## THE CORPORATION OF THE CITY OF KAWARTHA LAKES

## REPORT

PW- 2012-001

| Council Meeting Date: | February 7,2012 | Ward/Community Identifier <br> Council Meeting Time: <br> All |
| :--- | :--- | :---: |
| Council Meeting Place: | 1:00 p.m. <br> Council Chambers |  |

Subject: Proposed ATV Route Through Lindsay

## Author/Title: Michelle Hendry, Director of Public Works

Author/Title: Lance Sherk,
Signature:

Manager of Economic Development
Signature:


## RECOMMENDATION(S):

RESOLVED THAT Report PW-2012-001, "Proposed ATV Route Through Lindsay", be received; and

THAT Council not approve an ATV route through Lindsay at this time; and
THAT Council direct staff to develop alternative routes throughout the City with 'hub and spoke' type or other configuration that would provide for the routing of ATV's around Lindsay and through smaller communities within the City; and

THAT Staff work with a Steering Committee in the design and development of these alternatives; and

THAT Staff report back to Council by May 2012 with design alternatives and a proposed implementation plan.


## BACKGROUND:

The popularity of ATV'ing as a recreational sport has created the need for formalized trail systems and an interest in access not only to trails but to urban and rural roads. This demand has created ongoing discussions in regards to where and when ATV's should be permitted to operate.

The discussion has expanded in the past 10 years as Municipalities consider active living policies, create recreational trail systems for citizens and find there is need to regulate how these trails can be utilized.

The City of Kawartha Lakes is not unique among other rural municipalities in Ontario in that it boasts a mix of large, sparsely populated rural areas and modest sized urban communities. Lindsay is the largest community in the City of Kawartha Lakes, with a population base of approximately 20,000 . Other much smaller urban communities dot the map randomly, including Fenelon Falls, Bobcaygeon, Coboconk and Omemee. Tourism and recreation are an economic focus in the City and there is an increasing desire of some individuals and groups to find more opportunities for ATV's to travel throughout the City.
Currently a by-law to regulate the operation of All Terrain Vehicles (ATV) exists in the City of Kawartha Lakes (By-law 2009-116) which permits ATV's to utilize the City road system as follows:

## Section 2.00: Location

### 2.01 North of Kawartha Lakes Road 8

That ATV's shall be permitted on highways (streets) as defined in the Highway Traffic Act, R.S.O. 1990, Chapter H.8, which are described in Schedule "A"ATV Routes, attached to this by-law.
2.02 North of Kawartha Lakes Road 8

That in addition to Section 2.01, that ATV's shall be permitted on all highways (streets) as defined in the Highway Traffic Act, R.S.O. 1990, Chapter H. 8, north of Kawartha Lakes Road 8, Kawartha Lakes Road 121 as it connects Kawartha Lakes Road 8 in Fenelon falls, excluding all roads within the settlement area of Fenelon Falls except those included in Section 2.03 and 2.04, Kawartha Lakes Road 36 from the intersection of Kawartha Lakes Road 8 north to Main Street to the Kawartha Lakes boundary in Bobcaygeon, and save and except Highway 35 , for the express purpose of travelling from the place of residence to the nearest designated ATV route.
2.03 Fenelon Falls - North to South Road Access Route

VRTC to Garnett Graham Park, east on Francis Street to Colborne Street, south on Colborne Street to Lindsay Street, east on Elliot Street and south on Murray Street to VRTC.

### 2.04 Fenelon Falls - South to North Road Access Route

VRTC, north on Murray Street, west on Elliot Street to Lindsay Street, north on Lindsay Street to Colborne Street, west on Francis Street to Garnett Graham Park to VRTC.

By most accounts, the above referenced By-law has been successful and well received by the community; both ATV users and non-users.

In addition to the above, ATV's are permitted to utilize the Victoria Rail Trail (VRT) (with the exception of the section of trail between Logie St. and Thunder Bridge Rd. in Lindsay) and at certain times of the year and between certain hours. (ie ATV's are not permitted to use the VRT in the winter months and early spring, and are only permitted to use the trail between 7:00 a.m. and 9:00 p.m.)

Discussion has been ongoing with regards to increased use of the City road system by ATV's, as well as the provision of a connection between the VRT to the south of Lindsay and the VRT to the north.
At the September 4, 2007 Development \& Public Works Services Committee Meeting the following resolution was passed and subsequently adopted by Council on September 11, 2007:

Moved by Councillor Luff, seconded by Councillor O'Reilly, RECOMMEND THAT Report PW2007-057, "Recreational Trail Crossing of the Scugog River", be received;
THAT staff be authorized to prepare a conceptual design and estimated costing for the creation of a recreational trail crossing of the Scugog River at the north end of Lindsay; and
THAT the completed conceptual design and estimated costing be forwarded to the Trails Advisory Committee for their information and consideration in future recommendations to Council.

CARRIED DPW2007-278

At the October 13, 2009 Council meeting the following resolution was passed:
Moved by Councillor Yeo, seconded by Councillor Robertson,
RESOLVED THAT the deputation by Gord Ferguson, Kawartha All Terrain Vehicle Association, regarding a recreational bridge over Scugog River, be received;
THAT the Recreational Bridge over the Scugog River and the alternative route issue be referred to staff for a report back to Council prior to any decision being made; and
THAT, if staff determine a preferred route, that a public meeting be held with the affected residents along the route.

This report addresses these directions.

## 1. Recreational Bridge over the Scugog River and alternative route issue

A study was commissioned by the City for the review of a recreational bridge over the Scugog River and alternative routing. G. D. Jewel Engineering Inc. submitted a report to the City in June 2009. (see Appendix 1).

The Jewel report speaks to the City of Kawartha Lakes Master Plan for recreational trails and the identification of the CKL Road 36 corridor as the preferred route for the connection of the VRT from Highway 7 to Thunder Bridge Road. The report also considers two bridge alternatives for crossing the Scugog River and associated cost estimates.

The first bridge alternative is a two-span, pre-engineered, steel pony truss bridge similar to those commonly utilized as pedestrian type bridges and with a design height of approximately 2.5 to 3 metres. The estimated cost for construction is $\$ 1,075,250$ (based on 2009 construction costs). The second bridge alternative is a three span superstructure, cable stayed type bridge with a design 'which will make the bridge more of a landmark structure rather than just functional structure'. A look-out feature was incorporated into the design which would provide a resting plane for trial users and an opportunity to view the scenery. The estimated cost for construction of this alternative is $\$ 2,150,500$ (based on 2009 construction costs)

Conclusions in section 2.4 for the report show project costs to implement and construct the alternative route along the CKL Road 36 corridor and the second bridge alternative are estimated at $\$ 3,327,490$ (based on 2009 construction costs).

Detailed design of this project was included in the 2010 draft Capital budget discussions (with the least expensive bridge option presented) for consideration, however the project was not approved.

## 2. Alternative Preferred Route Considerations

A public meeting was held on June 22, 2011 at the Ops Community Centre, to address the last direction of Council from the above referenced Council resolution (CR20091159).

Prior to the meeting, discussions were held with the Kawartha All Terrain Vehicle Association and a number possible routes through the Town of Lindsay were discussed. The challenge for, and the request of the Association, is to connect to the VRT which extends both north and south of Lindsay for the purpose of an ATV trail. Due to Council direction and policy, the VRT as noted above, does not permit ATV's to utilize the trail between Logie St. and Thunder Bridge Rd. The reason for this restriction includes the high pedestrian usage of this section of trail, it's discontinuous nature through Lindsay including roadways and sidewalks, as well as limitations with respect to the ability to widen and expand the trail to permit a shared use.

A number of proposals were considered prior to the public meeting however, the meeting focused on one route in particular through Lindsay. (see Appendix 2)

Approximately two hundred (200) people attended the public meeting and individuals or groups represented by spokespersons were offered an opportunity to speak to the proposed ATV route through Lindsay. Both the Kawartha All Terrain Vehicle Association and the Green Trails Alliance (who are opposed to ATV's travelling through Lindsay) were provided a ten (10) minute presentation opportunity. The general public was then offered the opportunity to comment and provide input. Mixed opinions and suggestions were put forward with often lively discussion and participation from the audience.

In addition, the City received many written and/or email submissions providing comments either for or against the proposal, as well as general information on ATV's and the industry. A broad summary of comments is attached (Appendix 3). As there was a similarity to many of the points put forth, comments are grouped for the purpose of developing a condensed and abbreviated document.

In addition to the public meeting and the request for public input, staff offered the OPP, the Lindsay Police Service and the Ministry of Transportation (MTO) opportunity to comment on the proposal as well. These responses and comments are appended to this report as Appendices 4,5 and 6 respectively.

## RATIONALE:

## Assessment of public input and comments

An significant number of comments received were in opposition of the proposal and spoke to safety; not only the concern of having ATV's travel on the streets and roads of Lindsay in general but specifically there were concerns with the proposed ATV route along on Angeline Street South. A general theme of the opposition comments related to the concern of ATV's sharing the busy streets and intersections of Lindsay with other conventional vehicular traffic. Other concerns related to noise, respect for personal property, speed and the opinion that the route would not promote or support any economic development in Lindsay based on the route and the limited number of commercial establishments along the route. Additional comments were received citing information that ATV's are not intended to travel on hard top roads based on design and functionality. The written comments received that did not support the route and $/$ or ATV's in Lindsay numbered forty six (46).

OPP- Although Inspector Rob Shaw did not comment specifically on the route, his letter noted concerns that ATV's are not designed or recommended for use on paved surfaces. (See Appendix 4)

Lindsay Police Service - A thorough review of the route and intersections was undertaken by Chief John Hagarty; he provided a matrix which identified roads and intersections along the proposed route as 'safe', 'borderline' or 'unsafe'. (see Appendix 5)

MTO (Ministry of Transportation) - Cheryl Tolles, Corridor Management Planner provided comments on MTO road related crossings identifying those which would be considered safe and those which would be considered problematic. (see Appendix 6)

Correspondence received in support (twenty-seven (27)) to the proposal cited the possibility of expanded tourism, support of the Lindsay business community, the desire to connect the trail (south of Lindsay) to Fenelon Falls and points north and the general success of the by-law permitting ATV's on roads north of CKL Road 8 and in the Communities of Fenelon Falls, Burnt River, Coboconk etc. A number of letters and correspondence spoke to the joy and fun of ATV'ing as a family activity and the opportunity to enjoy the beauty of nature and the City of Kawartha Lakes.

## Discussion and Assessment of opportunities

ATV use in rural areas of the province is on the rise as a recreational activity which has resulted in an increase in the number of ATV's seeking permission to travel on the network of roads throughout the City of Kawartha Lakes. The permissions sought to travel from the south east area of Kawartha Lakes, through Lindsay, thereby permitting riders to connect with the Victoria Rail Trail at the north end of Lindsay, has been before the City in various forms for a number years. The connection would enable riders to then travel up to Fenelon Falls, and subsequently, points north.

An argument that has been put forward by proponents of the route through Lindsay is the economic benefit to local businesses that could be realized from ATV users as they travel through Lindsay. However, if an alternate route from the south east area of Kawartha Lakes was proposed that did not travel through Lindsay, it would be possible to route riders to Fenelon Falls, Bobcaygeon and points north, with many smaller communities in Kawartha Lakes realizing the economic benefit of the ATV riders. This scenario would still provide an economic benefit to Kawartha Lakes, the difference being that the benefit would be realized by many of the smaller communities throughout Kawartha Lakes, especially during shoulder and off-seasons, when it is most needed by businesses in these smaller communities.

Staff proposes, in concert a Steering Committee, the design of 'hub and spoke' opportunities throughout the City, to support ATV access.

A preliminary meeting was held with interested parties on Monday November 28, 2011 with regard to an ATV 'hub and spoke' initiative. The purpose of the initiative is to explore the feasibility of developing a Strategic Plan for establishing 'hub and spoke' trails in Kawartha Lakes and explore the feasibility of engaging Fleming College and Trent University students in research.

Discussions continue with regard to the Steering Committee participation and the development of a work plan for the initiative, subject to Council direction.

## OTHER ALTERNATIVES CONSIDERED:

Other alternatives considered include:

1. An alternate route through Lindsay ie Lindsay Street to Wellington St., Wellington St. (across the bridge) to William St. William St to Orchard Park Drive. Orchard Park Drive to Angeline Street North. Angeline Street North to Thunder Bridge Road. This alternative, although more direct, would also raise the general concerns expressed by many of having ATV's on the streets and roads of Lindsay.
2. Permitted use of the VRT between Logie St. and Thunder Bridge Rd. in Lindsay. This would partially eliminate the need to have ATV's travel through Lindsay on the road system; it would, however, have the negative effect of disrupting the high level of pedestrian and bicycle trail usage.
3. Reconsideration of the routing identified and discussed in the G.D. Jewel report (2009).

## FINANCIAL CONSIDERATIONS:

There are no financial implications at this time to the proposed recommendations.

## RELATIONSHIP OF RECOMMENDATION TO 2002-2012 VISION:

Encourage and promote the development of linear multi-purpose trail systems to connect with the Trans Canada Trail and the 5-County Trail System.

Encourage the protection of abandoned rail corridors for public uses.
Explore opportunities, where appropriate, to provide staging and/or parking areas for alternative modes of transportation.

## REVIEW OF ACCESSIBILITY IMPLICATIONS OF ANY DEVELOPMENT/POLICY

There are no accessibility implications related to this issue.

## CONSULTATIONS:

Kevin Williams, Director of Community Services
Michael Benner, Manager of Policy Planning

## ATTACHMENTS:

Appendix 1 - G.D. Jewel Engineering Inc - Victoria Rail trail routing Study and Conceptual Bridge Crossing Design

Appendix 2 - Map of proposed ATV route through Lindsay

Appendix 3 - Summary of comments received at the Public meeting, by email or by letter

## 4

Appendix 3-Summary
of Comments Receiv $\epsilon$
Appendix 4 - Comments received from OPP

Appendix 4.pdf
Appendix 5 - Comments received from Lindsay Police Service

## PDF

Appendix 5.pdf
Appendix 6 - Comments received from MTO


Appendix 6.pdf

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## APPENDMX 1

VICTORIA RAIL TRAIL CITY OF KAWARTHA LAKES FINAL REPORT

## G.D. Jewell Engineering Inc.

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## VICTORIA RAIL TRAIL FINAL REPORT

### 1.0 Background

The City of Kawartha Lakes, Engineering and Public Works, have contracted G.D. Jewell Engineering Inc. to carry out engineering services for the Victoria Rail Trail Routing Study and Conceptual Bridge Crossing Design

The Victoria Rail Trail extends from Bethany northerly through Lindsay up to Haliburton. The Trail does not go through the Town of Lindsay as the railway once did. The key goals of the project are as follows:

- Identify alternative alignments to connect the northern and southern portions around the Lindsay community
- Identify the conceptual design for a bridge crossing of the Scugog River in the vicinity of the old CN railway spur line immediately north of the Lindsay community
- Prepare a Report to document the alternatives considered and details of the preferred alternatives for both the trail routing and the proposed bridge crossing
- Prepare a Class D estimate for the proposed works, and
- Meet with the public and get their feedback into the decision making process.


### 2.0 Work Plan

The work program follows the approach and methodology of the Environmental Assessment (EA) process.

### 2.1 Recreational Trail Planning for Lindsay and Environs

The City of Kawartha Lakes is blessed with a variety of recreation trails servicing different user groups throughout the year.

## Victoria Rail Trail

The Victoria Rail Trail extends from Bethany northerly through Lindsay up to Haliburton passing through Fenelon Falls, Burnt River, Kinmount and Gelert as shown in Figure 1.0. The Trail length of 85 kilometers follows the former CN rail line which was constructed beginning in 1874. The Trail is used year round for hiking, horseback riding, cycling, snowshoeing, cross-country sking and snowmobiling. This multi-purpose recreation Trail forms a section of the 450 kilometer Central Ontario Loop Trail. The Ganaraska hiking trail follows the Victoria Trail from south of Kinmount to a few kilometers north of Bethany. The Victoria Rail Trail intersects the Trans Canada Trail in Lindsay. The designated route of the Trans Canada Trail crosses the southerly region of Kawartha Lakes for a distance of 50 kilometers.

## G.D. Jewell Engineering Inc.

## Central Ontario Loop Trail

The Central Ontario Loop Trail (COLT) consists of 450 kilometers of public trails in the Counties of Northumberland, Peterborough, Hastings and Haliburton and the City of Kawartha Lakes.
Every year in early fall communities along these trails celebrate by organizing family oriented trail activities such as walking, canoe and kayak demonstrations, bicycling and horseback riding.

## Kawartha Trans Canada Trail

The Trans Canada Trail is a 21,500 kilometer recreational trail winding its way through every province and territory, from Atlantic to Pacific to Arctic Oceans. When completed, it will be the world's longest recreational trail linking close to 1000 communities and over 33 million Canadians. Today, almost $70 \%$ ( 14,500 kilometers) is developed.

Thousands of people are taking to the trail to walk, hike, cycle, ski, horseback ride and snowmobile.

The section of the trail through the study area is called the "Kawartha Trans Canada Trail". It is a 44 kilometer linear trail that travels east to west between Peterborough County and the Region of Durham with the community of Lindsay in the middle.

The general location of the above trails are shown in Figure 1.0.

## Ganaraska Trail

This 400 kilometer hiking trail connects Port Hope to Barrie, Orillia and the Bruce Trail. An end to end hike takes place over ten weeks each year.

The Kawartha section is almost entirely in the City of Kawartha Lakes. The section starts on the rail trail, where it intersects with Crosswinds Road, south of Raeboro. It follows Victoria Rail Trail to Lindsay, follows the Scugog River for some distance and then takes the Victoria County Recreational corridor, which is follows to 2 kilometers past Burnt River. The section ends in Moore Falls.

## Master Plan for Recreational Trails

The City of Kawartha Lakes has developed a master plan for recreational trails through their Municipality. The master plan has identified the problem of providing a connection for motorized trail users through the Lindsay area. The CKL36 corridor has been identified as the preferred route for the connection of the VRTC from Hwy 7 to Thunder Bridge Road.

For this purpose the Plan shown in Figure 2.0, prepared by the CKL Engineering Department, indicating the existing and proposed routes proposed in the Trail Master Plan for Lindsay and Environs. We have superimposed on this plan the route that we are presenting with this report.

## 统 Alternative Trail Alignments - Motorized Vehicles

4. 

The proposed trail route, for motorized vehicles only, from the south on the Victoria Rail Trail is 3. divent over to CKL 36. A five meter clearance trail would be designated in the $100 \mathrm{ft}+$ right42 Why from Highway 7 northerly to the City owned land for the connection to the proposed EVWe over the river. Other than "Do Nothing" this is considered the only feasible route. Sowever, there are two design options: utilizing the west or east side of the CKL 36 corridor. The pedestrian/ cyclists will continue to use the Rail Trail into the urban area which connects with the existing and proposed routes for this mode of transportation.

A comparison of the two options is shown in the following table:

| Number Crossings |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Impacts | Main Road | Minor Road | Entrance | Adjacent <br> Land Use | Services |  |
| Option 1.0- <br> eeast side | 3 | 5 | 18 | Commercial | Gas/food |  |
| Option 2.0- <br> west side | 3 | 9 | 20 | Residential | - |  |

Option 1.0 - east side is considered the preferred route. It is considered the safer and has the lesser impact of proximity to the residential community. Although Option 1.0 has the same number of main road crossings, Option 2.0 crosses the highest volume roadway, Queen Street. ATV's and snowmobiles are powerful machines that can go almost anywhere. The trail need only be designated and regulated through signs. Minor improvements to enhance safety are recommended. The construction of flat, granular pads at the approach to a road crossing is proposed. The regulatory signs for stop and speed will be the current small signs being used. Larger information signs will be required at trail heads and at staging areas to advise users of restrictions and different trail routes. Other amenities suggested at points along the trail are park benches and portable tollets.

In addition, where the new route crosses the Trans Canada Trail the new route will accommodate pedestrian cyclists from this point and provide them access to the Victoria Rail Trail on the west side of the river via the new pedestrian bridge and to the trails north of the urban area.
Design Criteria
Designated Users: snowmobile in winter and ATV's in spring, summer and fall.
Trail Width: clearance of 5.0 meters, surface width of 3.5 metres.
Surface Treatment: none. Road crossings to have 6.0 meter level approach pads.
Regulation: Regulatory and information signs with policy observation.
Trail Posted Speed: $50 \mathrm{~km} / \mathrm{hr}$ maximum.

## CKL. 36

The preferred route is on the east side of Verulam Road (CKL36) from Hwy 7 to the north side of the new correctional facility. This location has the least amount of intersections and entrances and the right of way is wide enough to accommodate the trail off the traveled surface of the
road. There are eight street intersections, three are signalized and four stream crossings. The street crossings will require granular pads, similar to gravel entrances, on each side to provide a level area for the machines to stop and then cross when the way is clear. The three signalized intersections would dedicate the east side for snowmobiles/ATV's and have the pedestrians use the west side to cross the street. The one urban intersection would have the gravel pad paved to fit in with the urban environment. The cost would be offset by the elimination of the culvert.


Looking North on the east side of CKL 36, just north of Hwy 7


Looking north from the Trans Canada trail on the East side of CKL 36
The first two stream crossings will require improvements to the existing culverts. Headwalls would be constructed and fill added to provide a level crossing behind the guide rail along the road.


## 1.8 m Dia. Culvert, 0.4 km north of Hwy 7 on the east side of CKL 36

Culvert requires some backfill to support new trail

$1.8 \times 3.0$ CSPA with Concrete wingwalls, 0.9 km north of Hwy 7 on the east side of CKL. 36

5.0 metres from end of the pipe to the three cable guide rail.

The third crossing is a $3.0 \mathrm{~m} \times 1.5 \mathrm{~m}$ Concrete rigid frame culvert that requires a 5.0 metre extension to provide a platform for the trail to cross the stream and keep the roadway clear.

$3.0 \times 1.5$ Concrete rigid frame culvert, 4.0 km north of Hwy 7
Distance of 5.3 metres from edge of pavement to end of Culvert.


## Stream on east side of CKL 36 flowing through Concrete Culvert

The fourth crossing is a $1.5 \mathrm{~m} \times 0.9 \mathrm{~m}$ concrete box culvert that requires a 6.0 m extension to allow the trail to cross the stream.

1.5 $\times 0.9$ Concrete Box Culvert at entrance to new correctional facility.

An alternate crossing of the rail trail across, or rather beneath Highway 7, could be realized by constructing the proposed route from the rail trail along the north right of way on Hwy 7 to CKL36 and proceeding north 100 metres to cross CKL 36 and then continue north along CKL 36 on the east side. This would remove the conflicts of vehicles turning onto Hwy 7 from CKL 36 and the ATV's and snow machines crossing the highway in the same intersection and eliminates two of the granular pads.

The preliminary cost of the proposed route is summarized below:

| Item | Units | Quantity | Unit Cost | Total |
| :--- | :--- | ---: | ---: | ---: |
| Stop Signs | each | 10 | $\$ 125.00$ | $\$ 1,250.00$ |
| Modified Pedestrian Heads | each | 6 | $\$ 600.00$ | $\$ 3,600.00$ |
| Speed Signs | each | 10 | $\$ 125.00$ | $\$ 1,250.00$ |
| Information Signs | each | 2 | $\$ 500.00$ | $\$ 1,000.00$ |
| Security Gates | each | 2 | $\$ 1,500.00$ | $\$ 3,000.00$ |
| Park Benches | each | 4 | $\$ 450.00$ | $\$ 1,800.00$ |
| Portable Tolets | each | 4 | $\$ 1,000.00$ | $\$ 4,000.00$ |
| Granular Pad | each | 16 | $\$ 1,000.00$ | $\$ 16,000.00$ |
| 500 mm Culverts | metre | 98 | $\$ 180.00$ | $\$ 17,640.00$ |
| Asphalt Pad | tonne | 8 | $\$ 125.00$ | $\$ 1,000.00$ |
| Culvert Headwalls | each | 2 | $\$ 1,500.00$ | $\$ 3,000.00$ |
| Fill | m $^{3}$ | 140 | $\$ 10.00$ | $\$ 1,400.00$ |
| Guide rail | metre | 30 | $\$ 60.00$ | $\$ 1,800.00$ |
| Concrete Culvert Extension <br> $3.0 x 1.5$ | Lump |  | 1 | $\$ 10,000.00$ |$\$ 10,000.000$.

If this route is to be utilized by cyclists and pedestrians then a 3.5 metre granular base would be required to be constructed. The estimate to excavate and place the granular base on the 5.7 km length of CKL 36 right of way is an additional $\$ 231,500.00$.

## City Land

The city owned land between CKL. 36 and the proposed bridge location is crucial to the trail connection. There are two options for this section of the connecting trails: Option 3.0-Road and Trail would be the construction of a public roadway and a recreation trail in the same right-of-way. Option 4.0 - Trail Only is to construct a temporary roadway which becomes the trail after construction.

The construction of a road to carry construction equipment, materials, etc., is proposed to avoid using existing residential streets. This roadway could be temporary or permanent. A typical cross section of the two options is shown in Figure 8.0. In Option 3.0, the Trail would be located on the south side. In Option 4.0 a fence may be required along the north side because the terrain is wide open.

Once the bridge is constructed, this location is going to become an important staging area. The existing staging area on the west side of the Scugog River is not permanent. A staging area on the east side of the river would be extremely beneficial. As a first stage, a parking area of twenty (20) parking stalls is suggested. A sketch of a possible design is shown in Figure 9.0 .

Option 3.0 is preferred because it will have the least impact on the existing community in terms of noise and vehicular intrusion both during and after construction. Further details of the public roadway and the proposed Trail are shown in Figure 2.0.

Design Criteria for Public Access Road

| Parameters | Option 3.0 | Option 4.0 |
| :---: | :---: | :---: |
| Pavement Width | 7.0 meters | 6.0 meters |
| Shoulder Width | 1.5 meters | 1.0 meters |
| Asphalt Surface | Yes | No |
| Posted Speed | $50 \mathrm{~km} / \mathrm{hr}$ | $40 \mathrm{~km} / \mathrm{hr}$ |
| Right-of-Way | 20 meters | 10 meters |
| Trail Width Designation | 3.0 meters | 3.0 meters |

A preliminary cost estimate for the preferred Option 3.0 is detailed below:

| Item | Units | Quantity | Unit Cost | Cost |
| :--- | :---: | :---: | :---: | :---: |
| Asphalt Pavement | tonnes | 1150 | 110 | $\$ 126,500.00$ |
| Granular Base | tonnes | 5000 | 20 | $\$ 100,000.00$ |
| Granular Sub-base | tonnes | 10000 | 18 | $\$ 180,000.00$ |
| Culverts 600 mm Dia. | metre | 15 | 250 | $\$ 3,750.00$ |
| Culverts 1200mm Dia. | metre | 15 | 500 | $\$ 7,500.00$ |
| Signs - speed/stop | each | 4 | 125 | 500.00 |
| Signs-information | each | 1 | 500 | 500.00 |
| Staging Area | Lump Sum |  |  | $\$ 20,000.00$ |
| Total |  |  |  | $\$ 438,750.00$ |

### 2.3 Alternative Bridge Designs

The proposed trail connects two existing trails on either side of the Scugog River. A bridge over the Scugog River is required to complete this connection. The alignment of the proposed trail was chosen so that the crossing occurs where the river is relatively narrow and is the site of a previous railway bridge.

## Site Description

The proposed crossing of the Scugog River is located at the site of an abandoned railway bridge. Figures 1 is a view of the site from the west side looking east while Figure 2 is from the opposite side looking west. The land on the east side of the river projects into the water course narrowing the effective width of the river at this location. The land west of the river is gently undulating from approximately 1 to 3 m above the normal water level. To the west the land on the proposed trail alignment has been filled to create an elevated platform with an abutment at
approximately 10 m above the river water level. There are two hills of approximately the same height which will require some grading to accommodate the bridge and the trail.

Visible at the proposed bridge site are a set of four piers in the river near the west bank with another set of four piers near the east bank and an existing abutment at the top of the first hill on the west side of the river. No abutments are visible on the east side.


Figure 1 - View Looking Towards East Shore


Figure 2 - View Looking Towards West Shore

## Design Criteria

The following standards and guidelines will apply to the design of the proposed bridge:

1. Canadian Highway Bridge Design Code; CAN/CSA S6-06
2. Guidelines for the Design of Snowmobile Bridges, Ministry of Transportation Engineering Standards Branch, Publication No. BRO-012, Second Edition, September, 2004
3. Snowmobile Trail Development Manual, Ontario Federation of Snowmobile Clubs, Draft 1999, Chapter 5 Water Crossings
4. Snowmobile Bridge Design Guidelines, Ministry of Natural Resources, August, 1992.
5. Guidelines for the Design of Bridges on Low Volume Roads, Ministry of Transportation, Appendix A of Exceptions to CHBDC, April 2008, Structural Manual, 2008, Division 1

Our recommended design criteria for bridge is as follows.

Design life:
Structure length:
Width between railings:
Maximum grade:

75 years
83 metres
3 metres
$8 \%$ is desirable
$15 \%$ for short distances
Clearance:
Barrier height:
Barrier openings:
Wearing surface:
Snow Load:
Snow Load with Vehicle Load:
Minimum Groomer
Load: (See Note 3)
Dynamic Load Allowance for Groomer:
Snowmobile Load:
Pedestrian Load:
Load on Barrier:
Wind Loads:
Stream Pressure:
Ice Load:
Earthquake Loads:
Collision Load
(see Note 4):
To Trent Severn Waterway requirements 15.24 m wide by 6.7 m high
Height of 1.75 m for snowmobile use Not to exceed 150 mm
Pressure treated lumber or concrete
Design Loads
(See Notes 1 \& 2)
Specified snow load according to Ontario Building Code Clause 4.1.7.1
Snow load as above with $C_{b}$ reduced to 0.5
88.5 kN vehicle as per Figure 1 of
Reference 2
$15 \%$
2 lanes of snowmobiles @ $1.5 \mathrm{kN} / \mathrm{m} / \mathrm{lane}$ Load with of 1 m for each lane
According to CHBDC Clause 3.8.9
80 kN for groomer
On structure and pier bents to CHBDC Clause 3.10
On pier bents to CHBDC Clause 3.11.4
On pier bents to CHBDC Clause 3.12
According to CHBDC Clause 3.13
On pier bents to CHBDC Clause 3.14 with input from Trent Sever Waterways

Notes:

1. Access to bridge to be restricted to prevent vehicles other than snowmobile, groomers and trail vehicles from using the bridge.
2. Bridge to be designed for worst combination of the applied loads. Loads to be considered are snow load alone; reduced snow load plus groomer or snowmobile load or pedestrian load alone.
3. Bridge must be designed for heaviest grooming machine expected to be used by the trail operator.
4. Collision loads need not be considered if a system to protect the piers from vessel collision is installed.

## Alignment and Cross-section

The bridge will be constructed on tangent horizontal alignment matching the centerline of the existing foundations. The trail will be blended in form both directions to match this alignment.

The vertical alignment will be a vertical curve to match the approach grades from each end. The grade exceeds $8 \%$ to a maximum of $15 \%$ for a distance of approximately 46 metres on the easterly approach of the bridge.

Barriers are to be placed at both ends of the bridge to reduce the effective access width to less than 2.5 metres to prevent other vehicles from crossing the bridge.

The width of the structure will be 3 metres to allow adequate width for a groomer and two lanes of snowmobile traffic. If a concrete deck is used, 150 mm high curbs would be provided to contain drainage and accommodations to effectively drain the surface will have to be incorporated. With a timber deck, no curb would be provided as the water would drain between the planks in any case.

Barriers on each side of the structure require a height of 1.75 metres from the bridge deck. This permits the barrier to be effective when there is an accumulation of approximately 500 mm of snow on the deck for snowmobile use. The barriers would also have to meet requirements for pedestrian barriers for use in summertime.

## Foundation Considerations

The structure is to be founded on the existing piers in the water way and on the abutment on the west side of the river. It is expected that since these structures once supported a railway bridge, they would be adequate to support the proposed bridge. A new abutment will be required on the east side of the river.

Investigation of the concrete piers and abutment to be incorporated into the bridge was not part of the scope of this assignment and will be required prior to detailed design. The investigation will require sampling and testing of concrete cores to ensure the concrete has adequate strength and will function for the life of the proposed structure. The geotechnical investigation will provide design parameters for the new abutment and confirm what material the existing structures are founded on.

It is anticipated that the existing piers in the watercourse can be reused with minimal rehabilitation effort. The existing abutment on the west side of the river will require more substantial effort to incorporate it into the new structure.

## Proposed Structure

The design of the new bridge will be in accordance with the publications listed under design criteria. For comparison purposes, we are presenting two possible structural alternatives.

1. A three span pony truss structure with either timber or concrete deck (see Appendix Dwg. 1). Erection will likely be using the lift-in-place construction method.
2. A two span cable stayed structure with concrete deck (see Appendix - Dwg. 2) using the lift-in-place construction method.

## Alternative No. 1-Pre-engineered Truss Bridge

The first alternative is for a three span structure having spans of approximately 24-35-24 metres. The superstructure is a pre-engineered steel pony truss bridge fabricated from weathering steel utilizing tubular members. The deck will be either timber or concrete. These types of bridges are commonly seen as pedestrian bridges and are manufactured by Eagle Bridge Inc. or Resource Industrial Group Inc. amongst others.

It is anticipated that the superstructure will be fabricated in its entirety either off-site or adjacent to the bridge site in a staging area on the east river bank. The structure will be lifted in place using one or two appropriately sized cranes. A barge may be required to support the crane to erect the centre and west spans.

The superstructure will be supported on two pier bents consisting of four splayed columns and a header beam. The column arrangement will assist in resisting lateral forces on the structure and reduce the effects of ice pressure or vessels impacting the pier bent.

It is anticipated that the trusses of the superstructure will have a height of approximately 2.5 to 3 metres and will extend sufficiently above the deck to act as barriers. They will have to be designed to resist the traffic load on the barriers as well as the other live loads. A secondary system of pickets or rails will be attached to the trusses to ensure the spacing requirements for pedestrian use are satisfied.

## Alternative No. 2 - Two span structure

The second alternative is for a two span structure with spans of approximately 59 and 24 metres. The superstructure is a cable stayed design which will make the bridge more of a landmark structure rather than just a functional structure. A "lookout" feature is incorporated into the design at the piers which would provide trail users with a resting place and an opportunity to view the scenery without blocking the travelled portion of the deck.

The tower is placed at the easterly set of piers so that the new abutment on the east side of the river can be designed to anchor the cables. With proper design and tensioning of the cables, the bridge can be designed to apply minimal forces on the existing west abutment, if necessary. The tower extends approximately 29 metres above the top of the piers and is to be fabricated from tubular steel. The legs of the tower are splayed which assists in resisting horizontal forces and reduces the effects of impact from ice.

The deck will be constructed from reinforced concrete supported on structural steel beams and girders to provide adequate stiffness to resist wind forces and vibrations from use. Structural steel superstructure could be erected using a balanced cantilever approach in both directions from the tower. An alternative would be to have the deck constructed from precast concrete, erected in a similar manner with the sections posttensioned to provide continuity.

## Miscellaneous

## Drainage

Deck drainage will not be required if a timber deck is used for the structure as drainage will occur through the gaps between the lumber planks and over the edge of the structure. If the deck is concrete construction, curbs can be utilized to contain the drainage. Deck drains according to CHBDC requirements would have to be installed to discharge at suitable locations.

## Barriers

Barriers would be required to meet the pedestrian barrier requirements of the CHBDC and the snowmobile and groomer requirements of the Snowmobile Bridge Design Guidelines. The required barrier height is 1.75 m above deck surface which provides protection for trail users when there is 500 mm of snow on the bridge. The clear distance between rails must be no greater than 150 mm to meet CHBDC requirements. The rail should be designed for a horizontal load of 80 kN to resist possible impact from a groomer.

Approach barriers with suitable end treatments should be provided at both ends of the bridge.

## Illumination

Consideration should be given for illumination of the structure for trail users. It would be easiest to incorporate these features in the design stage.

Navigation lights would have to be installed on the bridge to satisfy requirements of the Trent Severn Waterway.

## Navigability

The Scugog River is part of the Trent Severn Waterway and is considered navigable. The required navigation clearance is a height of 6.7 metres for a width of 15.24 metres.

## Expansion Joints

An integral or semi-integral type of abutment will not be possible with the described alternatives. The anticipated movements will have to accommodated by a suitable and durable expansion joint system which will be determined during detailed design.

## Environmental Considerations

The bridge is in the Scugog River floodplain and approval will be required from Kawartha Conservation. Construction that would occur in the watercourse would include rehabilitation of the piers and possibly erection of the super structure from a barge.

There should not be any work resulting in harmful alteration, disruption or destruction (HADD) of fish habitat.

Construction of the east abutment is in the river floodplain and will require some fill placement.

## Design Considerations

A number of issues will have to be considered and resolved during detailed including but not limited to the following.

Consideration will be required during design to assess the effects of ice impacting the structure during spring thaw and to determine the need for measures to minimize these impacts. Similar consideration will have to be given to the possibility of impact from vessels.

Access to the structure during consideration will have to be considered. There is currently no vehicular access to the site. A temporary access route would have to be constructed and then later removed. Access will be required from both sides. Preliminary construction of the trail from both directions should provide a suitable access road.

Consideration should also be given to providing landscaping that will enhance the natural environment at the two bridge approaches.

Decisions from the City of Kawartha Lakes will be required regarding:

- Selection of the preferred alternative
- Concrete or timber wearing surface for the bridge
- The need for illumination on the bridge


## Cost Estimates

Class 'D' estimates for the two alternatives have been prepared. The estimates include construction of the structures as shown on the included general arrangement drawings including rehabilitation of existing piers but exclude the following:

- Construction of the access road
- Structure illumination
- Construction of the approaches to the bridge
- Landscaping at the approaches
- Structures for abatement of ice or vessel impact

In both cases, the estimates include for a structure with a concrete deck.
The estimated costs also include an allowance of $15 \%$ for engineering and $10 \%$ for a contingency amount.

The construction cost estimates (2009 dollars) are:

|  | Alternative \#1 | Alternative 缺2 |
| :--- | ---: | ---: |
| Construction Cost | $\$ 850,000$. | $\$ 1,700,000$. |
| $15 \%$ Engineering | $\$ 127,500$. | $\$ 255,000$. |
| Sub-total | $\$ 977,500$. | $\$ 1,955,000$. |
| $10 \%$ Contingency | $\$ 97,750$. | $\$ 195,500$. |
| Total | $\$ 1,075,250$. | $\$ 2,150,500$. |

### 2.4 Conclusions

The total cost to implement the project is as follows:

| Improvements | Cost $\$$ |
| :--- | :---: |
| CKL 36 | $\$ 72,740.00$ |
| Public Road to Bridge | $\$ 418,750.00$ |
| Bridge | $\$ 2,150,500.00$ |
| Staging Area | $\$ 20,000.00$ |
| Total Cost | $\$ 2,661,990.00$ |
| $10 \%$ Contingency | $\$ 266,200.00$ |
| 15\% Engineering | $\$ 399,300.00$ |
| Total Project Cost | $\$ 3,327,490.00$ |

### 3.0 Action Plan

- Next steps for consideration by City Council
- Government approvals for construction
- Detailed design
- Public participation



## Proposed ATV Route

| "-" | Proposed ATV Route |
| :--- | :--- |
| -(35)- Provincial Highway |  |
| -回- | Kawartha Lakes Road <br> (formerly County Roads) |
| - | Road |



Appendix 3
Summary of Comments Received at the Public Meeting, by email and letter

## Approve

| Improve/Promote Tourism | 1 |
| :--- | ---: |
| Access/Connection to Northern Route | 20 |
| Increased Economy to Lindsay | 6 |



Disapproval Responses

$\square$ Road Deterioration

■Environmental (Noise/Air Pollution)
-Prefer Use on Trails Only
-Safety/Liability
$\square$ Deterioration of Community Values

■Mixed Use of Non-Motorized Trails

Ontario Provincial Police

Police provinciale de l'Ontario

City of Kawartha Lakes Detachment Détachement de la ville de Kawartha Lakes

| 21 Angeline Street North | 21, rue Angeline Nord <br> Lindsay ON K9V 5B7 <br> Lindsay ON K9V 5B7 |
| :--- | :--- |
| Tel: (705) 324-6741 | Tel. : (705) 324-6741 |
| Fax: (705) 324-8479 | Télec.: (705) 324-8479 |

July 18, 2011
File Reference: 642

City of Kawartha Lakes

Director of Public Works
12 Peel Street
Box 9000
Lindsay, ON
K9V 5R8
RECENVED
JUL 202017
OFKAWAATHALLAKES
MBLIC WORKS
Attn: Ms. Michelle Hendry
Dear Mis. Hendry,

## RE: Proposed ATV Route through Lindsay

Thank you for your letter, dated June 23, 2011 regarding the proposed ATV route through Lindsay. In response I provide the following:

1. I will not comment specifically on the proposed Lindsay ATV route as it falls within the jurisdiction of the City of Kawartha Lakes Police Service;
2. ATV's are not designed for or recommended for use on paved surfaces due to safety concerns;
3. We routinely receive complaints about the improper use of ATV's across the City, the majority being trespassing on private property or reckless driving;
4. We have had no concerns with the bylaw permitting use of ATV's on the shoulders of roads North of City Road \#8;
5. The vast majority of ATV's we encounter are properly licenced, insured and driven in a lawful manner.

Please call if I can provide you with any further information.

## Ann Hayter

From: Michelle Hendry
Sent: Monday, July 11, 2011 7:49 PM
To: 'John Hagarty'
Cc: Ann Hayter; Oliver Vigelius
Subject: RE: Proposed ATV Route through Lindsay
Thank you John, I appreciate your approach and your comments.

## Regards

## Michelle E. Hendry C.E.T. <br> Director of Public Works <br> the corporation of the ctry of kaviartha lakes <br> 12 Peel Street <br> Box 9000 <br> Lindsay, Ontario K9V 5R8 <br> Phone: 705.324.9411 ex 1125 <br> Fax: 705.324.2147 <br> Email: mhendry@city,kawarthalakes.on.ca

From: John Hagarty [mailto:]Hagarty@klps.ca]
Sent: Monday, July 11, 2011 3:36 PM
To: Michelle Hendry
Subject: FW: Proposed ATV Route through Lindsay
It was to big, l'll drop it off

## From: John Hagarty

Sent: July 11, 2011 3:32 PM
To: 'Michelle Hendry'
Subject: RE: Proposed ATV Route through Lindsay
Hi Michelle,
For the purpose of my assessment, I drove the route this morning and took some pictures along the way and have attached a PP showing that (the file is 8 MB and might not be accepted - if not 'lll put it on a flash drive and have it delivered). I then created a table with "Safe", "Borderline" and "Unsafe" categories as rated the route based on my trip. These are obviously only from my perspective and could be argued, but you've asked for my assessment.

I can't support the proposed route from a traffic safety perspective for the general public or the ATV operators. I am not anti ATV's and wish there could be an accommodation for a by pass route around or through Lindsay, but there doesn't appear to be one.

## Chief Hagarty

At the access point Thunder Bridge Rd is narrow without gravel shoulders ..... $x$
$x$
X
X ..... X
$X$X
Angeline St., S begins with 3 lanes, dangerous for ATV traffic, then no shoulders
Mary St has no shoulders, but begins with a wide portion but that's used for parking ..... X
Mary St. at Albert is now a 4 way stop, which would be ok X
Mary St. W. curves and isn't ideal for ATV's$x$
The intersection of Mary and Lindsay St . S is "always busy", often vehicles wait for long periods ..... $x$
to try and make a left turn
Southbound Lindsay St S, is reasonably wideX
Crossing to Logie is uncontrolled and could be dangerous to an ATV making a left turn ..... X
Logie is in need of repair

| Area | Safe | Borderline | Unsafe |
| :---: | :---: | :---: | :---: |
|  Whoutsravelshoulders |  | $X$ |  |
| Once past Angeline St. N. it opens up with nice gravel shoulders on both sides | X . |  |  |
|  sood sight lins | X |  |  |
| Turning at Monarch Rd I noticed a tractor being passed (legally) showing the safe multi use of the road | X |  |  |
| Monawh hownarrow yithuskssed shoude and mailboxes ight at the asphal |  |  |  |
| Crossing HWY 7 at Monarch is not ideal, no lights, significant slope | X |  |  |
|  Huluiuse (tactaragain) |  | X |  |
| Entrance to Little Britain Rd is OK but entering at 80 $\mathrm{km} / \mathrm{h}$ zone | X |  |  |
| M, Le Birtaind R is hic e and wide evood shoulders | X |  |  |
| The intersection at HWY $7 / 35$ is busy, not ideal with East bound traffic partially obscured with the curve | X |  |  |
|  tradic: then 0 oshowad |  |  | 彩 |
| Mary St has no shoulders, but begins with a wide portion but that's used for parking | X |  |  |
|  besok |  |  |  |
| Mary St. W. curves and isn't ideal for ATV's | X |  |  |
|  <br>  make al leftan |  |  | $y$ |
| Southbound Lindsay St S, is reasonably wide | X |  |  |
|  dangerous to an ATV nakg a eff tum |  |  | $\mathrm{X}$ |
| Logie is in need of repair | X |  |  |



Access point at Thunder Bridge Rd


Thunder Bridge Rd. - "grassed" narrow shoulders;



## Continuing on Thunder Bridge - gravel shoulders begin






Thunder Bridge Rd @ Monarch Rd


## Tractor being passed by a vehicle east bound Thunder Bridge



Monarch Rd narrow, with "grassed" shoulders


Another picture of Monarch showing mail boxes at road



## Monarch Rd@ HWY 7



## Monarch Rd @ Dew Drop Inn Rd



Monarch Rd is now gravel, narrow, no shoulders \& multi use



Wide shoulders, $80 \mathrm{~km} / \mathrm{hr}$ zone


Little Britain Rd @ HWY 7/35


## Angeline St S., no shoulders, passing High School



Angeline St S @ Mary St.


Mary St. east bound, wide area to the right


Mary St. W. @ Albert St.


East bound Mary St. W


Mary St. W. @ Lindsay St. S.



South bound Lindsay St. S.


Lindsay St. S approaching Logie St.



## Reconnect to the trail south from Logie





| Sinitatry of yramsportation | Pfinfactre dos transports |
| :---: | :---: |
| Corridor Management Section | Section de gestion des couloins routters |
| 1355 John Counter Boulavard | \$355, boulevard John Counter |
| Postal Eag 4000 | CPIService de sacs 4000 |
| Kingston, Ontario K7L.5A3 | Kingston (Ontario) K7l. 5A3 |
| Tel.: 613 545-4834 | Tel.: 613 544-2220 |
| Fax: 613-540.5106 | Tálec. 613 540-5106 |
| Chery, Tolles@omario.ca |  |

Section de gestion des coutoirs routiers
1355 John Counter Boulavard
Postal Bag 4000
Kingston, Ontario K7L. 5A3
Fax: 513-540.5106
Kingston (Ontario) K7l. 5A3
rélec 643 $540-510$
Chery, Tollas@ontario.ca

July 26, 2011

The Corporation of the
City of Kawartha Lakes
Public Works Department
12 Peel Street
Box 9000
Lindsay, Ontario
K9V 5R8
ATTN: MICHELLE HENDRY DIREGTOR OF PUBLIC WORKS

Dear Ms. Hendry:

## Re: ATV Rouses Through Lindsay

The MTO is in receipt of your letter dated June 23, 2011 regarding ATV crossings of provincial facilities in the Lindsay area. The following comments are offered.

From the conceptual sketch that accompanied your letter of June 23, 2011, it appears that there are four areas where the ATV crossings will conflict with a provincial highway. I will provide comments on each proposed location.

## 1. Highway 35 and Thunderbridge Road intersection

This location is acceptable to the MTO and currently accommodates snowmobile crossings through an agreement between the MTO and the snowmobile club.

## 2. Highway 7 \& Honarch

It appears that a crossing is proposed across Highway 7 in the vicinity of Monarch (see attached sketch). MTO has safety concerns with this proposal and is not prepared to endorse this location. As you are aware, this section of Highway 7 is planned for four laning in the future and with the additional lanes and highway speeds at this location, MTO would not be prepared to support a crossing at this location.

## 3. Highway 7 \& Angeline Street

A proposed crossing at Angeline Street is problematic from a safety perspective for MTO and would not be supported. As well, with the four laning and the auxiliary lanes required at this intersection, it would be a lot of highway to cross at the busiest intersection on the Highway 7 corridor in City of Kawartha Lakes. In addition, this intersection will become the location for a future interchange. This location would not be supported by MTO.

## 4. Highway 7 Crossing West of City of Kawartha Lakes Road 36

The crossing at Highway 7 just west of 36 is assumed that the large recreational culvert will be used to cross under Highway 7. Provided that this is indeed the case, then MTO would have no concerns with an ATV utilizing the culvert.
In conclusion, crossings one and four are acceptable, but locations two and three are not in acceptable locations. If I have misinterpreted your crossings or intent, please advise and I can adjust my comments accordingly.
If you wish to propose other locations or wish to discuss, please feel free to contact me.
Sincerely,


Cheryl Tolles
Corridor Management Planner
Eastern Region

