup> Town of Oakville 2006. North Oakville Subwatershed Study. Community Structure Plan, Natural Heritage Component of Natural Heritage and Open Space System layer, Figure NOW1 and NOE1. Draft – Confidential without Prejudice. April 12, 2006.

<sup>14</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
Fluvial Geomorphology Conditions	Relative impact on natural channel bed, flow regime, erosion and backwater effects	<ul style="list-style-type: none"> <li>Increased amount of natural channel bed lost for new culvert installations and extensions.</li> <li>Potential for change in flow regime due to culvert installations.</li> <li>Increased risk of erosion and backwater effects resulting from culvert installations and removal of bank vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>Least amount of natural channel bed lost for culvert extensions.</li> <li>Reduced potential for change in flow regime due to culvert extensions.</li> <li>Least risk of erosion and backwater effects resulting from culvert extensions and removal of bank vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>Increased amount of natural channel bed lost for new culvert installations and extensions.</li> <li>Potential for change in flow regime due to culvert installations.</li> <li>Increased risk of erosion and backwater effects resulting from culvert installations and removal of bank vegetation.</li> </ul>
		---	MOST PREFERRED	LEAST PREFERRED
Groundwater and Surface Water Interaction	Relative impact on groundwater and surface water	<ul style="list-style-type: none"> <li>Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>Least impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest impacts to groundwater and surface water.</li> </ul>
		---	MOST PREFERRED	LEAST PREFERRED
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>8 new watercourse crossings and 2 existing watercourse crossings to be modified; no coldwater crossings impacted.</li> <li>No high constraint and 2 medium constraint watercourses crossed.</li> <li>Comparable impact on woodlands; greatest impact on Trafalgar Moraine ES ANSI.</li> <li>No significant impact on terrestrial wildlife.</li> <li>Least impact on natural heritage system connectivity.</li> <li>Greatest impact on wetlands and marsh areas.</li> <li>Moderate impact on fluvial geomorphology conditions.</li> <li>Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>10 existing watercourse crossings to be modified; 1 coldwater crossing impacted.</li> <li>No high constraint and 3 medium constraint watercourses crossed.</li> <li>Comparable impact on woodlands; moderate impact on Trafalgar Moraine ES ANSI.</li> <li>No significant impact on terrestrial wildlife.</li> <li>Least impact on natural heritage system connectivity.</li> <li>Least impact on wetlands and marsh areas.</li> <li>Least impact on fluvial geomorphology conditions.</li> <li>Least impacts to groundwater and surface water.</li> <li>Expansion of existing route, therefore impacts are minimized.</li> </ul>	<ul style="list-style-type: none"> <li>7 new watercourse crossings and 5 existing watercourse crossings to be modified; 2 coldwater crossings impacted.</li> <li>2 high constraint and 4 medium constraint watercourses crossed.</li> <li>Comparable impact on woodlands; no impact on Trafalgar Moraine ES ANSI.</li> <li>No significant impact on terrestrial wildlife.</li> <li>Greatest impact on natural heritage system connectivity.</li> <li>Moderate impact on wetlands and marsh areas.</li> <li>Moderate impact on fluvial geomorphology conditions.</li> <li>Greatest impacts to groundwater and surface water.</li> </ul>
		<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	
<b>SOCIAL/CULTURAL/ECONOMIC ENVIRONMENT</b>				
Proximity Impacts (noise impacts, aesthetics)	Relative scope of impacts due to proximity to existing land use and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Existing land uses along Burnhamthorpe Road would benefit from reduced noise and improved safety with through traffic volume re-directed to new alignment.</li> <li>Rural character and appearance of existing Burnhamthorpe Road could be maintained.</li> <li>New alignment provides opportunity to keep existing roadside trees and hedgerows along existing Burnhamthorpe Road.</li> </ul>	<ul style="list-style-type: none"> <li>Potential noise impacts on existing land uses along Burnhamthorpe Road associated with widening (roadway closer to existing buildings) and volume (more capacity).</li> <li>Changes rural character and appearance of roadway to urban standard (curbs and gutter, sidewalks, etc.).</li> <li>High potential for removal of existing roadside trees and hedgerows.</li> <li>Houses adjacent to existing Burnhamthorpe Road are vulnerable to proximity impacts (air, noise, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Some existing land uses along Burnhamthorpe Road would benefit from reduced noise and improved safety with through traffic volume re-directed to new alignment (but uses longer portion of existing Burnhamthorpe Road than E1).</li> <li>Rural character and appearance of portion of existing Burnhamthorpe could be maintained.</li> <li>New alignment provides opportunity to keep existing roadside trees and hedgerows along a portion of existing Burnhamthorpe.</li> </ul>

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
		MOST PREFERRED	LEAST PREFERRED	---
Property Impacts and Compatibility with Existing Land Use	Relative scope of impacts on existing properties and level of compatibility with existing land use, and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Alignment severs approximately 10 existing farm properties.</li> <li>Potential displacement of 2 existing rural non-farm dwellings and 1 home/business at Ninth Line.</li> <li>Existing uses, including existing school, 30 existing dwellings and other uses, would benefit from road access along existing Burnhamthorpe Road in conjunction with re-alignment.</li> </ul>	<ul style="list-style-type: none"> <li>No properties severed (uses existing right-of-way alignment).</li> <li>Front yard depth reduced to accommodate right-of-way required for additional lanes, sidewalks, boulevard, etc.</li> <li>In general, existing land uses are well setback from existing Burnhamthorpe Road and therefore impacts of reduced front yard depth may be mitigated.</li> <li>Road widening is not compatible with adjacent residential properties (i.e. frequent entrances, etc.)</li> <li>Potential displacement of 1 home/business at Ninth Line.</li> <li>Impacts largest number of properties and frontages.</li> </ul>	<ul style="list-style-type: none"> <li>Approximately 13 properties severed by right-of-way acquisition.</li> <li>Front yard depth reduced for 18 properties to accommodate right-of-way required for additional lanes, sidewalks, boulevard, etc.</li> <li>In general, existing land uses are well setback from existing Burnhamthorpe Road and therefore impacts of reduced front yard depth may be mitigated.</li> <li>Road widening is not compatible with adjacent residential properties (i.e. frequent entrances, etc.)</li> <li>Potential displacement of 1 home/business at Ninth Line and 2 existing dwellings fronting the east side of Trafalgar Road and a communications facility on the west side.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED
Future Development/ Redevelopment Potential	Relative scope of impacts on future development potential and level of compatibility with future land use plans for the area including the Town of Oakville Secondary Plans for North Oakville East and West of Sixteen Mile Creek.	<ul style="list-style-type: none"> <li>Supports future development.</li> <li>Alignment consistent with proposed North Oakville Secondary Plan arterial road alignment and compatible with proposed concept for future land use.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development (but not in keeping with secondary plan).</li> <li>Alignment is inconsistent with proposed North Oakville Secondary Plan arterial road alignment and is not compatible with proposed land use concept.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development (but not in keeping with secondary plan).</li> <li>Alignment is inconsistent with proposed North Oakville Secondary Plan arterial road alignment and is not compatible with proposed land use concept.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED
Relative consistency with Landowners' North Oakville East Secondary Plan	Relative consistency with Landowners' North Oakville East Secondary Plan	<ul style="list-style-type: none"> <li>Partially consistent with Landowners' North Oakville East Secondary Plan (west of Trafalgar Road).</li> </ul>	<ul style="list-style-type: none"> <li>Partially consistent with Landowners' North Oakville East Secondary Plan (east of Trafalgar Road).</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent with Landowners' North Oakville East Secondary Plan.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
	Relative influence on development potential of the area in the context of providing access to existing and designated/planned land uses.	<ul style="list-style-type: none"> <li>Additional roadway capacity will improve access to existing uses and surrounding areas (i.e., reduced congestion on area roadways). On north side of existing Burnhamthorpe Road, access across properties for continued agriculture uses will be restricted by new alignment.</li> <li>Provides east-west access for future development and connects future land uses to surrounding urban environs. Creates new road frontage and potential for local road access between existing Burnhamthorpe and Highway 407.</li> </ul>	<ul style="list-style-type: none"> <li>Additional roadway capacity will improve access to existing uses and surrounding areas (i.e., reduced congestion on area roadways). Opportunities to restrict direct access to the arterial roadway may be limited by existing uses requiring continued access (whereas a new alignment provides opportunity for controlling/limiting direct property access).</li> <li>Provides east-west access for future development and connects future land uses to surrounding urban environs, however maintaining current alignment is not as effective as other alternatives in providing access to lands designated for future development.</li> </ul>	<ul style="list-style-type: none"> <li>Additional roadway capacity will improve access to existing uses and surrounding areas (i.e. reduced congestion on area roadways). On south side of existing Burnhamthorpe Road, access across properties for continued agriculture will be restricted by new alignment.</li> <li>Provides east-west access for future development in area between Dundas Street and existing Burnhamthorpe Road, but not in keeping with land use concept of NOSP.</li> </ul>
		--	--	--
Consistency with Provincial Planning Policies	Relative level of consistency with relevant planning direction of Provincial Policy Statement, 2005.	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas, improving connectivity within and among transportation systems crossing municipal boundaries, and supporting the Provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure by utilizing existing Neyagawa Boulevard intersection and providing an opportunity to maintain existing Burnhamthorpe Road as local or collector access.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas, improving connectivity within and among transportation systems crossing municipal boundaries, and supporting the Provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure by utilizing existing right-of-way of Burnhamthorpe Road and Neyagawa Boulevard intersection.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas, improving connectivity within and among transportation systems crossing municipal boundaries, and supporting the Provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure by utilizing portion of existing Burnhamthorpe Road right-of-way and providing an opportunity to maintain existing Burnhamthorpe Road as local or collector access, but does not optimize use of infrastructure at existing intersections (new intersections and nodes are required at Trafalgar Road, Sixth Line and Neyagawa Boulevard).</li> </ul>
		MOST PREFERRED	MOST PREFERRED	LEAST PREFERRED
Consistency with the Regional Official Plan	Relative level of consistency with relevant planning direction of Halton Region Official Plan.	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Consistency with the Local Official Plan	Relative level of consistency with relevant planning direction of Town of Oakville Official Plan.	<ul style="list-style-type: none"> <li>Consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern as set out in the NOSP.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> <li>Consistent with the NOSP.</li> </ul>	<ul style="list-style-type: none"> <li>Basically consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern as set out in the NOSP.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> </ul>	<ul style="list-style-type: none"> <li>Not consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern as set out in the NOSP.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
Archaeological Resources	Proximity to watercourses (200m to secondary, 300m to primary) Proximity to pioneer historic structures (50m) Condition (disturbed vs. undisturbed)	<ul style="list-style-type: none"> <li>Follows undisturbed rural route.</li> <li>High potential for encountering significant archaeological remains; bisects numerous secondary watercourses, 3 historic homesteads (Lots 16, 18 &amp; 19, Con 2 NDS), 1 historic church (Lot 6, Con 2 NDS - located at northwest corner of Burnhamthorpe Road and Ninth Line intersection)</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing rural route containing minor disturbances (drainage ditches, gravel shoulders).</li> <li>High potential for encountering significant archaeological remains; bisects numerous secondary watercourses, 3 historic homesteads (Lots 16, 18 &amp; 19, Con 2 NDS), 1 historic church (Lot 6, Con 2 NDS, located at northwest corner of Burnhamthorpe Road and Ninth Line intersection)</li> </ul>	<ul style="list-style-type: none"> <li>Follows undisturbed and existing rural route containing minor disturbances (drainage ditches, gravel shoulders).</li> <li>High potential for encountering significant archaeological remains; bisects numerous secondary watercourses, 1 historic church (Lot 6, Con 2 NDS, located at northwest corner of Burnhamthorpe Road and Ninth Line intersection)</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Built Heritage Resources and Rural Character	Relative scope of impacts on existing built heritage resources and rural character, and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Rural character of the existing roadway could be maintained.</li> <li>Alignment maintains existing “character” buildings.</li> <li>Farm properties would be severed.</li> </ul>	<ul style="list-style-type: none"> <li>Impacts associated with reduced front yard depth for 6 identified “character” buildings located along Burnhamthorpe Road.</li> <li>Rural character of the existing roadway would be lost.</li> </ul>	<ul style="list-style-type: none"> <li>Impacts associated with reduced front yard depth for 4 identified “character” buildings located along Burnhamthorpe Road.</li> <li>Rural character of a portion of the existing roadway would be lost but westerly portion could be maintained in the interim.</li> <li>Farm properties would be severed.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Recreational Opportunities	Relative influence on existing and future recreational opportunities (e.g. impacts on existing and future parks, trails, facilities, linkages, etc.).	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Provides opportunity for transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Provides opportunity for transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Alignment goes through area designated for future community park.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED
Community Connectivity and Integration	Relative scope of impacts on connectivity and integration of community elements.	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased roadway capacity. Alignment severs existing farm properties between existing Burnhamthorpe Road and Highway 407, reducing connectivity of farm lands and viability of continued agriculture.</li> <li>Provides an internal east-west corridor to accommodate through traffic and transportation requirements of the planned Employment Area between existing Burnhamthorpe Road and Highway 407 linking to surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased roadway capacity; however through-traffic function and connections may be impacted by more frequent individual property access along existing alignment.</li> <li>Provides an internal east-west corridor connecting all land use elements of the planned community, linking future employment, residential, parks and open space areas.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased roadway capacity. Alignment severs existing farm properties between existing Burnhamthorpe Road and Dundas Street, reducing connectivity of farm lands and viability of continued agriculture.</li> <li>Provides an internal east-west corridor but is not in keeping with the NOSP and does not provide a strong connection to designated Employment Area along south side of Highway 407.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED
Air Quality	Relative impact on air quality and consistency with Halton Region’s Air Quality Strategy.	<ul style="list-style-type: none"> <li>Improved transit on New North Oakville Transportation Corridor is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Existing receptors on Burnhamthorpe Road more directly affected by widening.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Existing receptors on Burnhamthorpe Road more directly affected by widening</li> <li>Improved transit on New North Oakville Transportation Corridor is consistent with the Region’s Air Quality Strategy.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	MOST PREFERRED

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>Least proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; least relative impacts on properties.</li> <li>Supports future development; consistent with NOSP. Partially consistent with North Oakville East Secondary Plan (west of Trafalgar Road).</li> <li>Consistent with Provincial planning policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway could be maintained; no impact to existing “character” buildings.</li> <li>Supports future recreational opportunities.</li> <li>Supports future development/redevelopment.</li> <li>Improves connectivity within the area to surrounding areas but reduces viability and connectivity of farm lands.</li> <li>Improved transit on New North Oakville Transportation Corridor is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Most proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; greatest relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP. Partially consistent with North Oakville East Secondary Plan (east of Trafalgar Road).</li> <li>Consistent with Provincial planning policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway would be lost; impacts 6 existing “character” buildings.</li> <li>Partially supports future recreational opportunities.</li> <li>Inconsistent with future development/redevelopment plans.</li> <li>Improves connectivity but moderate integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Some proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; greatest relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP. Inconsistent with North Oakville East Secondary Plan.</li> <li>Consistent with Provincial planning policies and Regional Official Plan. Not consistent with Local Official Plan policies.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway would be lost for section of route on existing alignment; impacts 4 existing “character” buildings.</li> <li>Impacts future recreational opportunities.</li> <li>Partially supports future development/redevelopment.</li> <li>Improves connectivity but poor integration of community elements.</li> <li>Improved transit on New North Oakville Transportation Corridor is consistent with the Region’s Air Quality Strategy</li> </ul>
		<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	

**Exhibit 6-9: Assessment of the Short List of Route Alternatives – Segment A: Ninth Line to Neyagawa Boulevard**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES		
		E1 (Pink)	E2 (Dashed Green)	E3 (Dashed Blue)
<b>ENGINEERING</b>				
Construction Impacts	Relative complexity of construction staging and impacts on adjacent properties	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route due to new alignment.</li> <li>Minor impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging since route on existing Burnhamthorpe alignment.</li> <li>Significant impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for new alignment section (~ 4.8 km); more complex construction staging for section on existing alignment (~ 2 km).</li> <li>Moderate impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Utility and Service Relocations	Relative impact on existing utilities and services	<ul style="list-style-type: none"> <li>Minor impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Significant impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate impacts to existing utilities and services.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Property Requirements	Relative property requirements	<ul style="list-style-type: none"> <li>Entire new right-of-way required for majority of route due to new alignment. Requires approximately 23.5 ha of land.</li> <li>Potential for property to be dedicated to Region of Halton through development applications.</li> </ul>	<ul style="list-style-type: none"> <li>Additional property required beyond existing right-of-way to accommodate improvements to existing Burnhamthorpe corridor. Requires approximately 9.7 ha of land.</li> </ul>	<ul style="list-style-type: none"> <li>Entire new right-of-way required for new alignment section. Requires approximately 18.5 ha of land.</li> <li>Potential for property to be dedicated to Region through development applications.</li> <li>Approximately 3.3 ha of additional property is required beyond existing right-of-way for section on existing alignment.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
Capital Costs <sup>15</sup>	Relative capital cost including property and utility relocation costs	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 6.1 km \$32.1M).</li> <li>Minor cost for construction staging.</li> <li>Minor to moderate cost for property acquisition and utility relocations.</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 5.9 km \$31.1M).</li> <li>Major cost for construction staging.</li> <li>Major cost for property acquisition and utility relocations.</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 6.8 km \$35.8M).</li> <li>Moderate cost for construction staging.</li> <li>Moderate cost for property acquisition and utility relocations.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route.</li> <li>Relatively minor impacts and disruption to existing residences and businesses.</li> <li>Minor impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Moderate capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging.</li> <li>Significant impacts and disruption to existing residences and businesses.</li> <li>Significant impacts to existing utilities and services.</li> <li>Property acquisition is required along existing alignment.</li> <li>Major capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for portion of route.</li> <li>Moderate impacts and disruption to existing residences and businesses.</li> <li>Moderate impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications for new alignment section. Property acquisition is required along existing alignment.</li> <li>Moderate capital cost.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---
<b>RECOMMENDATION</b>		<p><b>RECOMMENDED</b></p> <p><i>Most preferred in terms of Transportation, Social, Cultural and Economic Environments and Engineering. Majority of impacts to Natural Environment can be mitigated.</i></p>	<p><b>NOT RECOMMENDED</b></p>	<p><b>NOT RECOMMENDED</b></p>

<sup>15</sup> These costs were preliminary only and based on cost per kilometre for comparison purposes.

### 6.3.2 Segment B: Neyagawa Boulevard to Bronte Road

**Exhibit 6-10** describes in detail the assessment of the short list of route alternatives for Segment B between Neyagawa Boulevard and Bronte Road. The assessment results indicate that Route W6 (Blue) is the preferred route alternative for the following reasons:

- Allows for better access control limiting potential conflict points and best accommodates pedestrians and cyclists;
- Majority of impacts to the Natural Environment can be mitigated;
- Minimizes the crossing length of Sixteen Mile Creek and valley in a disturbed area;
- Least proximity impacts (noise, aesthetics);
- Rural character of the existing roadway could be maintained with no impact on existing character buildings with the exception of the section of existing Burnhamthorpe Road utilized for the NNOTC;
- Improves connectivity/integration of community elements; and
- Involves less complex construction staging for the majority of the route.

Route W1 was not recommended because:

- Least preferred in terms of the Natural Environment due to the potential impacts to watercourse crossings, terrestrial wildlife, interior forest, heritage system connectivity and groundwater and surface water; and
- Provides less connectivity/integration of community elements.

Route W2 (Dashed Green) was not recommended because:

- Rural character of the existing roadway would be lost and a potential impact on existing “character” buildings;
- Least support for future recreational opportunities and is inconsistent with future development/redevelopment plans;
- Provides less connectivity/integration of community elements; and
- Highest capital cost.

Route W3 (Dashed Pink) was not recommended because:

- Rural character of the existing roadway would be lost and a potential impact on existing “character” buildings;
- Least support for future recreational opportunities and is inconsistent with future development/redevelopment plans;
- Provides less connectivity/integration of community elements;
- Significant impacts and disruption to existing residences and businesses and existing utilities and services; and
- Property acquisition would be required along the existing alignment.

Since Route E3 was not recommended during the assessment of Segment A, Alternative Route W4 was automatically removed from the assessment of Segment B. For this reason, Route W4 does not appear on **Exhibit 6-10** for the assessment of the short list of route alternatives (Segment B). Route W5 (Orange) was not recommended because:

- Rural character of the existing roadway would be lost and a potential impact on existing “character” buildings;
- Provides less connectivity/integration of community elements;
- Impacts and disruption to existing residences and businesses; and
- Property acquisition would be required along the existing alignment.

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>TRANSPORTATION</b>						
Accommodation of Future Travel Demand	Ability to provide sufficient capacity to accommodate projected traffic volumes	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Provides required capacity to accommodate forecasted travel demand through Study Area.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Traffic Operations	Relative impact on traffic operations due to factors such as access and auxiliary lanes	<ul style="list-style-type: none"> <li>Provides improved traffic operations by allowing for access and accommodating turning movements.</li> <li>New alignment allows for better control of access.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by allowing for access and accommodating turning movements.</li> <li>New alignment section allows for better control of access. Existing alignment section contains a number of existing accesses.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by allowing for access and accommodates turning movements.</li> <li>Existing alignment contains numerous existing accesses.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by allowing for access and accommodating turning movements.</li> <li>New alignment section allows for better control of access. Existing alignment section contains a number of existing accesses.</li> </ul>	<ul style="list-style-type: none"> <li>Provides improved traffic operations by allowing for access and accommodating turning movements.</li> <li>New alignment allows for better control of access.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED	---	MOST PREFERRED
Travel Safety	Potential for collisions recognizing alignment, side road intersections, presence of auxiliary lanes, number/spacing of accesses	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment provides opportunity for better access control, limiting potential conflict points.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment section provides opportunity for better access control, limiting potential conflict points. Existing alignment section contains a number of existing accesses, resulting in increased potential for conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>Existing alignment contains numerous existing accesses, resulting in increased potential for conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment section provides opportunity for better access control, limiting potential conflict points. Existing alignment section contains a number of existing accesses, resulting in increased potential for conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic congestion in Study Area will result in improved travel safety.</li> <li>New alignment provides opportunity for better access control, limiting potential conflict points.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED	---	MOST PREFERRED
Emergency Services	Potential impact on response time of emergency vehicles	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an improved, continuous east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>	<ul style="list-style-type: none"> <li>Improves emergency response times in Study Area by providing an alternate east-west route.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Road Network Compatibility (with Halton Region's Transportation Management Plan (TMP))	Compatibility with Region's TMP	<ul style="list-style-type: none"> <li>Most consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Least consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Least consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Least consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>	<ul style="list-style-type: none"> <li>Most consistent with the system and function of roadways recommended by the Region's TMP.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Transit Network Connectivity	Ability to support transit network	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> <li>New alignment connection to approved development area west of Bronte Road provides a greater benefit.</li> </ul>	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> <li>Section between Highway 407 and Bronte Road in rural section is less transit supportive.</li> </ul>	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> <li>Section between Highway 407 and Bronte Road in rural section is less transit supportive.</li> </ul>	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> <li>New alignment connection to approved development area west of Bronte Road provides a greater benefit.</li> </ul>	<ul style="list-style-type: none"> <li>Additional east-west connection allows for improved transit network.</li> <li>New alignment connection to approved development area west of Bronte Road provides a greater benefit.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED	MOST PREFERRED
Commercial Goods Movement	Ability to serve commercial goods movement	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> <li>Provides more direct connection to planned commercial and industrial areas west of Bronte Road.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> <li>Provides more direct connection to planned commercial and industrial areas west of Bronte Road.</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat effective at serving long distance commercial goods movement through Study Area.</li> <li>Serves as a local connection between approved developments in Study Area.</li> <li>Provides more direct connection to planned commercial and industrial areas west of Bronte Road.</li> </ul>
		MOST PREFERRED	NO PREFERENCE	NO PREFERENCE	MOST PREFERRED	MOST PREFERRED
Accommodation of Pedestrian and Cyclists	Relative scope of impacts on existing pedestrians and cyclists and opportunities for future accommodation of pedestrians and cyclists	<ul style="list-style-type: none"> <li>Pedestrian connectivity and safety crossing existing Burnhamthorpe Road improved by re-routing through traffic to new alignment.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along new route.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian connectivity and safety crossing existing Burnhamthorpe Road reduced by widening and volume/capacity increase (crossing locations formalized) west of Highway 407 but improved east of Highway 407 by re-routing through traffic to new alignment.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along new route.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian connectivity and safety crossing existing Burnhamthorpe Road reduced by widening and volume/capacity increase (crossing locations formalized).</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along upgraded Burnhamthorpe route.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian connectivity and safety crossing existing Burnhamthorpe Road reduced by widening and volume/capacity increase (crossing locations formalized).</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along upgraded Burnhamthorpe route.</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian connectivity and safety crossing existing Burnhamthorpe Road improved by re-routing through traffic to new alignment.</li> <li>Opportunity to accommodate pedestrians and cyclists (sidewalks, bike lanes, on-road routes, etc.) along new route.</li> <li>Most direct routing through planned urban areas including adjacent parks.</li> </ul>
		NO PREFERENCE	LEAST PREFERRED	NO PREFERENCE	NO PREFERENCE	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for better access control limiting potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements with connection to approved development area west of Bronte Road.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for improved access control; moderate number of potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Numerous existing driveways; more potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for improved access control; moderate number of potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements with connection to approved development area west of Bronte Road.</li> <li>Supports commercial goods movement.</li> <li>Accommodates pedestrians and cyclists.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodates future travel demand.</li> <li>Allows for better access control limiting potential conflict points.</li> <li>Improves emergency response times.</li> <li>Compatible with Region's TMP.</li> <li>Supports transit network improvements, with connection to approved development area west of Bronte Road.</li> <li>Supports commercial goods movement.</li> <li>Best accommodates pedestrians and cyclists.</li> </ul>
		<b>MOST PREFERRED</b>		<b>LEAST PREFERRED</b>		<b>MOST PREFERRED</b>
<b>NATURAL ENVIRONMENT</b>						
Watercourses and Fisheries	Number of watercourse crossings by MNR Thermal Status <sup>16</sup>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 13</li> <li>Total existing watercourse crossings: 0                             <ul style="list-style-type: none"> <li>Permanent Coldwater: 2</li> <li>Permanent Coolwater: 1</li> <li>Intermittent Coldwater: 0</li> <li>Intermittent Coolwater: 1</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 5</li> <li>Total existing watercourse crossings: 2                             <ul style="list-style-type: none"> <li>Permanent Coldwater: 2</li> <li>Permanent Coolwater: 1</li> <li>Intermittent Coldwater: 0</li> <li>Intermittent Coolwater: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 3</li> <li>Total existing watercourse crossings: 3                             <ul style="list-style-type: none"> <li>Permanent Coldwater: 1</li> <li>Permanent Coolwater: 2</li> <li>Intermittent Coldwater: 0</li> <li>Intermittent Coolwater: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 6</li> <li>Total existing watercourse crossings: 2                             <ul style="list-style-type: none"> <li>Permanent Coldwater: 2</li> <li>Permanent Coolwater: 1</li> <li>Intermittent Coldwater: 0</li> <li>Intermittent Coolwater: 1</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Total new watercourse crossings: 11</li> <li>Total existing watercourse crossings: 0                             <ul style="list-style-type: none"> <li>Permanent Coldwater: 2</li> <li>Permanent Coolwater: 2</li> <li>Intermittent Coldwater: 0</li> <li>Intermittent Coolwater: 0</li> </ul> </li> </ul>
			<b>LEAST PREFERRED</b>	---	<b>MOST PREFERRED</b>	---
	Number of watercourse crossings by NOSP Hydrogeological Features <sup>17</sup>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 3</li> <li>Medium Constraint: 3</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 0</li> <li>Medium Constraint: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 1</li> <li>Medium Constraint: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 4</li> <li>Medium Constraint: 2</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of watercourse crossings:                             <ul style="list-style-type: none"> <li>High Constraint: 3</li> <li>Medium Constraint: 3</li> </ul> </li> </ul>
			<b>LEAST PREFERRED</b>	<b>MOST PREFERRED</b>	---	<b>LEAST PREFERRED</b>

<sup>16</sup> Ontario Ministry of Natural 1984-2000. NRVIS data: thermal status of Halton watercourses. Mosaic of data used from 1984 – 2004.

<sup>17</sup> Town of Oakville 2006. North Oakville Subwatershed Study. Natural Heritage Component of Natural Heritage and Open Space System including Other Hydrogeological Features, Figure NOW3 and NOE3. Draft – Confidential without Prejudice. April 12, 2006.

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Vegetation and Woodlots	Length of feature crossings: Woodlands <sup>18</sup> , Interior Forest <sup>19</sup> , Sixteen Mile Creek (Regional) LS ANSI <sup>20</sup> , and Candidate Trafalgar Moraine <sup>21</sup> ES ANSI <sup>22</sup>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 1020 m</li> <li>Interior Forest: 280 m</li> <li>Sixteen Mile Creek LS ANSI: 550 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 800 m</li> <li>Interior Forest: 0 m</li> <li>Sixteen Mile Creek LS ANSI: 830 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 470 m</li> <li>Interior Forest: 170 m</li> <li>Sixteen Mile Creek LS ANSI: 570 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 750 m</li> <li>Interior Forest: 170 m</li> <li>Sixteen Mile Creek LS ANSI: 710 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Woodlands: 1420 m</li> <li>Interior Forest: 60 m</li> <li>Sixteen Mile Creek LS ANSI: 820 m</li> <li>Trafalgar Moraine ES ANSI: 0 m</li> </ul> </li> </ul>
		LEAST PREFERRED	MOST PREFERRED	---	---	---
Terrestrial Wildlife	Proximity (120 m) to provincially significant species <sup>23</sup> , and regionally/locally significant species assemblages <sup>24</sup>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 0</li> <li>Regionally or locally significant species assemblages: 2</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 0</li> <li>Regionally or locally significant species assemblages: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 1</li> <li>Regionally or locally significant species assemblages: 0</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 1</li> <li>Regionally or locally significant species assemblages: 0 units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Number of units within 120 m of alignment:                             <ul style="list-style-type: none"> <li>Provincially significant species: 1</li> <li>Regionally or locally significant species assemblages: 5</li> </ul> </li> </ul>
		LEAST PREFERRED	MOST PREFERRED	---	---	---
Natural Heritage Systems Connectivity	Length of Crossing of NOSP Natural Heritage System <sup>25</sup>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~2000 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~600 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~800 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~2100 m</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Length of feature crossing:                             <ul style="list-style-type: none"> <li>Natural Heritage System: ~1800 m</li> </ul> </li> </ul>
		LEAST PREFERRED	MOST PREFERRED	---	LEAST PREFERRED	---
Wetlands and Marsh Areas	Number of wetlands within 120 m of alignment  Length of crossing of Candidate Oakville-Milton Wetlands & Upland LS ANSI <sup>26</sup>	<ul style="list-style-type: none"> <li>5 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 0 m</li> </ul>	<ul style="list-style-type: none"> <li>9 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 25 m</li> </ul>	<ul style="list-style-type: none"> <li>5 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 0 m</li> </ul>	<ul style="list-style-type: none"> <li>8 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 0 m</li> </ul>	<ul style="list-style-type: none"> <li>8 wetlands within 120 m of alignment</li> <li>Length of crossing of Candidate Oakville-Milton Wetlands &amp; Upland LS ANSI: 0 m</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	MOST PREFERRED	---	---

<sup>18</sup>As defined by: Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray, 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

<sup>19</sup> Ontario Ministry of Natural Resources 1999. Natural Heritage Reference Manual for Policy 2.3 of the Provincial Policy Statement. June 1999.

<sup>20</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

<sup>21</sup> To be refined by hydrogeological study.

<sup>22</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

<sup>23</sup> Based on provincially significant species location data provided by the OMNR. Additional location data is pending from the OMNR.

<sup>24</sup> Based GLL flora and fauna mapping to date.

<sup>25</sup> Town of Oakville 2006. North Oakville Subwatershed Study. Community Structure Plan, Natural Heritage Component of Natural Heritage and Open Space System layer, Figure NOW1 and NOE1. Draft – Confidential without Prejudice. April 12, 2006.

<sup>26</sup> Ontario Ministry of Natural Resources 2003. North Oakville and Vicinity Wetlands and ANSIs. North American Datum 1983. Queen's Printer for Ontario. May 2003.

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Fluvial Geomorphology Conditions	Relative impact on natural channel bed, flow regime, erosion and backwater effects	<ul style="list-style-type: none"> <li>• Crosses through a relatively narrow section of the valley lands therefore there is less chance that the valley lands will be significantly impacted by the construction and footing installation.</li> <li>• Footings will have to be positioned or reinforced to avoid erosion due to substantial meandering since 1954.</li> <li>• The gulley/watercourse located along the eastern side of the main channel may make sighting the footings more difficult than in other alternatives due to the potential for migration and erosion.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses a highly active area of the watercourse where both lateral and downstream migration of the channel has been observed since 1954. Migration will cause problems with the location of footings within the valley corridor and floodplain area.</li> <li>• This area of the watercourse appears to accumulate sediment in bar formations. A loss in available floodplain space due to bridge footings may not be acceptable.</li> <li>• No additional watercourses with migration/erosion issues would add to the difficulty of sighting footing locations.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses an active migrating area of the watercourse. The channel is migrating to the west in this area. Footings will have to be positioned to avoid erosion.</li> <li>• Channel migration is an issue because the alignment does not cross a straight, narrow section of the watercourse.</li> <li>• Valley land impacts are not anticipated.</li> <li>• Narrow routes with the lowest estimated crossing width required for the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses an active migrating area of the watercourse. The channel is migrating to the west in this area. Footings will need to be positioned to avoid erosion.</li> <li>• Loss of floodplain availability for sediment accumulation will also be an issue.</li> <li>• Channel migration is an issue because the alignment does not cross a straight, narrow section of the watercourse.</li> <li>• Valley land impacts are not anticipated.</li> <li>• Narrow routes with the lowest estimated crossing width required for the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses a narrower section of the valley corridor, therefore there is less chance that the valley lands will be significantly impacted by the construction and footing installation.</li> <li>• Width of the valley in this area is narrower, therefore there is a greater chance that the footings can be placed closer to the top of the valley walls.</li> <li>• The alignment appears to be downstream of an active migrating area therefore, placement of the footings may be easier than in other route alternatives.</li> <li>• Area does not appear to accumulate a significant amount of sediment so bar formations, damming and changes in flow regime and dynamic will most likely be minimal in this area.</li> <li>• Route alignment is not crossing the creek in a straight section of the channel, therefore there is the potential for some channel migration and related issues associated with location of footings and other support structures.</li> </ul>
		---	LEAST PREFERRED	---	---	MOST PREFERRED
Groundwater and Surface Water Interaction	Relative impact on groundwater and surface water	<ul style="list-style-type: none"> <li>• Greatest impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• Least impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• Greatest impacts to groundwater and surface water.</li> </ul>
		LEAST PREFERRED	---	MOST PREFERRED	---	LEAST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>• 13 new watercourse crossings; 2 coldwater crossings impacted.</li> <li>• 3 high constraint and 3 medium constraint watercourses crossed.</li> <li>• Moderate impact on woodlands and ANSIs, greatest impact on interior forest.</li> <li>• Greatest impact on terrestrial wildlife.</li> <li>• Moderate impact on natural heritage system connectivity.</li> <li>• Least impact on wetlands and marsh areas.</li> <li>• Moderate impact on fluvial geomorphology conditions.</li> <li>• Greatest impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• 5 new and 2 existing watercourse crossings; 2 coldwater crossings impacted.</li> <li>• 0 high constraint and 0 medium constraint watercourses crossed.</li> <li>• Moderate impact on woodlands, ANSIs and interior forest.</li> <li>• Least impact on terrestrial wildlife.</li> <li>• Least impact on natural heritage system connectivity.</li> <li>• Greatest impact on wetlands and marsh areas.</li> <li>• Greatest impact on fluvial geomorphology conditions.</li> <li>• Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• 3 new and 3 existing watercourse crossings; 1 coldwater crossing impacted.</li> <li>• 1 high constraint and 0 medium constraint watercourses crossed.</li> <li>• Least impact on woodlands, and ANSIs, and moderate impact on interior forest.</li> <li>• Moderate impact on terrestrial wildlife.</li> <li>• Moderate impact on natural heritage system connectivity.</li> <li>• Least impact on wetlands and marsh areas.</li> <li>• Least impact on fluvial geomorphology conditions.</li> <li>• Least impacts to groundwater and surface water.</li> <li>• Expansion of existing route (except at Sixteen Mile Creek crossing), therefore impacts are greatly minimized.</li> </ul>	<ul style="list-style-type: none"> <li>• 6 new and 2 existing watercourse crossings; 2 coldwater crossings impacted.</li> <li>• 4 high constraint and 2 medium constraint watercourses crossed.</li> <li>• Moderate impact on woodlands, ANSIs and interior forest.</li> <li>• Moderate impact on terrestrial wildlife.</li> <li>• Greatest impact on natural heritage system connectivity.</li> <li>• Moderate impact on wetlands and marsh areas.</li> <li>• Least impact on fluvial geomorphology conditions.</li> <li>• Moderate impacts to groundwater and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>• 11 new watercourse crossings; 2 coldwater crossings impacted.</li> <li>• 3 high constraint and 3 medium constraint watercourses crossed.</li> <li>• Greatest impact on woodlands, moderate impact on ANSIs, and minimal impact on interior forest.</li> <li>• Moderate impact on terrestrial wildlife.</li> <li>• Moderate impact on natural heritage system connectivity.</li> <li>• Moderate impact on wetlands and marsh areas.</li> <li>• Least impact on fluvial geomorphology conditions.</li> <li>• Greatest impacts to groundwater and surface water.</li> </ul>
		<b>LEAST PREFERRED</b>		<b>MOST PREFERRED</b>		

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>SOCIAL/CULTURAL/ECONOMIC ENVIRONMENT</b>						
Proximity Impacts (noise impacts, aesthetics)	Relative scope of impacts due to proximity to existing land use and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Existing land uses along Burnhamthorpe Road would benefit from through traffic volume directed to new alignment (reduced potential for noise impacts).</li> <li>Rural character and appearance of existing Burnhamthorpe Road could be maintained.</li> <li>New alignment provides opportunity to keep existing roadside trees and hedgerows along existing Burnhamthorpe Road.</li> <li>Less preferred aesthetically because bisects ORC green space.</li> </ul>	<p><u>East of Highway 407</u></p> <ul style="list-style-type: none"> <li>Existing land uses along Burnhamthorpe Road would benefit from through traffic volume directed to new alignment (reduced potential for noise impacts).</li> <li>Rural character and appearance of existing Burnhamthorpe Road could be maintained.</li> <li>New alignment provides opportunity to keep existing roadside trees and hedgerows along existing Burnhamthorpe Road.</li> </ul> <p><u>West of Highway 407</u></p> <ul style="list-style-type: none"> <li>Potential noise impacts on dwellings and equestrian operations along Burnhamthorpe Road associated with widening (roadway closer to existing buildings) and volume (more traffic capacity).</li> <li>Changes rural character and appearance of roadway if urban cross-section is introduced (curbs and gutter, sidewalks, etc.).</li> <li>High potential for removal of existing road-side trees and hedgerows.</li> </ul>	<p><u>East and West of Highway 407</u></p> <ul style="list-style-type: none"> <li>Potential noise impacts on dwellings and equestrian operations along Burnhamthorpe Road associated with widening (roadway closer to existing buildings) and volume (more roadway capacity).</li> <li>Changes rural character and appearance of roadway to urban standard (curbs and gutter, sidewalks, etc.).</li> <li>High potential for removal of existing roadside trees and hedgerows.</li> </ul>	<ul style="list-style-type: none"> <li>Potential noise impacts on dwellings and equestrian operations along Burnhamthorpe Road associated with widening (roadway closer to existing buildings) and volume (more roadway capacity).</li> <li>Changes rural character and appearance of roadway if urban cross-section is introduced (curbs and gutter, sidewalks, etc.).</li> <li>High potential for removal of existing roadside trees and hedgerows.</li> <li>Less preferred aesthetically because bisects ORC green space.</li> </ul>	<ul style="list-style-type: none"> <li>Existing land uses along Burnhamthorpe Road would benefit from through traffic volume directed to new alignment (reduced potential for noise impacts) for the length of the route on a new alignment.</li> <li>Rural character and appearance of existing Burnhamthorpe Road could be maintained.</li> <li>New alignment provides opportunity to keep existing roadside trees and hedgerows along existing Burnhamthorpe Road where possible.</li> <li>More compatible aesthetically as it borders south side of ORC green space lands.</li> </ul>
		---	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Property Impacts and Compatibility with Existing Land Use	Relative scope of impacts on existing properties and level of compatibility with existing land use, and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Alignment severs approximately 13 existing rural residential and farm properties.</li> <li>Possible displacement of 3-5 existing dwellings and existing stables including some existing dwellings fronting Bronte Road.</li> <li>Existing uses including existing stables/equestrian operations, 15-20 existing dwellings and other uses would benefit from road access along existing Burnhamthorpe Road in conjunction with re-alignment.</li> <li>Limited mitigation opportunities for severances and displacements.</li> </ul>	<p><u>East of Highway 407</u></p> <ul style="list-style-type: none"> <li>Alignment severs approximately 13-15 existing rural residential and farm properties.</li> <li>Possible displacement of 1-3 existing rural dwellings.</li> <li>Road access would need to be maintained along existing Burnhamthorpe Road in conjunction with re-alignment to provide continued access to existing stables/equestrian operations, 15-20 existing dwellings and other uses.</li> <li>Limited mitigation opportunities for severances and displacements.</li> </ul> <p><u>West of Highway 407</u></p> <ul style="list-style-type: none"> <li>Front yard depth reduced to accommodate right-of-way required for additional lanes, sidewalks, boulevard, etc.</li> <li>Opportunity to mitigate lost roadside vegetation through streetscaping plan.</li> </ul>	<p><u>East and West of Highway 407</u></p> <ul style="list-style-type: none"> <li>Front yard depth reduced to accommodate right-of-way required for additional lanes, sidewalks, boulevard, etc.</li> <li>No direct displacement of existing uses.</li> <li>No properties severed (uses existing right-of-way alignment).</li> <li>Opportunity to mitigate lost roadside vegetation through streetscaping plan.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment extending from existing Burnhamthorpe Road to Bronte Road severs approximately 2-3 existing rural/farm properties and requires displacement of 2-3 existing dwellings fronting Bronte Road.</li> <li>Front yard depth reduced to accommodate right-of-way required for additional lanes, sidewalks, boulevard, etc.</li> <li>Opportunity to mitigate lost roadside vegetation through streetscaping plan.</li> <li>Limited mitigation opportunities for severances and displacements.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment severs approximately 10-12 existing rural residential and farm properties.</li> <li>Possible displacement of 3-5 existing dwellings and existing stables including some existing dwellings fronting Bronte Road.</li> <li>Borders along westerly edge of existing landfill fronting Neyagawa Boulevard taking advantage of land use buffer area.</li> <li>Existing uses including existing stables/equestrian operations, 15-20 existing dwellings and other uses would benefit from road access along existing Burnhamthorpe Road in conjunction with re-alignment</li> <li>Potential impact to designated Cemetery expansion lands.</li> <li>Limited mitigation opportunities for severances and displacements.</li> </ul>
		---	LEAST PREFERRED	MOST PREFERRED	---	---
Future Development/ Redevelopment Potential and Compatibility with Future Land Uses and Plans	Relative scope of impacts on future development potential and level of compatibility with future land use plans for the area including the Town of Oakville Secondary Plans for North Oakville East and West of Sixteen Mile Creek (NOSP).	<ul style="list-style-type: none"> <li>Supports future development.</li> <li>Alignment is inconsistent with proposed NOSP arterial road alignment but generally compatible with proposed concept for future land use.</li> <li>Bisects ORC green space lands west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development but west of Highway 407 crossing is outside designated urban area (Parkway Belt).</li> <li>Alignment is inconsistent with proposed NOSP arterial road alignment and is not compatible with proposed land use concept.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development but west of Highway 407 crossing is outside designated urban area (Parkway Belt).</li> <li>Alignment is inconsistent with proposed NOSP arterial road alignment but could be compatible with proposed land use concept.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development.</li> <li>Alignment is inconsistent with proposed NOSP arterial road alignment but could be compatible with proposed land use concept.</li> <li>Bisects ORC green space lands west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Supports future development.</li> <li>Alignment is consistent with proposed NOSP arterial road alignment and compatible with proposed concept for future land use.</li> <li>Best supports land use plans for surplus ORC lands between Sixteen Mile Creek and Bronte Road.</li> </ul>
		LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
	Relative influence on development potential of the area in the context of providing access to existing and designated and planned land uses.	<ul style="list-style-type: none"> <li>Additional capacity will improve access to existing uses and surrounding areas (reduced congestion on area roadways). On south side of existing Burnhamthorpe Road, access across properties for continued agriculture will be restricted by severance created by new alignment.</li> <li>Provides east-west access for future development and connects future land uses to surrounding urban environs. Less direct link to surplus ORC lands north of Dundas Street.</li> <li>Bisects ORC green space lands therefore limits potential to support development of surplus ORC lands with Dundas Street.</li> </ul>	<ul style="list-style-type: none"> <li>Additional capacity will improve access to existing uses and surrounding areas (reduced congestion on area roadways). Opportunities to restrict direct access to the arterial roadway may be limited by existing uses requiring continued access along existing alignment west of Highway 407 crossing.</li> <li>Provides east-west access for future development and connects to surrounding urban environs, however no strong connection to designated future urban land use area between Highway 407 and Dundas Street</li> </ul>	<ul style="list-style-type: none"> <li>Additional capacity will improve access to existing uses and surrounding areas (reduced congestion on area roadways). Opportunities to restrict direct access to the arterial roadway may be limited by existing uses requiring continued access along existing alignment.</li> <li>Provides east-west access for future development and connects to surrounding urban environs, however no strong connection to designated employment area between Highway 407 and Dundas Street.</li> </ul>	<ul style="list-style-type: none"> <li>Additional capacity will improve access to existing uses and surrounding areas (reduced congestion on area roadways). Opportunities to restrict direct access to the arterial roadway may be limited by existing uses requiring continued access along existing alignment.</li> <li>Provides east-west (and limited north-south) access for future development and connects to surrounding urban environs.</li> </ul>	<ul style="list-style-type: none"> <li>Additional capacity will improve access to existing uses and surrounding areas (reduced congestion on area roadways). Access across certain properties for continued agriculture will be restricted by severance created by new alignment.</li> <li>Provides east-west access for future development and connects future land uses to surrounding urban environs. Creates new road frontage and potential for local road access/ connections between Highway 407 and Dundas Street.</li> <li>Parallels ORC green space, providing most support for development of surplus ORC lands north of Dundas Street.</li> </ul>
		---	LEAST PREFERRED	LEAST PREFERRED	---	MOST PREFERRED
Consistency with Provincial Planning Policies	Relative level of consistency with relevant planning direction of Provincial Policy Statement, 2005.	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas.</li> <li>Supports Provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure at Neyagawa Boulevard intersection (does not create new intersection) and opportunity to maintain existing Burnhamthorpe Road as local or collector access</li> <li>Requires new intersection/terminus at Bronte Road.</li> <li>Inconsistent with ORC green space plan west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas but extends beyond the growth area to the Parkway Belt west of Highway 407.</li> <li>Supports provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure including existing right-of-way and Neyagawa Boulevard intersection (does not create new intersection), but requires new Highway 407 crossing.</li> <li>Consistent with ORC green space plan west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas but extends beyond the growth area to the Parkway Belt west of Highway 407.</li> <li>Supports provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure including existing right-of-way and at Neyagawa Boulevard intersection (does not create new intersection), but requires new Highway 407 crossing.</li> <li>Consistent with ORC green space plan west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas.</li> <li>Supports the provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure including existing right-of-way and at Neyagawa Boulevard intersection (does not create new intersection), but introduces new intersection/terminus at Bronte Road.</li> <li>Inconsistent with ORC green space plan west of Sixteen Mile Creek.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with the objective to provide required infrastructure for development in designated growth areas.</li> <li>Supports provincial direction to provide for alternative modes of transportation and priority to transit.</li> <li>Optimizes use of existing infrastructure at Neyagawa Boulevard intersection (does not create new intersection) and opportunity to maintain existing Burnhamthorpe Road as local or collector access.</li> <li>Requires new intersection/terminus at Bronte Road.</li> <li>Consistent with ORC green space plan west of Sixteen Mile Creek.</li> </ul>
		---	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Consistency with the Regional Official Plan	Relative level of consistency with relevant planning direction of Region of Halton Official Plan.	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies relating to a balanced transportation system (balances capacity of area roadways) and the designated function of Burnhamthorpe Road as a “Major Arterial” roadway.</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
Consistency with the Local Official Plan	Relative level of consistency with relevant planning direction of Town of Oakville Official Plan.	<ul style="list-style-type: none"> <li>Consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> </ul>	<ul style="list-style-type: none"> <li>Not entirely consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern (lacking connections to designated future urban land use areas).</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> <li>West end of alternative is outside Secondary Plan area.</li> </ul>	<ul style="list-style-type: none"> <li>Not entirely consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern (lacking connection to designated Employment Area).</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> <li>West end of alternative is outside Secondary Plan area.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with policies to establish a transportation system that complements and supports the future urban structure and land use pattern.</li> <li>Achieves local objectives related to supporting alternative modes of transportation (accommodation of transit, cyclists and pedestrians).</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	---	MOST PREFERRED
Archaeological Resources	Proximity to water courses (200m to secondary, 300m to primary) Proximity to pioneer historic structures (50m) Condition (disturbed vs. undisturbed)	<ul style="list-style-type: none"> <li>Follows undisturbed rural route.</li> <li>High potential for encountering significant archaeological remains; bisects 1 primary watercourse, numerous secondary water courses and 2 historic homesteads (Lots 20 and 25, Con 1NDS)</li> </ul>	<ul style="list-style-type: none"> <li>Follows undisturbed and existing rural route containing minor disturbances (drainage ditches, gravel shoulders).</li> <li>High potential for encountering significant archaeological remains; bisects 1 primary watercourse, numerous secondary water courses and 3 historic homesteads (Lot 28, Con 1NDS &amp; Lots 21 &amp; 26, Con 2NDS)</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing rural route containing minor disturbances (drainage ditches, gravel shoulders).</li> <li>High potential for encountering significant archaeological remains; bisects 1 primary watercourse, numerous secondary water courses and 3 historic homesteads (Lots 25, 26, 28, Conc. 1NDS)</li> </ul>	<ul style="list-style-type: none"> <li>Follows undisturbed and existing rural route containing minor disturbances (drainage ditches, gravel shoulders).</li> <li>High potential for encountering significant archaeological remains; bisects 1 primary watercourse, numerous secondary water courses and 2 historic homesteads (Lots 25 &amp; 26, Con 1NDS)</li> </ul>	<ul style="list-style-type: none"> <li>Follows undisturbed rural route.</li> <li>High potential for encountering significant archaeological remains; bisects 1 primary watercourse, numerous secondary water courses and 1 historic homestead (Lot 20, Con 1NDS)</li> </ul>
		NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Built Heritage Resources and Rural Character	Relative scope of impacts on existing built heritage resources and rural character, and opportunities for mitigation.	<ul style="list-style-type: none"> <li>Rural character of the existing roadway could be largely maintained.</li> <li>Alignment maintains existing character buildings.</li> <li>Farm properties would be severed.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts associated with reduced front yard depth west of Highway 407 crossing for character buildings located along existing Burnhamthorpe Road.</li> <li>Rural character of the existing roadway would be lost west of Highway 407 crossing.</li> <li>Farm properties would be severed east of Highway 407 crossing.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts associated with reduced front yard depth for character buildings located along existing Burnhamthorpe Road.</li> <li>Rural character of the existing roadway would be lost.</li> </ul>	<ul style="list-style-type: none"> <li>Potential impacts associated with reduced front yard depth for character buildings located along existing Burnhamthorpe Road.</li> <li>Rural character of the existing roadway would be lost.</li> </ul>	<ul style="list-style-type: none"> <li>Rural character of the existing roadway could be largely maintained.</li> <li>Alignment maintains existing character buildings.</li> <li>Farm properties would be severed.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	---	---	MOST PREFERRED
Recreational Opportunities	Relative influence on existing and future recreational opportunities (e.g. impacts on existing and future parks, trails, facilities, linkages, etc.).	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Provides opportunity for transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Limited transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Limited transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Provides transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>	<ul style="list-style-type: none"> <li>No direct impact on existing recreation opportunities.</li> <li>Provides transportation link between planned urban land uses and future parks and open space areas identified in local plans.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	---	MOST PREFERRED
Community Connectivity and Integration	Relative scope of impacts on connectivity and integration of community elements.	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased capacity. Alignment severs existing farm properties between existing Burnhamthorpe Road and Dundas Street, reducing connectivity of farm lands and viability of continued agriculture.</li> <li>Provides an internal east-west corridor to accommodate through traffic and transportation requirements of planned Employment Area between Dundas Street and Highway 407 linking to surrounding areas.</li> <li>Less direct link to surplus ORC lands north of Dundas Street.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased capacity; however through-traffic function and connections may be impacted by more frequent individual property access along existing alignment west of Highway 407 crossing.</li> <li>Provides an internal east-west corridor but no strong connections to designated future urban land use areas.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased capacity; however through-traffic function and connections may be impacted by more frequent individual property access along existing alignment west of Highway 407 crossing.</li> <li>Provides an internal east-west corridor connecting some land use elements of the planned community, however no strong connections to designated future Employment Area.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased capacity; however through-traffic function and connections may be impacted by more frequent individual property access along existing alignment.</li> <li>Provides an internal east-west corridor connecting all land use elements of the planned community.</li> </ul>	<ul style="list-style-type: none"> <li>Connectivity within the area and to surrounding areas would be improved with increased capacity. Alignment severs existing farm properties between existing Burnhamthorpe Road and Dundas Street, reducing connectivity of farm lands and viability of continued agriculture.</li> <li>Provides an internal east-west corridor to accommodate through traffic and transportation requirements of planned Employment Area between Dundas Street and Highway 407 linking to surrounding areas, including surplus ORC lands north of Dundas Street. Is consistent with NOSP.</li> </ul>
		---	LEAST PREFERRED	---	---	MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
Air Quality	Relative impact on air quality and consistency with Halton Region’s Air Quality Strategy.	<ul style="list-style-type: none"> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Closer proximity to sensitive receptors on Burnhamthorpe Road.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Closer proximity to sensitive receptors on Burnhamthorpe Road.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Closer proximity to sensitive receptors on Burnhamthorpe Road.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>
		MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MOST PREFERRED
SUMMARY		<ul style="list-style-type: none"> <li>Least proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; moderate relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP.</li> <li>Consistent with Provincial Planning Policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway could be maintained; no impact on existing “character” buildings.</li> <li>Supports future recreational opportunities.</li> <li>Supports future development/redevelopment.</li> <li>Provides less connectivity/integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; greatest relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP.</li> <li>Less consistent with Provincial Planning Policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway would be lost; potential impact on existing “character” buildings.</li> <li>Least support for future recreational opportunities.</li> <li>Inconsistent with future development/redevelopment plans.</li> <li>Provides less connectivity/integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy. More sensitive receptors affected by Burnhamthorpe Road widening.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; moderate relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP.</li> <li>Less consistent with Provincial Planning Policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway would be lost; potential impact on existing “character” buildings.</li> <li>Least support for future recreational opportunities.</li> <li>Inconsistent with future development/redevelopment plans.</li> <li>Provides less connectivity/integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy. More sensitive receptors affected by Burnhamthorpe Road widening.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; moderate relative impacts on properties.</li> <li>Supports future development; inconsistent with NOSP.</li> <li>Less consistent with Provincial Planning Policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway would be lost; potential impact on existing “character” buildings.</li> <li>Supports future recreational opportunities.</li> <li>Consistent with future development/redevelopment plans.</li> <li>Provides less connectivity/integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy. More sensitive receptors affected by Burnhamthorpe Road widening.</li> </ul>	<ul style="list-style-type: none"> <li>Least proximity impacts (noise, aesthetics).</li> <li>Compatible with existing land uses; moderate relative impacts on properties.</li> <li>Supports future development; Consistent with NOSP.</li> <li>Consistent with Provincial Planning Policies and Regional and Local Official Plans.</li> <li>High potential for encountering significant archaeological remains.</li> <li>Rural character of the existing roadway could be maintained; no impact on existing “character” buildings.</li> <li>Supports future recreational opportunities.</li> <li>Supports future development/redevelopment.</li> <li>Improves connectivity/integration of community elements.</li> <li>Improved transit on Burnhamthorpe Road is consistent with the Region’s Air Quality Strategy.</li> </ul>
			LEAST PREFERRED	LEAST PREFERRED		MOST PREFERRED

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>ENGINEERING</b>						
Construction Impacts	Relative complexity of construction staging and impacts on adjacent properties	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route since on new alignment.</li> <li>Minor impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route since on new alignment.</li> <li>Moderate impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging since entire route on existing Burnhamthorpe alignment.</li> <li>Significant impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging since majority of route on existing Burnhamthorpe alignment.</li> <li>Significant impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route since on new alignment.</li> <li>Moderate impacts and disruption to existing residences and businesses operating within Study Area.</li> </ul>
		---	---	LEAST PREFERRED	---	MOST PREFERRED
Utility and Service Relocations	Relative impact on existing utilities and services	<ul style="list-style-type: none"> <li>Minor impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Significant impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate impacts to existing utilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>Minor impacts to existing utilities and services.</li> </ul>
		MOST PREFERRED	---	LEAST PREFERRED	---	MOST PREFERRED
Property Requirements	Relative property requirements	<ul style="list-style-type: none"> <li>Entire new right-of-way required for majority of route since on new alignment (~19.3 ha).</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Impacts to property frontages on Burnhamthorpe Road west of Neyagawa Boulevard.</li> </ul>	<ul style="list-style-type: none"> <li>Entire new right-of-way required for new alignment section (~ 13.5 ha).</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Additional property required beyond existing right-of-way for section on existing alignment (~ 2.5 ha).</li> </ul>	<ul style="list-style-type: none"> <li>Additional property required beyond existing right-of-way to accommodate improvements to existing Burnhamthorpe Corridor (~ 7.4 ha).</li> <li>Less potential for property to be designated to Region of Halton through development applications.</li> </ul>	<ul style="list-style-type: none"> <li>Entire new right-of-way required for new alignment section (~ 9.2 ha).</li> <li>Less potential for property to be designated to Region of Halton through development applications.</li> <li>Additional property required beyond existing right-of-way for section on existing alignment (~ 5.0 ha).</li> </ul>	<ul style="list-style-type: none"> <li>Entire new right-of-way required for majority of route since on new alignment (~ 21.2 ha).</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Impacts to property frontages on Burnhamthorpe Road west of Neyagawa Boulevard.</li> </ul>
		MOST PREFERRED	---	MOST PREFERRED	---	MOST PREFERRED
Capital Costs <sup>27</sup>	Relative capital cost, including property and utility relocation costs	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 5.0 km; \$26.3M).</li> <li>Moderate cost for Sixteen Mile Creek bridge (approx. length/cost = 350m; \$40M).</li> <li>Minor cost for construction staging.</li> <li>Minor cost for property acquisition and utility relocations.</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 5.0 km; \$26.3M).</li> <li>Highest cost for Sixteen Mile Creek bridge (approx. length/cost = 800m; \$80M). Second bridge required to cross Highway 407.</li> <li>Moderate cost for construction staging.</li> <li>Moderate cost for property acquisition and utility relocations</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 4.5 km; \$23.7M).</li> <li>Moderate cost for Sixteen Mile Creek bridge (approx. length/cost = 380m; \$42M). Second bridge required to cross Highway 407 (approx. length/cost = 200m; \$20M).</li> <li>Major cost for construction staging.</li> <li>Major cost for property acquisition and utility relocations</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 5.4 km; \$28.5M).</li> <li>Moderate cost for Sixteen Mile Creek bridge (approx. length/cost = 380m; \$42M).</li> <li>Moderate cost for construction staging.</li> <li>Moderate cost for property acquisition and utility relocations</li> </ul>	<ul style="list-style-type: none"> <li>Major cost for roadway (approx. length = 5.5 km; \$29.0M).</li> <li>Lowest cost for Sixteen Mile Creek bridge (approx. length/cost = 300m; \$32M).</li> <li>Minor cost for construction staging.</li> <li>Moderate cost for property acquisition and utility relocations</li> </ul>
		---	---	LEAST PREFERRED	---	MOST PREFERRED

<sup>27</sup> These costs were preliminary only and based on cost per kilometre for comparison purposes..

**Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Boulevard to Bronte Road**

ASSESSMENT CRITERIA AND SUBFACTOR	MEASURE	ALTERNATIVE ROUTES				
		W1 (Red)	W2 (Dashed Green)	W3 (Dashed Pink)	W5 (Orange)	W6 (Blue)
<b>SUMMARY</b>		<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route.</li> <li>Relatively minor impacts and disruption to existing residences and businesses.</li> <li>Minor impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Moderate capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route.</li> <li>Moderate impacts and disruption to existing residences and businesses.</li> <li>Moderate impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications for new alignment section. Property acquisition required along existing alignment.</li> <li>Highest capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging.</li> <li>Significant impacts and disruption to existing residences and businesses.</li> <li>Significant impacts to existing utilities and services.</li> <li>Property acquisition required along existing alignment.</li> <li>High capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction staging.</li> <li>Significant impacts and disruption to existing residences and businesses.</li> <li>Moderate impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications for new alignment section. Property acquisition required along existing alignment.</li> <li>Moderate capital cost.</li> </ul>	<ul style="list-style-type: none"> <li>Less complex construction staging for majority of route.</li> <li>Moderate impacts and disruption to existing residences and businesses.</li> <li>Minor impacts to existing utilities and services.</li> <li>Potential for property to be designated to Region of Halton through development applications.</li> <li>Lowest capital cost.</li> </ul>
				<b>LEAST PREFERRED</b>		
<b>RECOMMENDATION</b>		<i>NOT RECOMMENDED</i>	<i>NOT RECOMMENDED</i>	<i>NOT RECOMMENDED</i>	<i>NOT RECOMMENDED</i>	<p><b>RECOMMENDED</b></p> <p><i>Overall most preferred in Transportation, Social, Cultural and Economic Environments, and Engineering. Provides shortest new crossing of Sixteen Mile Creek and valley in undisturbed area. Majority of impacts to Natural Environment (i.e. fisheries resources, etc.) can be mitigated.</i></p>

## 6.4 ROUTE REFINEMENTS

### 6.4.1 Route Refinements

Based on input received from the public and external agencies prior to, at and subsequent to the second PIC, localized route refinements were made to the Recommended Route for the New North Oakville Transportation Corridor (NNOTC) at three locations: in the vicinity of Bronte Road; west of Neyagawa Boulevard; and in the vicinity of Sixth Line. The rationale for the route refinements and the design options which were considered for each of these locations, in consultation with stakeholders, are described in the following sections.

#### Bronte Road Connection Design Alternatives

The New North Oakville Transportation Corridor was originally envisioned to connect to Bronte Road approximately 600 m north of Dundas Street. This location was consistent with the design and construction work undertaken by Halton Region for the realignment of Bronte Road which is now complete. Recognizing that this alignment resulted in the displacement of several homes and direct impacts to several other properties, alternate Bronte Road connections were developed and assessed.

The four design alternatives which were considered for the New North Oakville Transportation Corridor / Bronte Road connection are illustrated in Exhibits 6-11 to 6-14.

Exhibit 6-11: Bronte Road Connection Design Alternative 1

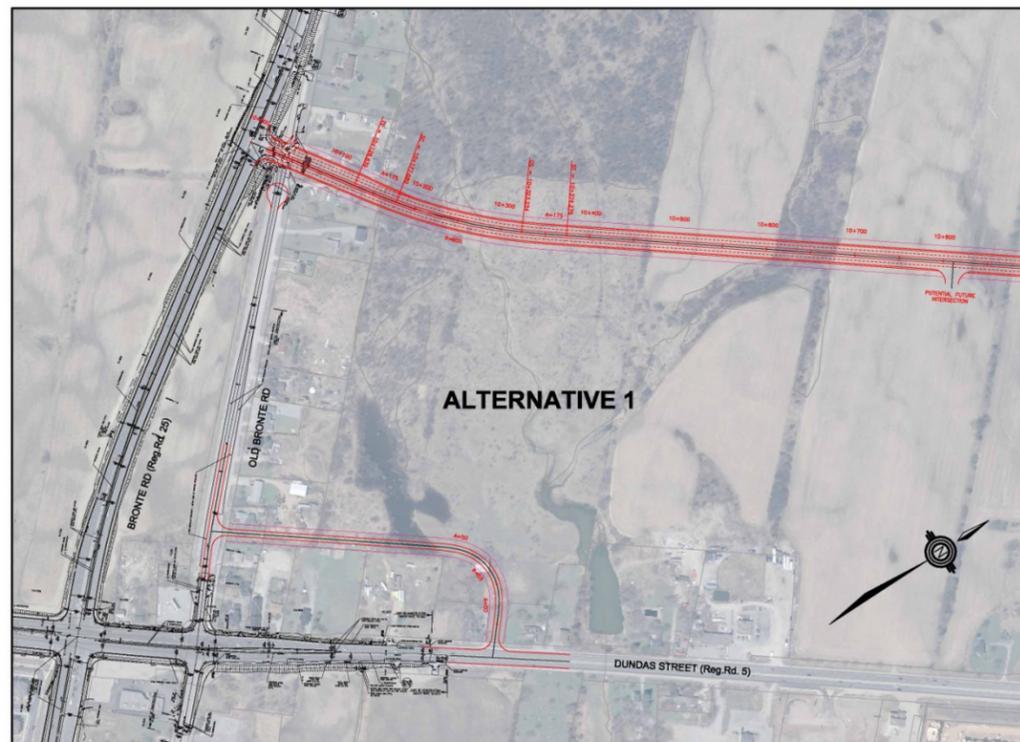


Exhibit 6-12: Bronte Road Connection Design Alternative 2

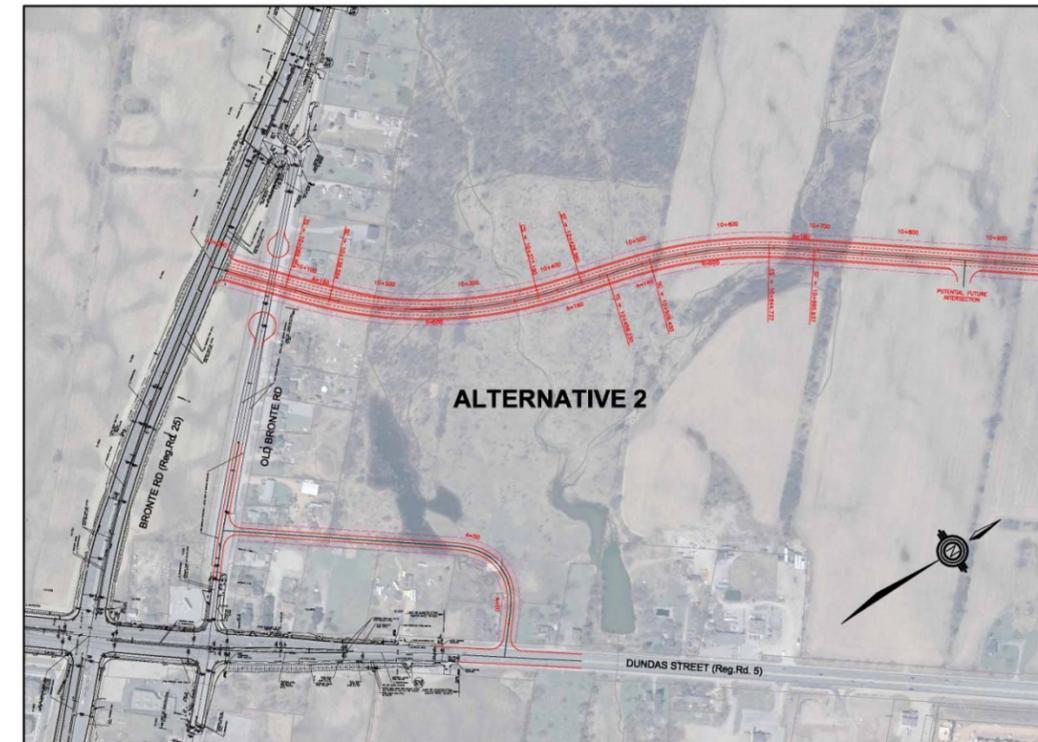
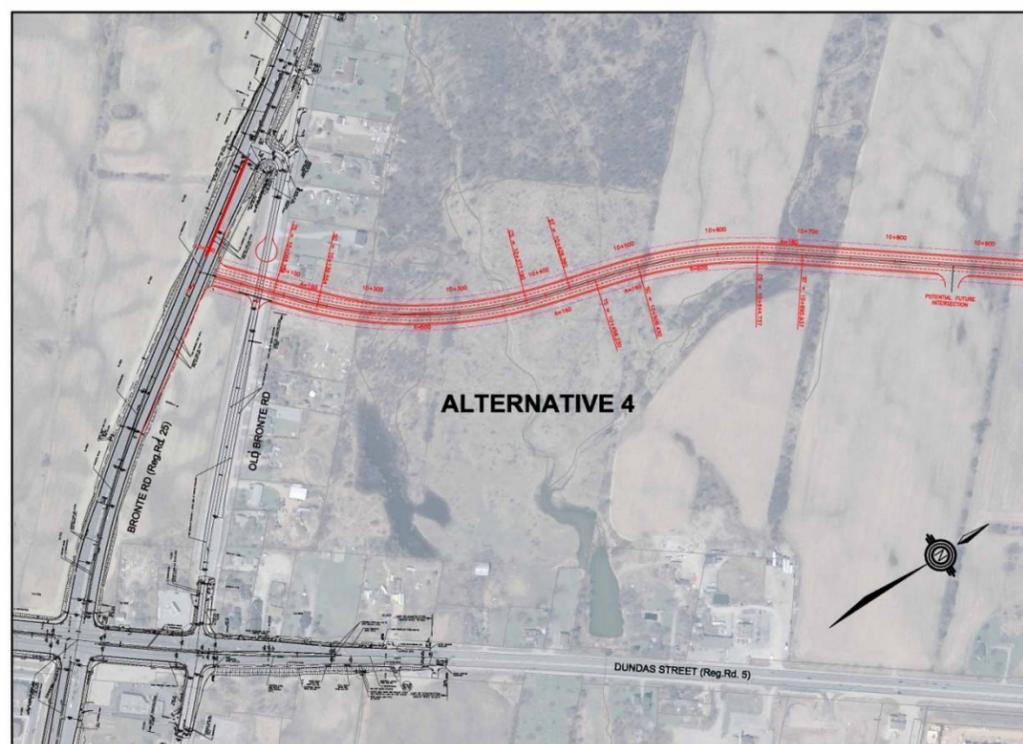


Exhibit 6-13: Bronte Road Connection Design Alternative 3



**Exhibit 6-14: Bronte Road Connection Design Alternative 4**



The advantages and disadvantages of each alternative were considered from a natural environment, social environment and transportation perspective, as presented in **Exhibit 6-15**, and Alternative 4 was selected as the preferred design. The original and preferred alignments for the connection to Bronte Road for the New North Oakville Transportation Corridor were reviewed with Conservation Halton in June 2007 and the Town of Oakville in July 2007. Alternative 4 results in the least effects on the natural and social environments while still exceeding the minimum intersection spacing requirements on Bronte Road.

Regardless of the preferred alternative, it should be noted that the connection road between Dundas Street and Old Bronte Road (as shown with Alternatives 1 and 2) would be considered as part of the future development process by the Town of Oakville independent of the NNOTC Class EA.

#### **NNOTC Alignment West of Neyagawa Boulevard**

The Alternative W6 alignment for the New North Oakville Transportation Corridor west of the King's Christian Collegiate property (the Recommended Route) was developed initially on the basis of the Town of Oakville's route concept plan portrayed in the North Oakville Secondary Plan (NOSP) process. The Class EA Study for the New North Oakville Transportation Corridor and the North Oakville Secondary Plan (NOSP) progressed in parallel through an iterative planning process, with resultant adjustments to both plans to accommodate and balance the interests of affected agencies, stakeholders and the public.

The initial NOSP based alignment for Alternative W6 (illustrated in **Exhibit 6-4**) severed several properties on the south side of Burnhamthorpe Road. As more information became available to both the Region and the Town, the preliminary alignment west of the College was refined, as shown in **Exhibit 6-16**, to:

- Improve the geometric design of the planned roadway by replacing a less desirable curvilinear alignment that consisted of several reverse curves with a single horizontal curve;
- Reduce the effects to woodlots; and
- Reduce the large parcel severances.

The route refinement process involved careful consideration of engineering requirements and the need to avoid or minimize effects to both the natural and social environment. The initial NOSP based alignment resulted in the following effects:

1. Frontage requirements from five properties;
2. Displacement of two residential buildings;
3. Severance of four large parcels; and
4. Significant potential effects to an existing woodlot.

The revised alignment avoids the woodlot but does result in the following property effects:

5. Frontage requirements from thirteen properties. The approximate property depth required varies by specific property as the existing right-of-way is not consistent along the corridor; and
6. Displacement of three residential buildings.

#### **NNOTC Alignment - Vicinity of Sixth Line**

A minor adjustment was made to the alignment of the proposed New North Oakville Transportation Corridor in the vicinity of Sixth Line in response to input received from:

7. The affected land owner west of Sixth Line – concern expressed regarding impacts to property and potential for redevelopment;
8. The planned development east of Sixth Line – concern regarding the alignment of the proposed New North Oakville Transportation Corridor and the location of its intersection with Sixth Line; and
9. Conservation Halton regarding appropriate separation from the Natural Heritage System located on the east side of Sixth Line.

This adjustment resulted in an alignment shift of approximately 40 m to the north on the west side of Sixth Line, resulting in: a more equal severance of the most directly affected parcel; consistency with development plans; and appropriate separation from the Natural Heritage System. The original route alignment and the refined route alignment are illustrated in **Exhibit 6-17**.

**Exhibit 6-15: Comparison of Bronte Road Connection Alternatives**

	<b>ALTERNATIVE 1</b> As presented at PIC #2 (June 2006)	<b>ALTERNATIVE 2</b> Realigned NNOTC with the same Dundas Street Connection as Alternative 1	<b>ALTERNATIVE 3</b> Realigned NNOTC with North and South Connecting Roads	<b>ALTERNATIVE 4</b> Right-in / Right-out access between Old Bronte Road (south) and NNOTC
<b>Features</b>	<ul style="list-style-type: none"> <li>Connects the NNOTC to Bronte Road at existing intersection.</li> <li>Cul-de-sac for southern portion of Old Bronte Road.</li> <li>Connection road from Old Bronte to Dundas Street.</li> </ul>	<ul style="list-style-type: none"> <li>Connects the NNOTC to Bronte Road south of the existing intersection.</li> <li>Cul-de-sac for north and south portions of Old Bronte Road at NNOTC.</li> <li>Connection road from Old Bronte to Dundas Street.</li> </ul>	<ul style="list-style-type: none"> <li>Connects the NNOTC to Bronte Road south of the existing intersection.</li> <li>No connection road from Old Bronte Road to Dundas Street (as is Alternative 1 and 2).</li> <li>Northern portion of Old Bronte Road cul-de-sac'd.</li> </ul>	<ul style="list-style-type: none"> <li>Connects the NNOTC to Bronte Road south of the existing intersection.</li> <li>No connection road from Old Bronte Road to Dundas Street (as in Alternative 1 and 2).</li> <li>Old Bronte Road has right-in / right-out to NNOTC.</li> <li>Northern portion of Old Bronte Road cul-de-sac'd.</li> </ul>
<b>Natural Environment Considerations</b>	<ul style="list-style-type: none"> <li>Moderate effects on natural heritage system.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate effects on natural heritage system.</li> </ul>	<ul style="list-style-type: none"> <li>Significant effects on natural heritage system.</li> </ul>	<ul style="list-style-type: none"> <li>Least effects on natural heritage system.</li> </ul>
<b>Social Environment Considerations</b>	<ul style="list-style-type: none"> <li>Increased out-of-way travel to and from the north.</li> <li>Decreased out-of-way travel to the east.</li> <li>3 homes displaced.</li> <li>2 other properties directly affected.</li> <li>Supports future intensification of development at Palermo node.</li> </ul>	<ul style="list-style-type: none"> <li>Increased out-of-way travel to and from the north.</li> <li>1 home displaced.</li> <li>2 other properties directly affected.</li> <li>Supports future intensification of development at Palermo node.</li> </ul>	<ul style="list-style-type: none"> <li>No significant change to property access (out-of-way travel).</li> <li>1 home displaced.</li> <li>No other direct property impacts.</li> <li>Supports future intensification of development at Palermo node. Limited access to Dundas Street may require consideration of alternate access in future (Town of Oakville).</li> </ul>	<ul style="list-style-type: none"> <li>No significant change to property access (out-of-way travel).</li> <li>1 home displaced.</li> <li>Supports future development of node. Intensification of development at node may require consideration of alternate access in future (Town of Oakville).</li> </ul>
<b>Transportation Considerations</b>	<ul style="list-style-type: none"> <li>Utilizes existing Bronte Road intersection.</li> <li>Exceeds intersection spacing requirements (approximately 600m).</li> </ul>	<ul style="list-style-type: none"> <li>Preferred alignment of the NNOTC.</li> <li>Meets intersection spacing requirements (&gt;400m).</li> </ul>	<ul style="list-style-type: none"> <li>Preferred alignment of the NNOTC.</li> <li>Meets intersection spacing requirements (&gt;400m).</li> </ul>	<ul style="list-style-type: none"> <li>Preferred alignment of the NNOTC.</li> <li>Meets intersection spacing requirements (&gt;400m).</li> </ul>
<b>RECOMMENDATION</b>	<b>LEAST PREFERRED</b>	--	<b>LEAST PREFERRED</b>	<b>MOST PREFERRED<sup>28</sup></b>

<sup>28</sup> Note: The Study has assumed that a new north-south connection between NNOTC and Dundas Street would be in place when NNOTC is extended to Bronte Road (Third Line).

Exhibit 6-16: NNOTC Alignment West of Neyagawa Boulevard

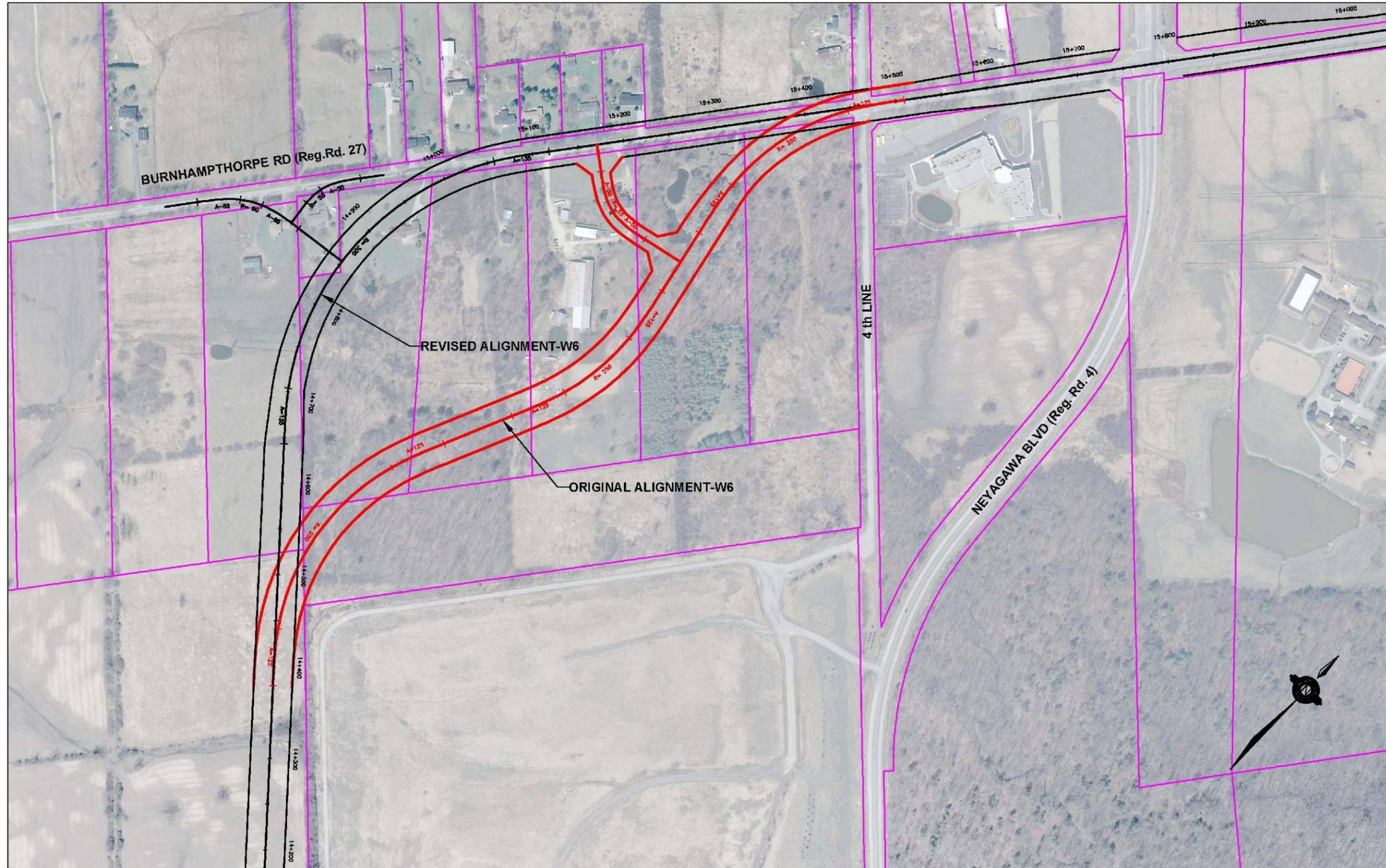
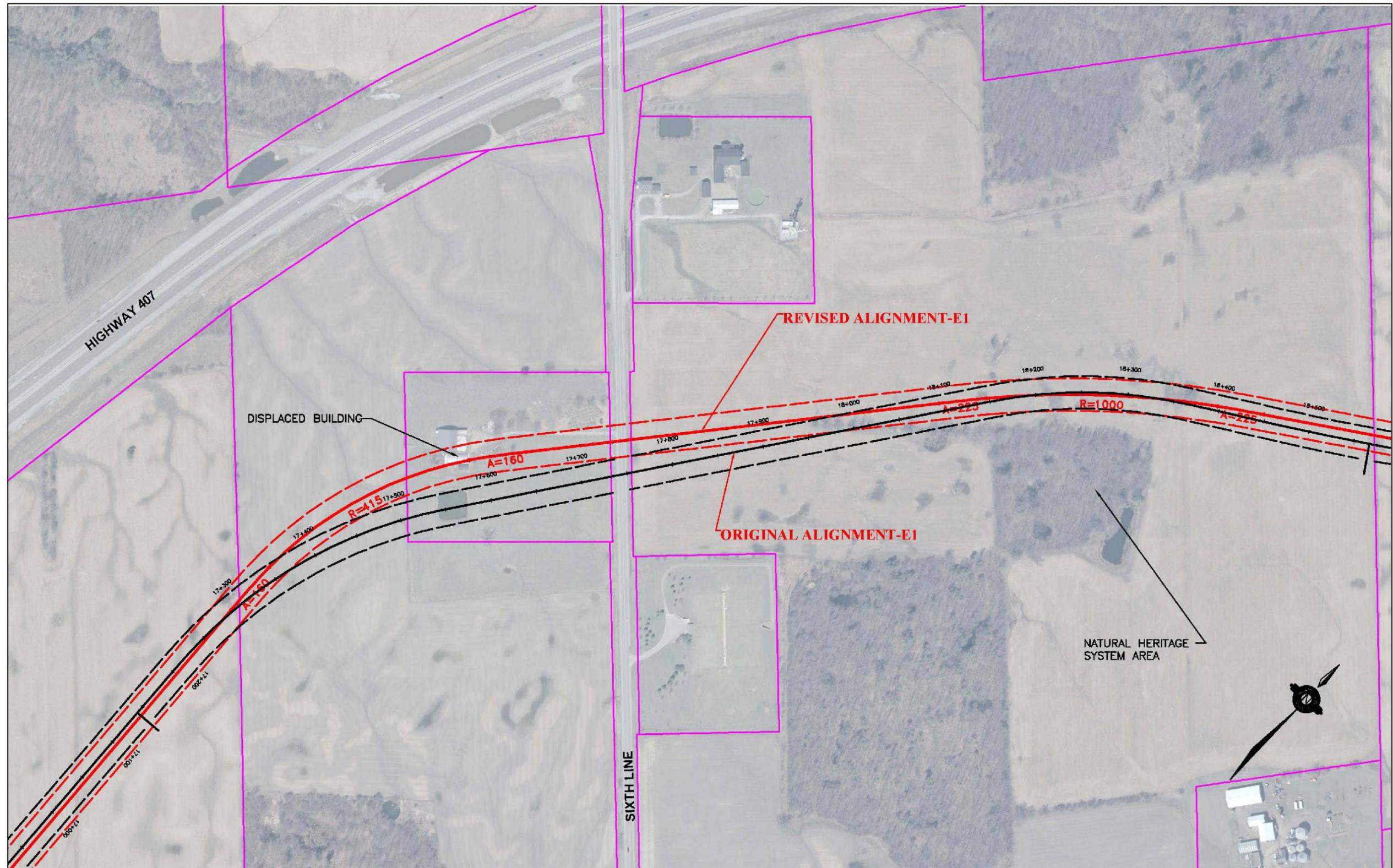


Exhibit 6-17: NNOTC Alignment Vicinity of Sixth Line



### **NNOTC Alignment – Near Watercourses JC-10A, 16WA-1A, JC-14, 14E-2A**

Conservation Halton submitted comments to the Region of Halton on the preferred NNOTC alignment on September 12, 2008. Conservation Halton requested alignment changes at four locations:

1. Watercourse JC-10A (19+300 on Sheets 15 and 16) - crossing of Joshua's Creek
2. Watercourse 16WA-1A (12+400 Sheets 5 and 6) - crossing of a Sixteen Mile Creek tributary
3. Watercourse JC-14 (20+400 on Sheets 17 and 18)
4. Watercourse 14E-2A (10+700 on Sheets 1 and 2)

On December 10, 2008, a meeting was held with Conservation Halton, the Town of Oakville and Halton Region to discuss the requested adjustments to the NNOTC alignment. It was determined that there were numerous constraints at each of the creek crossing locations making it difficult to accommodate any adjustments to the alignment:

- Watercourse JC-10A (19+300 on Sheets 15 and 16)
  - The separation distance from 407 ETR ramp of 450 m must be maintained
  - A new transit station is planned south of the 407 ETR ramp on the west side of Trafalgar Road. Access to the station is approximately 250m to the south
  - An alignment change would have a bearing on land use plans (NOESP)
- Watercourse 16WA-1A (12+400 Sheets 5 and 6)
  - An alignment shift to the north at this location would require the same shift north as far west as 10+500
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - An alignment change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line
- Watercourse JC-14 (20+400 on Sheets 17 and 18)
  - The alignment would require a shift to the north and a shift of 4 proposed intersections (as per NOESP) further west
  - The resulting intersection spacing would not meet Regional standards (i.e. <320 m spacing at 2 intersections and <400m to Trafalgar Road)
  - A alignment change would have a bearing on land use plans (NOESP)
- Watercourse 14E-2A (10+700 Sheets 1 and 2)
  - An alignment shift to the north at this location would require the same shift north as far east as 12+400 and would impact the connection to Bronte Road
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - A alignment change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line

A letter dated January 27, 2009 from Conservation Halton indicated that staff are satisfied that due consideration has been given to the possibility of a minor alignment change at the requested locations and are satisfied that no change to the design is required.

### **6.5 THE RECOMMENDED ALTERNATIVE ROUTE**

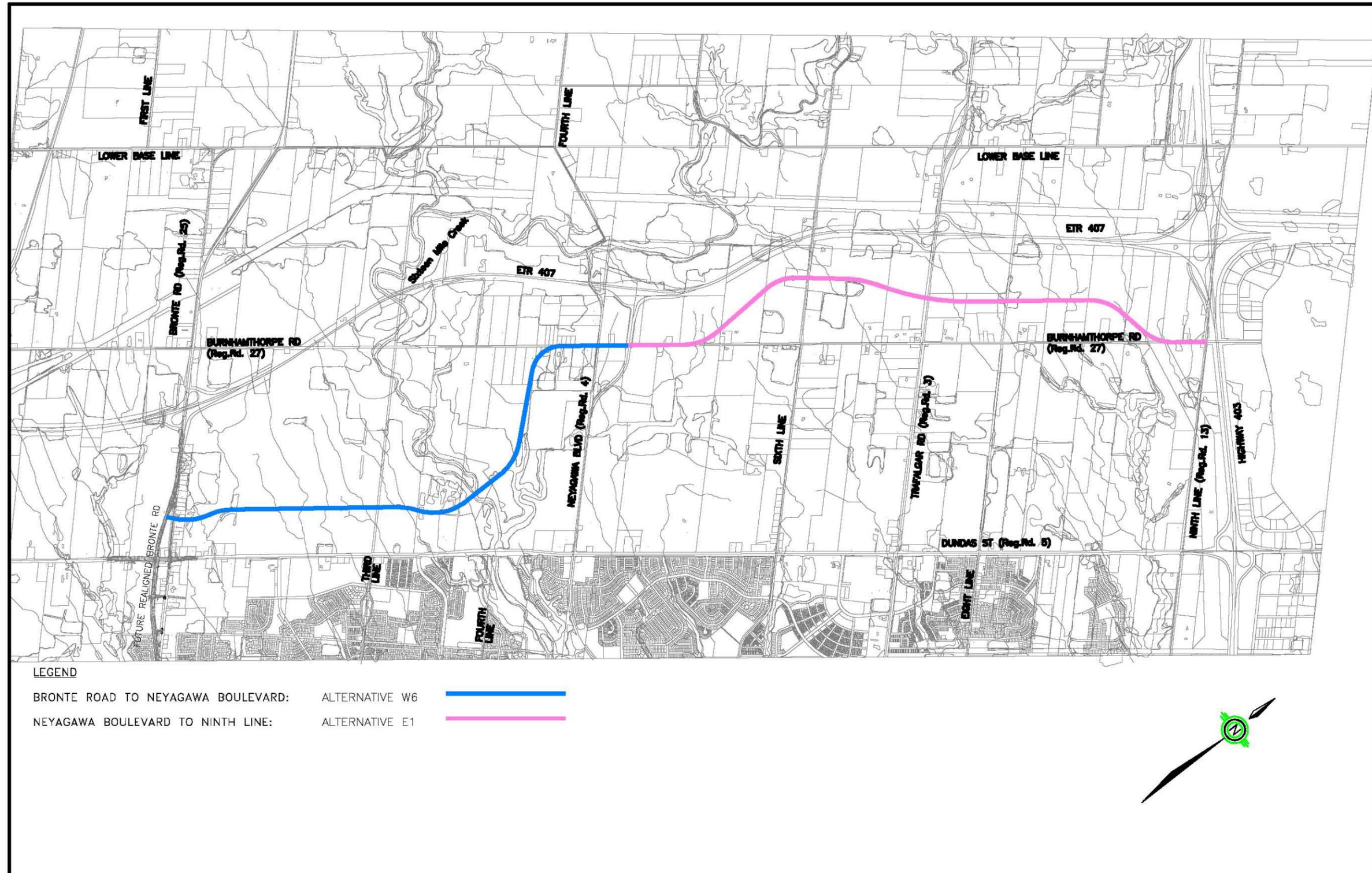
The key rationale for the Recommended Alternative Route, illustrated in **Exhibit 6-18**, is as follows:  
***Neyagawa Boulevard to Ninth Line - E1 (Pink segment of route on Exhibit 6-18)***

- Most Preferred in Transportation, Social, Cultural and Economic Environments and Engineering;
- Majority of impacts to Natural Environment can be mitigated;
- Avoids the majority of properties fronting Burnhamthorpe Road;
- Property frontage impacts west of Ninth Line and east of Neyagawa Boulevard;
- One residential building displaced at Ninth Line; and
- Located primarily within planned future employment lands in the NOESP.

#### ***Bronte Road to Neyagawa Boulevard - W6 (Blue segment of the route on Exhibit 6-18)***

- Overall Most Preferred in Transportation, Social, Cultural and Economic Environments, and Engineering;
- Property frontage impacts on Burnhamthorpe Road and three residential buildings (west of Neyagawa Boulevard) displaced;
- Provides shortest new crossing of Sixteen Mile Creek valley in close proximity to disturbed valley area (Lions Valley Park);
- Majority of impacts to Natural Environment (i.e. fisheries resources, etc.) can be mitigated;
- Connects the NNOTC to Bronte Road south of the existing intersection with no significant change to property access (out-of-way travel); and
- Supports future development of node in the area of Bronte Road and NNOTC.

Exhibit 6-18: Recommended Alternative Route – E1/W6



## 6.6 ANTICIPATED IMPACTS AND PROPOSED MITIGATION MEASURES

Many of the environmental impacts and concerns related to the project have been mitigated through the process by which the recommended alternative route was selected, as described in this ESR. The remaining anticipated impacts to the natural, social and cultural environments and the proposed mitigation measures for the recommended alternative route are described in the following sections.

### 6.6.1 Natural Environment

Overall, the recommended alternative route has the least impact on both the natural heritage system and wetlands throughout the Study Area. Some impacts to the terrestrial and aquatic environments are anticipated and detailed below. The recommended alternative route is considered to create the least impact to the Sixteen Mile Creek valley because it has the shortest valley crossing and least impact on interior forest habitat. Construction of the Sixteen Mile Creek valley crossing presents short-term disturbances; however, impacts are greatly reduced by the availability of existing construction access to valley bottomlands via Lyons Gate Park.

#### *Terrestrial Environment*

Potential impacts to the terrestrial environment include:

- Direct or indirect loss of vegetation communities including 35,700 m<sup>2</sup> (3.57 ha) of forest communities (1,020 m crossing length multiplied by 35 m ROW) including Sixteen Mile Creek ANSI
- Short-term disturbance to bottomland vegetation communities located immediately north of Lions Gate Park due to construction access
- Potential for encroachment into 1020 m of Halton Region Significant Woodlands including Sixteen Mile Creek ANSI
- Approximately 2000 m of the Town of Oakville Natural Heritage System (primarily Core Preserve Areas associated with Sixteen Mile Creek) crossed
- Approximately 120 m of Linkage Preserve Area crossed

The following provides appropriate mitigation measures to ensure net losses are minimized and to minimize construction and post-construction impacts:

#### Materials Management

A construction work plan should be developed which designates locations for stockpiling of soils and other materials including fuel. All excavated materials requiring stockpiling should be in accordance with OPSS 180.07.06 and placed in pre-determined locations. The perimeters of stockpiles should be encircled with silt fencing, according to OPSD 219.110.

Low impact construction machinery, such as smaller equipment, should be used wherever possible to reduce impacts such as soil mixing and compaction.

Prior to commencement of construction, the limits of protection areas should be delineated and fenced to avoid inadvertent intrusion of machinery or other activities such as stock piling of excess material. This fencing should be maintained and remain in place until final grading and landscaping has been completed.

#### Vegetation Protection and Restoration

Trees or large shrubs identified for preservation within and immediately adjacent to construction zones should be protected with appropriate hoarding (fence or similar structure using OPSD 220.01) at an appropriate distance from the tree stem, as determined by a qualified professional. In sensitive areas, higher quality tree protection fencing will be used. Tree wells may be necessary where significant grading affects soil levels. In the event that roots or branches of trees to be protected are inadvertently damaged during construction, they should be pruned clean as soon as possible. Exposed roots should then be covered with topsoil.

Trees slated for removal should be properly inventoried at the detailed design stage in order to compensate with an appropriate landscape planting plan (with locally native, non-invasive species and species that blend into the surrounding environment). At the time of construction, they should be marked and felled into the work area to avoid damage to adjacent vegetation. There will be a restoration/landscaping plan prepared during detailed design.

Riparian trees (trees located within 30 m of any watercourse) slated for removal should be properly inventoried at the detailed design stage. All restoration plantings should be chosen from Conservation Halton's Landscaping Guidelines and should be an appropriate species for the growing conditions at the site.

All exposed surfaces susceptible to erosion should be revegetated through the placement of seeding, mulching or sodding immediately upon completion of construction activities or within 45 days of exposure and with sufficient time to allow for successful establishment prior to winter. Native plants and seeds should be favoured in all restoration. Abandoned paved surfaces should also be removed and restored to native and landscaped vegetation through a planting plan.

Conservation Halton will work with Halton Region and other appropriate agencies to ensure that the environmental impact of the NNOTC within the Glenorchy Conservation Area is minimal, that site rehabilitation is thorough, or that comparable compensation is made.

#### Wetland Protection

Standard construction mitigation should be considered for roadwork within 120 m of wetlands<sup>29</sup>:

- a. silt fencing adjacent to 30 m wetland buffers;
- b. road checks and/or silt fence flow checks in all ditches leading toward wetland areas;
- c. demarcation of fill areas;
- d. removal from the site of any excess fill or stockpiled excavated materials; and
- e. protection from refuelling within 50 m of wetland areas.

#### Wildlife Protection - Linkages

According to Section 6.3.3.4 of the North Oakville Creeks Subwatershed Study (NOCSS), linkages are linear pieces of land that connect larger habitat areas. Linear habitats may provide intrinsic habitat function and provide important avenues for the movement of plant and wildlife species. Specific ecological linkages must be designed or identified with an understanding of the species that are anticipated to use the connection. The protection of the existing linkages is recommended by the NOCSS. The connection must at least provide suitable conditions to motivate species to enter and use the area. Discontinuities in linkages occur when breaks of over 20 m are found, and in some cases discontinuities over 50m are seen as creating sufficient gaps to preclude significant movement of certain more sensitive wildlife species. The provision of suitable culverts and structures should be considered on a site specific basis. As well, considerations to prevent wildlife and vehicular interactions should also be considered. Measures described in literature include but are not limited to:

<sup>29</sup> MTO specifications adapted from "National Guide to Erosion and Sediment Control on Roadway Projects", Transportation Association of Canada, 2005.

- selecting sizeable roadway and linkage alignments to avoid unsafe intersections (e.g. at curves)
- use of plantings and wing-walls to direct wildlife using the linkage to culvert/structure crossings; and
- design culverts/structures to accommodate wildlife movement.

Section 7.4.2.7 of the NOCSS indicates that the design of these crossings would include recommendations for focusing wildlife movements to appropriate crossing locations and/or structures. These measures would depend on site specific features and reported collision hazards. Culverts in the range of 1.8 m in height with larger spans have been used successfully for wildlife crossings.

The NNOTC segregates woodlots east of Sixth Line and west of Trafalgar Road. These woodlots support a high number of provincially significant wetlands that are habitat for regionally rare breeding amphibians such as chorus frogs and spring peepers. The crossing of the Natural Heritage System linkage between these woodlots can result in amphibian road mortality and effectively divide the existing populations of breeding frogs utilizing this area. An amphibian crossing will be constructed where the NNOTC crosses the core linkage area east of Sixth Line and west of Trafalgar Road (between 18+200 and 18+400). Specific details of this culvert crossing will be considered during detail design in consultation with Conservation Halton.

The NNOTC west of Neyagawa Blvd creates an additional north – south crossing of the Natural Heritage System (adjacent to the landfill site/North Park area) that can be expected to result in the additional disruption to wildlife passage as well as creating a concentration point for deer / vehicle collisions. The Region of Halton has committed to constructing a wildlife crossing/ecopassage in this area of the corridor (approximately 13+700). However, the specific details of this crossing will be confirmed in consultation with the Ministry of Natural Resources, Conservation Halton and the Town of Oakville at the commencement of detail design given the planned development of North Park and the need to coordinate with the Town of Oakville's request for a pedestrian underpass crossing in this vicinity.

#### ***Aquatic Environment***

Potential impacts to the aquatic environment include 21 new watercourse crossings and modifications to 4 existing watercourses; including:

- 2 coldwater watercourses
- 1 high constraint and 6 medium constraint watercourses
- 5 low constraint watercourses

The following provides appropriate mitigation measures to ensure net losses are minimized and to minimize construction and post-construction impacts:

#### **Riparian Zone Protection**

Where no in-water work is required, general recommendations still apply to protect riparian zones surrounding watercourses. Best Management Practices, including the use of standard erosion and sediment control devices, should be reviewed at the detailed design stage. These plans should adhere to the principles of reducing the risk of erosion control measures and trapping mobilized sediment as close to the source as possible. Sediment and erosion control measures should be inspected daily with particular scrutiny after rain events, and repaired as necessary. All sediment and erosion control measures should remain intact until vegetation cover is established on all exposed soil.

A construction plan should identify a contingency plan for accidental sediment release. An emergency spill kit should be kept on-site in case of any fuel or chemical leaks.

Disruption to riparian vegetation should be minimized by defining the necessary work area using construction fencing. Post construction restoration efforts should include fast-growing tree and/or shrubs where riparian vegetation has been removed. Restoration works should only incorporate locally sourced native plants appropriate for site conditions.

#### **Authorization and Mitigation for In-Water Work**

Though in-water work is not anticipated or planned in Sixteen Mile Creek, it may be required on other areas of the project as a result of culvert extensions and/or new stream crossings, associated bridge footings, or in-water piers, etc. In the event of harmful alteration, disruption or destruction of fish habitat (HADD), Department of Fisheries and Oceans (DFO) approvals will be required. In order to obtain Authorization for Works or Undertakings Affecting Fish Habitat, a detailed Letter of Intent to Implement Construction Measures will need to be submitted to DFO via a designated delegate agency. Additionally, construction mitigation measures (to minimize intrusion) and a Fisheries Habitat Compensation Plan (to replace habitat lost) will need to be developed, in accordance with DFO's No Net Loss Policy.

Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at other locations, including crossings of high and medium constraint reach levels identified in the NOCSS (i.e., 16WA-1A, JC-10A, JC-14 and 14E-2A) and any requirements for stream re-alignments. Screening of potential HADDs requires General Arrangements of each crossing for accuracy and efficiency. As such, authorizations will be explored during detail design.

In order to reduce and/or eliminate potential impacts to fisheries habitat and aquatic resources, design modifications and avoidance/mitigation techniques will be considered. Detailed design will consult a qualified engineer to identify appropriate timing for any in-stream works. The timing window is intended to protect fish communities present. To protect downstream fisheries resources, standard erosion and sediment control devices should be used in areas requiring excavation or in-channel works in order to slow runoff velocities and reduce erosive forces, including:

- a) upgraded silt fencing (heavy duty paige wire silt fence) should be used at crossing locations where rare species are present (eg. Sixteen Mile Creek);
- b) rock checks or silt fence flow checks are to be placed in all ditches immediately upstream of their discharge into a watercourse;
- c) straw bale dams are to be placed in advance of sewer inlets;
- d) finished slopes should be graded to an acceptable slope minimum and planted according to Conservation Halton's Landscaping and Tree Preservation Guidelines; large cuts should be terraced to minimize surface erosion;
- e) all excavated materials requiring stockpiling should be in accordance with OPSS 180.07.06 and placed in pre-determined locations. The perimeters of stockpiles should be encircled with silt fencing, according to OPSD 219.110;
- f) any in-water work that is necessary must be conducted in dry conditions within that appropriate fisheries timing window.
- g) cleaning and refuelling of machinery should be prohibited within 50 m of a watercourse to prevent the discharge of petroleum products;
- h) excess silt fence, straw bales and rip-rap should be maintained on site, prior to the commencement of grading operations and throughout the duration of the construction, in case of an emergency; and
- i) the integrity of all sediment trapping devices should be monitored regularly (at least weekly, and immediately following rain events) and properly maintained. Such structures should be removed only after the soils of the construction areas have been stabilized and then only after the trapped sediments have been removed.

With regards to the preferred route alignment, it is acknowledged that the proposed crossing involves spanning sensitive fish habitat and that protection of the natural environment during construction will present numerous challenges. Recognizing the environmental constraints and sensitivities of the crossing, standard/common Pathways of Effects Mitigation measures (DFO Risk Management Framework) will be utilized. Further to this however, additional construction mitigation measures may also include:

- a) Standard construction mitigation methods may be utilized to limit the need for construction de-watering;
- b) Flow mitigation to creek if loss of base flow contributions are anticipated as a result of de-watering;
- c) Adherence to cold water construction timing window (July 1 - September 15);
- d) Permit(s) to Take Water during construction will be obtained if required;
- e) Ensure bridge span maximizes light penetration if feasible to encourage riparian vegetation growth underneath the structure; and,
- f) Replace riparian vegetation lost during construction of bridge abutments and re-naturalize as soon as possible after construction to minimize erosion of bare riparian sections.

#### Erosion Protection

The southeasterly reach of the Sixteen Mile Creek was determined to be the more appropriate location for the proposed crossing based on a number of factors, including the geomorphological migration analysis conducted by Parish Geomorph Ltd. The footings for the crossing should be installed well outside the natural area of the existing channel and lined by large substrate to ensure the erosion and out-flanking of the footings does not occur.

A monitoring cross section was installed in Reach R1 within the detailed field site in order that future changes in the channel form and function can be analyzed. Five erosion pins were installed throughout this site and will be key in determining the rate of bank erosion and migration for future monitoring of the channel. The locations of erosion pins are provided in Table 5 of the Fluvial Geomorphological report found in **Appendix G** to the ESR. The monitoring of the area will continue leading up to the construction of the crossing to obtain a better understanding of channel processes in the area of the proposed crossing. Continued monitoring would determine local migration rates, possible erosion thresholds, and placement of the footings for the crossing.

#### ***Hydrogeological Environment***

##### Construction Dewatering

Surficial granular deposits (sand, silty sand/sandy silt, silt) along with shallow water table conditions may be encountered in the area on both sides of Burnhamthorpe Road between Trafalgar Road and Joshua's Creek. These conditions would require dewatering during construction of the new corridor where the road is proposed to be built below the local water table. The profile for the new corridor developed for the ESR is predominantly in fill, however, short sections of cut may require that a drilling and groundwater monitoring program be carried out in detail design. The drilling and groundwater monitoring program will confirm the geology and groundwater conditions in the area to determine the need for dewatering and to assess potential impacts on local wells and streams as well as mitigation measures, if required.

##### Pitted Depressions

Pitted depressions in the Study Area are expected to be warm; however a survey to identify potential locations of both warm and cold pitted depressions within the planned corridor will be undertaken at detailed design. Field inspection and monitoring of the identified pitted depressions should be carried out during detail design if required. Potential impacts from the construction and future road maintenance on warm and cold pitted depressions if identified will be assessed at detail design.

##### Natural Hazards

As noted in the Natural Environment report (**Appendix J**), the NOCSS identifies wet features and depressions that are not picked up by MNR (2006a) PSW or ELC mapping of the subject area. The NOCSS (2006e) Management Report (Section 6.3.4.4) indicates this feature mapping includes "a number of relatively small depressions ...some of these depressions are in areas that are currently used for other purposes (i.e. recreational ponds and agriculture) and have been significantly modified from their original form and function."

Consideration of NOCSS (Town of Oakville 2006d-e) wet features and depressions not classified as PSW or documented using ELC (Section 3.3.1) did not influence the outcome of the ecological evaluation of alternatives; i.e., all routes crossed six or fewer of these low-ecological functioning features. However, wet features and depressions may contribute to storage as described in Section 6.3.4.4 of the NOCSS Management Report, as noted above, and exact losses should be quantified for the preferred route during detailed design. Detailed design should quantify exact losses resulting from infill of wet features and depressions as identified in NOCSS (Town of Oakville 2006d-e). If appropriate, a plan to mitigate loss of depression storage will be developed to the satisfaction of Conservation Halton.

##### Well Water Quality

In shallow bedrock areas west of Sixteen Mile Creek, the well water quality along Dundas Street West would become more vulnerable to contaminant migration from road construction and future maintenance (road salt use). Therefore a local well survey and water quality assessment should be carried out to address potential road salt impacts on shallow bedrock wells along Dundas Street West. The water quality assessment should be completed prior to detailed design to ensure mitigation does not result in any financial or scheduling conflicts with construction.

#### **6.6.2 Social Environment**

The anticipated impacts to the social environment and the proposed mitigation measures are as follows:

##### ***Land Use***

The recommended alternative route supports future development/redevelopment plans and is consistent with the NOESP and NOWSP, Provincial planning policies and regional and local official plans. The undertaking supports future recreational opportunities and improves connectivity and integration of community elements. The westerly extension to Bronte Road largely borders the southern boundary of a MNR Green Space protection area and is ideally located to provide access to ORC lands currently involved in a disposition process. No mitigation is required.

The North Park Lands located west of Neyagawa Boulevard will be severed by the NNOTC. The North Park existed only as a concept at the time of the alignment evaluation and the park location and shape have evolved through the secondary plan process. The impact to North Park is minimized because of the skirting to the north of the landfill. The potential location of a pedestrian grade separation is indicated on the preferred design plans (Sheets 7 and 8) indicating that the location and additional property requirements are to be determined by the Town of Oakville.

Existing land uses will also be impacted by the proposed new corridor. Potential impacts and mitigation measures are detailed below.

##### ***Existing Burnhamthorpe Road***

Subsequent to the construction of the NNOTC, the sections of existing Burnhamthorpe Road that are not utilized as part of the new corridor will be transferred to the Town of Oakville. The road would be transferred to the Town of Oakville in a reasonable state of repair representing existing conditions, however, future negotiations/agreement will be required between the Region and Town.

In the interim, the Region will continue to maintain existing Burnhamthorpe Road and if development proceeds adjacent to the corridor prior to transfer of the road the Region will require dedication of the Regional right-of-way as per the Regional Official Plan or as identified in the New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek Class Environmental Assessment Study Environmental Study Report.

### ***Air Quality***

The undertaking is consistent with Halton Region's Air Quality Strategy as outlined in the Halton Transportation Master Plan, June 2004. In an effort to mitigate negative impacts to air quality, dust suppressants and water application during construction shall be used.

### ***Transit***

Improved transit services are planned for the NNOTC. Provision for bus stops will be determined in detailed design in consultation with Oakville Transit.

### ***Pedestrian and Cycling Facilities***

Pedestrians and cyclists will be accommodated along the new corridor through multi-use paths on both sides of the roadway, on-road bike lanes, and formalized crossings at intersections.

### ***Buildings and Properties Adjacent to Alignment***

The proposed new corridor results in property impacts or displacement of both rural residential and farm properties and the displacement of 5 existing buildings as shown on the plans in Appendix Part II. Individual meetings with affected property home owners have been held to discuss impacts to property required to accommodate the right-of-way. Property acquisition, in accordance with Regional procedures, will occur in advance of construction and following the completion of this Environmental Assessment and at detail design.

### ***Private Entrances***

The proposed new corridor will require adjustments to private entrances to accommodate the new road plan and profile. Adjustments may include shortening or lengthening of driveways or changes to driveway profiles. Driveway profiles will be surveyed in detail design to determine precise requirements.

### ***Noise***

The predicted noise levels for 2021 with the undertaking range from 50.4 dBA to 67.3 dBA. The change in noise level ranges from -6.1 dBA to +17.3 dBA. Eight (8) receivers registered very significant increases (> 10dBA increase), zero (0) receivers registered significant increases (6-9dBA increase), six (6) receivers registered increases (<5dBA increase) and eight (8) receivers registered decreases in sound levels with the recommended alternative route.

Seven of the receivers were predicted to have an absolute noise level greater than 60 dBA of which 2 receivers were predicted to have a noise level increase of greater than 5 dBA.

Under the provisions of the MTO/MOE Noise Protocol and Environmental Guide for Noise (MTO 2006), mitigation should be considered for the receiver locations with a greater than 5 dBA increase. Noise mitigation, where applied, must be administratively, economically and technically feasible.

There are a total of eight (8) receiver locations for which a greater than 5 dBA increase is predicted by the acoustic model: R4, R5, R6, R7, R8 R9, R10 and R11. It should be noted that Receiver 4 will be displaced by the corridor and no further mitigation consideration is required. The remaining receivers are located along existing Burnhamthorpe Road immediately to the West of Neyagawa Boulevard. Based on the predicted increase, noise mitigation measures should be considered at these receiver locations.

Receivers R5, R6, R7 R9, R10 and R11 have direct frontage to existing Burnhamthorpe Road / New North Oakville Transportation. For sound barriers to be effective they must create a continuous barrier between the noise source and

the receiver (i.e. reversed frontage lots). Constructing noise barriers along the frontage of the properties is not desirable for aesthetics, safety reasons and breaks in the noise barrier for driveway access render the barriers ineffective. Therefore, the provision of a continuous noise barrier at the Regional ROW is not considered to be feasible or practical at these locations. However, it is recognized that the increased noise levels are significant, therefore, the Region, during detailed design, will work with the individual property owners on a site-specific basis to establish appropriate noise mitigation measures such as noise barriers at or surrounding the outdoor living area.

Construction noise constraints should be incorporated into the contract documents. This is consistent with the requirements of the MTO/MOE Noise Protocol. Any construction activities throughout the project should conform to current local municipal noise by-laws giving due consideration to such factors as the time of day, proximity and size of equipment and type of operation. Contractors should be required to keep idling of construction equipment to a minimum and maintain equipment in good working order to reduce noise from the construction activities.

Further details are provided in the Noise Assessment report in **Appendix K**.

### ***Aesthetics***

Areas requiring landscape treatment for aesthetic and other considerations will be identified through the development of a Landscape Plan during detail design.

### **6.6.3 Cultural Environment**

#### ***Built Heritage Resources and Cultural Heritage Landscapes***

One residential building considered to have cultural heritage value would have been displaced as a result of the recommended improvements. This building is located at 1536 Burnhamthorpe Road and was converted to a residence from the S.S. #4 Trafalgar Township schoolhouse built in the 1870s.

A cultural heritage evaluation report was completed for the building which concluded that due to the compromised physical/design integrity of the former schoolhouse building, retention and relocation of the building were not recommended as mitigation measures. The building has since been removed. Commemoration of the former historical community of Snider's Corners with a description of the schoolhouse, the former church site and the Snider House by means of an historical plaque is considered to be an appropriate mitigation measure for the site.

Anticipated indirect impacts from disruption of cultural heritage resources/landscapes include: potential change to the character of the setting and existing entrance of one built heritage resource located at 263 Burnhamthorpe Road East; three cultural heritage landscapes including agricultural lands throughout the Study Area; one farm complex located at 185 Burnhamthorpe Road; and the roadscape of Burnhamthorpe Road East and West. The rural character of existing Burnhamthorpe Road would be lost in the short segments where NNOTC is coincident with the existing Burnhamthorpe Road alignment (west of Ninth Line and east of Neyagawa Boulevard). The rural character of the existing Burnhamthorpe could be maintained beyond the sections to be utilized as part of the NNOTC.

Remedial landscaping will be examined and included as part of the detail design phase to mitigate the disruption impacts. Existing tree lines, fence lines, hedge rows and field patterns will be retained where possible to mitigate the disruption impacts to the agricultural lands and to the roadscape associated with the new corridor. Note that although the proposed corridor passes through existing agricultural lands, these lands are intended to be developed as part of the approved North Oakville Secondary Plan.

***Archaeological Resources***

There is a high potential for encountering significant archaeological remains during construction of the recommended alternative route. There is also potential to impact the undeveloped area of the Trafalgar Lawn Cemetery property. A Stage 2 Archaeological Assessment will be completed in all undisturbed areas during the detailed design phase following the completion and approval of the Class EA. Halton Region made a commitment to the Mississaugas of New Credit First Nation that a Stage 2 archaeological field assessment can be made available when it has been completed. In the event that any aboriginal remains or significant aboriginal artifacts are uncovered during further assessment work, the First Nations will be contacted immediately.