Central Avenue Bridge Municipal Class Environmental Assessment

Welcome to Public Information Centre # 1

Members of the Study Team are available to listen to your comments and answer your questions

You are welcome to participate by:

- Signing in.
- Reviewing the display panels.
- Asking questions and discussing your ideas with us.
- Submitting your written comments by **December 16, 2011.**
- Indicating whether you would like to be added to the Study Mailing List.

Niagara Region AECOM

Problem/Opportunity & Study Purpose

Problem and Opportunity Statement

The Central Avenue Bridge is the primary transportation link over the CN rail line for vehicular and active transportation (e.g., bicycles and pedestrians) between the Bridgeburg/commercial core and the rest of Fort Erie, and is the only crossing of the CN rail line that can accommodate full-height trucks and buses.

Region of Niagara studies have indicated that the existing bridge is approaching the end of its service life, and because of ongoing deterioration, will continue to need repeated rehabilitations, with their associated traffic and nuisance impacts and ever-increasing cost.

The bridge must undergo a total rehabilitation or be replaced in order to prevent long-term reduction of load capacity and the eventual closure of this critical transportation link. This will provide the opportunity to upgrade the bridge and its approaches to meet current design standards.

Typical medium corrosion of the lateral gusset plates on the bottom chords.

Typical severe corrosion of the top of the bottom chords with up to 3 mm section loss.

Severe corrosion of a vertical truss member L7 under the sidewalk, with perforation through the web.

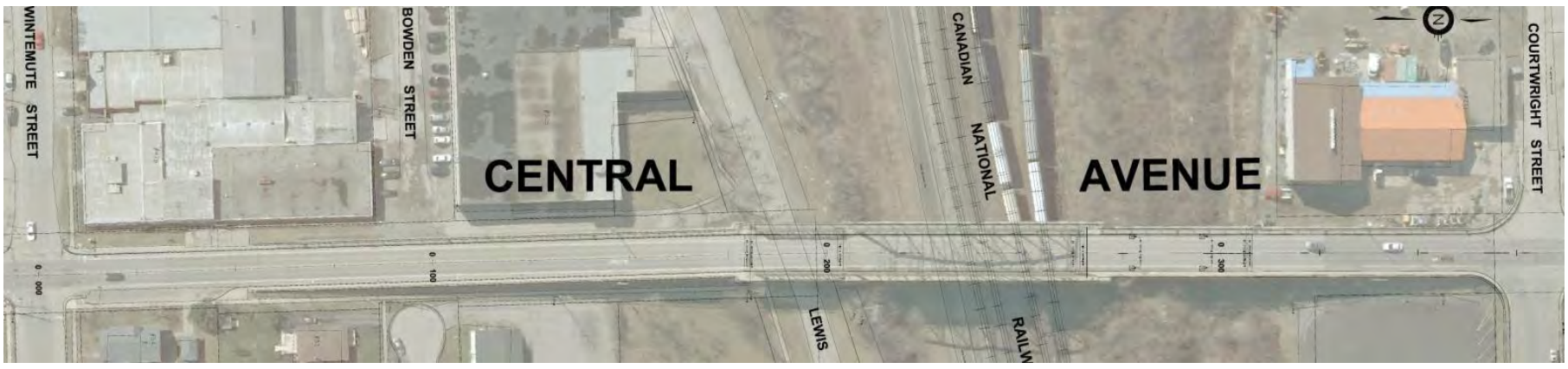
Photos from Ellis Engineering Inc., Detailed Visual Inspection of Truss Panel Points, Central Avenue Through Truss Bridge, March 12, 2010.

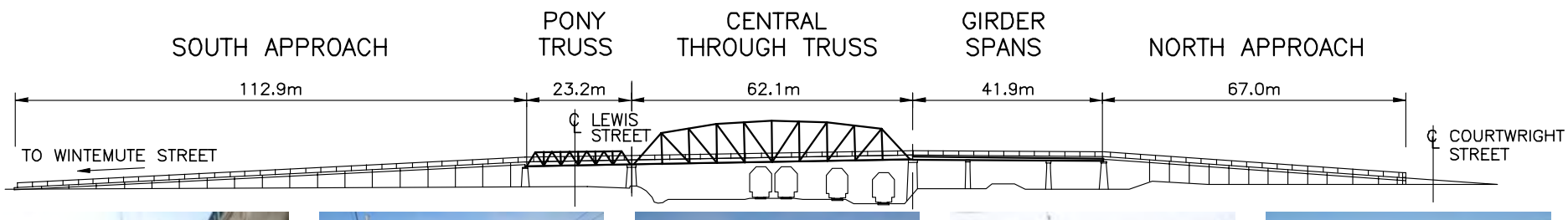
Study Purpose and Objectives

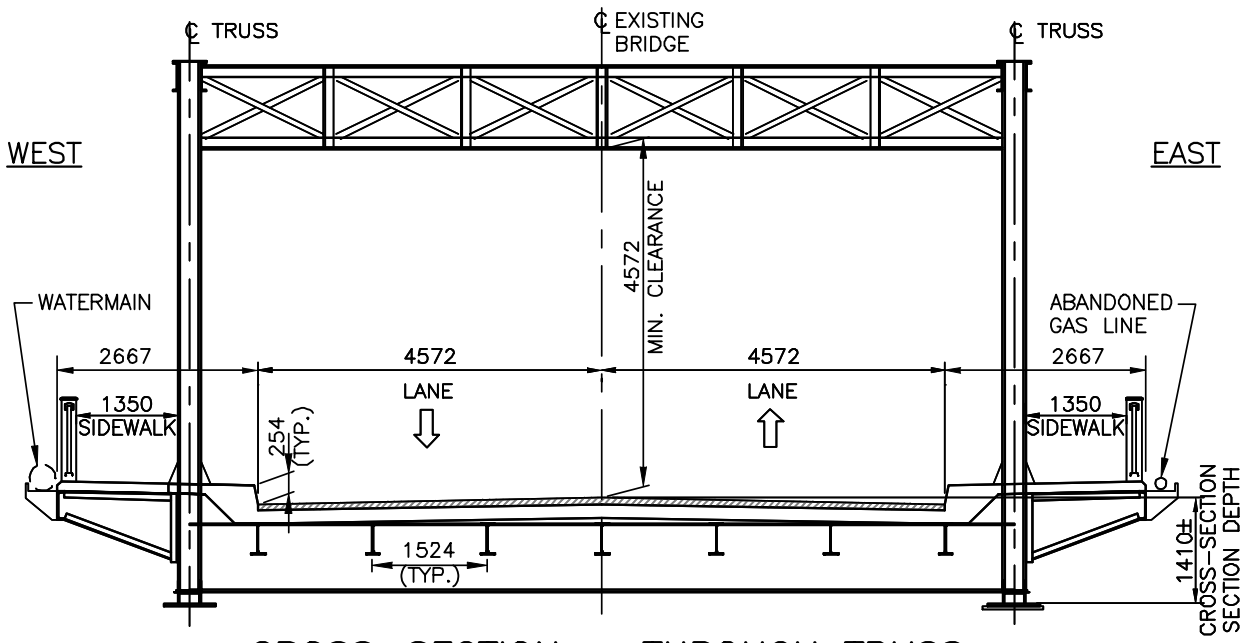
In order to address the above, the Region initiated this Class EA planning process in 2011 which identifies and evaluates alternative solutions and design concepts and accordingly addresses the above problem and opportunity statement.

The Central Avenue Bridge

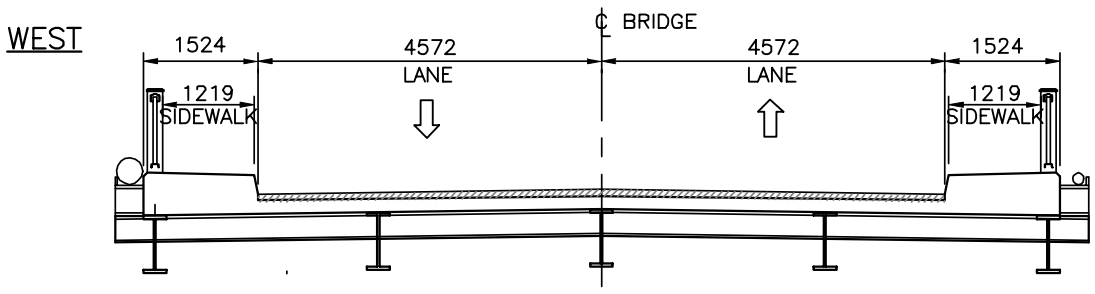
- The Central Avenue Bridge crossing consists of:
  - a south steel pony truss structure over Lewis Street.
  - a central steel through truss structure over the main rail lines.
  - a north slab on steel girder structure over a former rail line.
  - approach roadways consisting of earth fill placed between cast-in-place cantilever retaining walls at the north and south approaches, to bring the roadway up to the elevation required to cross over the rail tracks.
- The CNR right of way width at the Central Avenue Bridge is approximately 114 metres.
- The structure was originally constructed in 1953 and is located in the municipal right-of-way with centreline of the structure aligned with the centreline of the right-of-way.
- The structure has been owned and maintained by the Region since the Region's inception in 1969.
- The Bridge has a load limit posting of 19, 25, and 35 tonnes for single unit, tractor trailer, and truck train vehicles, which is around 55% of current Canadian Highway Bridge Design Code requirements.







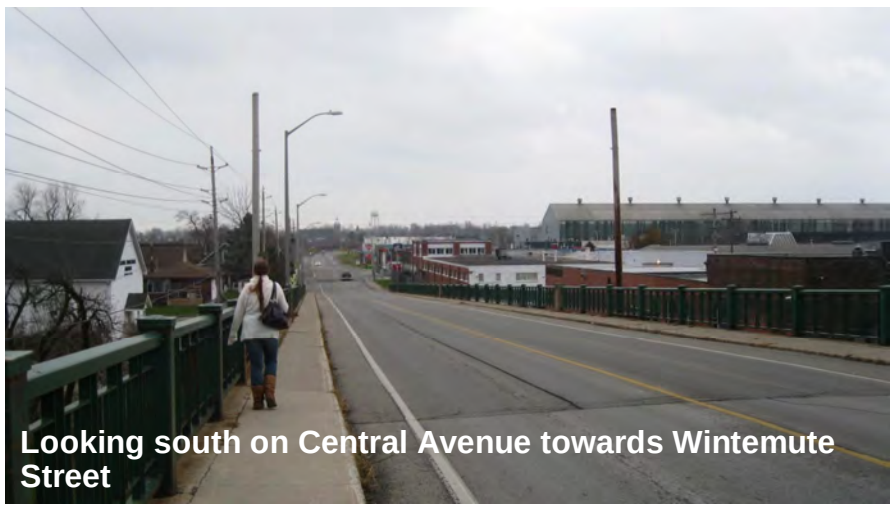
CROSS–SECTION – THROUGH TRUSS



CROSS–SECTION – GIRDER SPANS

Central Avenue (Regional Road 124)

- Classified as a north-south arterial.
- Provides a direct connection from Lakeshore Road in the south to Niagara Boulevard in the north.
- Connection to the Queen Elizabeth Way (QEW) is the last exit before the Peace Bridge into the United States.
- Provides a multi-modal service for all road users including automobiles, motorcycles, trucks, in addition to pedestrians and cyclists.
- Posted speed limit on the bridge is 40km/hour.
- Intersection of Central Avenue and Jarvis Street is signal controlled with dedicated left hand turn lanes. Intersections of Central Avenue and Wintemute Street and Central Avenue and Gilmore Road are signal controlled.
- Region of Niagara traffic information:
  - 11,300 AADT.
  - Total daily southbound traffic across the Bridge is 1747 vehicles, of which 60 are trucks (July 22, 2009).
  - Total daily northbound traffic across the Bridge is 1542 vehicles, of which 50 are trucks (October 4, 2007).
- Capacity of Central Avenue from Jarvis Street to Gilmore Road, (two lane road cross section) is sufficient to support the existing (2011) and future (2021) traffic demand (based on annual growth rate).
- All un-signalized and signalized intersections located at the north and south side of the study area bridge are operating with acceptable volume to capacity (v/c) ratio and acceptable Level of Service (LOS), during both the AM and PM peak hours.



Looking south on Central Avenue towards Wintemute Street

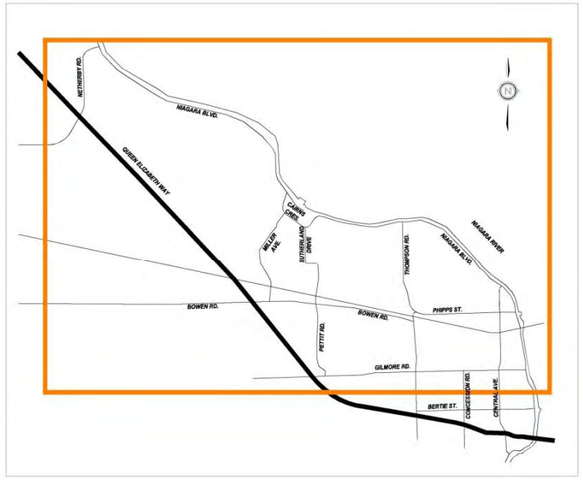
Looking north on Central Avenue towards Jarvis Street

Study Area

LEGEND

PRIMARY STUDY AREA

SECONDARY STUDY AREA



NOTES/LEGEND:
1. THE POSITION OF ROLE LINES, CONDUITS, WATERMAINS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
2. PROPERTY LINES WERE PLOTTED USING REGISTERED PLANS AND BARS LOCATED IN THE FIELD. TO VERIFY THE ACCURACY OF THESE PROPERTY LINES, A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION.

NO.	REVISION	DATE	INIT.
0	ISSUED FOR	YYYY-MM-DD	XXX

DRAFTING: CJB
DESIGN: XXX
CHECKED BY: XXX
APPROVED BY: XXX

Niagara Region
PUBLIC WORKS

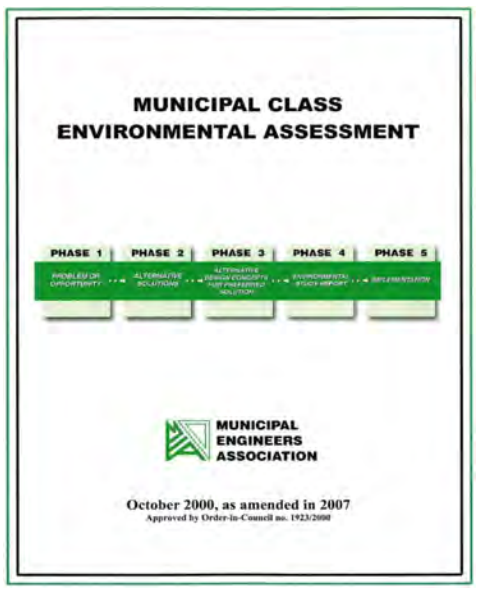
CENTRAL AVENUE BRIDGE IMPROVEMENTS
MUNICIPAL CLASS EA

PRIMARY AND SECONDARY
STUDY LIMITS

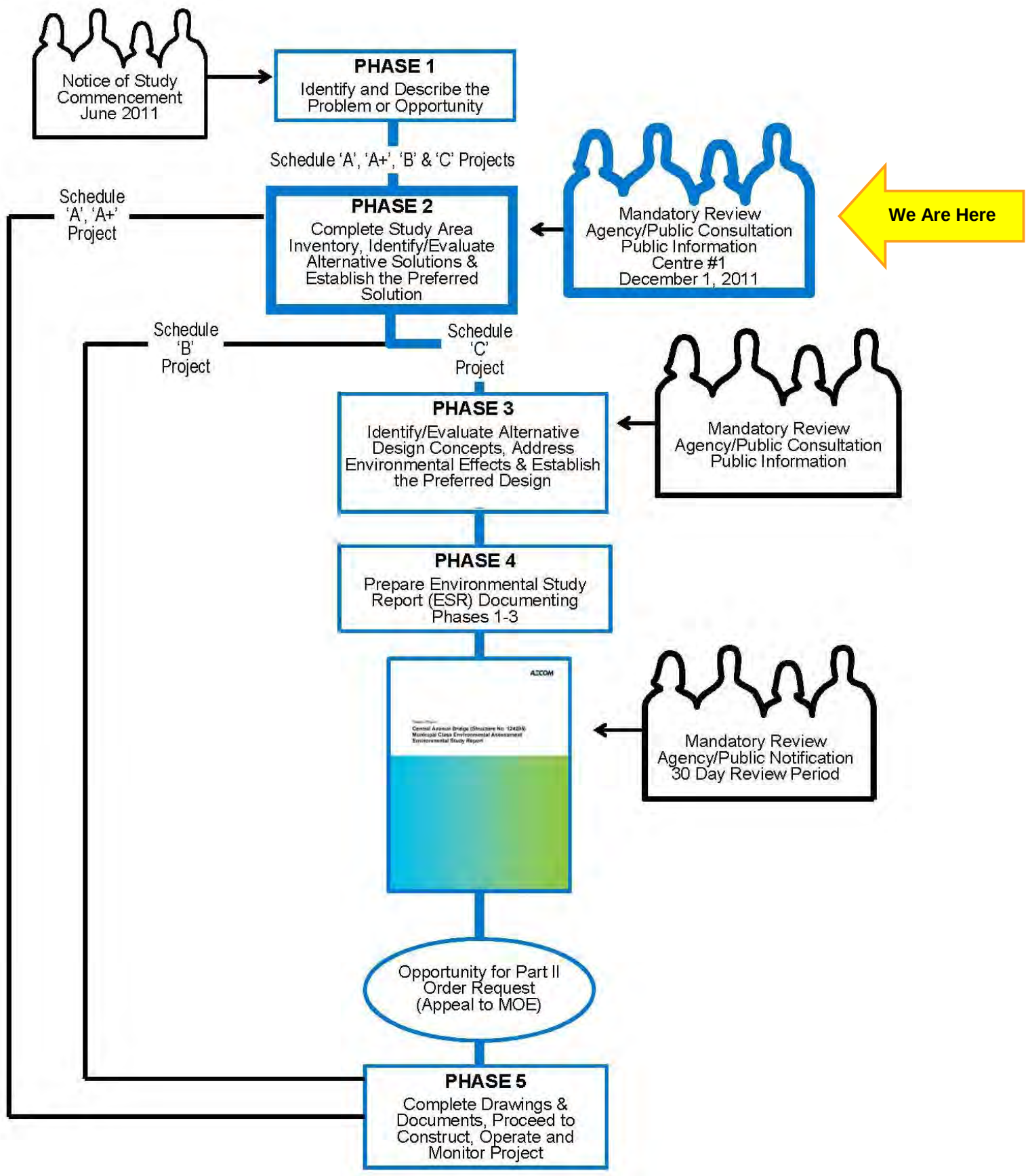
CONSULTANT FILE No. #
DATE: YYYY-DD
SCALE: Not To Scale
REV. No. #
DWG No. FIG 1
REV. 0

Overview of Class Environmental Assessment Process

- This Class EA is being undertaken in accordance with the Municipal Class EA (October 2000 as amended in 2011) document for a Schedule C undertaking.
- The Municipal Class EA is approved under the Environmental Assessment Act and enables the planning of municipal infrastructure projects in accordance with a proven process for protecting the environment.



- There is an opportunity for public input at selected points in the study (see diagram).
- Upon completion of the Class EA process, an Environmental Study Report will be prepared and made available for public review and comment (minimum 30 days).



Socio-Economic/Land Uses

Existing Land Uses

- Land uses in close proximity to the Central Avenue Bridge are categorized as industrial, commercial, institutional, and residential.

Bridgeburg Central Business District – Jarvis Street

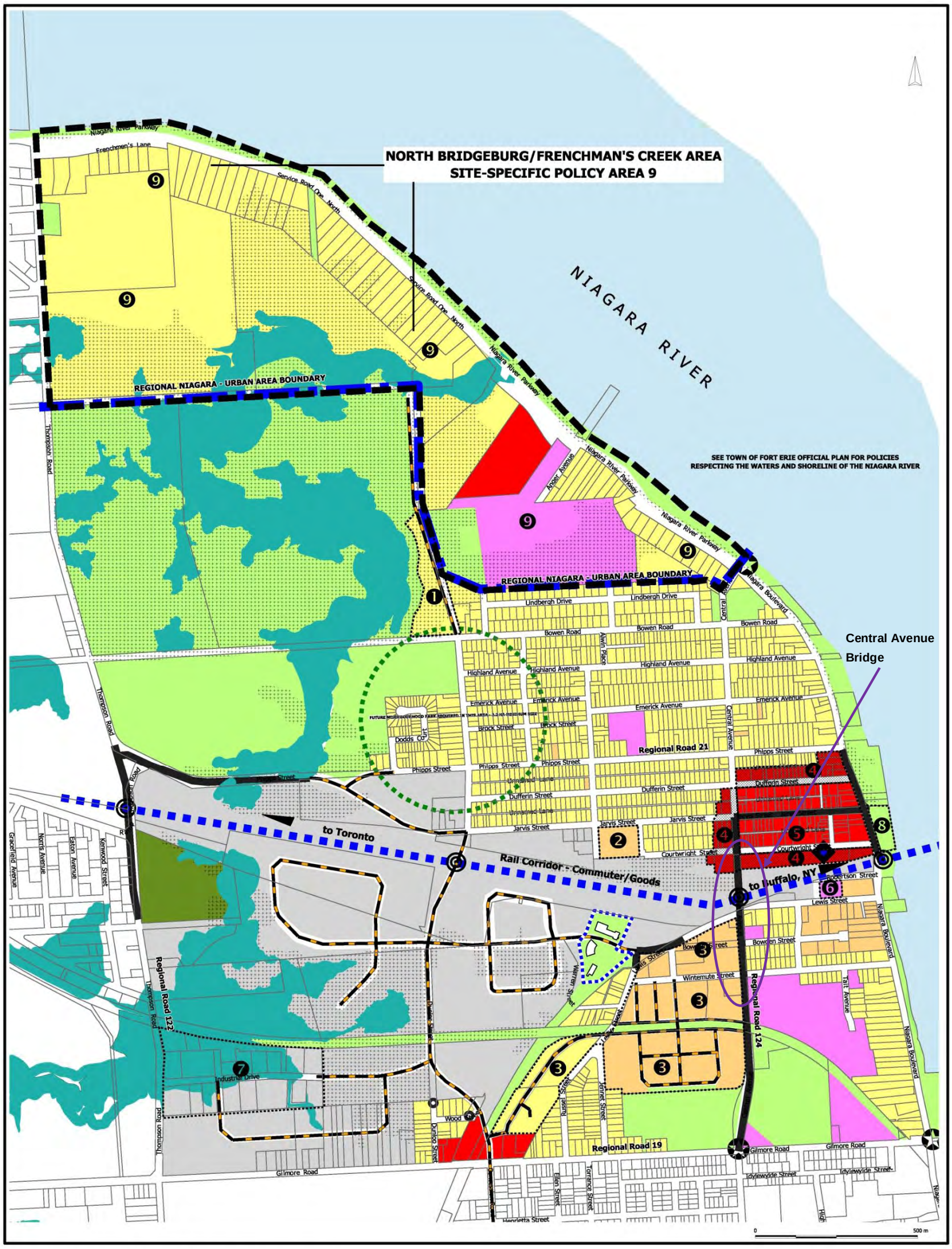
Future Land Uses

- The Bridgeburg Secondary Plan (under appeal)[1] has identified specific Special Policy Areas where land uses are expected to change over the next 20 years. These areas (see next board) include:
  - West Jarvis Residential Brownfield Site
  - Horton Residential Revitalization Area
  - Bridgeburg Core Mixed-Use Area
  - Bridgeburg Central Business District
  - Mentholatum Adaptive Re-use Site
  - Future Industrial/Business Employment Area
  - Future Road Networks

The Bridgeburg Secondary Plan also recognizes Central Avenue as a Gateway in Bridgeburg and identifies Central Avenue from Gilmore Road to Central Avenue Bridge as a Priority Upgrade which would include a full urban cross-section, sidewalks, boulevards, plantings and other aesthetic features.

[1] *Bridgeburg Secondary Plan, (adopted by Council in September 2010, approved by the Region in July 2011, currently under appeal).*

Bridgeburg Secondary Plan Land Use Plan



BRIDGEBURG SECONDARY PLAN
Schedule "Bridgeburg-2" - Land Use Plan

- ❶ Policy Area 1 - Crooks/Bowen Potential Development Site
- ❷ Policy Area 2 - West Jarvis Brownfield Site
- ❸ Policy Area 3 - Horton Residential Revitalization Area
- ❹ Policy Area 4 - Bridgeburg Core Mixed-Use Area
- ❺ Policy Area 5 - Bridgeburg Central Business District
- ❻ Policy Area 6 - Mentholatum Adaptive Reuse Site
- ❼ Policy Area 7 - Industrial Drive Floodplain Area
- ❽ Policy Area 8 - Potential Riverfront Public Plaza Site
- ❾ Policy Area 9 - North Bridgeburg/Frenchman's Creek Area
- Secondary Plan Boundary
- Low Density Residential
- Medium to High Density Residential
- Commercial
- Core Mixed-Use Area
- Industrial/Business Employment Area
- Institutional & Government
- Open Space - Public Parks Etc
- Cemeteries
- Environmental Conservation Areas
- Environmental Protection & Wetland Areas
- Niagara River
- Parcel Fabric
- Rail Corridor - Commuter/Goods
- Priority Road Upgrades
- Potential Future Road Network
- Potential Rail Crossing Improvements
- Neighbourhood Gateways
- Commuter Rail/Transfer Station
- Future Neighbourhood Park Required
- Railway Heritage Site
- Reg. Niagara Urban Area Boundary

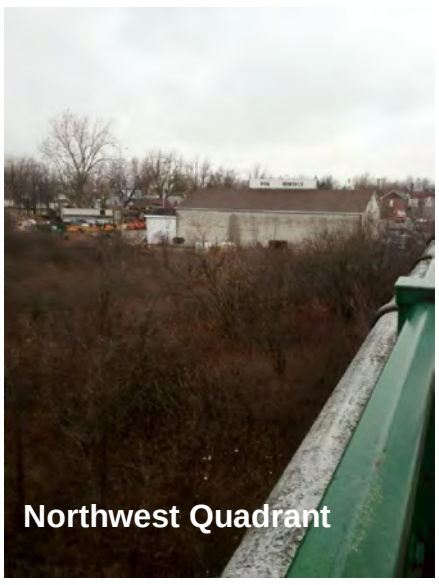
FORT ERIE ONTARIO — Our Focus: Your Future

Town of Fort Erie Community and Development Services
September 13, 2010

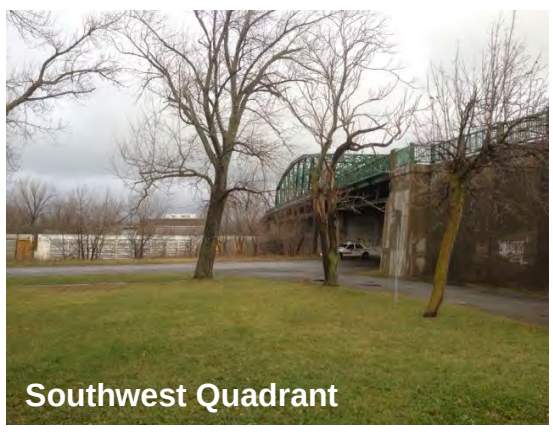
Niagara Region AECOM

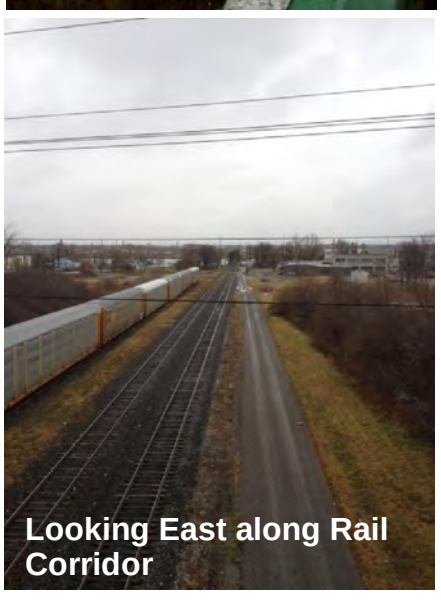
Natural Environment Conditions

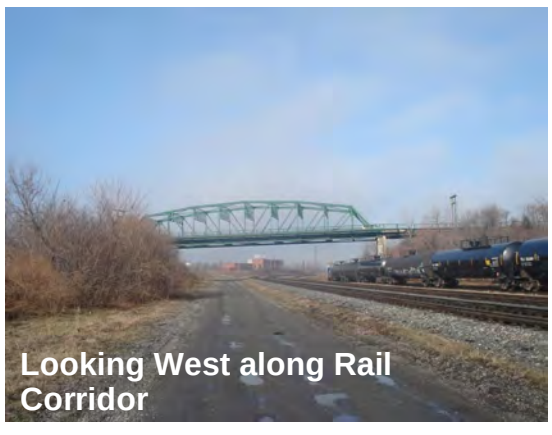
- Terrestrial conditions were observed in October 2011 by AECOM ecological staff.
- Vegetation communities greater than 0.5ha in size were delineated according to the Ministry of Natural Resources Ecological Land Classification system (lee et al., 1998). A total of three communities were delineated into ELC units and are as follows:
  - Dry-Fresh Meadow – dominant species include goldenrods, asters and a variety of grasses;
  - Cultural Thicket – dominant species include common buckthorn, Manitoba maple and multi-flora rose; and
  - Cultural Woodland – dominant species include black walnut, Manitoba maple and white elm.
- All vegetation communities have been influenced by the construction of the rail line, adjacent industrial/commercial land uses and residential areas. All vegetation communities contain common species or species that prefer disturbed areas.
- A formal wildlife survey was not completed, however, wildlife species anticipated to occur within the area would be ones typical of urban settings and very common.
- A Species at Risk screening for the lands was also completed that included a search of the Natural Heritage Information Centre (NHIC). A total of four species at risk are known to occur within Niagara Region and in particular, the Fort Erie area. They include Loggerhead Shrike, Redside Dace, Spotted Wintergreen, and Red Mulberry.
- Preferred habitat of these species does not exist surrounding the Central Avenue Bridge study area. As well, species records are of historical occurrences dating back as recent as 1975 and as early as 1863. Considering these dates, the likelihood of populations to still occur is minimal.


Northwest Quadrant


Northeast Quadrant


Southwest Quadrant


Looking East along Rail Corridor


Looking West along Rail Corridor


Northeast Quadrant

Cultural Environment

Built/Cultural Heritage

- The closest designated heritage building is the Jackson House located at 202 Dufferin Street, approximately 350 metres north of the bridge.
- There are no designated heritage properties in close proximity to the Central Avenue Bridge.
- The Bridgeburg Secondary Plan stipulates that the Museum and Cultural Heritage Committee investigate the Mentholatum site for possible designation as a Heritage Property, in recognition of its historic place in the early development of the Bridgeburg Community.

Mentholatum Building


202 Dufferin Street

Archaeological

- A desktop archaeological assessment was completed and included review of aerial photography and secondary source information.
- The desktop assessment determined that a Stage 2 archaeological assessment (field work) is recommended for the selected design concept prior to construction.

Alternative Planning Solutions- Identification and Screening

CENTRAL AVENUE BRIDGE - IDENTIFICATION AND SCREENING OF ALTERNATIVE PLANNING SOLUTIONS			
Bridge/Rail Crossing Alternative Solutions	**Bridge/Rail Crossing Alternative Sub-Solutions**	**Traffic Management Alternative Solutions Associated with Each Bridge/Rail Crossing Solution**	**Screening of Alternative Solutions**
1. Do-Nothing (neither bridge rehabilitation nor bridge replacement undertaken)	Not applicable	Not applicable	Do-nothing alternative solution **screened out and not carried forward** for further evaluation for the following reasons: • Previous Region of Niagara studies have indicated that due to increased deterioration, the existing bridge is approaching the end of its service life. • Bridge structure will continue to deteriorate, resulting in reduction of load capacity and the eventual closure of this bridge on the primary transportation link over the CN rail line for pedestrian and vehicle travel between the Bridgeburg / commercial core area and rest of Fort Erie. • Inconsistent with Section 6.3.3.2 of the Bridgeburg secondary plan.
2. Rehabilitate Existing Bridge	2.2 Rehabilitate all five bridge spans	2.2.1 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.	Alternative bridge solution **screened out and not carried forward** for further evaluation for the following reasons: • Previous Region of Niagara studies have indicated that the existing bridge is approaching the end of its service life. • Would not be cost effective over the long term to extend the life of all five bridge spans through continued major and minor rehabilitations, with their associated traffic and nuisance impacts, and ever-increasing cost, and the existing bridge is longer than currently needed. • Previous Region of Niagara study determined that the life cycle cost for rehabilitation of all 5 spans is higher than providing a new central/main span and filling in the others. • By keeping the end spans, the profile of the approach roadways cannot be lowered, and the opportunity to improve Central Avenue intersection geometrics at Courtwright and Wintermute Streets is lost. • Inconsistent with Section 6.3.3.2 of the Bridgeburg secondary plan.
	2.3 Rehabilitate central/main bridge span . Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	2.2.2 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative A' for further evaluation.
3. Replace Existing Bridge with Level Crossing	3.1 Level crossing to replace existing bridge in current corridor 3.2 Level crossing at new corridor location	Not developed because alternative rail crossing solution screened out. ⇒	Alternative rail crossing solution **screened out and not carried forward** for further evaluation for the following reasons: • Would result in regular interruptions to pedestrian and vehicle travel including emergency services on the primary transportation link over the CN rail line between the Bridgeburg / commercial core area and rest of Fort Erie, and has high potential for accidents. • Would be contrary to policies and practices of rail companies and municipalities throughout Ontario and most of Canada to create grade separated rails crossings for major roads, rather than remove them. • Unlikely to get CN approval.
4. Replace Existing Bridge at a New Corridor Location, and Close Central Avenue at CN Rail	Not developed because alternative bridge solution screened out ⇒	Not developed because alternative bridge solution screened out ⇒	Alternative bridge solution **screened out and not carried forward** for further evaluation for the following reasons: • Would result in out-of-way travel for the primary link over the CN rail line between the Bridgeburg / commercial core area and rest of Fort Erie. • Not compatible with the area road network. • Would be Inconsistent with the approved Official Plans and Transportation Master Plans / Road System Master Plan of both the Region of Niagara and the Town of Fort Erie, and would be inconsistent with the Bridgeburg Secondary Plan. • Would cause significant impacts associated with introducing new arterial road traffic into neighborhoods where it would not be compatible with current and future approved development.
5. Replace Existing Bridge at Same Location within Existing Corridor	5.1 Construct new central/main span of bridge on same alignment after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	5.1.1 During construction, all Central Avenue Bridge traffic detoured onto temporary level crossing immediately east or west of existing bridge	Alternative level crossing detour solutions **screened out and not carried forward** for further evaluation for the following reasons: • Would result in regular interruptions to pedestrian and vehicle travel including emergency services on the primary transportation link over the CN rail line between the Bridgeburg / commercial core area and rest of Fort Erie, and has high potential for accidents. • Would be contrary to policies and practices of rail companies and municipalities throughout Ontario and most of Canada to create grade separated rails crossings for major roads, rather than add additional at-grade crossings. • Significant cost of improvements to detour route • Unlikely to get CN approval.
		5.1.2 During construction, Central Avenue truck and bus traffic is detoured onto temporary level crossing north of Prow Avenue with auto traffic detoured easterly via Gilmore onto Niagara Boulevard (requires significant roadway and intersection improvements along detour route)	
		5.1.3 During construction, all Central Avenue Bridge traffic is detoured easterly via "Gilmore onto Niagara Blvd and Phipps Street, with Niagara Blvd lowered under CN to accommodate buses and full height trucks (requires significant roadway and intersection improvements along detour route)	Alternative detour solution **screened out and not carried forward** for further evaluation for the following reason: • Would require significant and costly changes to Niagara Blvd, which in turn would have impact on intersection roadways and property access • Underground utilities are not deep enough to accommodate a lower road elevation at this location. Previous Town of Fort Erie study determined that it is not practical to relocate these utilities to a lower depth because it would require significant and costly infrastructure changes.
		5.1.4 During construction, all Central Avenue Bridge traffic is detoured westerly via "Gilmore onto Thompson Rd and Phipps Street, with the Thompson Rd underpass converted to a permanent level crossing of the CN tracks (requires significant roadway and intersection improvements along detour route)	Alternative detour solution **screened out and not carried forward** for further evaluation for the following reason: • Previous Region of Niagara study examined conversion of this crossing to a level crossing, and found that it was not viable because of the impact of significant grade change to Thompson Road.
		5.1.5 During construction, Central Avenue Bridge truck and bus traffic is detoured westerly via Gilmore, QEW and Netherby onto Niagara Boulevard and auto traffic is detoured easterly via Gilmore onto Niagara Boulevard and Phipps Street (requires significant roadway and intersection improvements along detour route)	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative B-1' for further evaluation.
		5.1.6 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic detoured onto one-lane temporary bridge immediately east or west of central span of existing bridge.	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative B-2' for further evaluation.
	5.2 Construct new central/main span of bridge on same alignment by building it on temporary piers beside (east or west) of existing) and jacking new bridge laterally after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	5.2.1 During construction of new central span, two lanes of traffic are maintained on central span of existing bridge while new bridge constructed. During a weekend total closure of Central Avenue between Wintemute and Courtwright Streets, traffic is detoured to area roads while central span of existing bridge demolished and new bridge jacked to final location. During replacement of end spans with earth fill, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative C' for further evaluation.
	5.3 Construct new central/ main span of bridge on same alignment by jacking current bridge laterally (east or west) for approximately half of its width; constructing half of new central span; demolishing existing central span; and then constructing second half of new central span. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	5.3.1 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic located on existing bridge during first half of construction and on new bridge for second half of construction.	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative D' for further evaluation.
6. Replace Existing Bridge Immediately Adjacent to Current Bridge in Existing Corridor	6.1 Construct new central/main span of bridge offset to the east of the existing by half of is width. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	6.1.1 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.	Alternative bridge/detour combination solution **short-listed and carried forward** as 'Alternative E-1'for further evaluation.
	6.2 Construct new central/main span of bridge offset to the west of the existing by half of is width. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).	6.2.1 During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights	Alternative bridge/detour combination solution **short-listed and carried forward** as Alternative E-2' for further evaluation.

Notes:

- Central Avenue bridge is the only CN Rail crossing between the Bridgeburg/commercial core area and rest of Fort Erie that can accommodate full-height trucks and buses.
- Rail crossing alternatives (both bridge and detour/traffic management) can be selected only with CN approval.
- Detours involving Niagara Boulevard can be selected only with Niagara Parks Commission approval (alternatives involving trucks on Niagara Boulevard require a regulatory amendment under the Niagara Parks Act).
- Alternative Solutions are carried forward unless screening shows that they are not viable for "short listing".
- All short-listed alternatives include the option of intersection improvements at Courtwright Road to allow it to become a 2-way street.

Short List of Alternative Planning Solutions

Alternative A:

- Rehabilitate central/main bridge span. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).
- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.

Alternative B:

- Construct new central/main span of bridge on same alignment after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).
- **B-1:** During construction, Central Avenue Bridge truck and bus traffic is detoured westerly via Gilmore, QEW and Netherby onto Niagara Boulevard, and auto traffic is detoured easterly via Gilmore onto Niagara Boulevard and Phipps Street (requires significant roadway and intersection improvements along detour route) - OR -
- **B-2:** During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic detoured onto one-lane temporary bridge immediately east or west of central span of existing bridge.

Alternative C:

- Construct new central/main span of bridge on same alignment by building it on temporary piers beside (east or west) of existing bridge and jacking new bridge laterally after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).
- During construction of new central span, two lanes of traffic are maintained on central span of existing bridge while new bridge constructed. During a weekend total closure of Central Avenue between Wintemute and Courtwight Streets, traffic is detoured to area roads while central span of existing bridge demolished and new bridge jacked to final location. During replacement of end spans with earth fill, traffic on Central Avenue between Wintemute and Courtwight Streets is reduced to one lane in alternating directions controlled by traffic lights.

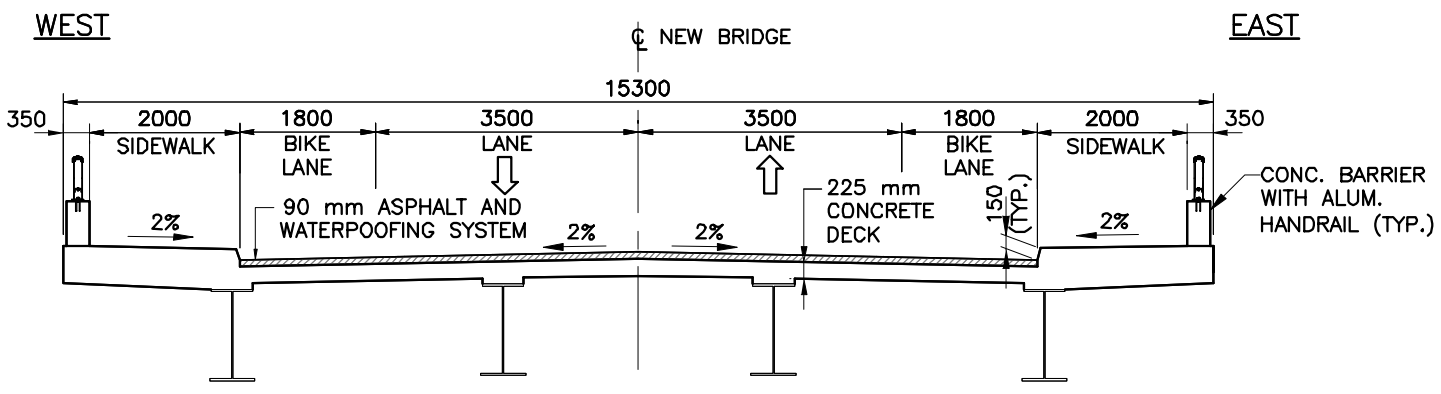
Alternative D:

- Construct new central/main span of bridge on same alignment by jacking current bridge laterally (east or west) for approximately half of its width; constructing half of new central span; demolishing existing central span; and then constructing second half of new central span. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).
- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic on existing bridge during first half of construction and on new bridge for second half of construction.

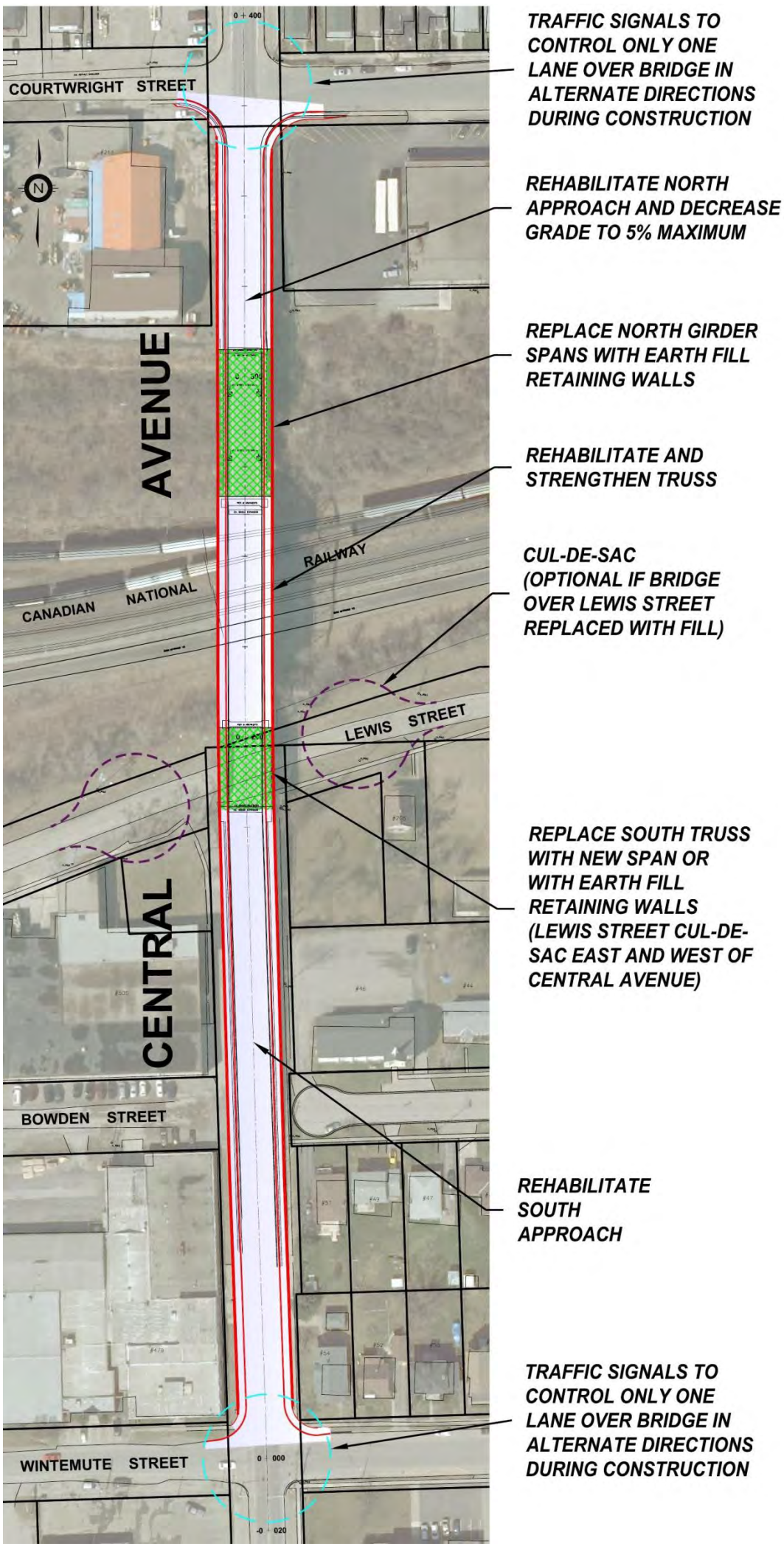
Alternatives E-1 and E-2:

- Construct new central/main span of bridge offset to the east (Alternative E-1) or west (Alternative E-2) of the existing bridge by half of its width. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).
- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.

Functional Cross-Section of Rehabilitated or Replacement Bridge Based on Current Design Standards



Alternative A



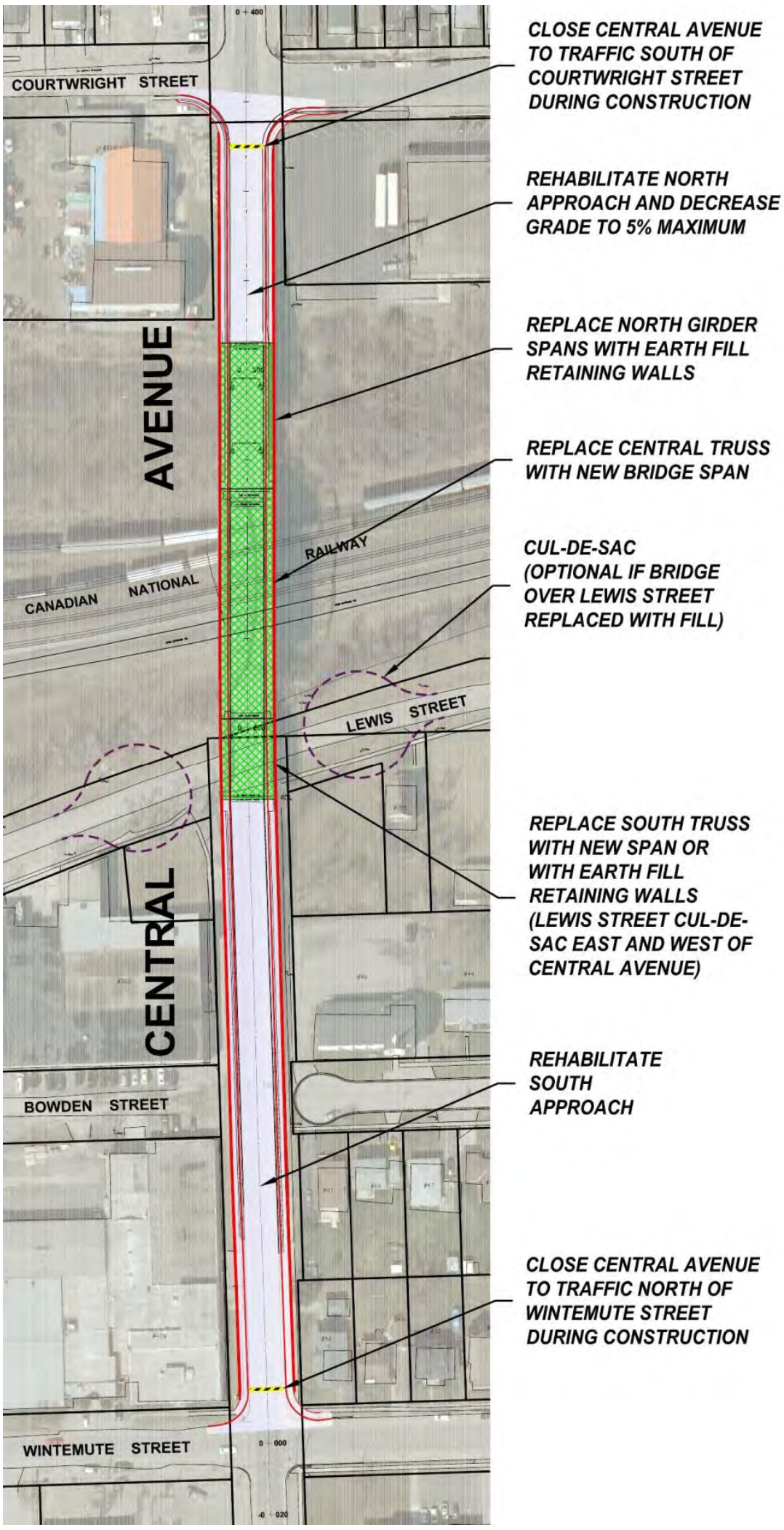
Bridge/Rail Crossing

- Rehabilitate central/main bridge span. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

Traffic Management During Construction

- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.

Alternative B-1



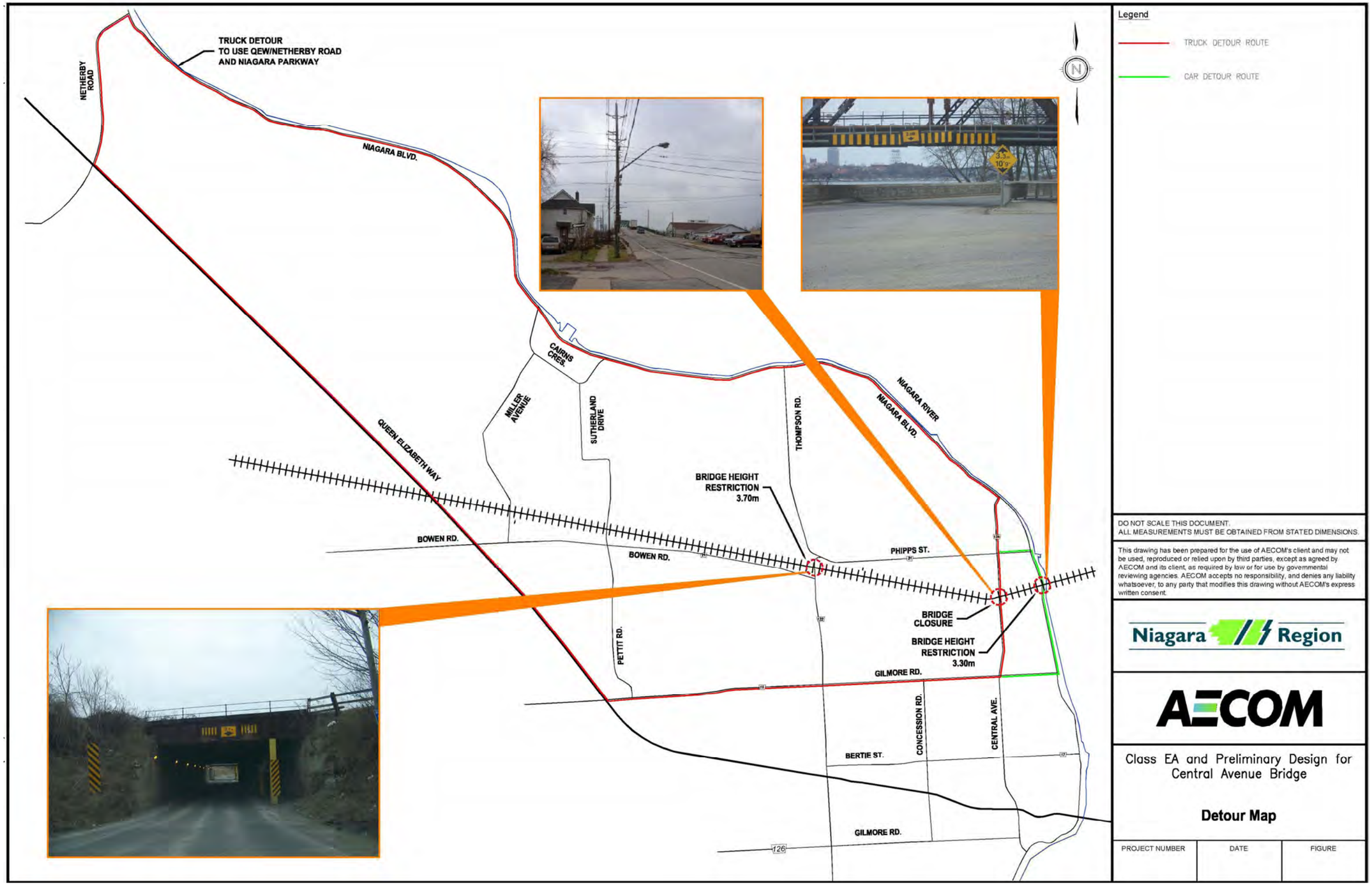
Bridge/Rail Crossing

- Construct new central/main span of bridge on same alignment after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

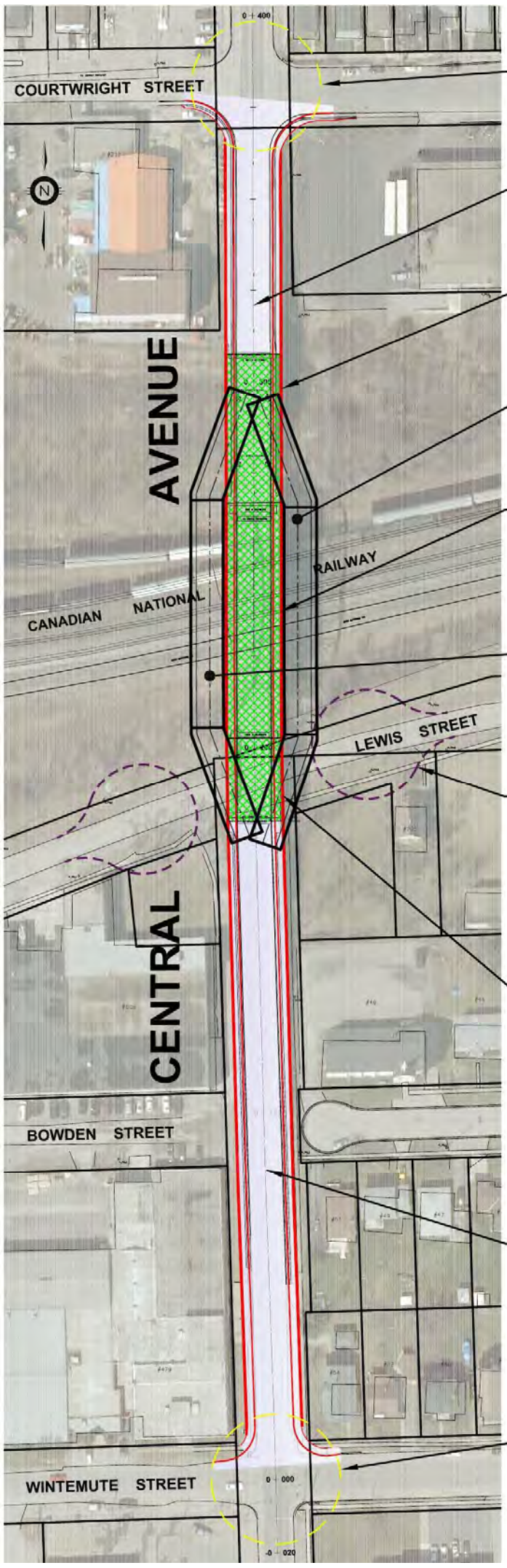
Traffic Management During Construction (see next board)

- During construction, Central Avenue Bridge truck and bus traffic is detoured westerly via Gilmore, QEW and Netherby onto Niagara Boulevard, and auto traffic is detoured easterly via Gilmore onto Niagara Boulevard and Phipps Street (requires significant roadway and intersection improvements along detour route).

Alternative B-1 Detour Routes



Alternative B-2

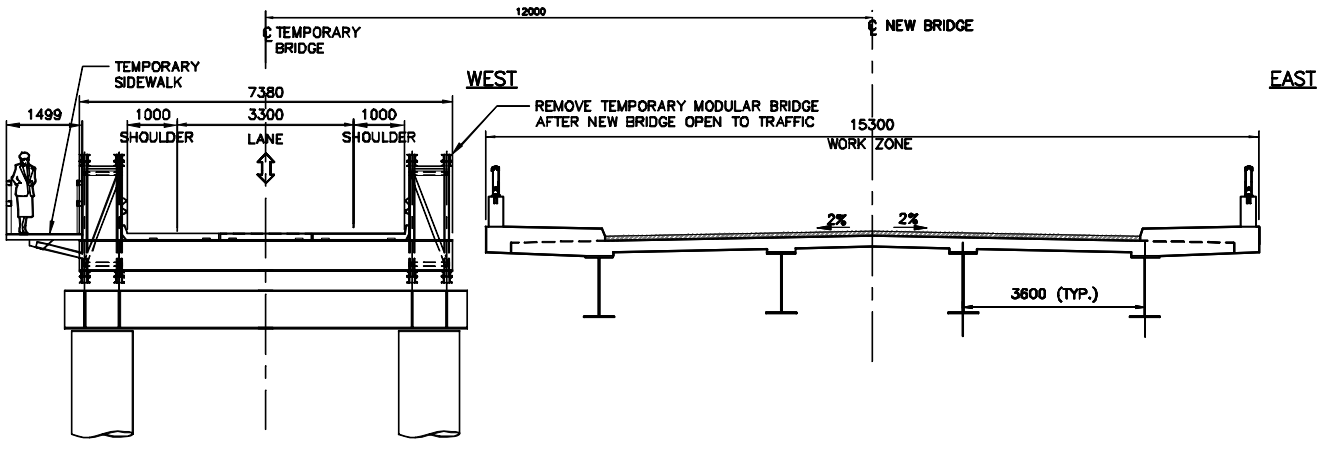


Bridge/Rail Crossing

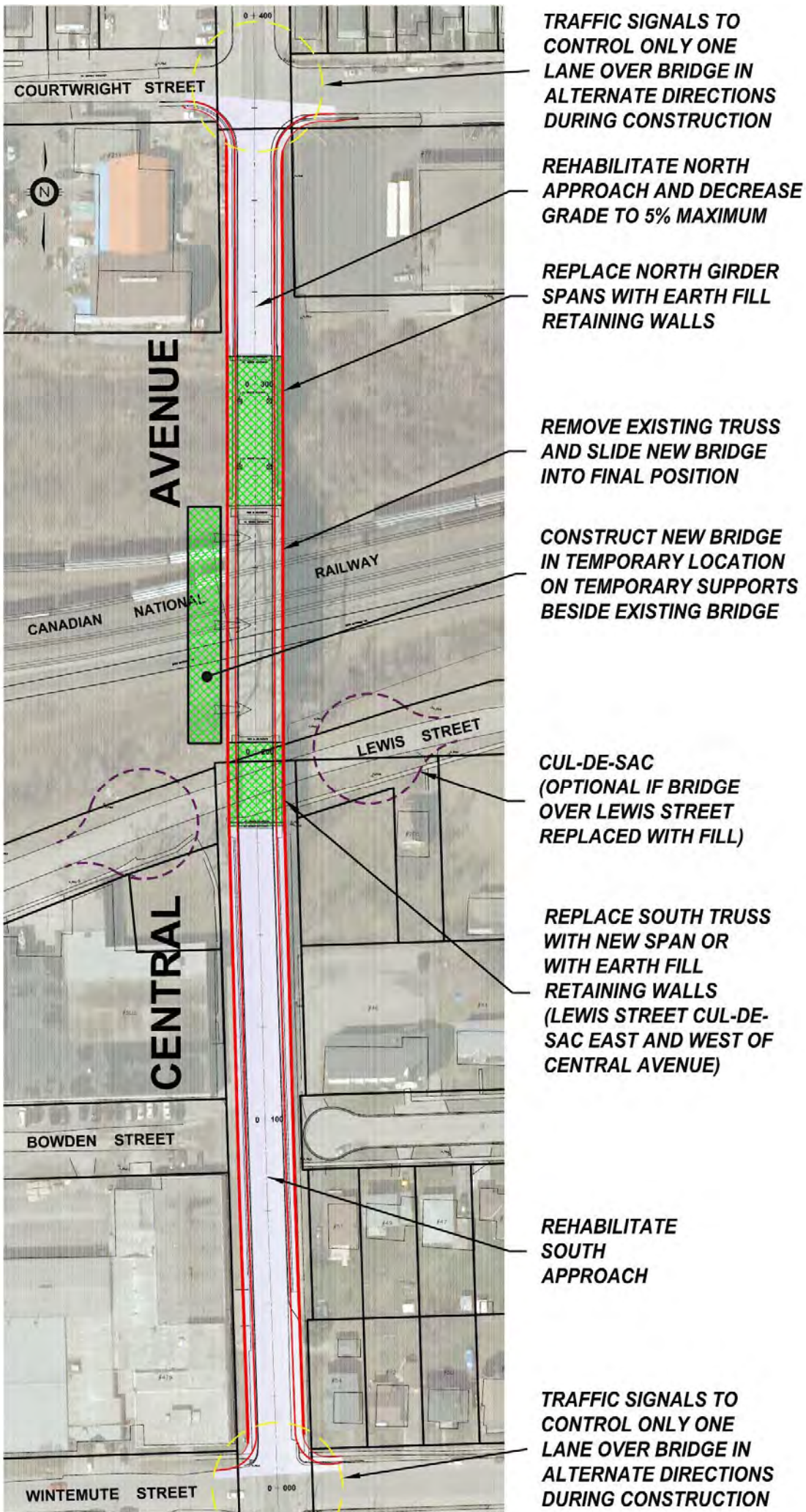
- Construct new central/main span of bridge on same alignment after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

Traffic Management During Construction

- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic detoured onto one-lane temporary bridge immediately east or west of central span of existing bridge.



Alternative C

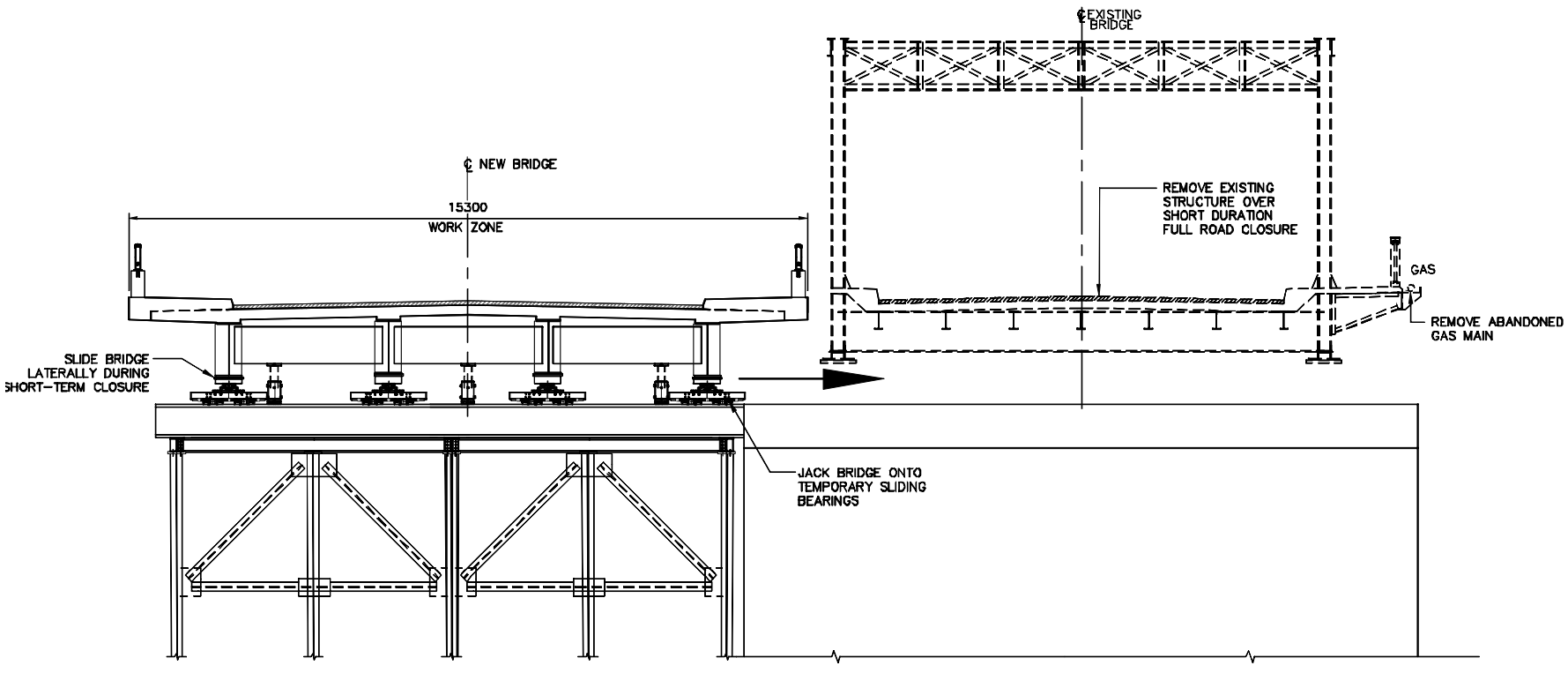


<u>Bridge/Rail Crossing</u>

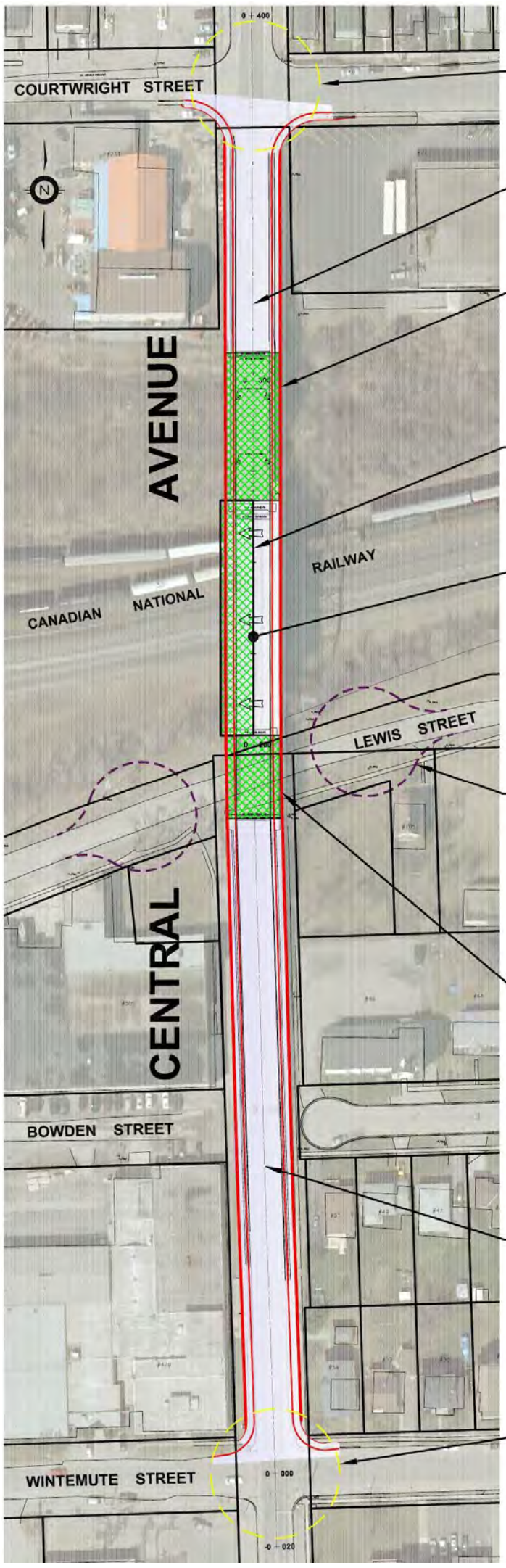
- Construct new central/main span of bridge on same alignment by building it on temporary piers beside (east or west) of existing bridge and jacking new bridge laterally after demolishing current central span of existing bridge. Replace three north spans of bridge with earth fill. Option of replacing the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

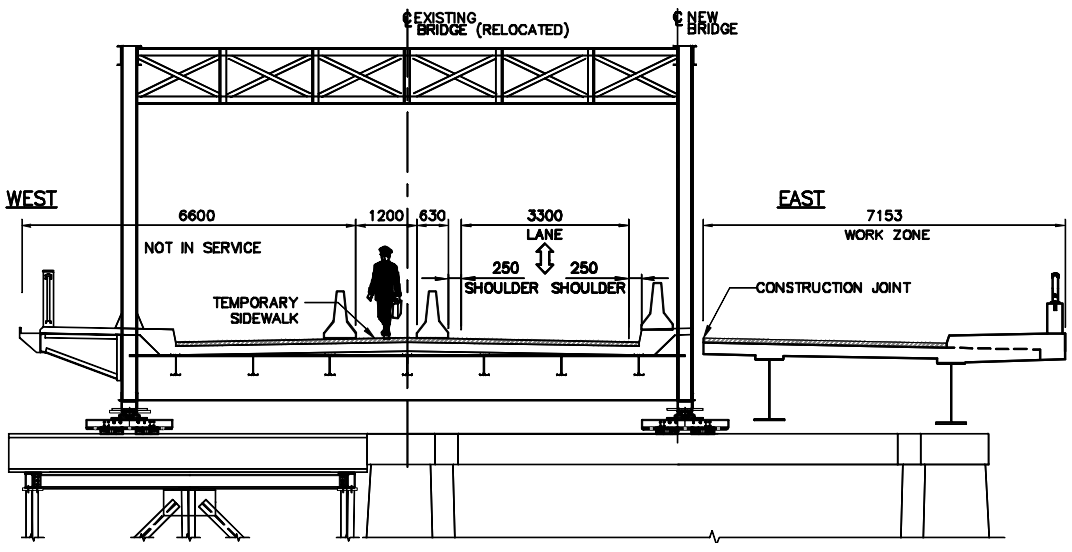
<u>Traffic Management During Construction</u>

- During construction of new central span, two lanes of traffic are maintained on central span of existing bridge while new bridge constructed. During a weekend total closure of Central Avenue between Wintemute and Courtwight Streets, traffic is detoured to area roads while central span of existing bridge demolished and new bridge jacked to final location. During replacement of end spans with earth fill, traffic on Central Avenue between Wintemute and Courtwight Streets is reduced to one lane in alternating directions controlled by traffic lights.



Alternative D





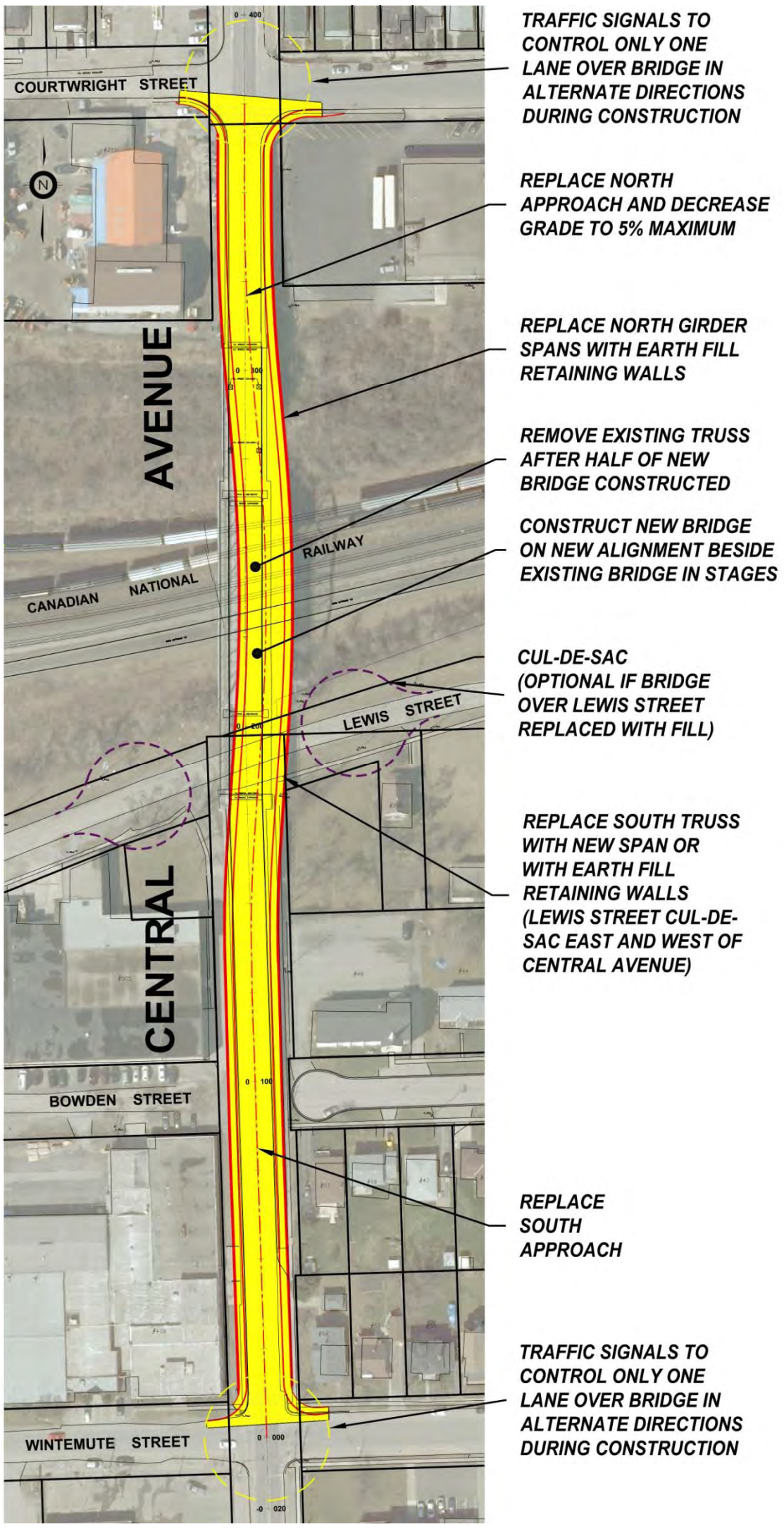
<u>Bridge/Rail Crossing</u>

- Construct new central/ main span of bridge on same alignment by jacking current bridge laterally (east or west) for approximately half of its width; constructing half of new central span; demolishing existing central span; and then constructing second half of new central span. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

<u>Traffic Management During Construction</u>

- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights, with traffic on existing bridge during first half of construction and on new bridge for second half of construction.

Alternatives E-1



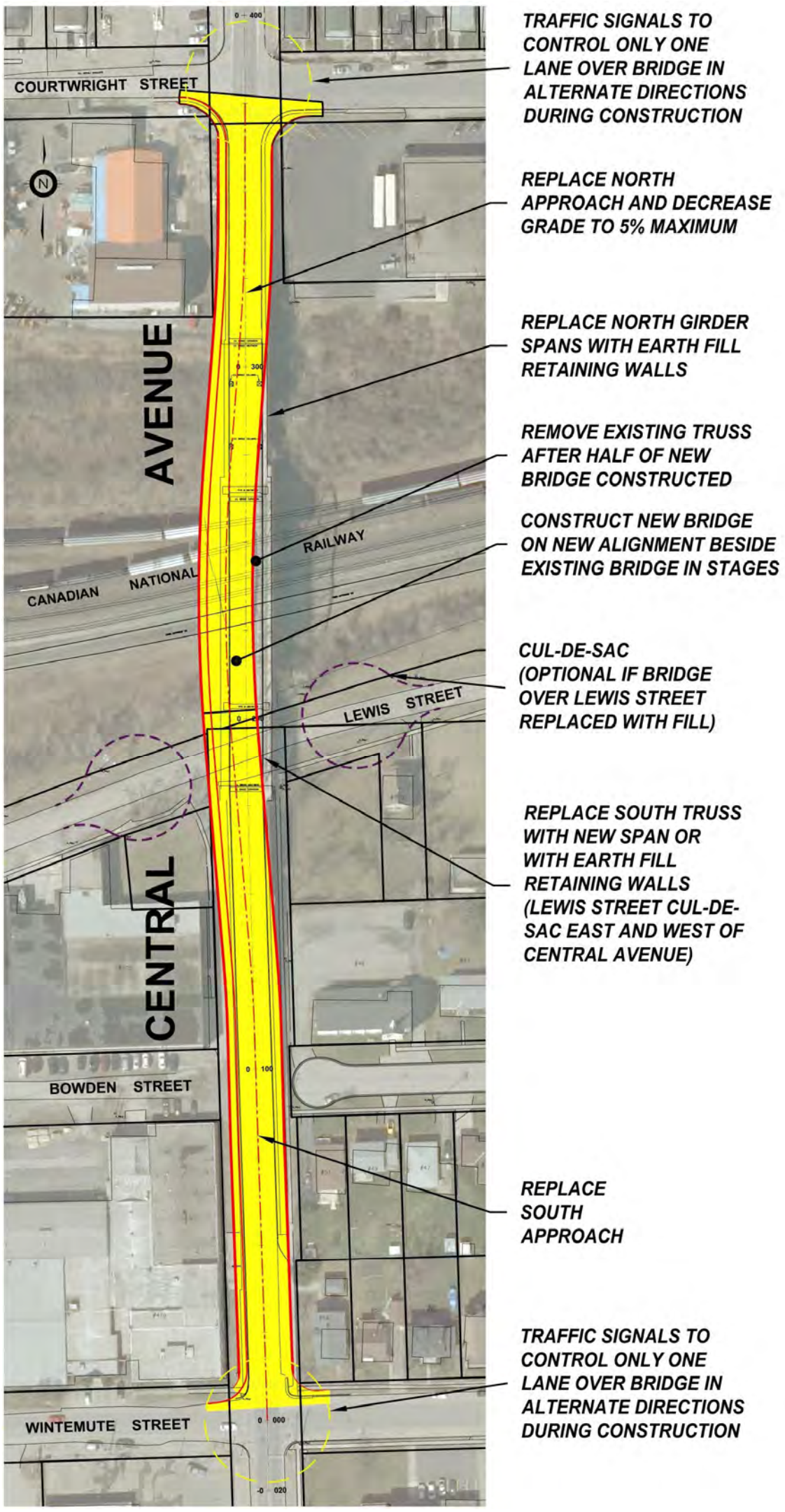
Bridge/Rail Crossing

- Construct new central/main span of bridge offset to the east of the existing bridge by half of its width. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

Traffic Management During Construction

- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.

Alternative E-2

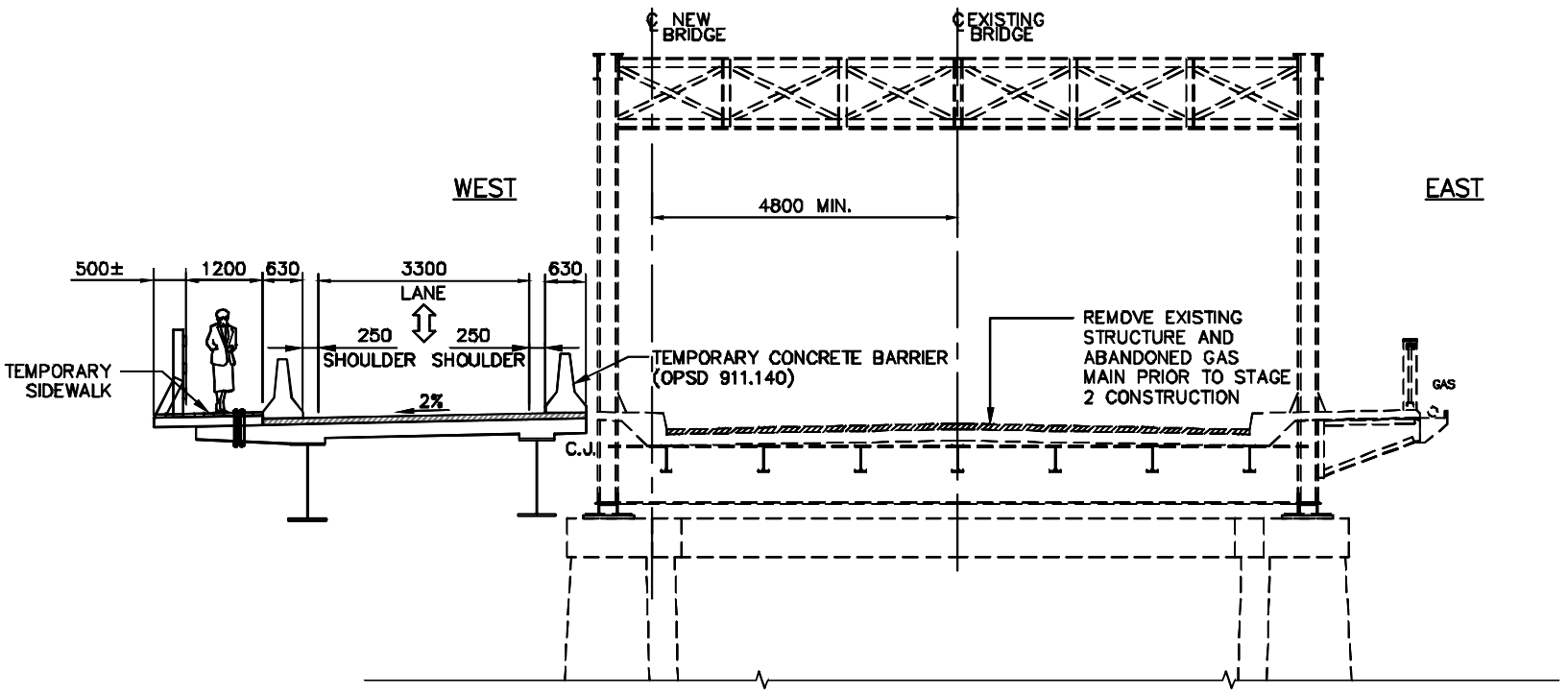


Bridge/Rail Crossing

- Construct new central/main span of bridge offset to the west of the existing bridge by half of its width. Replace three north spans of bridge with earth fill. Option of replacing the the south span of bridge with earth fill (with Lewis Street becoming a cul de sac east and west of Central Avenue).

Traffic Management During Construction

- During construction, traffic on Central Avenue between Wintemute and Courtwright Streets is reduced to one lane in alternating directions controlled by traffic lights.



Preliminary Evaluation Criteria for Short-Listed Planning Alternatives Carried Forward for Further Evaluation

Factor	Objective	Indicator
Transportation Environment	A transportation alternative that provides an effective long-term link for all modes of transportation over the CN rail line between Bridgeburg/ commercial core and the rest of Fort Erie	• Traffic operation and safety (all users) • Network connectivity • Flexibility with respect to design concepts • Constructability
Traffic Management During Construction	A traffic management scheme that provides an acceptable link between the Bridgeburg/commercial core and the rest of Fort Erie during construction, with a low level of impact to area roadways, utilities, and adjacent properties and neighbourhoods	• Need for roadway/intersection improvements and utility modifications • Impact on all modes of transportation access between Bridgeburg and rest of Fort Erie • Travel delays and need for out-of-way travel • Intrusion into adjacent properties and nearby neighborhoods • Motorist safety • Pedestrian and cyclist safety • Complexity of necessary approvals (CN and NPC)
Socio-Economic/ Land Use Environment	A transportation alternative that minimizes impacts to adjacent properties	• Adjacent property impacts and need for property acquisition • Business impacts during construction
Natural Environment	A transportation alternative that minimizes impacts to vegetation and wildlife	• Significant woodlands impacts • Species at risk (SAR) impacts • Other vegetation and wildlife impacts
Cultural Environment	A transportation alternative that highlights the entrance to the Bridgeburg/ commercial core either through retention of the existing heritage bridge or by providing a replacement gateway feature	• Aesthetics and impact as a Bridgeburg gateway feature • Consistency with Bridgeburg Secondary Plan • Heritage bridge impacts • Potential archaeological impacts • Heritage/cultural landscape impacts
Cost	A preferred alternative is efficient and cost-effective	• Construction cost • Ongoing maintenance cost

Next Steps

Following this Public Information Centre, the study team will:

- Review and respond to public and agency concerns expressed at or following the public information centre.
- Meet with affected residents, businesses and public groups as needed to discuss issues raised in connection with the undertaking.
- Based upon public and agency input, review and finalize the alternative planning solutions, their screening, and the matrix that will be used to evaluate the short-listed alternatives.
- Select a recommended planning solution.
- Present the recommended planning solution for Region of Niagara and Town of Fort Erie endorsement.
- Develop and evaluate design concepts for the recommended planning solution.
- Present the preferred planning solution and design concept at Public Information Centre #2 (spring 2012).

How You Can Provide Input

The Class EA planning process provides the opportunity for public involvement and review. In order to assist with making the decision, your involvement is welcomed.

- To participate further, we encourage you to:
  - Complete a comment sheet and/or business survey and record your comments. The study team will respond to all concerns.
  - Provide us with input at any time during the study. The study team is willing to meet with you if further explanation is required.
- Additional information related to the project and consultation process may be obtained through the study website: http://www.niagararegion.ca/living/roads/projects/central-ave/
- Thank you for your interest in this project. If you have any further questions or require additional information, please contact:

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Comments and information regarding this project are being collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* for the purpose of meeting environmental assessment requirements.