DESCRIPTION OF ALTERNATIVES

- This alternative considers the roadway improvements along the existing Trafalgar Road corridor north of 15 Side Road through Stewarttown. Underpass grade separations at the CN Rail and Metrolinx Alternative 1A: line crossings on Trafalgar Road are proposed. Under this alternative, Trafalgar Road would cross the CN Rail line to the east of the existing at-grade crossing. This alternative considers the roadway improvements along the existing Trafalgar Road corridor north of 15 Side Road through Stewarttown. Underpass grade separations at the CN Rail and Metrolinx Alternative 1B: line crossings on Trafalgar Road are proposed. Under this alignment Trafalgar Road would cross the CN Rail line to the west of the existing at-grade crossing. This alternative considers the roadway improvements along the existing Trafalgar Road corridor north of 15 Side Road through Stewarttown. Underpass grade separations at the CN Rail and Metrolinx Alternative 1C: line crossings on Trafalgar Road are proposed. This alignment crosses the CN Rail line further to the east of the existing at-grade crossing than Alternative 1A via an underpass to accommodate a "service road" concept south of the 17 Side Road intersection. This alternative would bypass Stewarttown to the west (about mid-concession) starting south of 15 Side Road and would continue northerly along the westerly property line of the Trafalgar Road Sports Alternative 2: Complex. Both the CN and Metrolinx railway crossings along the existing Trafalgar Road would remain at-grade; the CN and Metrolinx railway crossings under the new alignment would be grade separated as underpasses.
- This is the most westerly of the three alternatives. This alternative would bypass Stewarttown starting at south of 15 Side Road. Both the CN and Metrolinx railway crossings along the existing Alternative 3: Trafalgar Road alignment would remain at-grade; the CN and Metrolinx railway crossings would be grade separated as underpasses

Typical Cross Sections:

Alternatives 1A, 1B	Between 15 Side Road and 17 Side Road - two 3.5 m lanes in each direction; no on-street bike lanes; 3.0 m multi-use path on both sides of the road
and 1C:	Between 17 Side Road and Highway 7 - two 3.5 m lanes in each direction; 1.8 m on-street bike lanes; 5.0 m median; 2.0 m side walk on the east side
Alternatives 2 and 3:	Between 15 Side Road and Highway 7 - two 3.5 m lanes in each direction; 1.8 m on-street bike lanes; 5.0 m median; 2.0 m side walk on the east side

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ıd.

side of the road.

side of the road.

		NIT DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
Environment								
Environment Impacts to Residential Areas	Qualitative Description (see factor below for quantitative measurement of property impacts)	 With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road and 17 Side Road; there is a mix of frontage, side lots, and reverse frontage properties. The future Trafalgar Road ROW will encroach on properties between 15 Side Road and Stewarttown Road as a result of the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few residential properties on the east side of Trafalgar Road through this section. Access impacts are expected for properties with direct access to Trafalgar Road. North of 17 Side Road to Highway 7, land uses are mixed, including some rural residential properties with direct access to Trafalgar Road and residential subdivision between Princess Anne Drive and 20 Side Road. A few of the properties in the northeast quadrant of Trafalgar Road Maple Avenue would used in full humanian the source of the source of the properties in the northeast quadrant of Trafalgar Road Maple Avenue would 	 With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road and 17 Side Road; there is a mix of frontage, side lots, and reverse frontage properties. The future Trafalgar Road ROW will encroach on properties between 15 Side Road and Stewarttown Road as a result of the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few properties on both the east and west sides of Trafalgar Road through this section. Access impacts are expected for properties with direct access to Trafalgar Road. North of 17 Side Road to Highway 7, land uses are mixed, including some rural residential properties with direct access to Trafalgar Road and residential subdivision between Princess Anne Drive and 20 Side Baad 	Road and residential subdivision between Princess Anne Drive and 20 Side Road.	 Property impacts are primarily direct impacts to agricultural fields (i.e. severing of agricultural fields). Direct residential property impacts at the new Trafalgar Road intersections at 17 Side Road and 20 Side Road. 	 Property impacts are primarily direct impacts to agricultural fields (i.e. severing of agricultural fields). Direct residential property impacts at the new Trafalgar Road intersections at 17 Side Road and 20 Side Road. 		
	Impacts to Residential	Impacts to ResidentialQualitative DescriptionAreas(see factor below for quantitative measurement of property	EnvironmentImpacts to Residential AreasQualitative Description• With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road and 17 Side Road; there is a mix of frontage, side lots, and reverse frontage properties.• The future Trafalgar Road ROW will encroach on properties between 15 Side Road and Stewarttown Road as a result of the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few residential properties on the cast side of Trafalgar Road through this section.• North of 17 Side Road to Highway 7, land uses are mixed, including some rural residential properties with direct access to Trafalgar Road and residential subdivision between Princess Anne Drive and 20 Side Road.	EnvironmentImpacts to Residential AreasQualitative Description• With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road and 17 Side Road; there is a mix of frontage, side lots, and reverse frontage properties.• With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road; there is a mix of frontage, side lots, and reverse frontage properties.• The future Trafalgar Road ROW will encroach on properties between 15 Side Road and Stewarttown Road as a result of the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few residential properties on the cast side of Trafalgar Road through this section.• With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road and ROW will encroach on properties ot the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few properties with direct access to Trafalgar Road.• Morth of 17 Side Road to Highway 7, land uses are mixed, including some rural residential properties with direct access to Trafalgar Road and residential subdivision between Princess Anne Drive and 20 Side• North of 17 Side Road to Highway 7, land uses are mixed, including some rural residential subdivision between Princess Anne Drive and 20 Side	Environment • With the exception of the Club at North Halton in the southcast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are quantitative measurement of property impacts) • With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road; there is a mix of frontage, side lots, and reverse frontage properties. • With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both between 15 Side Road are revised frontage, side lots, and reverse frontage properties. • With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road are residential between 15 Side Road and Stewarttown Road as a result of the proposed widening, introduction of multiuse pathway, and grade changes. Full buyouts are anticipated for a few residential properties on the east side of Trafalgar Road through this section. • With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road. • With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of Trafalgar Road. • • North of I Side Road and through this section. • North of I Side Road to Highway 7, land uses are mixed, including some rural residential properties with direct access to Trafalgar Road and residential properties with direct access to Trafalgar Road and residential subdivision between Princess Annco	Environment With the exception of the Club at North Halton in the southeast quadrant of the Maple Avenue intersection, land uses on both sides of rarafagar Road are residential between 15 Side Road and 17 Side Road 17 Side Road and 17 Sid		

FACTODS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			separation, the proposed	separation to Highway 7, the	Trafalgar Road Maple				
			widening of Trafalgar Road will	potential impacts to	Avenue would result in full				
			largely be along the centreline.	residential areas are similar to	buyout.				
			There would property impacts	Alternative 1A	• North of the proposed grade				
			along the frontage of some rural		separation to Highway 7, the				
			residential properties on the east		potential impacts to				
			side of Trafalgar Road north of		residential areas are similar to				
			Princess Anne Drive.		Alternative 1A				
	Impacts to Farm	Qualitative	• Minimal impacts to agricultural	• Minimal impacts to	Minimal impacts to	• Significant impacts to	• Significant impacts to		
	and Business	Description	lands and operation. Impacts	agricultural lands and	agricultural lands and	agricultural properties as	agricultural properties as		
	Operations		are primarily along the frontage	operation. Impacts are	operation. Impacts are	agricultural lands are severed;	agricultural lands are severed;		
			of the properties to	primarily along the frontage	primarily along the frontage	which would directly impact	which would directly impact		
			accommodate the proposed	of the properties to	of the properties to	the operations by creating a	the operations by creating a		
			widening.	accommodate the proposed	accommodate the proposed	barrier on the property.	barrier on the property.		
			Businesses on Stewarttown	widening	widening	• Creates irregularly shaped	• Creates irregularly shaped		
			Road will be accessible via a	Businesses on Stewarttown	Businesses on Stewarttown	fields and limits the viability	fields and limits the viability		
			new signalized intersection	Road will be accessible via a	Road will be accessible via a	for future farming operations.	for future farming operations.		
			south of 17 Side Road. The	new signalized intersection	new signalized intersection				
			existing "south" Stewarttown	south of 17 Side Road. The	south of 17 Side Road. The				
			Road intersection will become a	existing "south" Stewarttown	existing "south" Stewarttown				
			cul-du-sac.	Road intersection will	Road intersection will				
			• There would be direct impact to	become a cul-du-sac.	become a cul-du-sac.				
			the North Halton Golf and	• There would be direct impact	• There would be direct impact				
			Country Club. Based on aerial	to the North Halton Golf and	to the North Halton Golf and				
			photography, the practice range	Country Club. Based on	Country Club. Based on				
			directly adjacent to Trafalgar	aerial photography, the	aerial photography, the				
			Road will be impacted. Some	practice range directly	practice range and one of the				
			reconfiguration of the area may	adjacent to Trafalgar Road	18 holes that are directly				
			be required subject to consultation with the golf	will be impacted. Some reconfiguration of the area	adjacent to Trafalgar Road will be impacted.				
			course. (see factor below)	may be required subject to	Reconfiguration of the area				
			 Minor property impacts to 	consultation with the golf	would be required subject to				
			• While property impacts to businesses north of 17 Side	course. (see factor below)	consultation with the golf				
			Road on the west of Trafalgar	 Minor property impacts to 	course. (see factor below)				
			Road: impacts are generally	businesses north of 17 Side	 Minor property impacts to 				
			along the frontage of the eastern	Road on the west of Trafalgar	businesses north of 17 Side				
			along the nontage of the castelli	Road on the west of fraidigal					

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIC			
TACIONS	INDICATOR	UIII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTEI
	Impacts to Institutional and Recreational Uses	Qualitative Description	 portions of the property Minor impacts along westerly property limits of Christian Reformed Church and accesses (i.e. frontage along Trafalgar Road) There would be no impact to the Georgetown District Christian School. Very minor impacts to the Trafalgar Road Sports Park; largely in the area of the access to Trafalgar Road. The access will become signalized. No impacts to Devereaux 	 Road: impacts are generally along the frontage of the eastern portions of the property Direct impact to the easterly portions of the Trafalgar Sports Park to accommodate the proposed rail crossing underpass. There would be direct impact to the stormwater management pond and the internal access road will become a local road connection 17 Side Road and Trafalgar Road. Minor impacts to westerly limits of Christian Reformed Church property and accesses 	 Road on the west of Trafalgar Road: impacts are generally along the frontage of the eastern portions of the property Minor impacts to westerly limits of Christian Reformed Church property and accesses (i.e. frontage along Trafalgar Road) There would be no impact to the Georgetown District Christian School. Very minor impacts to the Trafalgar Road Sports Park; largely in the area of the access to Trafalgar Road. The access will become signalized. 	 Direct impa fields locat westerly pr Trafalgar S may be lim to relocate field withir No direct in Devereaux
	Impact on	Overall	Cemetery.Approximately 10.0 ha of	 (i.e. frontage along Trafalgar Road). There would be no impact to the Georgetown District Christian School. No impacts to Devereaux Cemetery. Approximately 6.79 ha of 	 No impacts to Devereaux Cemetery. Approximately 18.65 ha of 	No Impact
	Existing Commercial Operations – Club at North Halton (Golf Course)	Impact on the Golf Course Subjective	 property would be required. The area of the property that would be required for the alignment overlaps with an area currently being considered by the Club at North Halton for the construction of a retention pond; subject to consultation with the golf course. 	 property would be required. The area of the property that would be required for the alignment overlaps with an area currently being considered by the Club at North Halton for the construction of a retention pond; subject to consultation 	 property would be required. The area of the property that would be required for the alignment overlaps with an area currently being considered by the Club at North Halton for the construction of a retention pond; subject to consultation 	

WAY 7	
ALTERNATIVE 2	ALTERNATIVE 3
ALTERNATIVE 2 ct impacts to two sports s located along at the erly property limits of algar Sports Park. There be limited opportunities locate the two sports within the Sports Park. lirect impacts to ereaux Cemetery.	 Very minor impacts to Trafalgar Sports Park in the most northwest corner of the property. Direct impacts to undeveloped northerly portion of Devereaux Cemetery property.
pact	No Impact

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7				
FACIURS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTER	
			• The golf course would be operational with minor reconfiguration of the practice range; subject to consultation with the golf course.	 with the golf course. The golf course would be operational with minor reconfiguration of the practice range; subject to consultation with the golf course. 	 with the golf course. The practice range and one of the 18 holes would be directly impacted. The operation of the fairway in this section of the golf course would depend on the future layout possibilities for the land and the ability to relocate the related pathway and green. This alternative would have the most significant impact to the golf course. 		
	Property Impacts Unit of Measure: hectares	ha	Property impacts would primarily be on existing residential lands along Trafalgar Road, specifically within Stewarttown.	Property impacts would primarily be on existing residential lands along Trafalgar Road, specifically within Stewarttown.	Property impacts would primarily be on existing residential lands along Trafalgar Road, specifically within Stewarttown.	Impacts would agricultural an large agricultu be severed and farming operat term farming o viability. Grea of property rec to Alternatives	
	Access Impacts due to horizontal and vertical profile changes, median condition, etc.	m	Lengths of driveways for properties situated along the Trafalgar Road corridor would likely be reduced as a result of road widening. Grade changes may also result. Exact details related to these access impacts would be reviewed on an individual basis during detail design.	Lengths of driveways for properties situated along the Trafalgar Road corridor would likely be reduced as a result of road widening. Grade changes may also result. Exact details related to these access impacts would be reviewed on an individual basis during detail design.	Lengths of driveways for properties situated along the Trafalgar Road corridor would likely be reduced as a result of road widening. Grade changes may also result. Exact details related to these access impacts would be reviewed on an individual basis during detail design.	No change in a properties situa existing Trafal	
Provision for Pedestrians		m	 A 3.0 m multi-use path would be Road. A 2.0 m sidewalk would be provided and the provided	-		 A 3.0 m mu road betwee A 2.0 m sid 	

Y 7	
FERNATIVE 2	ALTERNATIVE 3
ould primarily be on l and rural lands. Four ultural parcels would and would impact the	Impacts would primarily be on agricultural and rural lands. Six large agricultural parcels would be severed and would impact the
erations and long ng operations Greater absolute area required compared ives 1A, 1B, and 1C.	farming operations and long term farming operations viability. Greater absolute area of property required compared to Alternatives 1A, 1B, and 1C.
in access for situated along rafalgar Road corridor.	No change in access for properties situated along existing Trafalgar Road corridor.
multi-use path would b ween 15 Side Road and	be provided on the east side of the 17 Side Road.

sidewalk would be provided on the east side of the road

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIC				
TACIONS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTEF	
			Highway 7.			 between 17 Due to the list sidewalk w them less address and the sidewalk w them less address address	
Provision for Cyclists		m	 No on-street bike lane will be proimpacts to properties directly adja A 3.0 m multi-use path would be Side Road. A 1.8 m paved on-street bike lane Side Road and Highway 7. 	acent to Trafalgar Road. provided on the east side of the road	d between 15 Side Road and 17	 A 1.8 m par on both side provided or Highway 7. Due to the would be si accessible or 	
Land Use Compatibility	Compatibility of existing land use and future land use	Qualitative Description	 Impacts to residential, farm and business operations, as well as institutional and recreation land uses are described above. Proposed improvements to Trafalgar Road would support future land use, including: Some anticipated developments in Stewarttown Increase in activity at Trafalgar Sports Park Alignment follows existing, minimizing rural property requirements Minimal impacts to Trafalgar Sports Park property (near the access to Trafalgar Road only) Change in overall streetscape north of 15 Side Road resulting from raised Black Creek crossing structure through residential area 	 Impacts to residential, farm and business operations, as well as institutional and recreation land uses are described above. Proposed improvements to Trafalgar Road would support future land use, including: Some anticipated developments in Stewarttown Increase in activity at Trafalgar Sports Park Alignment follows existing, minimizing rural property requirements Compared to Alternatives 1A and 1C, this would have the most impact to Trafalgar Sports Park property to accommodate the CN Rail underpass to the west of the existing Trafalgar Road / CN Rail crossing and related service road 	 Impacts to residential, farm and business operations, as well as institutional and recreation land uses are described above. Proposed improvements to Trafalgar Road would support future land use, including: Some anticipated developments in Stewarttown Increase in activity at Trafalgar Sports Park Alignment follows existing, minimizing rural property requirements Minimal impacts to Trafalgar Sports Park property (easterly portion) Change in overall streetscape north of 15 Side Road resulting from raised Black Creek crossing structure through residential area 	 Impacts to rand business well as instructed and business and business well as instructed and would existing con Georgetown Stewarttown less likely the of the corrise active transs. Devereaux be impacted would be dia Trafalgar S. No impacts Stewarttown. Would not an along Trafal changes will grade rail changes wil	

AY 7	
TERNATIVE 2	ALTERNATIVE 3
4 8 0° 1 1 1 1 1 1 1 1	_

7 Side Road and Highway 7.

e location of these alignments, the multi-use path and would be situated away from the community, making accessible compared to Alternatives 1A, 1B, and 1C.

paved on-street bike lane with markings will be provided ides of the road and a 3.0 m multi-use path would be on the east side of the road between 15 Side Road 7.

e location of these alignments, the on street bike lanes situated away from the community, making them less compared to Alternatives 1A, 1B, and 1C.

o residential, farm ness operations, as stitutional and land uses are l above.

- uld be away from the communities in wn and
- wn, and would be to attract local uses ridor (auto and nsportation).
- x Cemetery will not ted; however, there direct impact to the Sports Park.

ets to existing wn community ot address existing grade separations afalgar Road as no will be made to atcrossings along Frafalgar Road

• Impacts to residential, farm and business operations, as well as institutional and recreation land uses are described above.

- of the new Trafalgar | Location of the new Trafalgar Road would be away from the existing communities in Georgetown and Stewarttown, and would be less likely to attract local uses of the corridor (auto and active transportation).
 - The northerly portion of Devereaux Cemetery would be impacted.
 - No impacts to existing Stewarttown community
 - While there would be minimal impacts to south east corner of the Estates of Black Creek development, the new community would be in very close proximity to Trafalgar Road

FACTOR	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3	
				• Change in overall streetscape		Significant impacts to	• Visual intrusion of new road in	
				north of 15 Side Road		Trafalgar Sports Park	a rural setting	
				resulting from raised Black		property would result in the		
				Creek crossing structure		loss of two sports fields		
				through residential area		• Visual intrusion of new road		
						in a rural setting		
Noise and Air		Qualitative	Residential properties along Trafa	lgar Road are considered noise sen	sitive areas.	• Most of the land uses along the	ese alignments are agricultural and	
Quality		Description	• There will likely be a slight increa	ase in noise level as a result of the p	proposed road widening. However,	with very few noise sensitive a	areas.	
			the absolute noise level increase w	vould be relatively less than Alterna	atives 2 and 3.	• The potential increase in noise	level would be greater compared to	
			• A noise analysis will be carried ou	at once a preferred alternative is sel	ected.	Alternatives 1A, 1B, and 1C as	s noise sensitive areas under these	
			• The overall air quality would be s	imilar to existing condition with in	cremental change with additional	alternatives are currently in a r	rural setting.	
			traffic. An air quality study will b	be carried out once a preferred alter	native is selected.	• A noise analysis will be carried selected.	d out once a preferred alternative is	
						 Both alternatives would be intra 	roducing a new road in a rural	
							vegetation and localized air quality	
							will be carried out once a preferred	
						alternative is selected		
Illumination		Qualitative	• Corridor will be outfitted with star	ndard illumination fixtures where n	ecessary	-		
		Description						
SUMMARY –			SEE SEPARATE SUMMARY					
Socio-								
Economic								
Environment								
Cultural Enviror			1	1				
Cultural		Qualitative	• No direct impact to Devereaux	• While there would be no	• No direct impact to	• No direct impacts to	• No direct impacts Devereaux	
Heritage		Descriptions	House (11494 Trafalgar Road),	direct impact to the	Devereaux House (11494	Devereaux House (11494	House (11494 Trafalgar Road),	
Landscapes &			which is designated under Part	Devereaux House, the	Trafalgar Road), which is	Trafalgar Road), which is	which is designated under Part	
Built Heritage			IV of the Ontario Heritage Act.	physical infrastructure of the	designated under Part IV of	designated under Part IV of	IV of the Ontario Heritage Act.	
Resources			However, the direct access to	road and side walk would	the Ontario Heritage Act.	the Ontario Heritage Act.	• Potential for a total of nine	
			Trafalgar Road will be removed	encroach onto the area inside	However, the direct access to	• Potential for a total of seven	indirect impacts. There will be	
			and access to Devereaux House	the property's picket fence	Trafalgar Road will be	indirect impacts. There will	physical change to the	
			will be via the Trafalgar Sports	and be located in very close	removed and access to	be physical change to the	character of the following	
			Park access.	proximity to the Devereaux	Devereaux House will be via	character of the following	cultural heritage landscapes:	
			• Impact to Black Creek crossing,	House.	the Trafalgar Sports Park	cultural heritage landscapes:	o two roadscapes: Trafalgar	
			which is identified as a built	• Impact to Black Creek	access.	o two roadscapes: Trafalgar	Road, and Highway 7;	
			heritage resource.	crossing, which is identified	Impact to Black Creek	Road, and Highway 7;	o one agricultural landscape:	

FACTODS				DESIGN ALTE	RNATIVES – 15 SIDE ROAD TO) HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			 Potential for a total of seven indirect impacts to cultural heritage landscape. There will be physical change to the character of the following cultural heritage landscapes: two roadscapes: Trafalgar Road, and Highway 7; two railscape: CN and Metrolinx; St. John's Anglican Cemetery North Halton Golf and Country Club Residences: 11727 and 11753 Trafalgar Road 	 as a built heritage resource. Potential for a total of seven indirect impacts cultural heritage landscape. There will be physical change to the character of the following cultural heritage landscapes: two roadscapes: Trafalgar Road, and Highway 7; two railscape: CN and Metrolinx; St. John's Anglican Cemetery North Halton Golf and Country Club Residences: 11727 and 11753 Trafalgar Road 	 crossing, which is identified as a built heritage resource. Potential for a total of seven indirect impacts cultural heritage landscape. There will be physical change to the character of the following cultural heritage landscapes: two roadscapes: Trafalgar Road, and Highway 7; two railscape: CN and Metrolinx; St. John's Anglican Cemetery North Halton Golf and Country Club Residences: 11727 and 	 two railscape: CN and Metrolinx; one agricultural landscape: Lots 1-15, Concessions 7 & 8, geographic Township of Esquesing; and three farm complexes located at 10746 Trafalgar Road, 12268 15 Side Road, and 12794 20 Side Road 	 Lots 1-15, Concessions 7 & 8, geographic Township of Esquesing; two railscape: CN and Metrolinx; one residence at 12337 17 Side Road; and four farm complexes: 10746 Trafalgar Road,12399 and 12268 15 Side Road, and 12794 20 Side Road
Archaeology Resources		Qualitative Descriptions	_	e existing Trafalgar Road corridor cal impacts are anticipated at this tin uctural improvements being carried	me, though there is some potential	_	chaeological finds in undisturbed cossing. A Stage 2 Archaeology
SUMMARY – Cultural Environment			SEE SEPARATE SUMMARY				
Natural Environ	-1						
Policy Areas	Impacts to designated natural environmental features/areas	Qualitative and Quantitative	Although Alternative 1 options impact the greatest number of policy defined areas, it has the least amount of direct and in-direct impacts on affected natural features. Encroachment into features is minor and generally located immediately adjacent to the existing Trafalgar Road ROW.	Although Alternative 1 options impact the greatest number of policy defined areas, it has the least amount of direct and in- direct impacts on affected natural features. Encroachment into features is minor and generally located immediately adjacent to the existing Trafalgar	Although Alternative 1 options impact the greatest number of policy defined areas, it has the least amount of direct and in- direct impacts on affected natural features. Encroachment into features is minor and generally located immediately adjacent to the existing Trafalgar	Although the total number of policy defined areas impacted would be less than the Alternative 1 options, a greater total area is required to be removed and removed from features that have increased sensitivity/significance. A greater area of lands designated	Although the total number of policy defined areas impacted would be less than the Alternative 1 options, a greater total area is required to be removed and removed from features that have increased sensitivity/significance. A greater area of lands designated under the Greenbelt is impacted

EL CEODO	NDICATOD			DESIGN ALTE	RNATIVES – 15 SIDE ROAD TO	D HIGHWAY 7	
FACIORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1AThe typical cross section has been reduced (e.g. by eliminating the on- street bike lanes) to reduce encroachment to adjacent natural features.Summary: The following policy defined areas are affected by this alignment: Regional Official Plan- Halton Region (2009)Alignment encroaches within 7 features in total, all designated as part of the Regional Natural Heritage System.• Feature #15 (woodland). A	ALTERNATIVE 1B Road ROW. This Alternative potentially impacts additional potentially suitable BOBO and EAME habitat (provincially threatened species under ESA) located north of 17 Side Road (old field/cultural meadow). As such additional policy considerations under the ESA apply. But it also results in less encroachment into Feature #13. Summary: Potential impacts on policy defined areas are the same as		ALTERNATIVE 2under the Greenbelt is impacted from this alternative. The total impacted area is less than Alternative 3 but more than the Alternative 1 options. This Alternative also requires bisecting through significant policy areas.Summary: The following policy defined areas are affected by this alignment: Regional Official Plan- Halton Region (2009) - Alignment encroaches within 4	ALTERNATIVE 3from this alternative. The totalimpacted area is greater than allAlternatives. This Alternativealso requires bisecting throughsignificant policy areas.Summary:The following policy definedareas are affected by thisalignment:Regional Official Plan- HaltonRegion (2009)Alignment encroached within 4features in total, all designated aspart of the Regional NaturalHeritage System.
			 small narrow strip (ranging from ~10m to 28 m in width) along the existing ROW (~1,920 m2) (0.19 ha) will require removal. Feature #19 (woodland/watercourse) - A small narrow strip (~7m width) along the existing ROW (~1,520 m2) (0.15 ha) will require removal. Feature # 21 (cultural meadow). A small narrow strip (~6m width) along the existing ROW (~710 m2) would be removed. Feature is highly altered as it is being removed to accommodate development of a sports park for the Town. *Note: Land Use Changes Feature #25 (watercourse/small 	 those described for Alternative 1A, with the exception of the following: Old Field/Cultural Meadow Alternative1B crosses an additional agricultural field that has been identified as potentially suitable BOBO and EAME habitat (provincially Threatened species under the ESA). It would require the remove of 6,427 m2 (0.64 ha) of potential habitat. This field (old field/cultural meadow) is located north of Sideroad 17 and the rail line, east of Trafalgar Road. Additional policy considerations: Endangered Species Act (2007) Feature #13 - There are slightly less removals 	 Feature #13 This alternative would result in the removal of ~ 4,805 m2 (0.5 ha) of habitat, this is the greatest area of removal required of the three options. It includes a 20 m strip along ROW. Although, total area removed is somewhat negligible when compared to Alternative1A. Additional policy considerations: Regional Official Plan- Halton Region (2000), Halton Regional Official Plan (2006), Town of Halton Hills Official Plan (2008), Interference with Wetlands and Alterations to Shorelines and Watercourse160/06 	 features in total, all designated as part of the Regional Natural Heritage System. Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha) would be removed. Feature #22 (woodland) FOD 5-3. An area of ~ 6,170 m2 (0.62 ha) would be removed Feature #24 (Stewarttown Woods ESA) An area of ~13,900 m2 (1.4 ha) would be removed within the Black Creek valley and would severe the ESA (policy designated area). Feature #12 (Black Creek) - Requires the construction of a new crossing structure over 	 Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha) would be removed. Feature #20 (Wetland/Woodland) – a very small portion will require removal (~140 m2) (0.01 ha). Feature #24 (Stewarttown Woods ESA) Feature would be removed at two locations and would sever the ESA - south of 17 Sideroad ~39,580 m2 (3.9 ha), and at the Black Creek Valley ~19,340m2 (1.9 ha). Feature #12 (Black Creek) - This alternative would require the construction of

FACTORS INDICATOR UNIT		RNATIVES – 15 SIDE ROAD	TO HIGHWAY	
FACTORS INDICATOR UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTEI
	woodlot). This alternative	required with this option,		Black Cre
	would not encroach within the	then in Options 1A and 1C		of 15 Side
	feature, but is located adjacent	at~ 2,718 m2 (0.27 ha). This		Natural Herita
	to this feature, in close	includes a narrow strip (~10		Plan indicate
	proximity.	m) to the east and along the		uses are perm
	• Feature #13	ROW. Policy		Regional Natu
	(wetland/woodland). A small	considerations: Regional		System. If dev
	narrow strip (~15m width) to	Official Plan- Halton Region		alteration is to
	the east and along the existing	(2000), Halton Regional		adjacent to the
	corridor (~3,500 m2 in total,	Official Plan (2006), Town		System the pr
	0.35 ha) would be removed.	of Halton Hills Official Plan		to complete a
	• Feature #11 (Hungry Hollow	(2008), Interference with		demonstrate t
	ESA). A small narrow strip	Wetlands and Alterations to		development/
	$(\sim 13 \text{ m width})$ to the east and	Shorelines and		result in a neg
	along existing corridor (~ 1040	Watercourse160/06		ecological fur
	m2).	• Feature #21 (cultural		feature
	• Feature #12 (Black Creek) -	meadow) – additional		Halton Region
	Requires replacement of	removals of vegetation 495		(2006)
	existing crossing structure and	m2 (0.05 ha) are required to the feature that is currently		Impacts 4 feat
	extension to accommodate the	designated as protected		• Feature #
	proposed road widening. This	countryside. Feature is		FOD5-1.
	include enclosure of ~ 37 m	highly altered as it is being		~2,530 m2
	Natural Heritage policies of the	removed to accommodate		be remove
	Plan indicate that transportation	development of a sports		candidate
	uses are permitted within the	park for the Town. Future		Woodland
	Regional Natural Heritage System.	land use will be recreational.		• Feature #2
	If development or site alteration is	Additional policy		FOD 5-3.
	to occur within or adjacent to the	considerations: OMMAH		6,170 m2
	Natural Heritage System the	Greenbelt Plan Natural		removed.
	proponent is required to complete	Heritage System		candidate
	an EIA to demonstrate that the	(2005)*Note: Land Use		Woodland
	development/ alteration will not	Changes		• Feature #2
	result in a negative impact to the			Woods ES
	ecological function of the feature	• Feature #25		~13,900 n
	Halton Regional Official Plan	(woodland/watercourse) -		be remove
	(2006)	This Option does not run		Creek val

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ERNATIVE 2

reek in the proximity de Road.

itage policies of the e that transportation mitted within the atural Heritage levelopment or site to occur within or the Natural Heritage proponent is required an EIA to e that the nt/ alteration will not egative impact to the function of the

onal Official Plan

eatures in total.

- #15 (woodland) An area of m2 (0.25 ha) would ved. Identified as te Significant nds #22 (woodland) 8. An area of \sim 2 (0.62 ha) would be d. Identified te Significant nds #24 (Stewarttown ESA) An area of m2 (1.4 ha) would ved within the Black
- alley and would

ALTERNATIVE 3

a new crossing structure of Black Creek just north of 15 Side Road.

Natural Heritage policies of the Plan indicate that transportation uses are permitted within the Regional Natural Heritage System. If development or site alteration is to occur within or adjacent to the Natural Heritage System the proponent is required to complete an EIA to demonstrate that the development/ alteration will not result in a negative impact to the ecological function of the feature Halton Regional Official Plan (2006)

Impacts 4 features in total.

- Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha) would be removed. Identified as candidate Significant Woodlands
- Feature #20 (Wetland/Woodland) – a very small portion will require removal (~140 m2) (0.01 ha). Identified as candidate Significant Woodlands
- Feature #24 (Stewarttown Woods ESA) Feature would be removed at two locations and would sever

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHW				
TACIONS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTEI	
			 Impacts 6 features in total. Feature #15 (woodland). A small narrow strip (ranging from ~10m to 28 m in width) along the existing ROW (~1,920 m2) (0.19 ha) will require removal. Identified as candidate Significant Woodlands Feature #19 (woodland/watercourse) - A small narrow strip (~7m width) along the existing ROW (~1,520 m2) (0.15 ha) will require removal. Identified as candidate Significant Woodlands Feature #25 (watercourse/small woodlot). This alternative would not encroach within the feature, but is located adjacent to this feature, in close proximity. Identified as candidate Significant Woodlands Feature #13 (wetland/woodland). A small narrow strip (~15m width) to the east and along the existing corridor (~3,500 m2 in total, 0.35 ha) would be removed. Designated as Greenlands A and candidate Significant Woodlands. Feature #11 (Hungry Hollow 	adjacent and in close proximity of Feature #25 as the other Alternative 1 options. Additional policy considerations: Halton Regional Official Plan (2006), Interference with Wetlands and Alterations to Shorelines and Watercourse160/06		severe the designated Designate and B and candidate Woodland Feature #1 Requires t a new cro Black Cre of 15 Side as Greenla Creek cor Natural Herita Plan indicate works may be Greenlands. V occur within o Greenlands Sy proponent is r complete an E Impact Assess demonstrate t development/ result in a neg ecological fur feature. Shoul be selected, th the woodland evaluated Town of Halto Plan (2008) Impacts 3 feat designated as Significant W	

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ERNATIVE 2

ne ESA (policy red area). ted as Greenlands A nd identified te Significant

nds.

#12 (Black Creek) s the construction of rossing structure over reek in the proximity de Road. Designated nlands A (Black orridor).

itage policies of the e that infrastructure be permitted within Works that are to or adjacent to the System the required to Environmental essment (EIA) to that the t/alteration will not egative impact to the unction of the uld this alternative the significance of ds should be

lton Hills Official

eatures in total, all as Candidate Woodlands.

#15 (woodland)

ALTERNATIVE 3

the ESA - south of 17 Sideroad ~39,580 m2 (3.9 ha), and at the Black Creek Valley. Designated as Greenlands A and B and identified as candidate Significant Woodlands.

 Feature #12 (Black Creek)

 This alternative would require the construction of a new crossing structure of Black Creek just north of 15 Side Road.
 Designated as Greenlands A (Black Creek corridor)

Natural Heritage policies of the Plan indicate that infrastructure works may be permitted within Greenlands. Works that are to occur within or adjacent to the Greenlands System the proponent is required to complete an Environmental Impact Assessment (EIA) to demonstrate that the development/alteration will not result in a negative impact to the ecological function of the feature. Should this alternative be selected, the significance of the woodlands should be evaluated Town of Halton Hills Official Plan (2008) Impacts 3 features in total, all designated as Candidate Significant Woodlands.

TRAFALGAR ROAD ENVIRONMENTAL ASSESSMENT – 15 SIDE ROAD TO HIGHWAY 7 Analysis and Evaluation of Alternatives As of July 20, 2015

EACTODE		UNIT		DESIGN ALTER	RNATIVES – 15 SIDE ROAD T	O HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			(~13 m width) to the east and			FOD5-1. An area of	• Feature #15 (woodland)
			along existing corridor (~ 1040			~2,530 m2 (0.25 ha) would	FOD5-1. An area of
			m2). Designated as Greenlands			be removed.	~2,530 m2 (0.25 ha)
			A (Black Creek corridor) and			• Feature #22 (woodland)	would be removed.
			Greenlands B (remaining ESA			FOD 5-3. An area of ~	• Feature #20
			lands) and candidate			6,170 m2 (0.62 ha) would be	(Wetland/Woodland) – a
			Significant Woodlands.			removed	very small portion will
			• Feature #12 (Black Creek) -			• Feature #24 (Stewarttown	require removal (~140
			Requires replacement of			Woods ESA) An area of	m2) (0.01 ha).
			existing crossing structure and			~13,900 m2 (1.4 ha) would	• Feature #24 (Stewarttown
			extension to accommodate the			be removed within the Black	Woods ESA) Feature
			proposed road widening. This			Creek valley and would	would be removed at two
			includes enclosure of ~37 m.			severe the ESA (policy	locations and would sever
			Designated as Greenlands A			designated area).	the ESA - south of 17
			(Black Creek corridor).			Natural Heritage policies of the	Sideroad ~39,580 m2 (3.9
			Natural Heritage policies of the			Plan prohibit development	ha), and at the Black
			Plan indicate that infrastructure			within significant wetlands and	Creek Valley
			works may be permitted within			significant habitat of endangered	Natural Heritage policies of the
			Greenlands. Works that are to			and threatened species as well as	Plan prohibit development within
			occur within or adjacent to the			restriction of activities within	significant wetlands and
			Greenlands System the proponent			remaining natural heritage	significant habitat of endangered
			is required to complete an			features unless demonstrated	and threatened species as well as
			Environmental Impact Assessment			through the completion of an	restriction of activities within
			(EIA) to demonstrate that the			Environmental Impact Study	remaining natural heritage
			development/alteration will not			(EIS) that there will be no	features unless demonstrated
			result in a negative impact to the			negative impact on the feature or	through the completion of an
			ecological function of the feature.			its ecological function.	Environmental Impact Study
			Should this alternative be selected.				(EIS) that there will be no
			the significance of the woodlands			OMMAH Greenbelt Plan	negative impact on the feature or
			should be evaluated			Natural Heritage System (2005)	its ecological function.
			Town of Halton Hills Official Plan			Impacts 3 features in total,	
			(2008)			designated as protected	OMMAH Greenbelt Plan Natural
			Impacts 4 features in total, all			countryside.	Heritage System (2005)
			designated as Candidate Significant			• Feature #15 (woodland)	Impacts 3 features in total,
			Woodlands.			FOD5-1. An area of	designated as protected
						~2,530 m2 (0.25 ha) would	countryside.
			• Feature #15 (woodland). A				

EACTODE	NDICATOD	LINUT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3	
			small narrow strip (ranging			be removed.	• Feature #15 (woodland)	
l			from ~10m to 28 m in width)			• Feature #22 (woodland)	FOD5-1. An area of	
l			along the existing ROW			FOD 5-3. An area of ~	~2,530 m2 (0.25 ha)	
l			(~1,920 m2) (0.19 ha) will			6,170 m2 (0.62 ha) would be	would be removed.	
l			require removal.			removed	• Feature #20	
l			• Feature #19 (woodland) - A			• Feature #24 (Stewarttown	(Wetland/Woodland) – a	
l			small narrow strip (~7m width)			Woods ESA) An area of	very small portion will	
l			along the existing ROW			~13,900 m2 (1.4 ha) would	require removal (~140	
l			(~1,520 m2) (0.15 ha) will			be removed within the Black	m2) (0.01 ha).	
l			require removal.			Creek valley and would	• Feature #24 (Stewarttown	
l			• Feature #13			severe the ESA (policy	Woods ESA) Feature	
l			(wetland/woodland). A small			designated area).	would be removed at two	
l			narrow strip (~15m width) to			Infrastructure is permitted within	locations and would sever	
l			the east and along the existing			Protected Countryside if	the ESA - south of 17	
l			corridor (~3,500 m2 in total,			demonstrated there will not be a	Sideroad ~39,580 m2 (3.9	
l			0.35 ha) would be removed.			significant impact on the form	ha), and at the Black	
I			• Feature #11 (Hungry Hollow			and function of the feature and	Creek Valley.	
l			ESA). A small narrow strip			there is no other reasonable	Infrastructure is permitted within	
l			(~13 m width) to the east and			alternative. The amount of	Protected Countryside if	
I			along existing corridor (~ 1040			Greenbelt, particularly the	demonstrated there will not be a	
l			m2).			Natural Heritage System, should	significant impact on the form	
l			Natural Heritage policies of the			be minimized where feasible.	and function of the feature and	
l			Plan prohibit development within			Niagara Escarpment Area Plan	there is no other reasonable	
l			significant wetlands and significant			(2005)	alternative. The amount of	
l			habitat of endangered and			Within the study area, a small	Greenbelt, particularly the	
l			threatened species as well as			portion of the northern extent of	Natural Heritage System, should	
I			restriction of activities within			the study area located along Side	be minimized where feasible.	
l			remaining natural heritage features			Road 20 falls under the Niagara	Niagara Escarpment Area Plan	
l			unless demonstrated through the			Escarpment Plan area,	(2005)	
I			completion of an Environmental			specifically the land is	Within the study area, a small	
I			Impact Study (EIS) that there will			designated as Niagara	portion of the northern extent of	
I			be no negative impact on the			Escarpment - Rural Area.	the study area located along Side	
I			feature or its ecological function.			Alternative 2 will require	Road 20 falls under the Niagara	
I			OMMAH Greenbelt Plan Natural			10,710m2 (9.9 ha) of land under	Escarpment Plan area,	
I			Heritage System (2005)			this designation.	specifically the land is designated	
I			Impacts 2 features in total,				as Niagara Escarpment - Rural	

	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACIORS INDICATOR UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
FACTORS INDICATOR UNIT INDICATOR UNIT INDICATOR INDICATOR I	ALTERNATIVE 1Adesignated as protected countryside.• Feature #15 (woodland). A small narrow strip (ranging from ~10m to 28 m in width) along the existing ROW (~1,920 m2) (0.19 ha) will require removal. Protected Countryside• Feature # 21 (cultural meadow). A small narrow strip (~6m width) along the existing ROW (~710 m2) would be removed that is currently designated as protected countryside. Feature is highly altered as it is being removed to accommodate development of a sports park for the Town. Future land use will be recreational.Infrastructure is permitted within Protected Countryside if demonstrated there will not be a significant impact on the form and function of the feature and there is no other reasonable alternative. The amount of Greenbelt, particularly the Natural Heritage System, should be minimized where feasible. Niagara Escarpment Area Plan (2005)				ALTERNATIVE 3 Area. Alternative 3 will require 10,710m2 (9.9 ha) of land under this designation. Permitted uses of these areas applicable to this study include; existing uses, and transportation and utility facilities with only linear facilities being permitted in prime agricultural areas. Endangered Species Act (2007) A total of 5 features identified as potential SAR habitat that have potential to be impacted. They are identified either as features that are suitable SAR habitat or a feature where SAR occurrence records are present. Suitable Habitats: • Agricultural Fields (hay crop)– Alignment would cross an agricultural field (hay crop) that has been identified as potentially suitable BOBO and EAME habitat (provincially Threatened species under the ESA). This area is ~11,400m2 (1.14 ha) in size. • Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha)		

EACTODS		UNIT		DESIGN ALTE	RNATIVES – 15 SIDE ROAD T	O HIGHWAY 7
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERN
			Road 20 and the rail line, falls			(Stewartt
			under the Niagara Escarpment Plan			ESA) Ar
			area, specifically the land is			m2 (1.4)
			designated as Niagara Escarpment			removed
			- Rural Area.			Black Cr
			Alternative 1 (all options) will			would se
			require 9,900m2 (9.9 ha) of land			(policy d
			under this designation.			Ensure all requir
			Permitted uses of these areas			Endangered Spe
			applicable to this study include;			2007) are addres
			existing uses, and transportation			applicable.
			and utility facilities with only			Additional targe
			linear facilities being permitted in prime agricultural areas.			EAME surveys
			Endangered Species Act (2007)			required prior to
			A total of 5 features identified as			of Detailed Desi
			potential SAR habitat that have			Compensation o
			potential to be impacted. They are			area in terms of
			identified either as features that are			may be required
			suitable SAR habitat or a feature			the findings of the
			where SAR occurrence records are			Impacts to SAR
			present.			removal of habit be assessed once
			Suitable Habitats:			
			• Agricultural Fields (hay crop)			vegetation remo
			located north and south of the			screen for suitab
			railway line, south of Hwy 7			cavity/snag trees
			would be crossed by the new			undertaken.
			alignments, resulting in the			Federal Fisherie
			removal of $\sim 18,500 \text{ m2}$ (1.8 ha)			A total of 3 wate
			of potential habitat			habitat) are impa
			• Feature #15 (woodland). A			include:
			small narrow strip (ranging			
			from ~10m to 28 m in width)			• Feature #16
			along the existing ROW			Would requi
			(~1,920 m2) (0.19 ha) will			crossing stru
			require removal.			enclosure of
			· · · · · · · · · · · · · · · · · · ·			where the ne

ERNATIVE 2

warttown Woods) An area of ~13,900 1.4 ha) would be oved within the k Creek valley and ld severe the ESA cy designated area).

equirements of the Species Act (ESA ldressed, as

argeted BOBO and eys would be or to the completion Design. on of the removed s of habitat removal uired depending on of those surveys. SAR bats from habitat should also once details of emovals are Additional surveys to

uitable habitat (i.e. trees) should be

eries Act (1985) watercourses (fish impacted, which

#16 (watercourse). require a new structure and re of the feature ne new road segment

ALTERNATIVE 3

Occurrence Records:

 Feature #24 (Stewarttown Woods ESA) Feature would be removed at two locations and would sever the ESA - south of 17 Sideroad ~39,580 m2 (3.9 ha), and at the Black Creek Valley.

Ensure all requirements of the Endangered Species Act (ESA 2007) are addressed, as applicable.

Additional targeted BOBO and EAME surveys would be required prior to the completion of Detailed Design. Compensation of the removed area in terms of habitat removal may be required depending on the findings of those surveys. Impacts to SAR bats from removal of habitat should also be assessed once details of vegetation removals are confirmed. Additional surveys to screen for suitable habitat (i.e. cavity/snag trees) should be undertaken.

Federal Fisheries Act (1985) A total of 3 watercourses (fish habitat) are impacted, which include:

> • Feature #16 (watercourse). Would require two new crossing structures and

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACIORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNA		
			• Feature #19			will cross.		
			(woodland/watercourse) - A			• Feature #12 (I		
			small narrow strip (~7m width)			Requires the c		
			along the existing ROW			a new crossing		
			(~1,520 m2) (0.15 ha) will			Black Creek in		
			require removal.			of 15 Side Ro		
			Occurrence Records Present:			• Feature #10 (e		
						watercourse) -		
			• Feature #11 (Hungry Hollow			through agricu		
			ESA). A small narrow strip			alignment will		
			$(\sim 13 \text{ m width})$ to the east and			culvert structu		
			along existing corridor (~ 1040			Fisheries Act revi		
			m2).			objectives should		
			Ensure all requirements of the			as well as 'measur		
			Endangered Species Act (ESA			harm' should be in		
			2007) are addressed, as applicable.			avoid impacts to t		
			Additional targeted BOBO and			environment. Any		
			EAME surveys would be required			have potential to '		
			prior to the completion of Detailed			harm' fish or fish		
			Design. Compensation of the			requires review ar		
			removed area in terms of habitat			authorization from		
			removal may be required			CVC Regulation of		
			depending on the findings of those			Development, Inte		
			surveys. Impacts to SAR bats from			Wetlands and Alte		
			removal of habitat should also be			Shorelines and		
			assessed once details of vegetation			Watercourse160/0		
			removals are confirmed. Additional			• Feature #16 (v		
			surveys to screen for suitable			Would require		
			habitat (i.e. cavity/snag trees)			crossing struct		
			should be undertaken.			enclosure of th		
			Federal Fisheries Act (1985) A total of 5 watercourses (fish			where the new		
			habitat) are impacted, which			will cross.		
			include:			• Feature #24 (S		
						Woods ESA)		
			• Feature #16 (watercourse) -			~13,900 m2 (1		
			Would require two new			be removed w		

ATIVE 2

- (Black Creek) construction of ng structure over in the proximity load. (ephemeral – flows cultural fields,
- ill require new ture.
- view exemption d be considered ures to avoid implemented to the aquatic ny works that 'seriously h habitat and om DFO. of terference with lterations to /06
- (watercourse). re a new cture and the feature w road segment (Stewarttown
-) An area of (1.4 ha) would within the Black

ALTERNATIVE 3

enclosure of the feature where the new road segment will cross.

- Feature #12 (Black Creek) - This alternative would require the construction of a new crossing structure of Black Creek just north of 15 Side Road.
- Feature #10 (ephemeral watercourse) – flows through agricultural fields, alignment will require new culvert structure.

Fisheries Act review exemption objectives should be considered as well as 'measures to avoid harm' should be implemented to avoid impacts to the aquatic environment. Any works that have potential to 'seriously harm' fish or fish habitat requires review and authorization from DFO. CVC Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourse160/06

- Feature #16 (watercourse). Would require two new crossing structures and enclosure of the feature where the new road segment will cross.
- Feature #24 (Stewarttown Woods ESA) Feature would be removed at two

TRAFALGAR ROAD ENVIRONMENTAL ASSESSMENT – 15 SIDE ROAD TO HIGHWAY 7 Analysis and Evaluation of Alternatives As of July 20, 2015

				DESIGN ALTE	RNATIVES – 15 SIDE ROAD T	O HIGHWAY 7	
FACTORSI	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			 ALTERNATIVE TA crossing structures and enclosure of the feature where the new road segments will cross. Feature #19 (watercourse) - An extension of the existing culvert will also be required which will enclose ~21 m of watercourse. Feature #14 (watercourse) – Requires extension (~10 m upstream and ~12 m downstream) of existing culvert structure and possible replacement. Feature #25 (watercourse) This alternative would not encroach within the feature, but is located adjacent to this feature, in close proximity Feature #12 (Black Creek) - Requires replacement of existing crossing structure and extension to accommodate the proposed road widening. This include enclosure of ~37 m Fisheries Act review exemption objectives should be considered as well as 'measures to avoid harm' should be implemented to avoid impacts to the aquatic environment. Any works that have potential to 'seriously harm' fish or fish habitat requires review and authorization from DFO. CVC Regulation of Development, 			 ALTERNATIVE 2 Creek valley and would severe the ESA (policy designated area). Feature #12 (Black Creek) - Requires the construction of a new crossing structure over Black Creek in the proximity of 15 Side Road. Feature #10 (ephemeral watercourse) – flows through agricultural fields, alignment will require new culvert structure. Any works proposed within regulated areas will require a permit from CVC (Reg 160/06). Provincial Policy Statement (2014) Fish Habitat Habitat of Endangered and Threatened Species Candidate SWH Candidate Significant Woodlands 	 ALTERNATIVE 3 locations and would sever the ESA - south of 17 Sideroad ~39,580 m2 (3.9 ha), and at the Black Creek Valley Feature #12 (Black Creek) This alternative would require the construction of a new crossing structure of Black Creek just north of 15 Side Road. Feature #10 (ephemeral watercourse) – flows through agricultural fields, alignment will require new culvert structure. Any works proposed within regulated areas will require a permit from CVC (Reg 160/06). Provincial Policy Statement (2014) Fish Habitat Habitat of Endangered and Threatened Species Candidate SWH Candidate Significant Woodlands

FACTORS	INDICATOR			DESIGN ALTE	RNATIVES – 15 SIDE ROAD TO	HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			Interference with Wetlands and				
			Alterations to Shorelines and				
			Watercourse160/06				
			• Feature #16 - Would require				
			two new crossing structures				
			and enclosure of the feature				
			where the new road segments				
			will cross.				
			• Feature #19 - An extension of				
			the existing culvert will also be				
			required which will enclose				
			~21 m of watercourse.				
			• Feature #14 (watercourse) –				
			Requires extension (~10 m				
			upstream and ~12 m				
			downstream) of existing culvert				
			structure and possible				
			replacement.				
			• Feature #25 (watercourse/small				
			woodlot) - This alternative				
			would not encroach within the				
			feature, but is located adjacent				
			to this feature, in close				
			proximity				
			• Feature #13				
			(wetland/woodland). A small				
			narrow strip (~15m width) to				
			the east and along the existing				
			corridor (~3,500 m2 in total,				
			0.35 ha) would be removed.				
			• Feature #11 (Hungry Hollow				
			ESA). A small narrow strip				
			(~13 m width) to the east and				
			along existing corridor (~				
			1040 m2).				
			• Feature #12 (Black Creek) -				

EACTODS	NIDICATOD	LINUT		DESIGN ALTE	RNATIVES – 15 SIDE ROAD TO	D HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			Requires replacement of existing crossing structure and extension to accommodate the proposed road widening. This include enclosure of ~37 m				
			Any works proposed within regulated areas will require a permit from CVC (Reg 160/06). Provincial Policy Statement (2014)				
			 Fish Habitat Habitat of Endangered and Threatened Species Candidate SWH Candidate Significant Woodlands 				
Vegetation	Impact to vegetation, considering sensitivity, quality and significance of vegetation (including provincially or regionally rare/uncommon plant species) and relative magnitude of potential effect	Qualitative and Quantitative	Minor amounts of vegetation removal required, removals are primarily limited to along the existing ROW that is already disturbed. Slightly more vegetation removals then Alternative1B but less than all others alternatives. Summary: Individual tree removal will be required to accommodate the widened ROW. No provincially or regionally significant species are anticipated to be impacted, although would require confirmation during detailed design. Minor vegetation removals required to accommodate proposed road widening and intersection improvements. Vegetation affected	 Minor amounts of vegetation removal required, removals are primarily limited to along the existing ROW that is already disturbed. Least amount of vegetation removal and potential for in-direct impacts on vegetation amongst all alternatives. Summary: Potential impacts on vegetation are the same as those described for Alternative 1A, with the exception of the following: Feature #13 - There are slightly less removals required under Alternative 1B, than in Alternatives 1A and 1C at ~ 2,718 m2 (0.27 ha). This includes a 	 Minor amounts of vegetation removal required, removals are primarily limited to along the existing ROW that is already disturbed. Slightly more vegetation removals then Alternative1B and 1A but considerably less then Alternative 2 and 3. Summary: Potential impacts on vegetation are the same as those described for Alternative 1A, with the exception of the following: Feature #13 - This alternative would result in the removal of ~ 4,805 m2 (0.5 ha) of habitat, this is the greatest area of removal amongst the 	Considerably greater amount of vegetation removal required with this alternative when compared to Alternatives 1A, 1B, 1C, but a lesser amount of amount of vegetation removal required when compared to Alternative 3. Vegetation removal includes larger areas and in several features that have increased sensitivity / significance. Summary: Individual tree and hedgerow removal will be required to accommodate the new road alignment. No provincially or regionally significant species are anticipated to be impacted, although would require	Considerably greater amount of vegetation removal required with this alternative when compared to Alternatives 1A, 1B, 1C, greatest amount of vegetation removals of all the alternatives. Vegetation removal includes larger areas and in several features that have increased sensitivity / significance. Summary: Individual tree and hedgerow removal will be required to accommodate the new ROW road alignment. No provincially or regionally significant species are anticipated to be impacted, although would require confirmation during detailed design.

	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS INDICATOR UNI	I ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
	 is predominantly common, disturbance tolerant species found within the existing ROW. Small areas of encroachment outside the existing ROW may result in the limited removal of vegetation identified as part of natural vegetation communities. No significant flora species are anticipated to be affected, although would require confirmation during detailed design. This is applicable to the following vegetation units: A small area of CUM1-1 (450m2) (0.05 ha) on the south side of the Metrolinx railway (west of Trafalgar Road). Low sensitivity feature. Feature #15 (woodland) FOD5- 1. A small narrow strip (ranging from ~10m to 28 m in width) along the existing ROW (~1,920 m2) (0.19 ha) would be removed. Feature has moderate sensitivity in the area of encroachment. Feature #19 (woodland) FOD5- 8. A small narrow strip (~7m width) along the existing ROW (~1,520 m2) (0.15 ha) would be removed. Feature has moderate sensitivity, although likely low sensitivity in the area of encroachment. Feature #19 (woodland) FOD5- 8. A small narrow strip (~7m width) along the existing ROW (~1,520 m2) (0.15 ha) would be removed. Feature has moderate sensitivity, although likely low sensitivity in the area of encroachment. Feature #21 (cultural meadow). 	 narrow strip (~10 m) to the east and along the ROW. Feature #21 (cultural meadow) – additional removals of vegetation 495 m2 (0.05 ha) would be required within this vegetation community above what is required in Option 1A, although considered negligible. Feature #25 - This alternative would not run adjacent and in close proximity of Feature #25 as Alternatives 1A and 1C. 	three sub options under Alternative 1. It includes a 20 m strip removal along the ROW. However, the total increased in area removed is somewhat negligible when compared to Alternative 1A.	 confirmation during detailed design. Vegetation removals required to accommodate the construction of the new road alignment. Removal of vegetation within these features has potential to impact significant flora species, although would require confirmation during detailed design. These areas include: Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha) would be removed. Feature has moderate sensitivity. Feature #22 (woodland) FOD 5-3. An area of ~6,540 m2 (0.65 ha) would be removed. Feature has moderate sensitivity. Feature #24/#12 (Stewarttown Woods ESA/Black Creek) SWD 3-4 and SWD. An area of ~4,200 m2 (0.42 ha) would be removed, vegetation removals are more limited compared to Alternative 3 as an agriculture field is present at the crossing location. Feature has high sensitivity. 	 Vegetation removals required to accommodate the construction of the new road alignment. Removal of vegetation within these features has potential to impact significant flora species, although would require confirmation during detailed design. These areas include: Feature #15 (woodland) FOD5-1. An area of ~2,530 m2 (0.25 ha) would be removed. Feature has moderate sensitivity. Feature #20 (Wetland/Woodland) – a very small portion of SWD3-3 would be removed (~140 m2) (0.01 ha). Feature is moderately sensitive. Feature #45 (wetland) MAS2-1. An area of ~1,750 m2 (0.18 ha) would be removed. Feature is low sensitivity. Feature #24/#12 (Stewarttown Woods ESA/Black Creek) FOD/SWC. Vegetation would be removed at two locations. The first, south of 17 Sideroad is ~3,230 m2 (0.32 ha). The second, at the Black Creek Valley ~9,975m2 (0.99 ha). Feature has high sensitivity. 		

TRAFALGAR ROAD ENVIRONMENTAL ASSESSMENT – 15 SIDE ROAD TO HIGHWAY 7 Analysis and Evaluation of Alternatives As of July 20, 2015

FACTOR	INDICATOR	LINUT		DESIGN ALTER	NATIVES – 15 SIDE ROAD T	O HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			A small narrow strip (~6m			of existing vegetation should be	detailed field surveys of existing
			width) along the existing ROW			undertaken to identify presence	vegetation should be undertaken
			(~310 m2 of CUM1-1 and ~400			of provincial or regionally	to identify presence of provincial
			m2 of MAMM 1-12), 0.07 ha,			significant flora species.	or regionally significant flora
			would be removed. Feature is			Overall, there will be removal of	species.
			highly altered as it is being			larger portions of vegetation	Overall, there will be removal of
			removed to accommodate			within the existing natural	larger portions of vegetation
			development. Low sensitivity.			communities/features required to	within the existing natural
			• Feature #25 (watercourse/small			accommodate the new road	communities/features required to
			woodlot) This alternative would			alignments, features in which	accommodate the new road
			not encroach within the feature,			have increased sensitivity/	alignments, features in which
			but is located adjacent to this feature, in close proximity.			significance. Potential impacts	have increased sensitivity/
			There is potential for indirect			on the form and function of	significance. Potential impacts on
			effects to the vegetation within			these features as well as	the form and function of these
			feature from salt spray. Feature			significant flora species.	features as well as significant
			is moderate sensitivity.				flora species.
			• Feature #13				
			(wetland/woodland). A small				
			narrow strip (~15m width)				
			along the existing ROW				
			(~3,500 m2 in total, 0.35 ha),				
			includes FOD5 (~2,100 m2)				
			and SWD2-1 (~1,400 m2)				
			would be removed. Feature has				
			moderate sensitivity, although				
			likely low sensitivity in the area				
			of encroachment.				
			• A small area of MAS 2-1				
			(cattail marsh) along the				
			existing ROW will require				
			removal of ~885 m2 (0.08 ha)				
			of vegetation.				
			• Feature #11 (Hungry Hollow				
			ESA). A small narrow strip				
			(~13 m width) along existing				
			ROW (~ 1040 m2), 0.10 ha,				

FACTODS	NIDICATOR			DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			would be removed. Feature is high sensitivity, although likely low sensitivity in the area of encroachment.						
			Overall, there will be removal of vegetation within the existing ROW and limited removals within existing natural communities/features. Minor encroachment into natural features is not anticipated to affect the form or function of the wetland and woodland features. Minor vegetation removals are not						
			anticipated to affect significant flora species.						
Wildlife	 Impact to species of conservation concern (federally and provincially and TRCA species of conservation concern. Impact on habitat Impacts to wildlife movement opportunities 	Qualitative and Quantitative	Minor amounts of vegetation/habitat removal required, removals are primarily limited to along the existing ROW that is disturbed, limited impact on wildlife and wildlife habitat anticipated. Summary: Individual tree would be removed to accommodate the proposed widened ROW. No provincially or regionally significant fauna species are anticipated to be impacted with the application of appropriate timing windows for removal to address possible nesting birds or roosting bats. Minor vegetation/habitat removals would be required to accommodate	Minor amounts of vegetation/habitat removal required, removals are primarily limited to along the existing ROW that is disturbed, limited impact on wildlife and wildlife habitat anticipated. Increased potential for impacts associated with the presence of additional potentially suitable BOBO and EAME habitat (old field/cultural meadow) north of 17 Side Road (provincially threatened species under ESA). Although, there are slightly less removals required then in Alternatives1A and 1C at ~ 2,718 m2. This includes a narrow strip (~10 m) to the east	Although the Alternative 1 Options impact the greatest number of policy defined areas, it has the least amount of direct and in-direct impacts on affected natural features. This option has slightly more removals of habitats when compared to Alternative 1A but does not have additional risk of impacts to EAME and BOBO from encroaching within the additional agricultural field. Summary: Potential impacts on policy defined areas are the same as those described for Option 1A, with the exception of the following:	This alternative would result in a large amount of vegetation/habitat removal, although, it would avoid larger natural areas therefore less in- direct (noise, light, etc.) impacts when compared to Alternative 3, larger areas of removal required and in several features that have increased sensitivity / significance. Summary: Individual tree and hedgerow removal would be removed to accommodate the new road alignment. No provincially or regionally significant fauna species are anticipated to be impacted with the application of	This alternative would result in the greatest amount of adjacent natural habitat – increased in- direct impacts on wildlife such as noise, light, etc. larger areas of removal required and in several features that have increased sensitivity/significance. Increased bi-section of candidate wildlife movement corridors when compared to other alternatives. Summary: Individual tree and hedgerow removal will be required to accommodate the new road alignment. No provincially or regionally significant fauna species are anticipated to be impacted with the application of		

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FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACIORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTEF			
			 improvements. Vegetation/habitats affected are predominantly within the existing ROW and are generally disturbed due to anthropogenic activity. Small areas of encroachment outside the existing ROW may result in the limited removal of vegetation/habitat identified as part of natural vegetation communities. No significant fauna species or sensitive habitats are anticipated to be affected, although would require confirmation during detailed design. This is applicable to the following vegetation units: A small area of CUM1-1 (~450m2) (0.05 ha) on the south side of the Metrolinx railway (west of Trafalgar Road). Low sensitivity feature, no known sensitive wildlife habitats are anticipated to be affected. BOBO and EAME Habitat. Agricultural fields (hay crop) located north and south of the Metrolinx railway are crossed by the new alignments, resulting in the removal of ~18,500 m2 (1.8 ha) of potential habitat. Feature #15 (woodland) FOD5-1. A small narrow strip ranging from ~10m to 28 m in width along the existing ROW 	 Summary: Potential impacts on wildlife and wildlife habitat are the same as those described for Alternative 1A, with the exception of the following: Alternative 1B crosses an additional agricultural field that has been identified as potentially suitable BOBO and EAME habitat (provincially Threatened species under the ESA). This field (old field/cultural meadow) is located north of 17 Side Road and the CN railway, east of Trafalgar Road. Feature #13 - There are slightly less removals required with this alternative, than in Alternatives 1A and 1C at~ 2,718 m2 (0.27 ha). This includes a narrow strip (~10 m) to the east and along the ROW. Feature has moderate sensitivity, although likely low sensitivity in the area of encroachment. No known sensitive wildlife habitats are anticipated to be affected. Several SCC have been recorded within this feature. Feature #21 (cultural meadow) – additional 	 Feature #13 - This option would result in the removal of ~ 4,805 m2 (0.5 ha) of habitat, this is the greatest area of removal required of the three options. It includes a 20 m strip along ROW. Although, total area removed is somewhat negligible when compared to Alternative 1A. Feature has moderate sensitivity, although likely low sensitivity in the area of encroachment. No known sensitive wildlife habitats are anticipated to be affected. Several SCC have been recorded within this feature. Recommendations: Same as Alternative 1A 	removal to add nesting birds of Vegetation/hal required to acc construction of alignment. The moderate to his significance an SAR and SCC of vegetation of features has por significant fau although would confirmation of design. These • Amphibian removal por documente breeding in south of 20 of Trafalga • BOBO and Alignment agriculturat that has bee potentially and EAME (provincial species und area is ~11 in size. • Feature #13 FOD5-1. A ~2,530 m2 be removed moderate s			

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ERNATIVE 2

address possible s or roosting bats. nabitat removals are accommodate the a of the new road These features have high sensitive / and have records of CC present. Removal n within these potential to impact auna species, puld require n during detailed se areas include:

- an breeding pond pond feature, ited amphibian in 2014. Located 20 Side Road, west gar Road. nd EAME Habitat –
- nt would cross an ral field (hay crop) been identified as ly suitable BOBO *AE* habitat ially Threatened under the ESA). This 11,400m2 (1.14 ha)

#15 (woodland)An area ofn2 (0.25 ha) wouldwed. Feature hase sensitivity,

ALTERNATIVE 3

removal to address possible nesting birds or roosting bats. Vegetation/habitat removals are required to accommodate the construction of the new road alignment. These features have moderate to high sensitive / significance and have records of SAR and SCC present. Removal of vegetation within these features has potential to impact significant fauna species, although would require confirmation at Detailed Design. These areas include:

- Amphibian breeding pond removal pond feature, documented amphibian breeding in 2014. Located south of 20 Side Road, west of Trafalgar Road.
- BOBO and EAME Habitat Alignment crosses an agricultural field (hay crop) that has been identified as potentially suitable BOBO and EAME habitat (provincially Threatened species under the ESA). This area is ~11,400m2 (1.14 ha) in size.
- Feature #15 (woodland)
 FOD5-1. An area of ~2,530
 m2 (0.25 ha) would be
 removed. Feature has
 moderate sensitivity, although
 likely low sensitivity in the

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO H				
FACIORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTE	
			(~1,920 m2) (0.19 ha) would be	removals of		although l	
			removed. Feature has moderate	vegetation/habitat 495 m2		sensitivity	
			sensitivity, although likely low	(0.05 ha) are required within		encroachn	
			sensitivity in the area of	this vegetation community		have been	
			encroachment. Several SCC	above what is required in		this featur	
			have been recorded within this	Option 1A, although		sensitive v	
			feature. No known sensitive	considered negligible.		anticipate	
			wildlife habitats are anticipated	• Feature #25 - This alternative		Between t	
			to be affected. Between this	would not run adjacent and		Feature #1	
			feature and Feature #19 have	in close proximity of Feature		identified	
			been identified as a candidate	#25 as the other two options		wildlife co	
			wildlife corridor.	do, although in-direct		• Feature #2	
			• Feature #19 (woodland) FOD5-	impacts to Feature #25 are		5-3. An ar	
			8. A small narrow strip (~7m	negligible.		(0.65 ha) y	
			width) along the existing ROW	D agamman dations:		Feature ha	
			(~1,520 m2) (0.15 ha) would be	Recommendations:		sensitivity	
			removed. Feature has moderate	Same as Alternative 1A		habitat and	
			sensitivity, although likely low	If selected as the preferred		SCC or SA	
			sensitivity in the area of	alternative, additional targeted		• Feature #2	
			encroachment. Several SCC	BOBO and EAME surveys		(Stewartto	
			have been recorded within this	would be required at Detailed		Black Cre	
			feature. No known sensitive	Design. Compensation of the		SWD. An	
			wildlife habitats are anticipated	removed area in terms of habitat		(0.42 ha) y	
			to be affected. Between this	removal may be required		and the ali	
			feature and Feature #15 have	depending on the findings of		sect this fe	
			been identified as a candidate	those surveys.		removals	
			wildlife corridor.			compared	
			• Feature # 21 (cultural meadow).			an agricul	
			A small narrow strip (~6m			at the cros	
			width) along the existing ROW			Feature is	
			(~310 m2 of CUM1-1 and 400			Several Se	
			m2 of MAMM 1-12). Low			been recor	
			sensitivity, no known sensitive			feature. T	
			wildlife habitats are anticipated			located wi	
			to be affected.			Creek val	
			• Feature #25 (watercourse/small			candidate	

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ERNATIVE 2

likely low ty in the area of ment. Several SCC en recorded within ure. No known wildlife habitats are ed to be affected. this feature and #19 have been ed as a candidate corridor #22 (woodland) FOD area of $\sim 6,540 \text{ m}2$ would be removed. has moderate ty. Provides wildlife and high potential for SAR presence. #24/#12 town Woods ESA/ ceek) SWD 3-4 and n area of 4,200 m2 would be removed alignment would bifeature. Vegetation s would be less

ed to Alternative 3 as ulture field is present ossing location. is high sensitivity. SCC and SAR have

corded within this This Feature is within the Black alley, which is a te wildlife movement

ALTERNATIVE 3

area of encroachment. Several SCC have been recorded within this feature. No known sensitive wildlife habitats are anticipated to be affected. Between this feature and Feature #19 have been identified as a candidate wildlife corridor

Feature #20

 (Wetland/Woodland) – a very small portion of SWD3-3
 would be removed (~140 m2)
 (0.01 ha). This feature has confirmed amphibian breeding habitat and SWH. Feature is moderately sensitive.

 Feature #45 (wetland) MAS2-1, a small wet depressional area. An area of ~1,750 m2 would be removed and the alignment would bi-sect this feature. Feature has confirmed amphibian breeding habitat. Feature is low sensitivity.

 Feature #24/#12 (Stewarttown Woods ESA/Black Creek) FOD/SWC. Vegetation would be removed at two locations. The first, south of 17 Side Road ~3,230 m2 (0.32 ha). The second, at the Black Creek Valley ~9,975m2 (0.99 ha) Feature is high sensitivity. Several SCC and SAR have been recorded within this

EACTODS			DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			 woodlot) – This alternative would not encroach within the feature, but is located adjacent to this feature, in close proximity. Potential for indirect effects to the wildlife within the feature are anticipated to be negligible as the feature is already impacted (e.g. noise, light from the existing Trafalgar Road) Feature is moderate sensitivity. Feature #13 (wetland/woodland). A small narrow strip (~15m width) along the existing ROW (~3,500 m2 in total), includes FOD5 (~2,150 m2) and SWD2-1 1 (~1,400 m2) would be removed. Feature has moderate sensitivity in the area of encroachment. No known sensitive wildlife habitats are anticipated to be affected. Several SCC have been recorded within this feature. Feature #11 (Hungry Hollow ESA). A small narrow strip (~13 m width) along existing ROW (~ 1040 m2). Feature is high sensitivity in the area of encroachment. No known sensitivity in the area of encroachment. No known 			corridor. Recommendations: Vegetation clearing and culvert removal activities should be carried out outside of identified timing windows to avoid direct impacts to wildlife. Water crossing structure design should consider wildlife passage at those locations identified as candidate wildlife movement corridors (Black Creek valley and between Feature #15/18) as to maintain/improve movement function. Overall, there will be removal of larger portions of vegetation within the existing natural communities/features required to accommodate the new road alignments, features in which have increased sensitivity/ significance. Potential impacts on the form and function of these features as well as significant fauna species. Appropriate mitigation (e.g. timing windows for vegetation removals, culvert design for wildlife passage) should be carried out at. Wildlife within these areas will be displaced to adjacent available habitats.	feature. This Feature is located within the Black Creek valley, which is a candidate wildlife movement corridor. Recommendations: Same as Alternative 2.		

EACTODS		UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7							
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3			
			Feature is located within the							
			Black Creek valley, which is a							
			candidate wildlife movement							
			corridor.							
			The typical cross section has been							
			reduced (e.g. by eliminating the on-							
			street bike lanes) to reduce							
			encroachment to adjacent natural							
			features and the associated habitats.							
			Recommendations:							
			Woodland trees and wetland areas							
			are to be retained and protected, if							
			feasible. Vegetation clearing and							
			culvert removal activities should be							
			carried out outside of identified							
			timing windows to avoid direct							
			impacts to wildlife. Water crossing							
			structure design should consider							
			wildlife passage at those locations							
			identified as candidate wildlife							
			movement corridors (Black Creek							
			valley and between Features 15/19)							
			as to maintain/improve movement							
			function.							
			Additional targeted BOBO and							
			EAME surveys would be required							
			prior to the completion of Detailed							
			Design. Compensation of the							
			removed area in terms of habitat							
			removal may be required							
			depending on the findings of those							
			surveys.							
			Overall, there will be removal of							
			vegetation/habitat within the							
			existing ROW and limited							
			removals within existing natural							

EACTODS			UNIT DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			communities/features. Minor						
			encroachment into natural features						
			is not anticipated to affect the form						
			or function of the wetland and						
			woodland features and habitats.						
			Minor vegetation removals are not						
			anticipated to affect significant						
			fauna species if appropriate						
			mitigation (e.g. timing windows for						
			vegetation removals, culvert design						
			for wildlife passage) is adhered to.						
			Wildlife will be displaced to						
			adjacent available habitats.						
Fisheries and	Effect on fish	Qualitative	Impacts to aquatic features by this	Same as Alternative 1A,	Same as Alternative 1A.	Impacted features include a low	Directly impacted features		
Aquatic Habitat	and fish habitat	and	alternative is limited to extensions	although does not include the		sensitivity feature and a new	include a low sensitivity feature		
	considering	Quantitative	of existing crossings, resulting in	construction of a new road	Recommendations: same as	crossing of a high sensitivity	and a new crossing of a high		
	sensitivity and		minor additional enclosure of	segment adjacent to Feature #	Alternative 1A	feature (Black Creek). The	sensitivity feature (Black Creek),		
	relative		features and minor removals of	25.		crossing location at Black Creek	as well as potential indirect		
	magnitude of		riparian vegetation. The three			is on a meander bend with	impacts to an adjacent		
	potential effect		features with culvert extensions are	Recommendations: same as		confirmed Brook Trout	groundwater-fed stream. The		
			low or moderate sensitivity, and	Alternative 1A		spawning and presence of	conditions at the crossing location		
			the anticipated clear-span bridge			Atlantic Salmon (via fish	of Black Creek are similar to		
			replacement at Black Creek would			stocking reintroduction). A	Alternative 2; however the		
			avoid impacts to the high			clear-span bridge of the meander	meander bend is slightly less		
			sensitivity aquatic habitat feature.			belt would limit potential	pronounced at the crossing		
			A new segment of road is proposed			impacts to the aquatic habitat	location and a clear-span bridge		
			adjacent to one cold water creek,			within the channel, but would	would have less impact to		
			identified as highly sensitive.			impact a large portion of riparian	riparian areas of adjacent reaches.		
			Summary:			vegetation affecting adjacent	Summary:		
			The alternative has the potential to			reaches of the watercourse as	This alternative would impact the		
			impact four aquatic features			well as the section spanned by	ephemeral drainage feature		
			crossing Trafalgar Road. Culvert			the bridge.	(Feature 16) and Black Creek		
			extensions would be required on			Due to the need to raise the road	(Feature 12) as described in		
			three intermittent watercourses,			profile of 15 Side Road to avoid	Alternative 2, with the exception		
			reducing allochthonous and solar			over topping during regional	that the crossing of Black Creek		
			inputs to contributing fish habitat			storm event, the two existing	is on a less pronounced meander		

EACTOR:			DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			and potentially interfering with			Black Creek crossings on 15	bend with slightly reduced		
			groundwater input to the			Side Road would like need to be	impacts to riparian vegetation of		
			watercourses. All three intermittent			replaced.	adjacent reaches.		
			watercourses are contributing fish			Summary:	Additionally, the alternative may		
			habitat with potential, unconfirmed			This alternative would impact	indirectly impact an unmapped		
			seasonal use by fish, and two have			one ephemeral drainage feature	water feature (Feature 43)		
			evidence of groundwater inputs at			and one high sensitivity	adjacent to the route (to the east)		
			the existing culverts. A bridge			watercourse. New crossings	with a combination of tile		
			widening (assumed bridge			would be required for both	drainage and groundwater inputs		
			replacement) would be required at			watercourses, enclosing or	of moderate sensitivity. Details of		
			the existing Black Creek crossing			covering new sections of aquatic	the impacts to this additional		
			location, a permanent, coldwater			habitat, reducing allochthonous	feature follow:		
			watercourse with confirmed direct			and solar inputs. The ephemeral	• Feature #43 (Unmapped		
			fish habitat. At one location, a new			feature is potential contributing	watercourse). This feature		
			road segment is proposed adjacent			fish habitat with unconfirmed	originates as tile drainage into		
			to Feature #25 (intermittent			seasonal flows. The permanent	a modified channel.		
			watercourse). There is potential for			watercourse, Black Creek, is	Groundwater inputs were		
			in-direct impacts to this feature.			confirmed direct fish habitat for	observed flowing from the		
			Details of the impacts to each			sensitive coldwater species and	west at the culvert crossing		
			feature follow:			the new crossing of Black Creek	17 Side Road, and were		
			• Feature #16 (Intermittent			is located on a meander bend of	evident throughout the channel		
			watercourse). This alternative			the watercourse. Details of the	flowing south of the road. The		
			would require two new culvert			impacts to each feature follow:	permanent flow and		
			structures south of the			• Feature #16 (Intermittent	groundwater inputs make this		
			Metrolinx railway, between			drainage). This feature is	a moderately sensitive feature.		
			Trafalgar Road and 20 Side			mapped as an intermittent	The alternative would not		
			Road, enclosing an additional			watercourse. The feature	cross the watercourse, but runs		
			~72 m of this watercourse.			drains toward a confirmed	parallel ~ 25 m to the west.		
			Feature is low sensitivity, with			channel with contributing	Impacts could include		
			no specialized fish habitat.			fish habitat. A new culvert	disruption to groundwater		
			Groundwater inputs are			will be required and enclose	inputs to the watercourse.		
			suspected to be contributing to			\sim 170 m of the feature.			
			existing flow.			Feature is low sensitivity. It	• Feature #10 (ephemeral		
			• Feature #19 (Intermittent			is anticipated to provide in-	watercourse) – flows through agricultural fields, alignment		
			watercourse). This alternative			direct fish habitat	would require new culvert		
			would require a culvert			• Feature #12 – Black Creek	structure and would provide		

E A CEODO				DESIGN ALTE	RNATIVES – 15 SIDE ROAD	TO HIGHWAY 7	
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3
			extension of ~16 m to the west			(Permanent Watercourse). A	in-direct fish habitat.
			and ~ 5 m to the east of			new bridge crossing of the	
			Trafalgar Road, enclosing an			watercourse would be	Recommendations:
			additional ~21 m in total of the			required. This reach of the	Same as Alternative 2.
			watercourse. Based on the			watercourse is high	
			condition of the existing culvert			sensitivity, with coldwater	
			it is anticipated it would be			habitat supporting Brook	
			replaced with a new structure.			Trout with confirmed Brook	
			Feature is moderate sensitivity.			Trout spawning redds within	
			There is no specialized fish			the reach. The reach is also	
			habitat present, but there is			stocked with Atlantic Salmon	
			evidence of groundwater input			(provincially extinct) as part	
			immediately downstream of the			of the reintroduction	
			existing culvert.			program. Significant	
			• Feature #14 (Intermittent			overhanging trees and	
			watercourse). Alternative 1A,			vegetation creating important	
			1B and 1C would require a			cover habitat for fish would	
			culvert extension of ~8 m on			be impacted by the new road	
			the west side and a culvert			alignment. Crossing is on a	
			extension with potential channel			meander bend of the	
			realignment of ~20 m of the			watercourse, increasing risk	
			channel on the east side of			of erosion, and meandering	
			Trafalgar Road. Feature is			of the river over time would	
			moderate sensitivity. There is			be a risk to the structure.	
			no specialized fish habitat				
			present, but there is evidence of			• Feature #10 (ephemeral watercourse) – flows through	
			groundwater input immediately			agricultural fields, alignment	
			upstream of the existing culvert.			will require new culvert	
						structure. Provides in-direct	
			• Feature #25 (intermittent watercourse) – This alternative			fish habitat	
			would not encroach within the				
			feature, but is located adjacent			Recommendations:	
			to this feature, in close			Additional detailed surveys	
			proximity. Potential for indirect			should be undertaken on Feature	
			effects to aquatic habitat from			16 during detailed design should	
			road salt application and			this alternative be selected. The	
			stormwater runoff. Feature has			bridge crossing structure at	
			noted groundwater seepages				ng 20

FACTODS		OR UNIT		DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3			
			 and is anticipated to be in-direct habitat. Feature is moderate sensitivity; brook Trout are known to occur downstream in close vicinity. Feature #12 – Black Creek (Pormanent watercourse) 			Black Creek should be a clear- span structure of the meander belt to avoid impacts to the watercourse; however, this will still impact riparian vegetation. Design considerations should				
			 (Permanent watercourse). Alternatives 1A, 1B and 1C would require the existing Black Creek crossing on Trafalgar Road to be widened by ~30 m to the east (downstream) and ~7 m to the west (upstream), covering an additional ~37 m of the channel, removing riparian vegetation and potentially reducing allochthonous and solar inputs. This is anticipated to be a replacement with a clear-span bridge of the 			 include protection of groundwater sources to aquatic habitat such as with the installation of open-bottom culvert structures. Overall, following design mitigation, impacts to aquatic features will include potential enclosure of Feature 16 (intermittent watercourse), reducing organic inputs to fish habitat downstream, removal of 				
			meander belt. The feature is high sensitivity, coldwater with resident Brook Trout. The bridge widening would potentially impact two specific sensitive features of the watercourse: Widened bridge abutments could interfere with a groundwater seepage channel ~8 m west of the bridge on the north bank; and sensitive fish habitat in the form of a nursery pool with YOY salmonids observed ~6 m east of the bridge on the south bank. This would need to be assessed at detailed design.			riparian vegetation within the Black Creek valley within the crossing location, and covering of ~45 m of high sensitivity habitat by the new bridge.				
			Recommendations:							
			If selected as the preferred							

EACTODS		LINIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
			alternative, fish sampling should be						
			conducted in intermittent features						
			to confirm fish use prior to detail						
			design of crossing structures. All						
			culvert extensions should ideally						
			be replacements with open-bottom						
			structures to minimize impacts to						
			groundwater inputs, especially on						
			Features 19 and 14 where						
			groundwater evidence was						
			observed. Also with footings set						
			outside of the annual high						
			watermark. The proposed clear-						
			span bridge at Black Creek would						
			protect important salmonid rearing						
			habitat along existing channel						
			banks. Areas of groundwater input,						
			such as the northeast bank of Black						
			Creek, should be maintained with						
			appropriate design and fill						
			materials.						
			Overall, potential impacts to						
			sensitive fish habitat and						
			groundwater input channels in						
			Black Creek can be mitigated with						
			appropriate design (i.e. clear-span						
			bridge). Following design						
			mitigation, impacts of these route						
			alternatives would be limited to						
			minor losses of riparian vegetation,						
			allochthonous input and solar						
			inputs to channel sections enclosed						
			or covered by structure extensions.						
Surface Water	Potential to	Qualitative		groundwater quality downstream from ex		• Salt used on roadways is impact			
Quality and	affect surface	Description		the roadway at water crossing locations v	will result in incremental	downstream from existing water			
Quantity	and ground		increase in salt runoff potential in wi	inter months.		Road. Constructing a new road a	and new crossings would result in		

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACIORS	INDICATOR	UNII	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2		
	water quality in adjacent areas					an increase in salt runoff poThe construction of a new r		
						rural and agricultural lands groundwater quality in the		
SUMMARY –			SEE SEPARATE SUMMARY			emissions and related conta		
Natural			SEE SEFAKATE SUMMART					
Environment								
Transportation								
Traffic	Ability to		Accommodate traffic demands thr	ough 2031 along the Trafalgar Roa	ad corridor	Primarily serves interregion		
Operations	accommodate		• Trucks would be able to climb gra			• No improvements to the ex		
(Future	future vehicle		through Stewarttown	, ,		be carried out, e.g. rail cros		
Conditions –	demand		-			Stewarttown and associated		
2031)						• Out of the way travel for re		
						reliability for residents wou		
Road Safety	• Grade through		Opportunity to improve grade of T	Grade through Black Creek				
	Black Creek		at \sim 8%, would improve to \sim 5%);	corridor would not be impr				
	valley		Grade improvements would raise	Rail crossings along existin				
	 Rail crossing 		preventing overtopping of the road	remain at grade				
	safety features		• Opportunity to improve existing a road safety along the existing aligned by	• Sightline issue at 20 Side F not be resolved.				
				Active transportation facili				
						Trafalgar Road alignment		
						• The new corridor would be		
Intersection	Removal or	Number of	• The proposed widening would	• The proposed widening	• The proposed widening	New intersection approxim		
Requirements	addition of	Intersections	improve the operation at 15	would improve the operation	would improve the operation	where the existing Trafalga		
	intersections	and	Side Road intersection	at 15 Side Road intersection	at 15 Side Road intersection	new Trafalgar Road bypass		
	 Intersection 	Qualitative	"South" Stewarttown Road	"South" Stewarttown Road	New signalized intersection at	e e		
	improvements	Descriptions	would become a cul-de-sac and	would become a cul-de-sac	Maple Avenue to the east of	Trafalgar Road intersection		
			"North" Stewarttown Road	and "North" Stewarttown	the existing along the new	signalized intersection wou		
			would become a signalized	Road would become a	alignment	Black Creek crossing struc		
			intersection	signalized intersection	• "South" Stewarttown Road	modified, or replaced in or		
			• The intersection of 17 Side Road	U	would become a cul-de-sac. Access to Stewarttown Road	New signalized intersection		
			/ Maple Avenue would be shifted to the east as a result of	intersection would be closed	would be limited to right-in	• 20 Side Road would be rea		
			the grade separation. The	at the CN Rail crossing. 17 Side Road will be rerouted	right-out access at the	• The approach to the interse		
			ine grade separation. The	Side Road will be relouted				

se in salt runoff potential in winter months.
truction of a new roadway through otherwise undeveloped
agricultural lands has the potential to impact surface and
ater quality in the vicinity as a result of motor vehicle
s and related contaminant runoff.
y serves interregional travel in Halton Region
ovements to the existing Trafalgar Road corridor would
ed out, e.g. rail crossings would remain at-grade in
own and associated delays would not be resolved.
ne way travel for residents of Stewarttown; travel
y for residents would not be improved
rough Black Creek valley along existing Trafalgar Road
would not be improved.
ssings along existing Trafalgar Road alignment would
t grade
e issue at 20 Side Road along existing alignment would
esolved.
ransportation facilities would not be provided on existing
r Road alignment n
corridor would be designed to geometric standards.
ersection approximately 600 m south of 15 Side Road
e existing Trafalgar Road alignment would connect to the
falgar Road bypass
long 15 Side Road approaching the 15 Side Road /
r Road intersection will be raised and a full moves
ed intersection would be implemented. The 15 Side Road /
reek crossing structures would likely need to be raised,
d, or replaced in order to accommodate this grade change.
nalized intersection at 17 Side Road crossing
Road would be realigned and connect to Trafalgar Road
roach to the intersection at Highway 7 would be
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ALTERNATIVE 3

FACTORS	INDICATOR	CATOR UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
FACIORS			ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3	
			 access to Trafalgar Sports Park north of CN Rail crossing would become a signalized intersection Berton Boulevard would become a signalized intersection 20 Side Road would be realigned and connect to Trafalgar Road The approach to the intersection at Highway 7 would be reconfigured 	 through Trafalgar Sports Park (i.e. a portion of the internal road within the Trafalgar Sports Park would become a local road) and would tie in with Trafalgar Road north of the proposed underpass rail crossing. The existing intersection at 17 Side Road / Maple Avenue will be converted to a T-intersection and shifted to the west to accommodate the CN Rail underpass. The access to Trafalgar Sports Park north of CN Rail crossing would become a signalized intersection Berton Boulevard would become a signalized intersection 20 Side Road would be realigned and connect to Trafalgar Road The approach to the intersection at Highway 7 would be reconfigured 	 existing north access point. All other movements will be achieved via a new "service road" and connect to Trafalgar Road via 17 Side Road / Maple Avenue intersection. The access to Trafalgar Sports Park north of CN Rail crossing would become a signalized intersection Berton Boulevard would become a signalized intersection 20 Side Road would be realigned and connect to Trafalgar Road The approach to the intersection at Highway 7 would be reconfigured 	reconfigured.		
Geometric Standards	Minimum Horizontal Geometry: Radius	m	80 km/h Design Speed: Minimum Radius – 250 m Actual Radius – 340 m	80 km/h Design Speed: Minimum Radius – 250 m Actual Radius – 250 m	80 km/h Design Speed: Minimum Radius – 250 m Actual Radius – 340 m	80 km/h Design Speed: Minimum Radius – 340 m Actual Radius – >340 m	80 km/h Design Speed: Minimum Radius – 340 m Actual Radius – >340 m	
	Minimum Vertical Geometry: crest and sag value	Minimum Crest (C) and Sag (S) Value (K)	 80 km/h Design Speed: C - 35 S - 30 Overall profile would be improve grade from ~8% to ~5%. 	80 km/h Design Speed: C – 35 S – 30 d on existing Trafalgar Road north	80 km/h Design Speed: C - 35 S - 30 of 15 Side Road by changing the	 80 km/h Design Speed: C - 35 S - 30 Overall profile to meet desig 	80 km/h Design Speed: C - 35 S - 30 n speed of 80 km/h.	

FACTORS	INDICATOR	UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7					
			ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3	
Rail Operations	Number of crossings: grade separated and/or at-grade	Qualitative Descriptions	• Two existing at-grade crossings along Trafalgar Road (CN Rail and Metrolinx) will be replaced by grade-separated underpass crossings			 Two grade-separated underpass rail crossings will be constructed (CN Rail and Metrolinx crossings) Rail crossings along existing Trafalgar Road corridor and on 17 Side Road will remain at-grade 		
			• The existing CN rail crossing on 17 Side Road would remain at grade.	• The access road through Trafalgar Sports Park would be reconstructed to become a local road connecting 17 Side Road to Trafalgar Road. The existing CN rail crossing on 17 Side Road would be closed.	• The existing CN rail crossing on 17 Side Road would remain at grade.	Rail detours required during construction	 Rail detours required during construction Relocation of rail switches on CN Rail line required 	
Network	Existing network		• Compatible with the existing netw	ork in Stewarttown, and would sup	port existing and future traffic	These alternatives would bypass Stewarttown, mainly serving		
Compatibility	functions	Descriptions	 needs. "South" Stewarttown Road would become a cul-de-sac while "North" Stewarttown Road would become a signalized intersection. The access to Trafalgar Sports Park would become a signalized intersection. 20 Side Road would be realigned to connect to Trafalgar Road. 			 inter-regional travel. Emergency vehicles destined to Georgetown and Stewarttown properties would still have to rely on existing Trafalgar Road; the existing at grade crossings may lead to potential delay in response time or detours. 20 Side Road would be realigned to connect to Trafalgar Road. New intersections at 15 Side Road and 17 Side Road. 		
				• The access road through Trafalgar Sports Park would be reconstructed to become a local road connecting 17 Side Road to Trafalgar Road. The existing CN rail crossing on 17 Side Road would be eliminated.		• Due to the proximity of the new 15 Side Road intersection to the two existing Black Creek crossings and the need to raise the road profile to not overtop during regional storm events, the two existing Black Creek structures may have to be replaced.		
Utilities	Quantity of Relocations Required	Qualitative Description of General Requirements	Utilities relocations on both sides of Trafalgar Road to accommodate widening of the roadway			utility relocation may be require	field land. Localized (i.e. minimal) red. ht standards and intersections along	
SUMMARY – Transportation			SEE SEPARATE SUMMARY			· · · · · ·		

EACTODE		UNIT	DESIGN ALTERNATIVES – 15 SIDE ROAD TO HIGHWAY 7						
FACTORS	INDICATOR	UNIT	ALTERNATIVE 1A	ALTERNATIVE 1B	ALTERNATIVE 1C	ALTERNATIVE 2	ALTERNATIVE 3		
Preliminary Cost Estimate									
Capital Cost		Order of Magnitude	• \$\$\$	• \$\$\$	• \$\$\$	• \$\$\$\$	• \$\$\$\$		
Constructability and	Staging and Detour	Order of Magnitude	• \$\$\$	• \$\$\$	• \$\$\$	• \$\$	• \$\$		
Construction Staging	Requirements	Qualitative Description	 temporarily impact lands immer Court). There would be temporary traff Road, 17 Side Road and 20 Sid Partial lane closures will be req Road to 4 lanes (timing of the c detailed design) The Black Creek crossing will accommodate the replacement of the existing structure may be 	posed underpasses. The rail detour ediately to the north (i.e. future pot fic impacts along Trafalgar Road c le Road intersections due to the pro- quired during construction to accorr closure, i.e. night / weekend / sum	 Rail detours will be required throughout construction for CN Rail (two tracks under Alternative 2 and one track under Alternative 3) and Metrolinx (one track) in the vicinity of the proposed underpasses. The rail detour of the Metrolinx track may temporarily impact lands immediately to the north (i.e. future potential development on Lindsay Court). No impacts to traffic on existing Trafalgar Road alignment during construction. The construction of the new Trafalgar Road bypass would be constructed in greenfield conditions. Partial or temporary full closures and/or detours will be required on 15 Side Road, 17 Side Road, and 20 Side Road when constructing the new intersections. 				
	Geotechnical / Foundation Conditions	Qualitative Description	 regional storm event. Retaining preferred from a geotechnical v Trafalgar Road would be grade 	d also the raise in road profile to a g the Black Creek bridge on the ex viewpoint based on available boreh separated at the CN Rail crossing	void overtopping of the road during isting Trafalgar Road alignment is	to Alternatives 1A, 1B and 10 crossing locations are conside inx Rail crossing south of Highway	7 as underpasses. At present, no		
Maintenance	Total amount of	Order of	S	• \$	S	• \$\$	• \$\$		
Cost	infrastructure to be maintained post- construction	Magnitude			• The new service road between Stewarttown Road and 17 Side Road along the original Trafalgar Road alignment will need to be maintained, resulting in greater long-term maintenance costs	• The original Trafalgar Road alignment plus the new Trafalgar Road corridor will both need to be maintained, resulting in significantly greater long-term maintenance costs	• The original Trafalgar Road alignment plus the new Trafalgar Road corridor will both need to be maintained, resulting in significantly greater long-term maintenance costs		