

8.11 COMMUNITY SERVICES AND INFRASTRUCTURE

Community Services and Infrastructure refers to the public services and infrastructure that are provided to local populations through various public and governmental programs, as well as the services provided by businesses and organizations to meet societal needs. Community Services and Infrastructure was selected as a valued environmental component (VEC) because the Project has the potential to affect community services and infrastructure and the ability of nearby communities in central New Brunswick to deliver these to the public. The environmental effects on Community Services and Infrastructure, both adverse and positive, will derive largely from the Project's economic effects through employment and demands on business, services, and infrastructure, such as medical facilities and accommodation. This includes the environmental effects of any Project-related in-migration by workers and their families. Northcliff will implement a comprehensive Environmental and Social Management System (ESMS) (Appendix D) to avoid or reduce adverse environmental effects and enhance positive environmental effects. The environmental effects on Community Services and Infrastructure are assessed for five measurable parameters: capacity of housing; accommodations and building lot availability; capacity of policing and fire services and infrastructure; capacity of health facilities and emergency services and infrastructure; and capacity of recreational and entertainment facilities.

To provide context for the assessment, existing Community Services and Infrastructure conditions are discussed for New Brunswick as a whole, and for York County and Carleton County. This includes an overview of: municipal administration; the education system and its capacity for additional students; the current supply of permanent and temporary accommodations, as well as land available for residential development; policing and fire services and infrastructure; health and emergency services and infrastructure; and recreation and entertainment venues, including eating establishments.

Construction of the Project will last an estimated 24 months and will generate up to 500 direct jobs at the peak of Construction activity. Some of these employees may currently reside within the Project area, and others will either commute from nearby communities or move to the region, primarily on a temporary basis, as specialized skills will be required for certain positions. This population increase will place additional demands on Community Services and Infrastructure, particularly temporary accommodations since construction workers tend not to settle in the Project area. The vacancy rate in the Fredericton area (the largest urban centre nearest to the Project) is already the lowest in the province; however, these environmental effects are not expected to be significant since the workforce demands will be dispersed throughout the communities in the region. During Construction, Northcliff will provide bussing to and from the Project site to facilitate dispersal of the temporary housing demand over the region, and otherwise work with communities to adapt to this demand through processes included in the ESMS.

Operation will generate up to 300 direct jobs over an estimated 27-year mine life. As with Construction, certain employees will likely be specialized and will originate from communities outside of the central New Brunswick region. Since this phase could last up to 27 years, it is likely that these in-migrant workers and their families will settle in central New Brunswick and place additional demands on existing services and infrastructure. The local housing market appears to have capacity to absorb new residents, as there appears to be a good supply of new and resale homes in the Fredericton area and land available for residential development in some of the other nearby communities in central New Brunswick. Therefore, any adverse environmental effects on the housing market will not be significant.

Environmental effects of in-migration on health facilities and emergency services and infrastructure and police and fire services and infrastructure during Construction and Operation are not expected to be significant since the workforce will be dispersed throughout central New Brunswick and there will be emergency fire and medical response resources at the Project site. Project workers will place additional demands on recreation and entertainment facilities in the region; however this will be dispersed throughout central New Brunswick and the facilities in the area are expected to have the capacity for additional demand created by new residents (Stantec 2012i).

Throughout all Project phases, and as described in the ESMS, Northcliff will consult regularly with the applicable agencies, organizations and communities to provide Project information and to identify and address potential Project-related implications for local services and infrastructure. Northcliff will also work with local communities to assist them in appreciating and responding to the Project in ways that contribute to the sustainable development of their communities.

8.11.1 Scope of Assessment

This section defines the scope of the environmental assessment of Community Services and Infrastructure in consideration of the nature of the regulatory setting, issues identified during engagement activities, potential Project-VEC interactions, and existing knowledge.

8.11.1.1 Rationale for Selection of Valued Environmental Component, Regulatory Context, and Issues Raised During Engagement

Community Services and Infrastructure refers to the public services and infrastructure that are provided to local populations through various public and governmental programs, as well as the services provided by businesses and organizations to meet societal needs. It includes local emergency response (fire, medical, police, and emergency services), ongoing support services (health and social services), public infrastructure, accommodation and housing, recreation and entertainment facilities, and food services. Transportation infrastructure is assessed as part of the Transportation VEC (Section 8.15).

Community Services and Infrastructure was selected as a VEC because the Project has the potential to affect the ability of nearby communities to deliver physical and social services and infrastructure as a result of the temporary construction workforce and permanent employment opportunities generated by the Project. As such, if workers with specific required skill sets are not available locally, workers may relocate to the central New Brunswick area from other parts of the province and beyond, both on a temporary and permanent basis. This in-migration of Project workers and their families, along with Project-related economic growth, and Project activities will create additional demands for Community Services and Infrastructure, possibly stressing present capacities.

The Final Guidelines (NBENV 2009) and Terms of Reference (Stantec 2012a) require the assessment of environmental effects on Community Services and Infrastructure. The Final Guidelines require the assessment of any additional demand on local emergency response services and ongoing support services since they may be affected by the occurrence of an accidental event, or by the routine presence of workers associated with either Construction or Operation. There may also be changes to local accommodations as a result of temporary and permanent workers required for the Project. Also,

an increase in the local population could result in increased need for policing and social services in the Local Assessment Area (LAA, defined in Section 8.11.1.3 below).

As part of public consultation activities carried out for the Project, community members asked if schools would be included in the assessment. Although the Final Guidelines and Terms of Reference do not list education facilities as a topic to be discussed in the assessment, they are included in this VEC to address this potential public concern.

There were no issues related to Community Services and Infrastructure that were specifically raised during Aboriginal engagement activities conducted in respect of the Project.

8.11.1.2 Selection of Environmental Effect and Measurable Parameters

The environmental assessment of Community Services and Infrastructure is focused on the following environmental effect:

- Change in Community Services and Infrastructure.

This was selected as an environmental effect to be assessed because the Project may place additional demands on housing and other accommodations, emergency response services and infrastructure (e.g., fire, medical, and police), recreation and entertainment facilities, and support services and infrastructure (e.g., education, health, and emergency services).

The measurable parameters used for the assessment of the environmental effect presented above and the rationale for their selection is provided in Table 8.11.1.

Table 8.11.1 Measurable Parameters for Community Services and Infrastructure

Environmental Effect	Measurable Parameter	Rationale for Selection of the Measurable Parameter
Change in Community Services and Infrastructure	Availability of housing, accommodations and building lots.	• Project activity and Project-related population and economic growth may place demands on the availability of existing accommodation and building lots.
	Number of police officers and fire fighters and infrastructure.	• Project activity and Project-related population and economic growth may place demands on the capacity of existing services and infrastructure.
	Number of hospital beds.	• Project activity and Project-related population and economic growth may place demands on the capacity of existing hospital facilities.
	Ambulance response times.	• Project activity and Project-related population and economic growth may place demands on the capacity of existing ambulance services.
	Number and capacity of recreation and entertainment facilities.	• Project activity and Project-related population and economic growth may place demands on the capacity of existing services and infrastructure.

8.11.1.3 Temporal Boundaries

The temporal boundaries for the assessment of the potential environmental effects of the Project on Community Services and Infrastructure include the three phases of Construction, Operation, and Decommissioning, Reclamation and Closure of the Project. Potential environmental effects on Community Services and Infrastructure may occur through all phases of the Project.

8.11.1.4 Spatial Boundaries

The spatial boundaries for the environmental effects assessment of Community Services and Infrastructure are defined below.

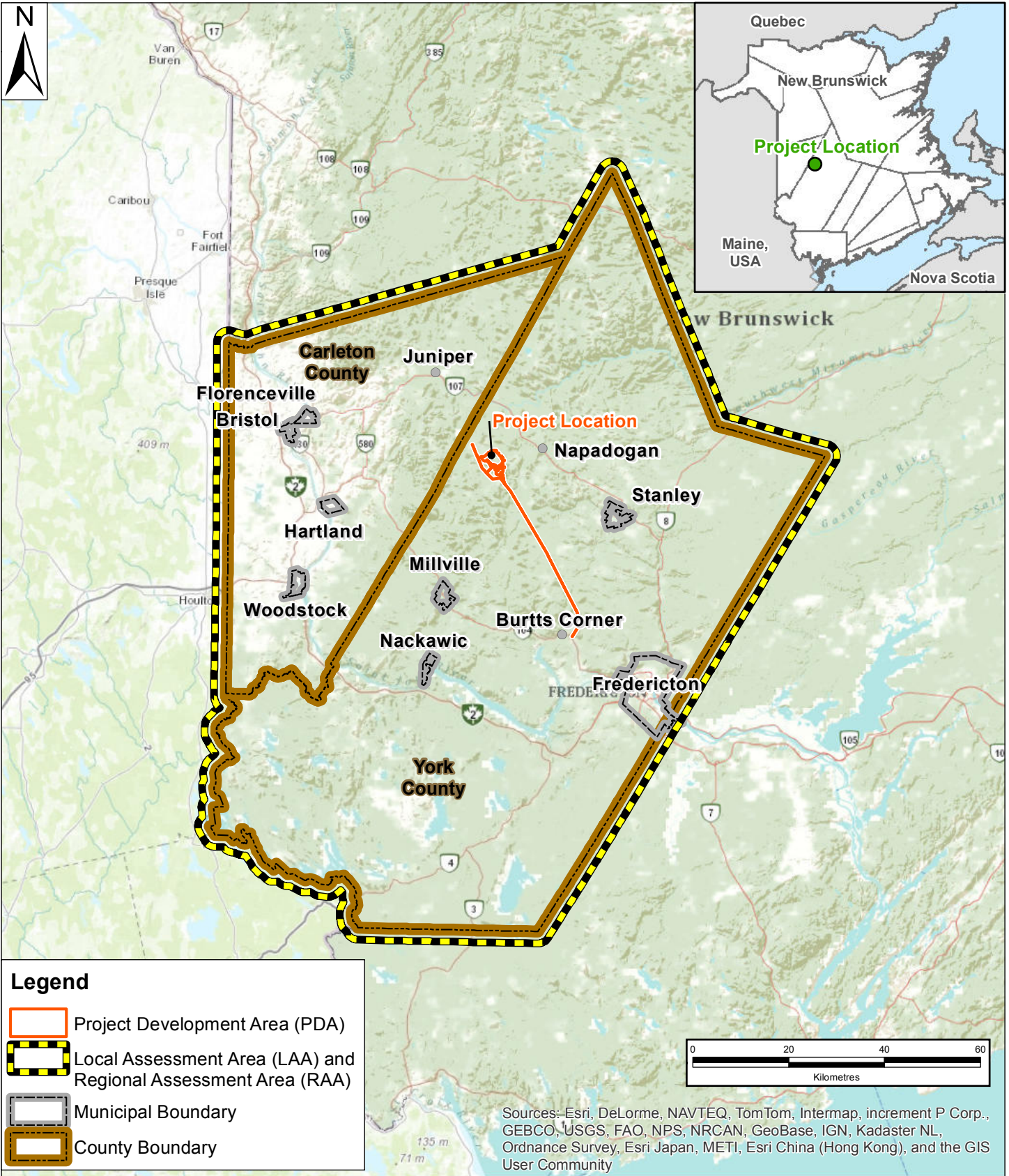
Project Development Area (PDA): The PDA is the most basic and immediate area of the Project, and consists of the area of physical disturbance associated with the Construction and Operation of the Project. Specifically, the PDA consists of an area of approximately 1,253 hectares that includes: the open pit; ore processing plant; storage areas; TSF; quarry; the relocated Fire Road and new Project site access road; and new and relocated power transmission lines. The PDA is the area represented by the physical Project footprint as detailed in Chapter 3.

Local Assessment Area (LAA): The LAA is the maximum area within which Project-related environmental effects can be expected or measured with a reasonable degree of accuracy and confidence. The LAA includes the PDA and any adjacent areas where Project-related environmental effects may reasonably be expected to occur.

Regional Assessment Area (RAA): The RAA is the area within which the Project's environmental effects may overlap or accumulate with the environmental effects of other projects or activities that have been or will be carried out.

The LAA and RAA are the same in the case of Community Services and Infrastructure and generally include central New Brunswick (*i.e.*, York County and Carleton County) with a focus on: the city of Fredericton; the villages of Stanley and Millville; the communities of Burtt's Corner, Napadogan, and Juniper; and the towns of Nackawic, Hartland and Woodstock (see Figure 8.11.1).

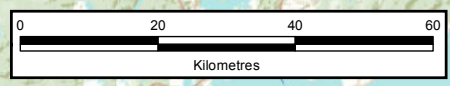
The spatial boundaries differ for certain community services as determined by each service area and its administration. The spatial boundaries for the potential environmental effects on housing and accommodation will be determined by both the location of the available accommodation and the anticipated housing preferences of the workers. It is expected that accommodation will be sought throughout central New Brunswick, including the communities of Stanley, Millville, Nackawic, Juniper, Napadogan, Burtt's Corner, and Fredericton, and possibly from the Woodstock and Hartland areas. The spatial boundaries for the assessment of the potential interactions between the Project and local emergency response, health and social services are determined in consideration of the local public service areas and capacities. It is expected that emergency and community services will primarily be delivered from the city of Fredericton, the towns of Hartland and Woodstock and to some extent the village of Stanley, though some services may be provided at a more local level.



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Legend

- Project Development Area (PDA)
- Local Assessment Area (LAA) and Regional Assessment Area (RAA)
- Municipal Boundary
- County Boundary



Sources- Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC PROJECT AND SHOULD NOT BE USED FOR OTHER PURPOSES.					
Project Development Area (PDA), and Local Assessment Area (LAA) and Regional Assessment Area (RAA) for Community Services and Infrastructure Sisson Project Environmental Impact Assessment (EIA) Report, Napadogan, N.B. Client: Northcliff Resources Ltd.	Scale:	Project No.:	Data Sources:	Fig. No.:	
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8.11.1.5 Administrative and Technical Boundaries

The basic building units for the Community Services and Infrastructure VEC are various geographic data regions (e.g., Census, municipal, and policing areas). The environmental effects will mostly be experienced at the local community level since they will provide the majority of Project-related services and infrastructure. The monitoring of demands on Community Services and Infrastructure is the responsibility of the relevant government departments and agencies, as part of their normal planning processes.

Technical boundaries for Community Services and Infrastructure relate to the availability and accuracy of data. Timely and relevant information on Community Services and Infrastructure may not be available from primary or secondary sources. In addition, information obtained during interviews is subjective and may limit the certainty of the environmental effects predictions.

8.11.1.6 Residual Environmental Effects Significance Criteria

A significant adverse residual environmental effect on Community Services and Infrastructure is one that results in demands on services and/or infrastructure above and beyond current capacity, such that the level and quality of service are routinely and persistently reduced below current levels for an extended period of time.

In the case of private housing, a significant adverse residual environmental effect is one that results in demands above and beyond the current capacities of the housing market, such that housing costs (prices or rentals) are monetarily and persistently above current levels for an extended period of time.

8.11.2 Existing Conditions

The Baseline Socioeconomic Technical Report (Stantec 2012i) provides detailed information on existing conditions and recent trends for Community Services and Infrastructure that may be affected by the Project within the province of New Brunswick and, specifically, for York and Carleton Counties. This section provides an overview of existing conditions in York and Carleton Counties, with respect to:

- municipal administration;
- education;
- permanent housing;
- temporary accommodations;
- policing;
- fire protection;
- community health and emergency services; and
- recreation and entertainment.

A discussion of the existing capacity of these services and infrastructure is provided where such information is available, and any changes or improvements that are planned or have been publicly announced are discussed.

8.11.2.1 Municipal Administration

Most of the communities within the LAA are municipalities with elected local governments, including a mayor and a council. They also have departments that administer services to the community, including waste, water, sewer, roads, and engineering and planning services. The communities of Juniper, Burtts Corner and Napadogan, however, are unincorporated areas. Juniper belongs to the local service district (LSD) of Aberdeen, and Burtts Corner belongs to the Douglas LSD, an advisory board with five members. The Douglas LSD advisory board is currently discussing the possibility of bringing Napadogan into the LSD (Hill, N. Personal communication, December 16, 2011; Noel, T. Personal communication, December 6, 2011). These LSDs provide municipal and services oversight.

The Rural Planning District Commission (RPDC) is the planning district that provides building inspection, development, and planning services to unincorporated areas of New Brunswick within their jurisdiction, which includes the unincorporated areas of the LAA.

8.11.2.2 Education

The New Brunswick Department of Education consists of two distinct education sectors, Anglophone and Francophone, under the direction of two Assistant Deputy Ministers. Under this structure, both linguistic sectors manage their public school system from Kindergarten to Grade 12. Until recently, the two sectors consisted of nine school districts organized throughout the province in the English language, and five school districts organized throughout the province in the French language. However, due to declining enrolments in New Brunswick schools and in an attempt to gain efficiencies and reduce costs, the districts have been reorganized and the number reduced from 14 to 7. The Anglophone sector now consists of four districts, while the Francophone sector has three. Many of New Brunswick's schools are filled to less than 60% of capacity. By 2015, student enrolment is expected to drop another 5% while operational costs are anticipated to grow by 14% (Bissett 2012; NBDEECD 2011).

Under the province's former education system, the communities within the LAA fell into the Anglophone Districts 14 and 18 and the Francophone Districts 1, 3 and 11. As of July 2012, however, they belong to the Anglophone West and Francophone South and North-West districts. During the 2011-12 school year, the schools in the districts that serve the LAA had a total student enrolment of 38,138 in 113 schools, which represents approximately a 4% decrease in students between 2007-08 and 2011-12 (NBDEECD 2008; 2011; 2012). Specifically, Stanley High School has experienced a decline in enrollment over the past two decades. During the 1990s, the school had close to 300 students, and there are now less than 200 students at the school (Cameron, T. Personal communication, February 7, 2013).

8.11.2.3 Permanent Housing

York County

According to the Canadian Mortgage and Housing Corporation (CMHC) Spring Rental Market Survey conducted in April 2011, the overall vacancy rate in New Brunswick's large urban centres was 4.5%, which was a decline of 0.2% from spring 2010. In most of New Brunswick's smaller urban centres, the vacancy rate increased primarily a result of declining populations and reduced demand for rental units (CMHC 2011a).

In the spring of 2011, the vacancy rate in Fredericton was 3.0%, the lowest vacancy rate in the province as a result of large amounts of in-migration in recent years. The local vacancy rate was expected to be between 3.0 and 3.4% by the end of 2011, and a further increase is anticipated in 2012 (CMHC 2011b).

Multiple Listing Service (MLS) sales in Fredericton during the first three quarters of 2011 were slightly higher than during the same period in 2010. This was not expected to continue in 2012 or beyond because of decreased demand for existing homes, particularly in the higher price ranges. Despite the weakening demand, house prices were predicted to increase modestly with the average MLS sale price expected to reach \$172,000 by the end of 2011 and to increase slightly in 2012 to \$175,000 (CMHC 2011b).

In 2011, 454 new dwelling units were constructed in Fredericton. These included single units, two-unit dwellings, basement apartments, apartment units, and townhouses. Several new housing developments for single-family houses, semi-detached houses and townhomes had been registered with the city of Fredericton and more were expected to be registered in early 2012. The majority of these are located on the north side of the city where developable land is more plentiful than on the south side. The city of Fredericton issued 1,234 building permits in 2011 (Battilana, M. Personal communication, December 1, 2011; Brown, A. Personal communication, February 2, 2012).

The provincial Rural Planning District Commission (RPDC) provides building inspection, development and planning services to unincorporated areas of New Brunswick within its jurisdiction on behalf of the Minister of Environment and Local Government. In 2011, the RDPC issued 350 building permits in rural areas of York County. In 2010-11, the RPDC approved plans for 224 subdivisions ranging in size from one lot to 34 lots (Euteneier, T. Personal communication, December 7, 2011).

In 2011, the RPDC approved four building permits in Stanley Parish and in 2010-11 there were plans to develop 12 lots (Euteneier, T. Personal communication, December 7, 2011). In addition, there is land for sale within the village of Stanley that could be used for new development (Douglass, S. Personal communication, November 28, 2011).

Seventy-four building permits were approved in Douglas Parish in 2011, and in 2010-11 there were plans to develop 34 subdivisions ranging in size from one to 60 lots (Euteneier, T. Personal communication, December 7, 2011).

Carleton County

In 2011, RPDC issued 144 construction permits in Carleton County. In 2010-11, there were plans to develop 85 subdivisions; however, these are generally small with the largest having four lots (Euteneier, T. Personal communication, December 7, 2011).

Between 2009 and 2010, Woodstock saw a decrease of 18% in the number of building permits that were issued and a 16% decrease in the number of new subdivisions being developed (Rural Planning District Commission 2010). In 2010-11, RPDC received plans to develop seven lots in Woodstock Parish and issued 46 building permits in 2011 (Euteneier, T. Personal communication, December 7, 2011).

According to its municipal plan, the major issue facing the town of Hartland is a shortage of developable land. Existing residential development is contained within a relatively small portion of the town. Due to the lack of developable land, there has been very little new residential development over the past ten years. If Hartland's population increases, it will need to take measures to allow for that growth, such as facilitating the purchasing or development of land within town limits, some of which is registered under the Farmland Identification Program, or amalgamating with part of at least one of the surrounding LSDs (Town of Hartland 2009).

The primary residential neighbourhood of Hartland, found in the northwest portion of the town, is quite densely developed. Detached single-family dwellings are the predominant housing type although there are some apartment complexes located in the area. The most recent area of residential development is a small subdivision located just west of the industrial park. This location's proximity to the industrial park and the potential for land-use conflicts results in it not being desirable to promote any additional residential development (Town of Hartland 2009).

In 2010-11, RPDC received plans to develop 12 lots in Aberdeen Parish. Five construction permits were issued in this area in 2011 and two of these were in Juniper (Euteneier, T. Personal communication, December 7, 2011).

8.11.2.4 Temporary Accommodations

Temporary accommodations are short-term, temporary or transient accommodations, such as a hotels, motels, bed-and-breakfasts, or boarding houses. This section describes temporary accommodations in York and Carleton Counties.

York County

The Fredericton area is home to the majority of the temporary accommodations in York County. There are 20 hotels, motels and resorts, and six bed-and-breakfasts, inns, and tourist homes. Though not counted as accommodations, there are also two campgrounds in the Fredericton area (Tourism New Brunswick 2010).

In 2010, temporary accommodations in the Fredericton area had an occupancy rate of 59.2%. Room-night sales in the region decreased by 1.0% between 2009 (322,095) and 2010 (318,843). In 2011, the

Fredericton area had room-night sales of 316,159, a decrease of 0.8% from 2010, and an occupancy rate of 57.0% (NBDTP 2011a; 2011b).

There are no motels, hotels, inns, or bed and breakfasts in the village of Stanley. The two closest accommodation options to Stanley are the River's Edge campground and the Riverbend Bed and Breakfast/Inn in Durham Bridge, approximately 26 km from Stanley.

Neither Napadogan nor Burtt's Corner has temporary accommodations. The closest options are the on the Pond Country Retreat in Mactaquac and the Riverside Resort and Conference Centre in Keswick. Located in Millville are MacFarlane Sporting Camps, a hunting and fishing lodge offering cabin/log style accommodation, as well as Larsen's Log Lodge, a country retreat with five suites. An inn and a motel are also located in Nackawic, and a bed and breakfast is located in Nortondale.

Carleton County

There are several accommodation options in Woodstock, including bed and breakfasts, inns, hotels, motels, cottages, and campgrounds (Tourism New Brunswick 2010).

Accommodations in Hartland include the Ja-Sa-Le Motel, the Covered Bridge Bed and Breakfast, and Brigitte's Bed and Breakfast (Tourism New Brunswick 2010).

The main listing for accommodations in the Juniper area is for the Governor's Table/Paper Birch Lodge, a facility located on the Miramichi River that offers a number of cabins. Other nearby options include the River Country Campgrounds and Cabins in Wicklow, or the Shamrock Suites, a 19th Century home conversion located in Florenceville-Bristol that offers private nightly, weekly and monthly accommodations.

New Brunswick's Department of Tourism and Parks collects tourism/accommodation data for the St. John River Valley region, which includes the area between Woodstock and Fredericton. In 2010, the St. John River Valley region had an occupancy rate of 43.1%. Room-night sales decreased by 3.7% between 2009 (237,907) and 2010 (228,989). In 2011, the St. John River Valley area had room-night sales of 226,133, a decrease of 1.2% from the previous year, and an occupancy rate of 42.4% (NBDTP 2011a; 2011b).

8.11.2.5 Policing

There are two RCMP districts within the LAA: District 2 (Oromocto) lies in the central part of the province and includes an office in Stanley; and District 7 (Carleton-York) is in the western central region and includes offices in Hartland and Woodstock.

In addition to the RCMP, municipal police forces provide police services in the province. These forces are members of the New Brunswick Police Association and, within the LAA, include the Fredericton Police Force and the Woodstock Police Force.

York County

There are eight RCMP offices in District 2 (Chipman, Minto, Gagetown, New Maryland, Keswick, Oromocto, McAdam, and Stanley), and the regional headquarters is in Fredericton. The district

employs 67 officers; the Keswick office, which is responsible for policing Burtts Corner and Napadogan, employs 17 officers with no immediate plans to hire additional officers (Stenger, D. Personal communication, December 5, 2011).

The Fredericton Police Force provides policing services to the Fredericton area and works in partnership with other policing agencies when required. In 2010, there were 114 municipal police officers working for the Fredericton Police Department (Statistics Canada 2010). As of April 2010, the Department also had 22 civilian staff and 16 auxiliary members. In 2010, there were 24,151 calls for service and an additional 4,021 requests for security clearance letters and taxi licences. The total number of calls for service in 2010 was 1.0% lower than in 2009 but 1.0% higher than the five-year average (Fredericton Police Force 2010).

Carleton County

District 7 (Carleton-York) of the RCMP has one district office in Woodstock and another in Hartland. It also has offices in the communities of Florenceville-Bristol and Nackawic, approximately 44 km west and 44 km southwest of the mine location, respectively.

District 7 works in partnership with the Woodstock Police Department (Statistics Canada 2010), which provides twenty-four hour coverage to the town of Woodstock. It has thirteen police officers, five auxiliary officers, and two secretaries (Town of Woodstock 2010).

8.11.2.6 Fire Protection

York County

Within the portion of the LAA located in York County, fire protection is provided by the Fredericton Fire Department and several other volunteer fire departments.

The Fredericton Fire Department has five stations and 118 employees. The department services the city of Fredericton and eight LSDs under a Fire Protection Services Agreement with the province. It also has mutual aid agreements with neighbouring municipalities to provide them with dispatch services.

The Fredericton Fire Department responded to 3,626 calls for service in 2010, 3.5% fewer than in 2009. This was the lowest number of calls received by the department in four years. Most of the calls for service were for medical assistance, with 1,948 calls in 2010. This number was a decrease of 3.6% from 2009, and represented another four-year low. There were 446 fire calls in 2010, down 9.5% from 493 in 2009. Of the 446 fire calls, 28 were for actual structure fires, one of the lowest numbers in the last ten years. The Department also responded to 23 calls under the Provincial Local Service District agreement and four calls under the Capital District Mutual Aid Agreement (Fredericton Fire Department 2011).

The villages of Stanley and Millville have volunteer fire departments with 25 and 18 members, respectively. The Stanley Fire Department has two pumper trucks and a rescue vehicle with first responder medical equipment on-board (Sampson, S. Personal communication, July 13, 2012). The Millville fire department has one rescue vehicle and two trucks, and it is in the process of purchasing

new rescue equipment. There is also a volunteer fire department in Burtts Corner with approximately 15 members (Noel, T. Personal communication, December 6, 2011; Hill, N. Personal communication, December 16, 2011).

Carleton County

Within the portion of the LAA located in Carleton County, fire protection is provided by the Woodstock Fire Department and several other volunteer fire departments.

The Woodstock Fire Department has four full-time drivers, a full-time fire chief, a deputy chief, two captains, a lieutenant, and 22 volunteer firefighters. The fire department provides 24-hour emergency fire protection and rescue services to the town of Woodstock and adjacent rural communities. It also has mutual aid agreements with neighbouring municipalities to provide them with dispatch services.

The Hartland Fire Department has one station with 32 volunteer fire fighters for fire/accident response and an eight-person volunteer rescue team. The department does not employ any full-time staff. It owns three tanker/pumper combination vehicles with water capacity ranging from 1,000 gallons to 2,500 gallons (Walton, M. Personal communication, November 29, 2011). The Hartland Fire Department has recognized a need for ongoing equipment replacement and upgrades. The Town of Hartland's municipal plan for 2009-13 has identified that it will seek to purchase new fire department equipment in 2012 (Town of Hartland 2009).

There is also a volunteer fire department in Juniper that has 12 members and no full-time staff. The department owns two tanker/pumpers, each with 5,500 litre water capacity, and one rescue van (Rousselle, J. Personal communication, January 13, 2012).

8.11.2.7 Community Health

This section provides a description of community health programs in the LAA, including a discussion of the administration of health services, healthcare facilities, community programs (e.g., public health, addiction services, and rehabilitative services), and emergency response services.

Health Administration

The Horizon Health Network (Horizon), which operates all of the healthcare centres in the LAA, includes 12 hospitals, with more than 1,600 beds, and over 100 facilities, clinics and offices. It provides medical services ranging from acute care to community-based health services to New Brunswick, northern Nova Scotia, and Prince Edward Island (Horizon Health Network 2011a).

A continuing challenge for Horizon is the number of patients waiting for an alternate setting of care. On average, 26% of acute care beds located in Horizon's regional hospitals is occupied by patients waiting to be transferred to another facility. These patients no longer require the acute care services of a hospital, but they are unable to return home or to an alternate care facility. This represents an average of 310 patients in regional hospitals and an average of 40 patients in community hospitals. Horizon is continuing to work collaboratively with the province's Department of Health, the Department of Social Development, and Vitalité Health Network to develop solutions to this issue (Horizon Health Network 2011a).

Health Facilities

York County

Horizon operates a network of health facilities and services in the Fredericton area, including a regional hospital, a community hospital and 11 community health centres and clinics. In Fredericton there is a veterans' health unit and the Stan Cassidy Rehabilitation Centre, which are tertiary centres of rehabilitation services for the province of New Brunswick. Over 3,500 employees and over 220 physicians work in the Fredericton area, assisted by more than 500 volunteers (Horizon Health Network 2011b).

The Dr. Everett Chalmers Regional Hospital in Fredericton has 315 beds and receives approximately 50,000 patients to its emergency department each year. It offers 24/7 emergency, ambulatory care, cardiology, dermatology, gastroenterology, geriatrics/restorative care, intensive care, pediatric care, laboratory services, and others. The acute care occupancy rate at the Dr. Everett Chalmers Regional Hospital was 95.2% in 2009-10 and rose to 98.0% in 2010-11 (Horizon Health Network 2011a). Though in Sunbury County and thus outside the RAA, the Oromocto Public Hospital has 45 beds and provides inpatient family practice, palliative care, geriatric restorative care, ambulatory surgical services, mammography screening, and daytime emergency services.

The Stan Cassidy Centre for Rehabilitation, located adjacent to the Dr. Everett Chalmers Regional Hospital in Fredericton, is New Brunswick's Provincial Tertiary Neurological Rehabilitation Centre with specialized programs for the rehabilitation of neurologically-based conditions in adults and children. It has 20 beds and provides services such as online education programs, pediatric autism rehabilitation service, specialty clinics, and specialized rehabilitation for adults and pediatrics. In 2009-10, 134 patients were admitted to the Stan Cassidy Rehabilitation Centre and 133 were admitted in 2010-11 (Horizon Health Network 2011a).

There are also 11 community healthcare centres and clinics in the Fredericton Region, including one in the village of Stanley and another in Nackawic (Horizon Health Network 2011b).

The Veteran's Health Unit in Fredericton provides residential care for veterans requiring long-term care and special care needs that are not generally provided in the community. It is located adjacent to the Dr. Everett Chalmers Regional Hospital and has 47 beds (Horizon Health Network 2011b).

Carleton County

The Upper River Valley Hospital is located in Carleton County, in Waterville, north of the town of Woodstock. It is the newest hospital in New Brunswick with 45 beds and it receives approximately 30,200 emergency patients annually. It provides services to Woodstock and surrounding communities. These services include 24/7 emergency, ambulatory care, breast screening, cardiac testing, laboratory, maternal and child services, ophthalmology, outpatient oncology and palliative care (Horizon Health Network 2011c). The acute care occupancy rate at the Upper River Valley Hospital was 117.7% in 2010-11 and 107.8% the previous year (Horizon Health Network 2011a).

Human Resources

Horizon employed 13,000 staff, including 976 physicians and 290 medical residents, and it admitted 54,889 acute, rehab and chronic patients in 2010-11 (Horizon Health Network 2011a). In 2009, there were 287 physicians in the LAA, and the family medicine physician-to-patient ratio was 101 physicians per 100,000 people. The specialist-to-patient ratio in 2009 was 65 specialists per 100,000 people (CIHI 2010).

The number of physicians on staff at the hospitals and clinics in the LAA are shown in Table 8.11.2. Horizon hopes to hire additional family physicians and specialists to the area within the next year (Mason, K. Personal communication, November 30, 2011).

Table 8.11.2 Number of Physicians at Healthcare Facilities in the LAA

Hospital / Clinic	Total Number of Physicians
Dr. Everett Chalmers Regional Hospital	195
Stan Cassidy Centre for Rehabilitation	6
Upper River Valley Hospital	35
Stanley Health Centre	2
Nackawic Health Centre	1
Notes:	
These numbers include only those physicians working at healthcare facilities and not private practice physicians.	

Source: Mason, K. Personal communication, November 30, 2011.

Community Programs

New Brunswick provides comprehensive addiction and mental health services, including a range of acute, inpatient, outpatient, and community services. In the Fredericton area, there are approximately 55 inpatient acute care beds at the Dr. Everett Chalmers Regional Hospital to provide psychiatric and addictions services. The hospital also offers emergency mental health services. There are three Addiction and Mental Health Services centres in the Fredericton area and one Mobile Mental Health Crisis Intervention Team. There are two Addiction and Mental Health Service centres in Woodstock and one Mobile Mental Health Crisis Intervention Team in the Woodstock area (Horizon Health Network 2011b).

Public Health Services of the New Brunswick Department of Health prevent, manage and control communicable diseases, promote healthy lifestyles and healthy families, and provide environmental protection. The services offered by Public Health include anonymous HIV/AIDS testing; communicable disease prevention, management, and control; early childhood initiatives; a healthy learners program; health emergency planning; immunization; and a sexual health program (Horizon Health Network 2011b).

There are four public health units in the Fredericton Area and one in Woodstock (Horizon Health Network 2011b).

The Extra-Mural Program provides a comprehensive range of coordinated healthcare services for individuals of all ages for the purpose of promoting, maintaining, and/or restoring health within the context of their daily lives or to enable individuals with terminal illnesses to remain at home. The

Extra-Mural Program has 789 funded, full-time equivalent positions in the province. In 2009-10, 19,584 clients were discharged from the program (26.2 discharges per 1,000 population estimate). During that year, 631,382 visits and telephone contacts were carried out. This is up 8.5% from 2006-07 when 581,876 contacts were made (New Brunswick Department of Health 2010). Extra-Mural units within the LAA are located in Fredericton and Woodstock (Horizon Health Network 2011b).

First Nations communities in central New Brunswick have various support programs in place for their community members. These programs include home care nursing, substance abuse programs, and a variety of other services.

Emergency Services

Ambulance New Brunswick Inc. (ANB) is contracted by the Department of Health to provide air and land ambulance services in New Brunswick (New Brunswick Department of Health 2011).

There are over 80 stations throughout the province, including one in Stanley and a fleet centre/paramedic station/regional office in Fredericton. Construction of a new station in Hartland was completed in May 2011 (Bell, T. Personal communication, October 25, 2012).

During the 2010-11 fiscal year ANB received 94,063 calls, an increase of approximately 1,000 calls over the previous year (ANB 2010; 2011a). The air ambulance service currently employs nine full-time critical care flight nurses, three part-time and three casual employees (Steeves, K. Personal communication, November 29, 2011). In 2009-10, the air ambulance service responded to 724 calls, including 554 patient transfers. In 2010-11, they completed 564 patient transfers out of 719 requests for service (ANB 2010; 2011a).

ANB indicates that it is becoming increasingly difficult to staff many rural stations in the province. In 2008, there were 68 stations divided into four regions: North, South, East and West. In 2007, there were consistently between 80 and 100 job postings amongst the stations. Recruitment to the eastern and western regions of the province is not difficult from a clinical perspective; however, fulfilling the linguistic profile remains a challenge. In addition, attracting and retaining paramedics to the northern and southern regions has been increasingly difficult (New Brunswick Department of Health 2009).

ANB's contract with the Department of Health says that in 90% of calls, the ambulance must reach an urban caller within nine minutes and a rural caller within 22 minutes. All performance requirements were met in the year ending March 31, 2011, and in ANB's western region where the LAA communities are located, response times were achieved for over 95% of all calls (ANB 2011a, 2011b).

8.11.2.8 Recreation and Entertainment

York County

Fredericton has a number of entertainment options, including dance clubs, pubs, billiard rooms, the Playhouse, and a movie theatre. Other forms of entertainment in Fredericton include paintball, curling, golf courses, indoor swimming facilities, harness racing, indoor skating, curling, and bowling (Fredericton Tourism n.d.). A listing of the arenas and indoor recreational facilities in Fredericton is included in Table 8.11.3.

Table 8.11.3 Recreational Facilities, Fredericton

Name of Facility	Type of Facility	Services
Nashwaaksis Field House	Recreation	Racquet sports courts, indoor track, weight room, mezzanine, and a meeting room for community use; also offers free rental of equipment to members for badminton, volleyball, indoor soccer, basketball and table tennis.
Fredericton Indoor Pool	Aquatic	A 25 m pool with adult and children's swim instruction, activity-based classes, public swimming, water slide, aquatic fitness classes.
York Arena	Skating Arena	Hockey, ringette, lacrosse, ball hockey, dressing rooms, canteen. Arena has seating capacity of 1,500.
Lady Beaverbrook Arena	Skating Arena	Hockey, figure skating, ringette, speed skating, dressing rooms, canteen. Arena has seating capacity of 1,300.
Northside Youth Centre	Youth Recreation	Indoor skateboard park, video games, canteen, in house skateboard shop, skateboard day camps, youth groups and many other youth centered activities.
Fredericton YMCA	Recreation	A new 60,000 square foot YMCA opened in October 2011 with programs such as basketball, dance, gymnastics, and fitness for adults, teens and children; gymnasium, squash courts, wellness centre, two pools, child development centre, community rooms, and childcare.
Willie O'Ree Place	Recreation / Skating Rink	Two NHL sized ice surfaces (one with a seating capacity of approximately 1,500, the other with a seating capacity of approximately 250), 11 large dressing rooms, offices for officials and event organizers, indoor walking track, three rooms for community use, canteens operated by the Nashwaaksis Y's Men Club, the Fredericton YMCA, seasonal youth centre, and indoor skateboard park; houses Fredericton's Celebration of Sport. Each individual room has the capacity to host up to 60 people in theatre style seating or 40 people around tables. For larger events, all three rooms can be opened up to accommodate up to 200 people.
Grant Harvey Centre	Recreation / Skating Rink	Opened in 2012, this centre has one Olympic-sized ice surface and an NHL-sized ice surface for hockey, figure skating and speed skating; is home to local men's and women's ice hockey teams; has an indoor track, meeting rooms, kitchen facilities, and accommodates trade shows and home shows; the grounds include an artificial turf multi-use athletic field, a six-court indoor tennis facility, and a fenced dog-walking park. One rink seats 500 and the other seats 1,500; parking lot accommodates 600 vehicles.

The City of Fredericton Recreation Master Plan, which was completed in 2008, indicates that aquatic facilities in the Fredericton area currently have a service ratio of one facility for 50,535 people. The restrictions placed on daytime access for community usage at the existing pools, as well as the use of pools by surrounding communities, brings the level of supply closer to one facility for 70,000 people (City of Fredericton 2008).

The Recreation Master Plan also indicates that hockey and skating facilities in Fredericton are comparable to other similar-sized communities, and that there is a good supply of outdoor natural ice surfaces. The arenas that have been constructed since the Plan was written were expected to adequately meet the demand for organized ice time. However, there appears to be outstanding demand for informal and family/public skate use (City of Fredericton 2008).

Art and cultural offerings are available through Fredericton's Beaverbrook Art Gallery, as well as other galleries, a science centre, heritage museums, concert halls, theatres, and the Historic Garrison District. There are over 150 eating establishments in Fredericton including pizzerias, coffee/sandwich shops, pubs/taverns, cafés, and a wide variety of fast food establishments (Fredericton Tourism n.d.).

The smaller communities in York County have a small number of indoor and outdoor entertainment options, such as a multi-use community facility, a public library, a curling club, an arena for hockey and ice skating, an outdoor rink, a baseball field and a playground (Village of Stanley 2011).

There are two restaurants in Stanley and one restaurant in Burtt's Corner (Noel, T. Personal communication, December 6, 2011; Hill, N. Personal communication, December 16, 2011).

Carleton County

Entertainment options in Woodstock include a movie theatre, nightclub, pool hall, and bowling alley. The town also has a yacht club at the Woodstock Marina, and golf and curling club. There are also farm and craft markets and a public library (Town of Woodstock 2010).

The Woodstock Civic Centre is a multi-purpose arena operated by the Town of Woodstock. It has a skating rink, pool, fitness centre, and meeting rooms. It is the only arena of its type in the town, and demand for the skating rink is high. The Town currently has plans to expand the Civic Centre, including installing a second ice surface (Voutour, A. Personal communication, December 6, 2011).

The Town of Hartland has established recreational amenities, including a golf and country club for sport and entertainment in summer and winter. Hartland Recreational Park has two baseball diamonds, two tennis courts and swimming and wading pools. The Town has a recreation director who works to enhance the recreational programs and facilities within the town. The Town of Hartland is working to secure the necessary funding to develop a new arena and recreation facility and to continue development of the trail network and establish at least one area that provides easy and safe access to the St. John River. This would present the opportunity for a playground and/or picnic area (Town of Hartland 2009).

The Juniper Community Recreational Centre has a baseball diamond and an outdoor skating rink. There is also a picnic/camping area and a playground. Juniper's Recreation Council has a mandate to provide activities to the children, adults and seniors in the community. Throughout the year, the Council organizes a number of community festivals and jamborees, as well as senior socials, children's entertainment evenings, occasional movie nights and dances. Juniper receives funding from the federal government to hire a limited number of employees each year to supervise the summer and winter programs (Gauvin, T. Personal communication, November 30, 2011).

Woodstock has more than 30 eating establishments, the majority of which are fast food establishments and coffee/sandwich shops (Town of Woodstock 2010). In addition to a few fast food establishments, Hartland has five restaurants. There is one restaurant in Juniper and one local tavern (Gauvin, T. Personal communication, November 30, 2011; Brooks, H. and P. Personal communication, December 1, 2011).

8.11.3 Potential Project-VEC Interactions

Table 8.11.4 below lists each Project activity and physical work for the Project, and ranks each interaction as 0, 1, or 2 based on the level of interaction each activity or physical work will have with Community Services and Infrastructure.

Table 8.11.4 Potential Project Environmental Effects to Community Services and Infrastructure

Project Activities and Physical Works	Potential Environmental Effects
	Change in Community Services and Infrastructure
Construction	
Site Preparation of Open Pit, TSF, and Buildings and Ancillary Facilities	0
Physical Construction and Installation of Project Facilities	0
Physical Construction of Transmission Lines and Associated Infrastructure	0
Physical Construction of Realigned Fire Road, New Site Access Road, and Internal Site Roads	0
Implementation of Fish Habitat Compensation Initiatives	0
Emissions and Wastes	0
Transportation	0
Employment and Expenditure	2
Operation	
Mining	0
Ore Processing	0
Mine Waste and Water Management	0
Linear Facilities Presence, Operation, and Maintenance	0
Emissions and Wastes	0
Transportation	0
Employment and Expenditure	2
Decommissioning, Reclamation and Closure	
Decommissioning	0
Reclamation	0
Closure	0
Post-Closure	0
Emissions and Wastes	0
Transportation	0
Employment and Expenditure	1
Project-Related Environmental Effects	
Notes:	
Project-Related Environmental Effects were ranked as follows:	
0	No substantive interaction. The environmental effects are rated not significant and are not considered further in this report.
1	Interaction will occur. However, based on past experience and professional judgment, the interaction would not result in a significant environmental effect, even without mitigation, or the interaction would clearly not be significant due to application of codified practices and/or permit conditions. The environmental effects are rated not significant and are not considered further in this report.
2	Interaction may, even with codified mitigation and/or permit conditions, result in a potentially significant environmental effect and/or is important to regulatory and/or public interest. Potential environmental effects are considered further and in more detail in the EIA

Environmental effects on Community Services and Infrastructure will occur because of the presence of the Project and the activities of those employed by the Project and the expenditures of employees and the Project for its duration. While work activities for the most part all could result in environmental effects (e.g., a worker requiring medical attention at the Project site), for convenience, it is assumed

that all environmental effects are captured through the activity known as “Employment and Expenditure” in each Project phase, either directly related to the Project or through indirect activities and expenditures arising from Project-related spinoff. All use of community services and infrastructure by current residents or the movement of workers to the area is included in the Project activity of Employment and Expenditure, for all phases. Potential changes to Community Services and Infrastructure will result from an in-migration of Project and spin-off industry workers (some accompanied by families) to the LAA as a result of the Project, and therefore increasing the demand on these services and infrastructure.

In consideration of the nature of the interactions and the planned implementation of known and proven environmental effects management, including mitigation, the potential environmental effects of all Project activities and physical works that were ranked as 0 in Table 8.11.4, including cumulative environmental effects, on Community Services and Infrastructure during any phase of the Project are rated not significant, and are not considered further in the assessment.

The Project will increase the demand on Community Services and Infrastructure during both Construction and Operation. As the Project nears the completion of Operation there will be diminishing employment, leading to the end of Project employment upon Decommissioning, Reclamation and Closure. It is possible that some of the workers and families that moved to the LAA for employment during Operation will remain there when that phase is over. However, any additional demands that have been placed on Community Services and Infrastructure during Operation will have been addressed prior to Decommissioning, Reclamation and Closure. In general, there will be a reduction in environmental effects on Community Services and Infrastructure during Decommissioning, Reclamation and Closure as a result of a reduction in demand on services and infrastructure as workers move away from the LAA; any adverse environmental effects during this phase can be managed by standard processes and mitigation. Therefore, environmental effects during this phase have been ranked as 1 in Table 8.11.4. Their environmental effects of the Project, including cumulative environmental effects, on Community Services and Infrastructure during Decommissioning, Reclamation and Closure are rated not significant, and are not considered further in the assessment.

The Project will have on-site fire response and paramedics and will thus be capable of responding to on-site emergencies and medical incidents.

Demands on Community Services and Infrastructure during Construction and Operation of the Project due to Project-related employment and expenditures are expected to be substantive and are of public and regulatory concern. As such, these interactions require more detailed analysis and consideration in the environmental assessment in order to predict, manage and evaluate these potential environmental effects, and are accordingly ranked as 2 and assessed further in the sub-sections that follow.

8.11.4 Assessment of Project-Related Environmental Effects

A summary of the environmental effects assessment and prediction of residual environmental effects resulting from interactions ranked as 2 on Community Services and Infrastructure is provided in Table 8.11.5.

Table 8.11.5 Summary of Residual Project-Related Environmental Effects on Community Services and Infrastructure

Potential Residual Project-Related Environmental Effects	Project Phases, Activities, and Physical Works	Mitigation / Compensation Measures	Residual Environmental Effects Characteristics						Significance	Prediction Confidence	Likelihood	Cumulative Environmental Effects?	Recommended Follow-up or Monitoring	
			Direction	Magnitude	Geographic Extent	Duration and Frequency	Reversibility	Ecological/ Socioeconomic Context						
Change in Community Services and Infrastructure	Construction • Employment and Expenditure	<ul style="list-style-type: none"> Human resource policies and practices. Employee Assistance Program. Environmental and Social Management System (ESMS). On-site security. Liaison with agencies and local authorities, and regular updates on Project activities and plans. 	A	M	L/R	MT/C	R	D	N	H	-	Y	None recommended.	
	Operation • Employment and Expenditure	<ul style="list-style-type: none"> Human resource policies and practices. Employee Assistance Program. Mine Rescue and Paramedics. On-site security. ESMS. Liaison with agencies and local authorities, and regular updates on Project activities and plans. 	A	M	L/R	LT/C	R	D	N	H	--	Y	None recommended.	
	Decommissioning, Reclamation and Closure													
	Residual Environmental Effects for all Phases								N	H	--	Y		

Table 8.11.5 Summary of Residual Project-Related Environmental Effects on Community Services and Infrastructure

Potential Residual Project-Related Environmental Effects	Project Phases, Activities, and Physical Works	Mitigation / Compensation Measures	Residual Environmental Effects Characteristics						Significance	Prediction Confidence	Likelihood	Cumulative Environmental Effects?	Recommended Follow-up or Monitoring
			Direction	Magnitude	Geographic Extent	Duration and Frequency	Reversibility	Ecological/Socioeconomic Context					
<p>KEY</p> <p>Direction P Positive. A Adverse.</p> <p>Magnitude L Low: within current capacity, standard or threshold. M Medium: approaches current capacity, standard or threshold. H High: exceeds current capacity, standard or threshold.</p> <p>Geographic Extent S Site-specific: Within the PDA. L Local: Within the LAA. R Regional: Within the RAA.</p>													
<p>Duration ST Short-term: Occurs and lasts for short periods (e.g., days/weeks). MT Medium-term: Occurs and lasts for extended periods of time (e.g., years). LT Long-term: Occurs during Construction and/or Operation and lasts for the life of Project. P Permanent: Occurs during Construction and Operation and beyond.</p> <p>Frequency O Occurs once. S Occurs sporadically at irregular intervals. R Occurs on a regular basis and at regular intervals. C Continuous.</p>		<p>Reversibility R Reversible. I Irreversible.</p> <p>Ecological/Socioeconomic Context U Undisturbed: Area relatively or not adversely affected by human activity. D Developed: Area has been substantially previously disturbed by human development or human development is still present. N/A Not Applicable.</p> <p>Significance S Significant. N Not Significant.</p>						<p>Prediction Confidence Confidence in the significance prediction, based on scientific information and statistical analysis, professional judgment and known effectiveness of mitigation: L Low level of confidence. M Moderate level of confidence. H High level of confidence.</p> <p>Likelihood If a significant environmental effect is predicted, the likelihood of that significant environmental effect occurring is determined, based on professional judgment: L Low probability of occurrence. M Medium probability of occurrence. H High probability of occurrence.</p> <p>Cumulative Environmental Effects? Y Potential for environmental effect to interact with the environmental effects of other past, present or foreseeable future projects or activities in RAA. N Environmental effect will not or is not likely to interact with the environmental effects of other past, present or foreseeable future projects or activities in RAA.</p>					

8.11.4.1 Potential Project Environmental Effects Mechanisms

Construction activity associated with large projects can affect local communities, both positively and adversely. Positive environmental effects can include the creation of associated public infrastructure such as schools and improved health care and community services, and a general feeling of optimism and hope among residents arising from economic activity. Adverse environmental effects can include increased demands on existing municipal infrastructure, health and security systems, and increased crime (House 2000). Examples of potential environmental effects mechanisms can be gathered from communities that have been home to large, industrial projects in the recent past. Northcliff will implement a comprehensive Environmental and Social Management System (ESMS) to reduce adverse environmental effects, enhance positive environmental effects, and generally support communities in realizing sustainable benefits from the Project.

Many positions related to mine Construction require specialized skills and it is unlikely that all will be filled by local residents. If Project demands cannot be fulfilled by tradespeople and workers from the local area, certain workers during the Construction phase of the Project will come from communities outside of the LAA and these workers generally live in temporary accommodations, reducing the availability of these accommodations in the LAA. Experience suggests that construction workers do not generally relocate on a permanent basis where the potential employment period is finite and short-term, such as is the case with the Construction of the Project. In addition to reduced availability of accommodations and housing and its cost, this increase in workers living in the area will also place additional demand on existing services, such as healthcare and emergency services, and recreational facilities. The increase in population may also result in the ratio of police officers to general population falling below acceptable numbers. The presence of a large number of temporary workers in an area can result increased incidence of alcohol and substance abuse, sex trade workers, gambling, and crime. As such, additional demands may be placed on counseling services and policing. It is possible that large scale construction projects may also make use of temporary immigrants from outside Canada which may present its own special demands on community services (e.g., culture and language).

During Operation, potential environmental effects may occur to Community Services and Infrastructure as a result of similar mechanisms that may occur during Construction. Although there will be fewer Project employees during Operation than during Construction, Operation employees will generally not be temporary workers, but are likely to permanently relocate to the LAA. Spouses and children of employees will also likely relocate to the LAA. Accordingly, this permanent influx of workers may lead to a decrease in the availability of housing and building lot availability, and may also increase the demands on policing and fire services, health facilities, emergency services, and recreational facilities above their current capacity.

Positive environmental effects may occur as a result of Employment and Expenditures during all phases, which can benefit local communities through the creation of increased wealth (directly and through taxes) and new infrastructure.

8.11.4.2 Mitigation of Project Environmental Effects

Mitigation measures, including the ESMS and various contingency and response plans (Chapter 2), will be employed to avoid or reduce the potential adverse environmental effects of the Project on Community Services and Infrastructure.

The ESMS will be implemented by the Project to reduce adverse environmental effects and enhance positive environmental effects. The ESMS will be part of all site construction contracts and include all applicable procedures and permit requirements.

An Employee Assistance Program will also be offered by the Proponent to its employees. Workforce education to encourage healthy lifestyle choices, sensitivity training, and strict enforcement of the Proponent's health and safety policies will also serve to mitigate adverse social effects. For example, sensitivity training would raise the level of awareness regarding the potential environmental effects that workers can have on the community and their families through drug and alcohol use or other social concerns. Demands on police services related to Project activities will be reduced by controlling access to the Project site with the use of a security gate and guard house, and by employing on-site security staff.

The management and provision of many elements of Community Services and Infrastructure is the responsibility of a wide range of government departments and private sector organizations. As described in the ESMS, Northcliff will consult regularly with the relevant agencies and organizations to provide Project information, to identify and address potential Project-related implications for local services and infrastructure, and to support responsible organizations to plan for and adapt to or benefit from any changing demand.

8.11.4.3 Characterization of Residual Project Environmental Effects

During the up to two-year Construction phase, it is estimated that approximately 844 person-years of direct employment (*i.e.*, full-time equivalent jobs) will be generated by the Project, about two thirds of it in New Brunswick and the balance in the rest of Canada (EcoTec 2013). No construction camp will be provided. Though some of the Construction work force will be provided locally from nearby communities to the Project, certain workers will come from areas outside of the LAA, thereby placing additional pressure on housing and accommodations. Construction workers generally arrange for their own accommodation or housing. It is expected that most workers will choose to live in one of the communities in the LAA and, for the purpose of this assessment, it is assumed that all in-migrants will not all choose to live in the same community. The number of workers that will live in each community is unknown, and not particularly of concern given the magnitude of employment versus available accommodations and housing.

Housing availability and costs, access to services and infrastructure, and length of commute to the work site will be considered by Construction workers when choosing where to settle during this phase of the Project. Construction is expected to last up to 24 months and many specialized skills will be required for shorter periods. Since Construction workers rarely relocate when the potential employment period is finite and short-term, these employees will likely seek short-term accommodations such as rental units, and temporary accommodations such as hotel and motel rooms and rooms at bed-and-breakfasts in the area. It is also likely that in-migrant Construction workers will not be accompanied by family members, though some may choose to bring their families to the area, placing additional requirements on social services and infrastructure.

The overall vacancy rate in New Brunswick's larger urban centres has decreased in the last few years (CMHC 2011b), so the addition of several hundred new people looking for rental accommodation could have adversely affect the availability of such accommodations in Fredericton, where the vacancy rate is

the lowest in the province. However, workers will be dispersed throughout the LAA and the vacancy rate in the province's smaller urban centres has been increasing due to declining populations in those regions and lower demand for rental units. In addition, some of the new units constructed in Fredericton in 2011 include apartment buildings and homes with basement units. There is also some available land that could be developed for rental units in Fredericton and other smaller communities within the LAA, including Stanley.

For temporary accommodation, there are approximately 36 hotels, inns, vacation homes, bed-and-breakfasts, and fishing and hunting lodges in the LAA. The majority of these are located in Fredericton. There are a small number of temporary accommodation facilities in Carleton County and in some of the towns and communities just outside the LAA. The vacancy rate in Fredericton has been just under 60% for the last couple of years, which indicates that the hotels and other temporary accommodations in the area have capacity for additional guests. Other hotels are planned or under construction. Given the availability of temporary accommodations and housing in the LAA, demand for housing and accommodation during Construction is expected to be within the existing capacity of the housing and accommodation market.

Northcliff will work with the municipalities within the LAA to discuss and plan for the effects of Construction employment on temporary accommodations. Planning could result in the construction of new rental units and hotels by private landowners and developers, which could be a benefit to residents and visitors to central New Brunswick.

During Operation, up to 300 full-time workers will be employed directly by the Project. Some of the positions will require specific skills not currently available in the LAA; therefore some employees will likely come from outside of the LAA and will require permanent accommodation. Operation will afford long-term employment and in-migrant workers will bring families with them and will choose to purchase homes. It is assumed that such workers and their families will be distributed throughout the communities within the LAA. Northcliff will also provide training in Project-related skills and work with New Brunswick educational institutions to maximize the number of local residents that can be employed by the Project, thus reducing the number of workers that will be required to relocate to the LAA.

While rental and low-income accommodations are in short supply in New Brunswick's larger urban centres, home sales have been decreasing in the province in recent years. In Fredericton, a decreased demand for existing homes was predicted for 2012; however, the average MLS sale price was expected to increase. Developable land is available in parts of the city and several new developments for single-family houses, semi-detached houses and townhomes were registered with the City of Fredericton in 2011 and 2012. Housing development also continues in the smaller communities of York County, including the village of Stanley where land is available for new development.

Residential expansion is more of a challenge in Carleton County since there is a lack of developable land in Hartland, and Woodstock has recently seen a decrease in the number of subdivisions developed and the number of building permits issued.

Due to the residential expansion throughout most communities within the LAA, along with the availability of existing homes and development of new homes, particularly in Fredericton, it is unlikely that the addition of up to 300 workers and their families in the LAA communities (some of which likely already live in the LAA) will substantively affect the availability of permanent housing. It is also

expected that the housing market will respond to increased demand with the construction of more homes as needed to fulfill the Project demands. Employees will be dispersed throughout the LAA; therefore the demand for housing will not be focused in only one community.

Northcliff will liaise with the municipalities within the LAA to discuss and plan for the demands of Operation on housing and building lot availability. Since Operation will not begin for several years, the communities in the LAA will have time to prepare for any increased demand and the private sector will likely respond to that demand given that advanced notice.

While the number of school-aged children who may accompany Project workers during the Operation phase is not known, education services and infrastructure are not expected to be adversely affected by Project activities since student enrolment in the province, as well as in the LAA, has been declining in recent years. Schools in New Brunswick are under capacity by 60% (Bissett 2012), so there is adequate capacity to accommodate additional students.

During Construction and Operation, there may be an increase in demand on local police forces as a result of the increased population within the LAA. The local RCMP detachments and local police forces will monitor criminal and anti-social behaviour. Northcliff will consult regularly with policing authorities to ensure they are aware of Project activities, and to determine if Northcliff could implement additional mitigation strategies to ensure the demand on police does not increase above their capacity as a result of the Project. Potential mitigation that may be implemented if found to be necessary may include employee code of conduct policies and the use of responsible drug and alcohol policies, along with Employee Assistance Programs for workers. Demands on police services related to Project activities will be reduced by controlling access to the Project site with the use of a security gate and guard house, and by employing on-site security staff.

There will be emergency response equipment, including a fire truck and a water truck, at the Project site. Employees will receive training to prevent and respond to emergencies, including fires. As such, it is not anticipated that the Project will place additional demands on local fire protection services as a result of on-site fires. Project-related fires are discussed in more detail in Section 8.17. To accommodate workers moving to the area during both Construction and Operation, new houses, apartments, and/or temporary accommodations are likely to be constructed within the LAA; however there is no reason to suggest that these new buildings would substantially increase the amount of structural fires within the LAA, assuming they are built to current standards and code. Thus, the demand on local fire protection services would not be expected to increase above their capacity.

The two hospitals in the LAA have been near or beyond capacity in recent years, in terms of acute care occupancy, and the physician-to-patient ratio in the area is lower than the provincial average. However, there are 11 community clinics that provide service to the communities within the LAA and it is likely that not all of the Project workers will live in the same community, so any additional demands that they create for the health care system will be spread out amongst the region's facilities. The Horizon Health Authority is also planning to hire more physicians in the near future. As part of its mandate, the Health Authority will continue to monitor the demand for services so that Project-induced demands do not unduly burden the health care system.

Ambulance response times are mandated by the contract between Ambulance New Brunswick (ANB) and the Province, and are currently within the acceptable standard. ANB will determine if additional

resources are required in the LAA. A mine rescue truck staffed with paramedics will be located at the Project site in order to respond to any on-site emergencies, reducing the need for other local paramedics and ambulance service.

The number and condition of recreation and sporting facilities appear to be adequate for the population of each community within the LAA. Fredericton, for instance, which is the largest of these communities, has a wide variety of options for entertainment and recreation including new ice arenas and swimming pools.

The smaller communities within the LAA typically have an arena or outdoor rink, a baseball diamond, a community recreation centre, and a playground. The possible increased demand for recreation may actually benefit communities if it is decided that new infrastructure is required or upgrades to current infrastructure are planned.

Eating establishments are in good supply in the larger communities of Fredericton and Woodstock, while smaller communities, such as Juniper and Stanley, have a very small number of restaurants (one and two, respectively). Project employees, especially during Construction when workers are more likely to be staying in temporary accommodations without kitchen facilities, will place additional demands on restaurants in the LAA. This demand will likely not be concentrated in one community so the resulting environmental effects should be minimal. As with recreation infrastructure, LAA communities may benefit from increased demand for food service if it results in new restaurants opening in the area.

Northcliff will provide Project information to municipalities and business owners on an ongoing basis to assist with planning for any potential increase in the demand for recreation and entertainment facilities as a result of Project-related employment.

8.11.5 Assessment of Cumulative Environmental Effects

In addition to the Project environmental effects discussed above, an assessment of the potential cumulative environmental effects was conducted for other projects and activities that have potential to cause environmental effects that overlap with those of the Project, as identified in Table 8.11.5. Table 8.11.6 below presents the potential cumulative environmental effects to Community Services and Infrastructure, and ranks each interaction with other projects or activities as 0, 1, or 2 with respect to the nature and degree to which important Project-related environmental effects overlap with those of other projects or activities.

Table 8.11.6 Potential Cumulative Environmental Effects to Community Services and Infrastructure

Other Projects or Activities With Potential for Cumulative Environmental Effects	Potential Cumulative Environmental Effects
	Change in Community Services and Infrastructure
Past or Present Projects or Activities That Have Been Carried Out	
Industrial Land Use (Past or Present)	0
Forestry and Agricultural Land Use (Past or Present)	0
Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons (Past or Present)	0
Recreational Land Use (Past or Present)	0

Table 8.11.6 Potential Cumulative Environmental Effects to Community Services and Infrastructure

Other Projects or Activities With Potential for Cumulative Environmental Effects	Potential Cumulative Environmental Effects
	Change in Community Services and Infrastructure
Residential Land Use (Past or Present)	0
Potential Future Projects or Activities That Will Be Carried Out	
Industrial Land Use (Future)	0
Forestry and Agricultural Land Use (Future)	1
Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons (Future)	0
Recreational Land Use (Future)	0
Planned Residential Development (Future)	1
Cumulative Environmental Effects	
Notes:	
Cumulative environmental effects were ranked as follows:	
0 Project environmental effects do not act cumulatively with those of other projects or activities that have been or will be carried out.	
1 Project environmental effects act cumulatively with those of other projects or activities that have been or will be carried out, but are unlikely to result in significant cumulative environmental effects; or Project environmental effects act cumulatively with existing significant levels of cumulative environmental effects but will not measurably change the state of the VEC.	
2 Project environmental effects act cumulatively with those of other projects or activities that have been or will be carried out, and may result in significant cumulative environmental effects; or Project environmental effects act cumulatively with existing significant levels of cumulative environmental effects and may measurably change the state of the VEC.	

The environmental effects of the Project on Community Services and Infrastructure are not expected to interact with the environmental effects of past or present Industrial Land Use, past or present Forestry and Agricultural Land Use, past or present Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons, past or present Recreational Land Use, or past or present Residential Land Use. The assessment of Project-related environmental effects on Community Services and Infrastructure is inherently cumulative as the environmental effects of these past or present projects or activities are encapsulated in the existing conditions of Community Services and Infrastructure. As such, there are no cumulative environmental effects of these other projects or activities as they are included in the baseline conditions. Accordingly, the projects or activities ranked as 0 in Table 8.11.6, their cumulative environmental effects on Community Services and Infrastructure are rated not significant, and they are not considered further in the assessment.

The interactions between the environmental effects of the Project and the environmental effects of future Industrial Land Use, future Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons, and future Recreational Land Use have also been ranked as 0 in Table 8.11.6. There is no known future Industrial Land Use planned within the RAA; as such, cumulative environmental effects are not anticipated. If an expansion to, or a new Industrial Land Use is proposed within the RAA in the future, that project or activity would be subject to an environmental assessment which would assess those projects overlapping cumulative environmental effects with the Sisson Project. There are no planned expansions to or changes in the amount of Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons or future Recreational Land Use beyond that which is currently ongoing and discussed above.

Future Forestry and Agricultural Land Use and future Residential Development have been ranked as 1 in Table 8.11.6 because increases to either of these activities may result in increases to the population living and/or working within the RAA. This population increase would lead to increased demand for

community services or infrastructure within the RAA. There are, however, no plans to substantively increase forestry activity and no large scale residential developments underway or planned, so resultant increases to the population of the RAA, and thus increases to the demands on services and infrastructure, would be expected to be nominal. In fact, current and future residential development in the RAA could be viewed as mitigation for Project environmental effects since this additional housing may be occupied by Project employees, thus lessening the demand on the existing housing market.

8.11.6 Determination of Significance

8.11.6.1 Residual Project Environmental Effects

Within the LAA, there is sufficient capacity in temporary and permanent accommodations and housing to meet the demand of Project employees. The LAA will continue to be policed by the RCMP, the Fredericton Police Force and the Woodstock Police Force throughout the Project life. Project employee policies and programs, such as drug and alcohol policies and employee assistance programs, and Project security considerations will help to minimize additional demands on police. The Project will have a fire truck and mine rescue vehicle on site, and will thus be able to respond to any emergencies that occur at the Project site without having to place demands on existing fire and ambulance systems. Although hospitals within the LAA are likely near capacity, this is a similar situation to conditions that are occurring throughout New Brunswick, and the Project is not expected to substantively affect the demand on hospitals. Existing recreational and entertainment facilities have sufficient capacity to meet the increase in demand that the Project will place on them, and the Project will create business opportunities for new facilities of this nature, should there be an increased demand for them.

With the proposed mitigation, including careful implementation of planning procedures, and liaison between Northcliff and local authorities, the residual environmental effects of the Project on Community Services and Infrastructure during all phases are rated not significant. This conclusion has been made with a high level of confidence.

8.11.6.2 Residual Cumulative Environmental Effects

Future residential developments may increase the population within the LAA, thus increasing the demand on Community Services and Infrastructure. There are, however, no large residential developments that are known to be currently planned; forestry activities are expected to largely continue as currently; and any developments would likely result in only a negligible change to local population and consequent demands on Community Services and Infrastructure. Furthermore, Project employees may move into new residential developments, lessening the total demand on the existing housing market.

Accordingly, with the proposed mitigation, the cumulative environmental effects of the Project in combination with all other past, present, or future projects or activities that have been or will be carried out on Community Services and Infrastructure are rated not significant, with a high level of confidence.

8.11.7 Follow-up or Monitoring

Government departments, public agencies and private-sector companies that deliver the Community Services and Infrastructure will monitor the ongoing demand for community services as part of their normal planning practices. No follow-up or monitoring by the Proponent is recommended.