Clear Lake Cabin Area

Comprehensive Design Review

2014

Prepared for Parks Canada & The Clear Lake Cabin Association by Michael Rac

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Clear Lake Campground, Date Unknown

Planning History

The Clear Lake Cabin Area was initially laid out in 1930-31 as the Clear Lake Campground. The campground, Wasagaming's first, was expanded in 1933 to a size of ten blocks with either 24 or 32 lots per block. Sixteen kitchen shelters and four washrooms were also built. By 1940 the campground had more than doubled in size and contained a total of 565 camping lots. Two log ice houses had also been built, and water for the campground was provided for by a number of wells. The focal point of the campground was Jamboree Hall, the peeled log and trussed roof 'community shelter' which was built in 1933.[1]

Until 1962, the 45 acre Clear Lake Campground (CLCG) had been used for tents, trailers, as well as a few portable cabins. This changed however, with the opening of the first phase of the Wasagaming Campground in 1963-64. With new camping areas in place, the Clear Lake Campground was now only occupied by portable cabins only, which had to be removed from the site before November each year. By 1973, the CLCG had a capacity of over 600 cabins, 45% of which were electrified. Interestingly, the average value of the cabins in 1973 was between $200 and $1000 ($1,051-5,256 by todays standards).[2]

"The portable cabins represent a severe problem within the National Park, but, in view of their importance to the local economy, proposals must make clear provision for their redevelopment or relocation on sites with lesser development potential, without imposing excessive financial burden on their owners."– 1973 Wasagaming Townsite Development Plan

The *1973 Wasagaming Townsite Development Plan* called for the gradual reduction of the number of portable cabins to 350-400 by 1980, citing that the existing density was too high. It was also recommended that 150 lakeside cabins be removed to make room for day-use facilities.[3] This was never implemented however, and in the1*988 Wasagaming Community Plan* the objective was to keep the seasonal campground at its existing size. By this time cabins were no longer required to be moved out each winter. It was also encouraged that cabins should be maintained in keeping with the character of Wasagaming. Notably, the 1988 plan called for minor improvements to public facilities in the seasonal campground such as washrooms and picnic shelters, but new or additional services would not be provided for.[4]

Interestingly, the *1981 Riding Mountain Facility Appearance Guidelines* devoted a significant section on the Clear Lake Cabin Area, which was referred to as "a jumble of semi- permanent cottages that still give the feeling of transience and impermanence to the area."[5] The guidelines state that a great deal could be done to improve the character of the campground, despite the 'tenuous relationship' cabins have with their surrounding landscape. In the guidelines owners were encouraged to develop and landscape the area around their cabins by closing in the foundations beneath the buildings and through planting and other landscaping. It was also suggested that trees should be planted along the front streets since cabins no longer needed the unobstructed space to be moved out each winter.[6]

Ten years later, the *1999 Wasagaming Community Plan* identified three goals for Clear Lake Cabin Area:

1. To preserve and promote the family and community-based neighbourhood atmosphere that has traditionally characterized the Clear Lake Cabin Area.
2. To recognize and reinforce the uniqueness of the Clear Lake Cabin Area within national parks by maintaining its atmosphere, architectural character and communal aspects and by respecting its history as a campground.
3. To promote and develop an affordable recreation retreat for all people

Unlike previous plans that proposed dramatic changes, or sought to scale down the cabin area, this plan instead focused on strengthening the unique community atmosphere. Small-scale design was encouraged to reflect the natural and historic characteristics of the area and Park. The plan also sought to promote and improve upon the cabin area's connections to amenities and recreational opportunities.[7]

The Clear Lake Cabin Area has evolved significantly from its inception in the 1930s. The number of leased lots now stands at 530. Cabins are now not only permanent structures, but are also permitted to be two storeys (20 ft.) in height, and have individual water and sewer connections. Additonally, all cabin owners have signed 42 year leases. No longer a campground, the area has truly become a subdivision of cabins and should be treated as such. The Clear Lake Cabin Area has a unique and interesting history that should be celebrated, commemorated and shared.

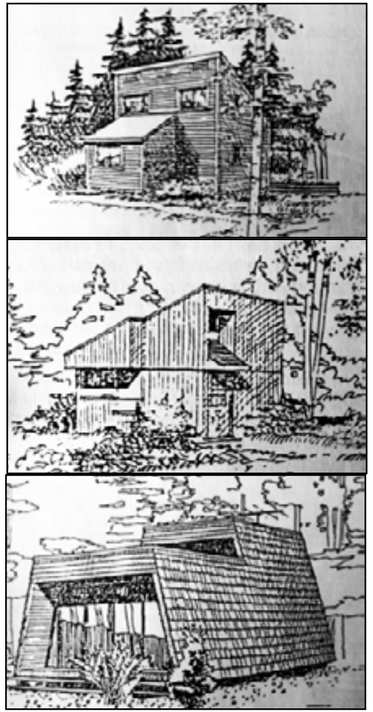


Figure 1: 1981 Facility Appearance Guideline's Recommended Cabin Styles

Introduction

Clear Lake Campground Kitchen Shelter, Date Unknown

1.0 Introduction

The Clear Lake Cabin Area Comprehensive Design Review is one of the key sub-documents of the *Wasagaming Community Plan*. The Community Plan guides Parks Canada in the management and direction of future development for the Townsite of Wasagaming. This plan calls for the initiation of a comprehensive design review for the Clear Lake Cabin Area that is based on a long-term vision while also addressing concerns relating to density, aesthetics, quality of life, and land use. Topics that are suggested within the plan to be covered include: building guidelines, vehicle parking, boat storage, evaluation of existing infrastructure, capital funding, tenure, tree removal and forestation, green space management, security/safety, and development along the lakeshore. All of these topics have been addressed in some way or another throughout this review.

This design review has been developed to assist the Clear Lake Cabin Association and area residents to organize, gain insight, and plan effectively for the long-term development of the Clear Lake Cabin Area. This review identifies the strengths, assets, and areas of concern of the cabin area, while offering options and recommendations for the future that builds upon those strengths and assets.

The Comprehensive Design Review has been shaped by the goals and objectives of the *2009 Amended Wasagaming Community Plan*.* This document should be treated as a series of observations and planning options regarding the short and long term planning of the cabin area. These recommendations are solely those of author and have been shaped and influenced by a series of conversations with cabin area residents, Parks Canada staff, and members of the Clear Lake Cabin Association throughout the 2013 and 2014 summer seasons.

The Clear Lake Cabin Area (CLCA) is commonly referred to as the Old Campground (OC) and Clear Lake Campground (CLCG). However, throughout this review the area will be referred to as the Clear Lake Cabin Area or CLCA.

For the purposes of this review the CLCA has been organized into four quadrants; Quadrant 1 through Quadrant 4 (north to south). Subsequently each quadrant has been divided into blocks that correspond with street names. For example, Quadrants 1-3 each have five blocks corresponding to 1st, 2nd, 3rd, 4th,and 5th streets. Quadrant 4 is the exception, having only four blocks instead of five. See figure 2 for a visual breakdown of the quadrants and blocks.

*Note, this plan is still waiting on ministerial approval.

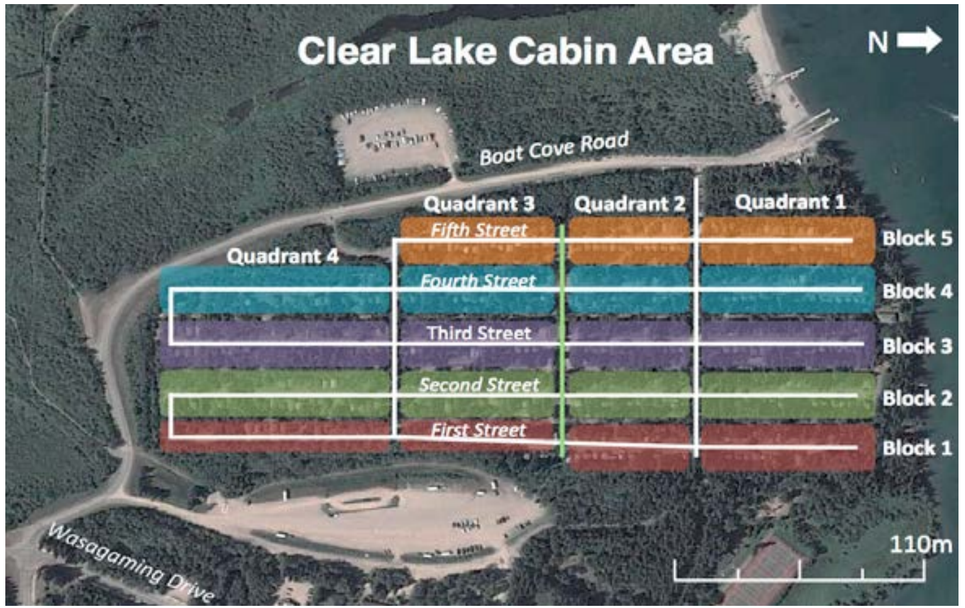


Figure 2: Clear Lake Cabin Area Quadrants & Blocks

Managing Development

New Cabin Construction on 3rd Street South

2.0 Managing Development

The Clear Lake Cabin Area (CLCA) has a long and fascinating history from its beginning as a primitive campground along Clear Lake, to a dense and compact cabin subdivision. The area has a mix of new owners and residents who do not necessarily have an attachment to the layered history of the area, as compared to owners who have a multi-generational history within the Park. All this needs to be taken into consideration regarding any future development changes in the CLCA. Communication is extremely important moving forward with any development. Open channels of communication need to be maintained between Parks Canada staff and board members of the Clear Lake Cabin Association so that pertinent and accurate information can be passed along to cabin area residents.

Many cabin owners and cabin area residents feel as though they no longer have any role in the long-term development of the cabin area. It should be a priority of the CLCA board as well as Parks Canada to actively involve cabin area residents and owners in the planning process as much as possible.

Figure 3: 3rd Street North

2.1 Development Guidelines

The following has been reproduced from the *2012 Development Guidelines for the Clear Lake Cabin Area Subdivision*.

Purpose

This purpose of these guidelines is to outline the procedures so as to initiate the Development Review Process to either construct or modify a Cabin; or to outline the design criteria to be used when preparing building plans for approval.

Introduction

It is recognized that the Clear Lake Cabin Area Subdivision is in a period of transition, and that building improvement is an ongoing process. These guidelines can further serve to improve the quality and character of the Clear Lake Cabin Area Subdivision.

Administration

The Development Officer will respond to appropriate inquiries regarding these guidelines, but will not act in the capacity of an engineering or architectural consultant. Building permits and related permits are required prior to the commencement of construction in a National Park. Failure to obtain the requisite building permit or related permits required by these regulations prior to construction is an offence under the National Parks Act. **The maximum fine under the Act for conviction of a violation of the regulations is $2,000.00.**

National Building Code

All references to the National Building Code of Canada shall be taken as The National Building Code of Canada as amended from time to time.

Revisions

Any revisions to these guidelines will be made jointly by Parks Canada and the Clear Lake Cabin Owners Association.

Definition of ‘Development’

- the repair or renovation of an existing building
- the construction, relocation or demolition of a building or other structures
- excavation, trenching or landscaping
- change of use or changes to the intensity of use of land or building
- tree removal
- placement, alteration or removal of water, sewer or electrical lines.

Procedure to Build a New Cabin or Modify an Existing Cabing in this Area

All new construction or major renovation projects in Wasagaming are subject to the Development Review process which includes:

• Development or Building Permit Application
• Environmental Assessment
• Issuance of permits
• Follow-up Inspection Process

Step #1

Development Permit Application

The purpose of this review is to evaluate the proposed development for compliance and acceptability with National Parks policy, assess the probable impact of the development on the park itself, and determine the acceptability and appropriateness of the development within the Park. All applications shall contain the following information:

• a preliminary site plan;
• photographs showing the site and its adjacent area;
• a narrative and graphic report describing the development concept, indicating:
- the relationship of the proposed development to existing site conditions,
- to adjacent developments and surrounding area
-the type of building(s) to be constructed, on-site parking, site access to
  -be provided and anticipated traffic flows;
  -proposed utility services;
  -proposed contribution to environmental stewardship; and
• such other information as the Park administration feels is necessary to adequately explain the proposal.

Building Permit Application

A building permit review will be undertaken to finalize all the necessary details for all construction guided by the National Building and Fire Code of Canada prior to commencing development. All applications shall contain the following information:

• a site plan/floor plan drawn to scale illustrating setbacks;
• scaled working drawings;
• elevation(s) drawn to scale;
• schedule of materials and colours.

All applications for new cabin facilities must be prepared by the appropriate professionals, such as landscape architects, geotechnical, mechanical, electrical, structural and / or civil engineers depending upon the complexity of the proposal. Buildings having a value of $25,000 or greater require architect created and approved drawings. Engineered stamped plans can also be requested. All development proposals will be reviewed as required against the latest editions of codes, regulations, Parks Canada Policy documents and guidelines identified below.

Step #2

Environmental Assessment

All development plans and proposals, including those proposed by Parks Canada, shall undergo an environmental assessment in accordance with the Canadian Environmental Assessment Act. Under the act, project proponents are responsible for environmental assessments and are to submit the assessment to Riding Mountain National Park for approval. A Building Permit cannot be issued until the environmental assessment has been completed and approved. An environmental assessment will;

• describe the project
• determine the potential effects that a project may have on the environment including cultural resources; and
• identify mitigating measures to minimize or eliminate negative environmental impacts. The assessment ensures that the full range of possible adverse effects of any action within Riding Mountain National Park are identified, measured and evaluated and that measures are taken to reduce foreseen adverse impacts or to proceed to alternative actions. Many activities related to building maintenance are not required to undergo and environmental assessment.

Step #3

Issuance of Permits

A Building Permit, which is valid for 12 months, will be issued if the proposals and drawings conform to the above regulations and policies as required. A Building Permit will be issued if the working drawings conform to National Building Code and or other applicable statutory requirements, health and safety standards, infrastructure, environmental assessment and to Provincial standards where not in conflict with Federal regulations.

Step #4

Follow-Up Inspection Process

Building inspections are required at different stages of the construction process, such as siting, framing, electrical, plumbing, insulation, etc. It is the responsibility of the applicant to contact and schedule inspections with the Development Officer or other qualified inspectors as dictated on the Building Permit. For work governed by codes other than the National Building Code, arrangements must be made by the proponent for the necessary inspections.

Non-Conforming Structure and Use:

• Any structure or use that was present prior to a change in building guidelines and regulations and was permitted under the old rules or received documented approval (i.e., a Building Permit) shall be deemed a “legal non-conforming building or use” and be permitted to exist notwithstanding health, safety and fire standards.
• When an existing structure does not conform and sustains damage (such as caused by fire) and or renovated to an amount of more than 50% of its value, any subsequent redevelopment or reconstruction must conform to existing guidelines. The burden of proof, regarding the value of the reconstruction or renovation, rests with the lessee.
• A change of ownership does not require a “legal non-conforming use” to come into conformation. This does not apply to trailers.
• Any development or portion of that development which does not conform to these guidelines and did not receive documented approval (i.e., Building Permit) shall be deemed an “illegal non-conforming structure” and is subject to removal or to be brought in to conformance. A change of ownership requires an “illegal non-conforming use” to be brought in to conformance. An inheritance does not.

Trailers, which have been deemed a legal non-conforming structure, will be permitted to exist. They will not be allowed to be replaced when they become uninhabitable.

Siting Guidelines

Lot Sizes:

• lots are approximately 25ft (7.62m) by 43ft (13.11m)

Front Yard:

• a front yard shall be provided of not less than 2.44m (8 ft) in depth

• no cabin, deck, ground level patio, shed, or other construction shall be permitted within the front yard setback unless it is:

- bay window at, 4m (1ft 3 in) above average grade of the floor level of the first level,

- roof overhang of not more than .6m (2ft) and will be within the lot line,

-1.2m x 1.2m (4ft x 4ft) landing at an entrance door provided it is at ground level only.

Side Yard:

• a side yard of not less than 4ft. shall be provided on each side of a lot.

• no portable cabin, deck, shed, steps or other structure will be constructed within the side yards with the exception of the following:

• a ground level patio constructed of non-combustible materials such as concrete patio blocks or inter locking pavers laid on a grade up to the side lot line.

Spatial Separation:

• all buildings must conform to the subsections quoted in the current National Building Code

Rear Yard:

• Cabin's can be constructed with a 0 setback at the rear with no overhang; such as eave or meter encroaching on Parks property.

All new construction or major renovation projects in Wasagaming are subject to the Development Review process which includes:

• Development or Building Permit Application

• Environmental Assessment

• Issuance of permits

• Follow-up Inspection Process

Building Height & Area Guidelines

Cabin: 71.34 square m maximum (768 sq. ft.) (Including Washroom Building)

Shed: 4.45 square m maximum (48 sq. ft.)

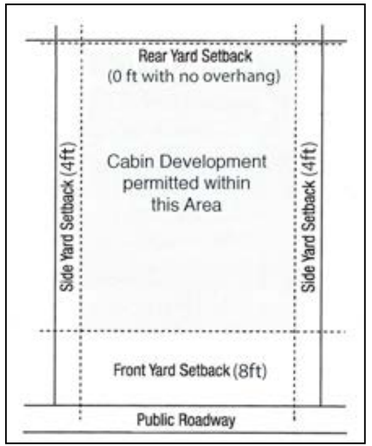


Figure 4: Area Available for Cabin Development

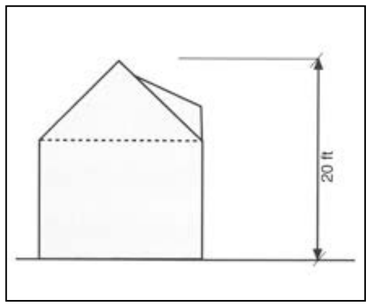


Figure 5: Maximum Height of Cabins

Portable Cabin Height:

• the height of a cabin will not exceed 2 stories or 20ft to the peak, or

• highest point of the roof. This is measured from the top of the finished main floor height to the peak of the structure. The structure must be kept as low as possible and conform to the NBC for separation from ground.

• the maximum height of external storage shed, if one exists, will not exceed 2.1m (7ft) in height from the top of the floor to the top of the wall plate.

Maximum Footprint of Cabin:

• the maximum footprint of the cabin will not exceed 4.8m x 9.7m (16 ft x 32 ft) or 47.6 sq. m. (512 sq ft). The dimensions as stated above are maximum. In the situation of steep grading or placement of trees, a variance shall be permitted by the Development Officer to allow the 47 sq. m. (512 sq ft) area to be applied in a suitable dimension so long as it does not exceed the setbacks. Cabin can be any configuration as long as the square footage does not exceed 768 sq. ft. (Exterior Measurements). A maximum of 2 stories and must meet setback requirements and spatial separation. Thus all buildings must conform to Subsection 9.10.15 NBC and all other rules set forth. Included in the 768ft of living space there is prevision for an 8ft by 6ft exterior washroom. This washroom is also to meet all setbacks and will be included in the 768sq ft.

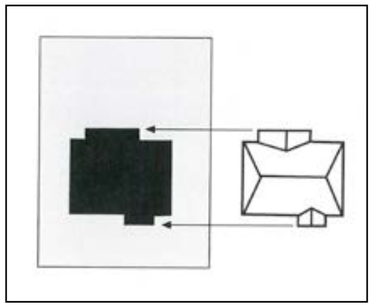


Figure 6: Building Footprint

Main Floor Height:

• the structure must be kept as low as possible and conform to the NBC for separation from material to ground. The development officer will use his discression as to the height above ground to accommodate plumbing.

Decks:

• deck areas should be constructed to avoid damage to the root zone of adjacent trees (i.e. to the extent of branch spread of the tree), avoid excavation, filling, or compaction directly within the root zone; cantilevered construction from beyond the root zone to within the branch spread/root zone is acceptable.

• combustible decks shall not be constructed in the side yard setbacks.

• the maximum deck height shall be .60m (2 ft.) from the lowest existing grade level to the top of the main floor joist at mid point of either side elevation of deck length.

• deck height on lots with extreme slopes shall be evaluated on an individual basis.

• decks shall have no solid walls, roof or other means of enclosure other than guards.

• decks can be constructed up to the property line on each side but must be as low level as possible and made out of non combustible material. Non combustible material has a flame spread rating of 0. The 4 foot setback applies for combustible decks and not to non combustible decks. A deck that is replaced must conform to present guideline.

• raised decks higher than 2ft will not be allowed i.e. roof decks or roof patios

External Storage Shed:

• **only one (1) storage shed is allowed on a lot.**
• maximum gross area for the storage shed shall be 4.45 square meters (48 sq. ft.)
• maximum dimensions for the storage shed shall be 1.83m (6 ft) wide x 2.44m (8 ft) long.
• shed walls shall not exceed 2.1m (7 ft) in height from the top of the floor to the top wall plate.
• shed location is flexible in relation to the portable cabin and the deck except for the following:
    • the shed shall be no closer than .60m (2 ft.) from the cabin;
    • the shed shall not compromise setbacks;
    • the shed shall be located in the rear half of the lot

External Washroom Building:

• Maximum size is 48 sq. ft.
• Must meet side yard set backs
• Shall be separated from storage shed by 2 ft.
• If combined with storage shed, fire code must be met with a 45 minute fire separation, which consists of a layer of 5/8's drywall extending from the underside of the floor to the peak.

Miscellaneous Guidelines

Required Parking Areas:

• cabin occupants are to park on their lots.
• the 2.44m (8.0 ft.) front yard provides parking space for at least one vehicle.
• the front yard will remain as natural as possible, for example, avoiding concrete blocks, gravel, or pavement. Hard surfacing, such as paving stones or wood chips, may be permitted by the approval of the Development Officer where natural ground cover does not survive.
• where access to the rear portion of the lot is possible, a parking stall behind the cabin, on the lot, may be established.
• **under no circumstances is natural vegetation in green space areas to be removed or disturbed to provide parking or recreational areas.**
• the parking lots to the east and west of Clear Lake Campground are to be used whenever possible for visitor and boat parking, etc.
• **There will be no off lot development. All property of the leaseholder must be stored on his or her property.**

Foundations:

• continuous poured concrete footing or grade beam and piles are not permitted.
• individual cast in place concrete footing pads or surface pads as specified by an architect.

Parking:

• cabin occupants will park vehicles on their own lots. The front yard setback will serve as the designated parking area for at least one vehicle and will be no smaller than 18.6 sq. m.
• where access to the rear portion of the lot is possible and space is available on the lot, a vehicle may be parked in that space provided that it is parked within the confines of the cabin lot.
• under no circumstances is natural vegetation in green space areas or adjacent lots to be removed or disturbed to provide additional parking or recreational areas.
• extra parking for vehicles and water craft will be provided in the parking lots to the east and west of the Clear Lake Cabin Area and will be used whenever possible for visitor vehicle and boat parking.

Construction in the Clear Lake Cabin Area

Construction in the Clear Lake Campground will be confined to 10:00 a.m. to 6:00 p.m. midnight June 30th until Midnight September 1st, all other time there is no time restriction.

Any construction issue that is not specifically addressed in this document will revert to the National Building Code that is enforced at the time.

Any construction that is of a significant nature and in the opinion of the Development Officer is not clearly defined, will have the choice to take it to the CLCA board for their opinion. In consultation with the board, the Development Officer will then make a final decision if the construction will be allowed.

Figure 7: Example of In-Fill Cabin Development from the Wasagaming Community Plan

2.2 Lessening Cabin Congestion

Due to the high number of cabins within the 45 acre cabin area, it is important to consider 'cabin congestion.' Cabin congestion contributes to the feeling of compactness, or 'closeness' within the cabin area. This congestion can be caused by two factors, the footprint of the cabin on the lot, and the height of a cabin relative to the width of the street and its surrounding environment.

If cabins are built to the maximum allowable footprint of 16 ft. x 32 ft., undeveloped space on the cabin lot will be minimized resulting in less room for parking, decks and other activities. With this particular cabin layout, a full complete two storey is not possible because the total square footage would be over the allowable 768 sq. ft. This means that the smaller second storey of the cabin can be set back further from the front street, contributing to a feeling of more 'openness' or less congestion from the street.

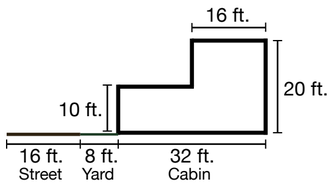


Figure 8: Example of a 16 ft. x 32 ft. Cabin With a 8 ft. Setback From the Street and 2nd Storey Setback

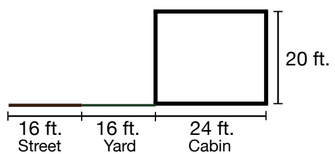


Figure 9: Example of a 16 ft. x 24 ft. Cabin With a Full 2nd Storey and a 16 ft. Setback From the Street

When cabins are built to a footprint of 16 ft. x 24 ft., the building can be constructed to a full two storeys and still be within the allowable 768 sq. ft. This configuration allows for an additional 8 ft. to be added to the depth to the lot, either in the front yard, back yard, or both. This layout can reduce congestion by having the cabin set back a full 16 ft. from the edge of the street.

Regardless, cabin canyons should be avoided. These canyons are created when the heights of cabin are too high relative to the width of the street. This contributes to a feeling of 'closeness' with cabins towering overheard, while also increasing the amount of shadows due to sunlight being blocked.

In order to avoid this cabin congestion, cabins should be set back from the front street as much as possible, which also has the added benefit of adding more room for parking. Where possible the second storey should also be further set back. What should be avoided are cabins that have a unique layout that allows them to maintain a 16 ft. x 32 ft. floor plan (or close to it) and a full two storey, by incorporating cut-outs. Cabins of this size appear out of scale with the cabin area.

Maintaining these proper setbacks will ensure adequate sunlight on streets, and contribute to greater privacy for cabin residents. It will also create a scale on streets that is comfortable to people and encourages walking (human scale). Human scale ratios fall between 1:3 and 1:2 as measured from the building fronts. A ratio of 1:1 is appropriate for urban core areas, while a ratio of 1:3 is ideal for residential streets. In the cabin area, a ratio of 1:3 or greater (ex. 1:4) is acceptable.

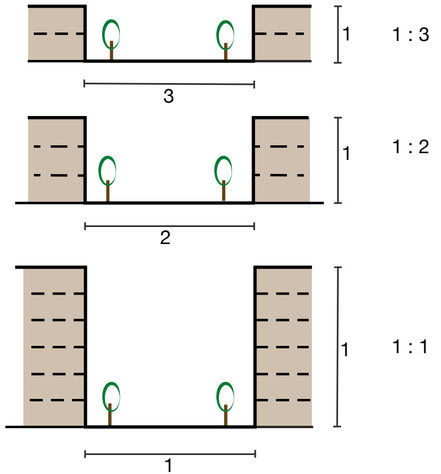


Figure 10: Human scale ratios fall between 1:3 and 1:2 as measured from the cabin fronts

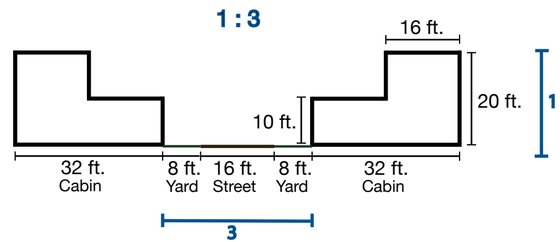


Figure 11: Example of a 3 : 1 Ratio in the Cabin Area

Parking & Traffic

The Large Parking Lot East of the Clear Lake Cabin Area in 1956

3.0 Cabin Area Parking

Parking and traffic is a growing concern in the Clear Lake Cabin Area. The relatively small size of the cabin area with its 530 cabin lots, has resulted in a large proportion of land being used for vehicle parking. The prevalence today of households having multiple vehicles, and often a boat has added to the problem. Any additional development will only further tax the parking situation.

To gain a clearer picture of the parking situation an inventory of existing and future parking spaces was created with the intention of finding two parking spots per cabin lot. It should be noted that in this study vehicle refers to personal automobiles as well as boats.

The assessment of current parking spots is based on the presumption of future development of unoccupied cabin lots. That is, parking spots situated on empty lots were not counted.

In total, there are approximately 1040 to 1269 existing parking spots. The range in the number of total spots represents factors such as vehicle size and use of space. For example, some lots have room for two small cars or one large truck. Thus, 1040 represents the minimum number of parking spots, while 1269 represents the maximum.

Each lot has been categorized by the number of parking spots available that are in front of the cabins along the street, or at the rear of the lots along back lanes if applicable. In some cases parking spaces that are located in green spaces have been counted as well, such as for lots that are at the end of a particular block.It should also be noted that some parking spots, mostly those in the back lanes or in the green spaces at the end of blocks, are in fact on Parks Canada land.

Additionally, some lots have been assessed with numbers such as ‘2-3’. This relates to the fact that total numbers of parking spaces are sometimes questionable due to existing terrain and lot layout. In this case, the lot will hold a minimum of two vehicles, but likely could hold three small vehicles, or two cars and a small boat.

It also should be noted that every lot, in theory, has parking for at least one vehicle, and only in a very small number of occurrences has this one space been treed over or planted with other vegetation.

Consideration should also be given to the variances among cabins that are adjacent to each other (ex: one cabin having 2 parking spots, and the neighbouring

Clear Lake Cabin Area Off-Site Parking Lots

Figure 12: Parking Lots Surrounding the Clear Lake Cabin Area

cabin having one), which has been influenced by a number of factors including:
1. Individual cabin sizes; the larger the cabin the less room there is to park.
2. Trees and shrubs on lots.
3. Services and utilities adjacent to or abutting on lots, such as fire hydrants, wood sheds, garbage bins, etc.

See page 30 for maps of the parking analysis.

Figure 13: 1st Street North

Cabin Area Parking Observations

Generally, cabins that are situated along both streets and back lanes (those in Quadrants 1-3) have at least two parking spots.

A majority of cabins in Quadrant 4, where there are not back lanes, have less than two parking spaces. Furthermore, in most cases, cabins along 1st Street and 5th Street that are along the periphery of the cabin area have no back lane access and thus have two parking spaces or less.

The standard cabin lot size, with some exceptions, is 13.1 m long, by 7.62 m wide. The 2012 Development Guidelines, listed previously in section 2.1 dictate that a front yard shall be provided of no less than 2.44m (8ft.) in depth.[8] Thus, a cabin built to the maximum lot frontage will leave a space measuring 2.44m by 7.62m, essentially space for one vehicle, excluding trees and other vegetation. Lots with smaller cabins will have a larger front yard, and therefore will have a greater amount of space to park. Cabins that have access to back lanes, and are set back from the rear of the property line often have space to park multiple vehicles, sitting both on and off leased property.

Undoubtedly over time more cabins will be built or renovated to the maximum allowable site coverage. Thus, a cabin that once had space for three vehicles (two in the front yard, and one in the rear) many now have room for only 1 or 2 vehicles.

The desire for parking spaces needs to be balanced with protecting existing vegetation and planting more. Many parking spaces have been carved out of brush along back lanes on what is Parks Canada land. As well, in Quadrant 4 many cabins along the edge of the cabin area have cleared brush on the opposite side of the street to create parking spaces. Twenty-two of these spaces currently exist.

Cabin Area Parking Analysis

30% of lots have less than two parking spaces, another 30% have at least two spaces, while 40% of lots have more than two parking spaces.

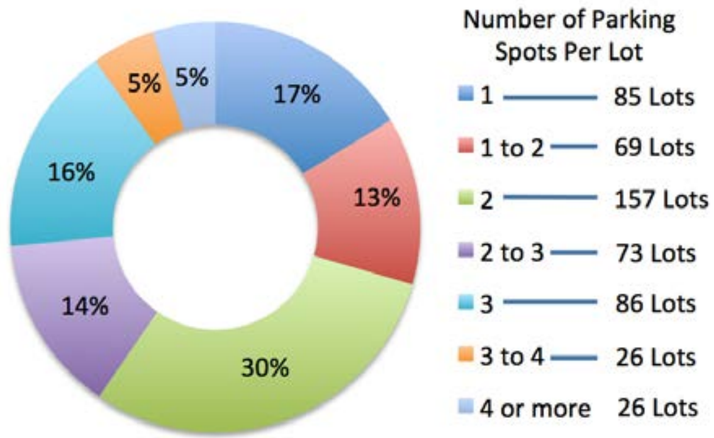


Figure 14: Breakdown of Number of Parking Spots Per Lot by Percentage

Problem areas:
Where the majority of lots have less than two available parking spaces.

Quad 1, Block 1 – lots 19-28
– no back lane
Quad 1, Block 5 – lots 536-550
– no back lane
Quad 2, Block 1 – lots 5-18
– no back lane
Quad 2, Block 4 – lots 464-472
– back lane tight to property line
Quad 2, Block 5 – lots 552-563
– no back lane
Quad 3, Block 5 – lots 564-571
– no back lane
Quad 4, Block 1 – lots 71-93
– no back lane
Quad 4, Block 2 – lots 95-115, 211-234
– no back lane
Quad 4, Block 3 – lots 236-254, 352-374
– no back lane
Quad 4, Block 4 – lots 378-397, 488-490
– no back lane

As the number of parking spaces on leased properties is unlikely to increase with the continuing expansion of cabins, parking spots will have to be found off site.

Currently many residents' utilize vacant lots in Quadrant 4, while these spaces have not been taken into account for this audit, the possible development of these lots will further add to parking congestion in the area.

Cabin Area Parking Insights & Options

One of the easiest ways to manage vehicular congestion in the Clear Lake Cabin Area is to make it more pedestrian and cyclist friendly with increased accessibility to the surrounding community, and through upgrades to existing parking lots. No new parking spaces can be created within the cabin area without clearing existing vegetation, and preventing other uses from occurring in these public spaces. As such, parking lots adjacent to the cabin area offer the best alternative to handle parking that cannot be accommodated on private cabin lots.

An increase in both the number and quality of fully accessible paths that connect the cabin area to surrounding parking lots will make it both easier and more convenient to park in these lots. These paths and sidewalks should be designed and built to universal design principles, making them useable for people of all abilities. Anyone between the ages of 8 and 80 should be able to comfortable use these paths. Ideally the grade of the surfacing should not exceed 5 percent. Where there is not possible a level rest area should be built at every 10m interval.[9]

Figure 15: The Large Parking Lot and Recycling Centre East of the Clear Lake Cabin Area

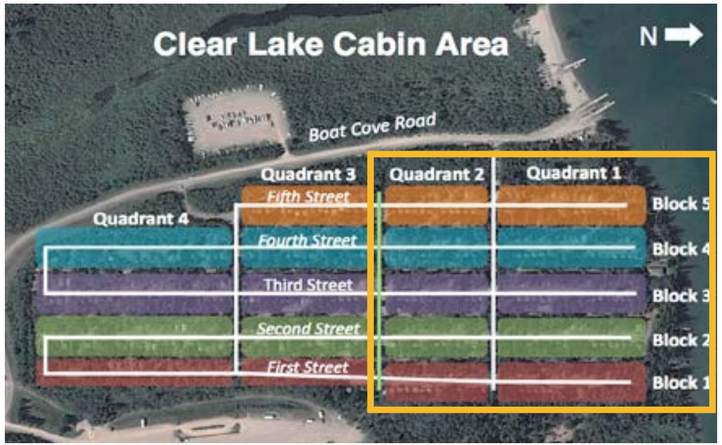
Within the *2012 Development Guidelines for the Clear Lake Cabin Area Subdivision*, the 'Required Parking Areas' section stipulates that cabin occupants are to park in their lots. If this were to be strictly adhered to, many cabin lots would have room for only one vehicle at the front of the cabin lot. Additionally, the vast majority of cabin owners to do not follow this guideline to begin with.

While excessive amounts of vehicle parking (3 or more per cabin) should be discouraged, parking in the back lanes behind lots on Parks Canada land, or on empty green space at the end of blocks offer additional parking spaces. Parking off-lot in these spaces should be permitted as long as it does not interfere with the growth of vegetation, planting of new vegetation, nor pose a risk to health and safety by obstructing traffic or pedestrian right of ways.

Particularly, the lack of back lanes in Quadrant 4 means that 145 cabin lots are automatically at disadvantage regarding parking as compared to their neighbours in Quadrants 1-3 who have back-lane parking. For cabins along 1st Street and 4th Street in Quadrant 4, parking across cabin lots along the street in already cleared brush should be permitted, though not encouraged. Twenty-five of these cleared parking spaces already exist and should be open to cabin area residents on a daily first-come-first basis.

While it is strongly recommended that cabin owners use the large parking lot to the east of the CLCA, as well as the Boat Cove Road parking lot; both these parking lots need to receive numerous upgrades if their use by residents is ever to increase. In order for these two parking lots to be considered viable alternatives to the convenience and security of parking within the cabin area, parking lot design and operation needs to be improved, not only for user convenience and safety, but also to reduce any potential negative impacts such as vandalism or theft. In the case of both parking lots, it is imperative that safety and visibility are key considerations. More efficient lighting, improved sight lines, and the addition of accessible infrastructure will all work towards meeting this goal.

Parking Space Analysis - Quadrants 1 & 2

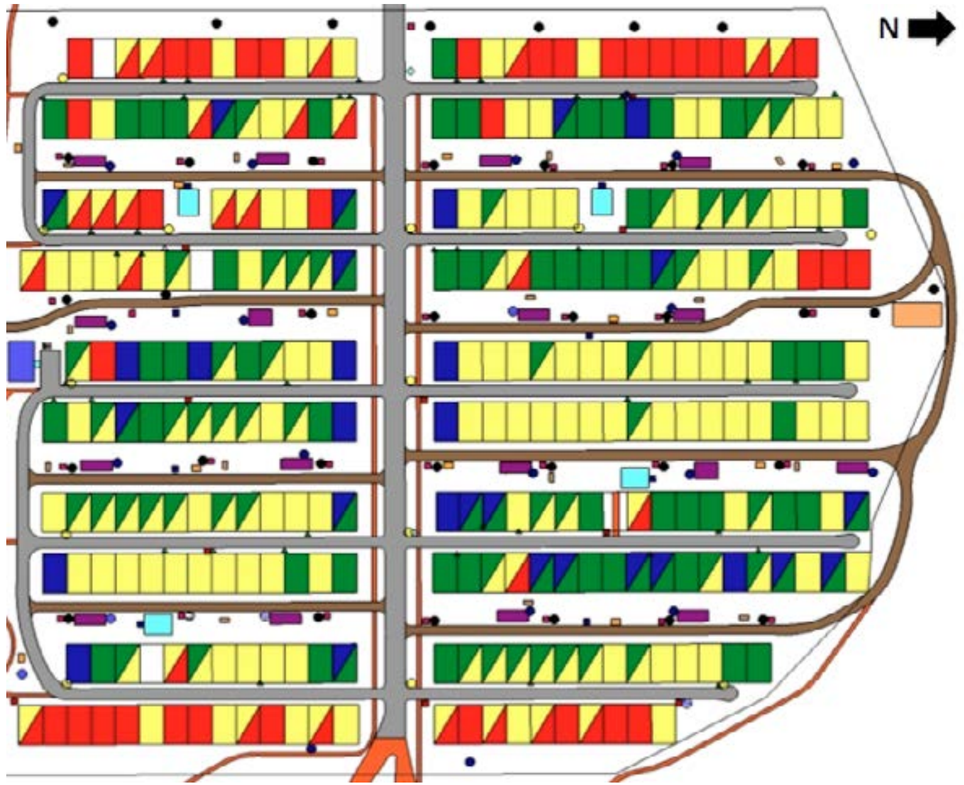


LEGEND

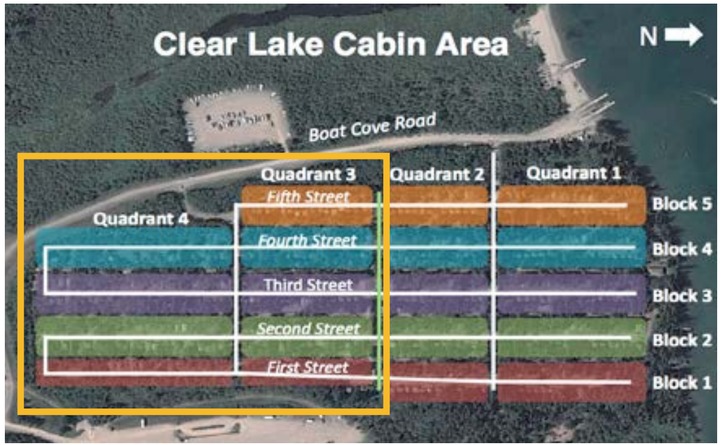
- Road
- Back Lane
- Paths/Side Walk
- Cabin Lot
- Washroom
- Kitchen Shelter
- Jamboree Hall
- Parking Lot
- Garbage Bin
- Wood Shed
- Water Tap
- Light Pole
- Hydro Pole
- Phone Pedestal
- Fire Hydrant
- Tree/Shrub
- Grey Water Dump
- Pay Phone

PARKING SPACES PER CABIN LOT

- 1 Parking Space
- 1-2 Parking Spaces
- 2 Parking Spaces
- 2-3 Parking Spaces
- 3 Parking Spaces
- 3-4 Parking Spaces
- 4 Parking Spaces



Parking Space Analysis - Quadrants 3 & 4



LEGEND

- Road
- Back Lane
- Paths/Side Walk
- Cabin Lot
- Washroom
- Kitchen Shelter
- Jamboree Hall
- Parking Lot
- Garbage Bin
- Wood Shed
- Water Tap
- Light Pole
- Hydro Pole
- Phone Pedestal
- Fire Hydrant
- Tree/Shrub
- Grey Water Dump
- Pay Phone

PARKING SPACES PER CABIN LOT

- 1 Parking Space
- 1-2 Parking Spaces
- 2 Parking Spaces
- 2-3 Parking Spaces
- 3 Parking Spaces
- 3-4 Parking Spaces
- 4 Parking Spaces

3.1 Large Parking Lot Upgrades

Option 1 - Increased Accessibility

This parking lot is used primarily by people visiting the commercial centre of Wasagaming and main beach area, as well as by buses and RV's. Parking tends to centre along the northeast corner of the parking lot, which affords the easiest access to the Townsite. Only on the July and August long weekends is the parking lot ever really at capacity. This parking lot is generally underused, and as such can accommodate CLCA overflow parking.

By improving pedestrian and cyclist access between the cabin area and the large parking lot, residents will feel less burdened by having to walk up to their cabins and down to their vehicles. Currently, most of the access points to the Townsite are located in the northern half of the CLCA, while the southern end has limited access.

A proposed new access path connecting First Avenue should be paved and lighted. Ideally the path should be at least 1.5 m wide, paved, and not exceed a grade of 5%. It should be noted that this path is also proposed to act as an emergency exit road (see section 8). For the purposes of pedestrians and cyclists, either a new road or path will suffice.

In addition to the new path leading down from First Avenue, the dirt trail from 1st Street South (across from lot 88) should be widened, leveled and topped with an appropriate surface material. This trail currently exists as a winding, steep, and un-maintained path. However cabin area residents in the southernmost Quarter use it regularly to access the Townsite. Improvements and regular maintenance of this trail will aid and enhance pedestrian connectivity from the southern end of the CLCA and the Townsite. Additionally, the path connecting the green belt and the large parking lot should also be widened and resurfaced to better accommodate both pedestrians and cyclists. Currently this path has been partially overgrown by vegetation that has reduced its usability.

Currently this parking lot remains dark once the sun sets, as there are only four lights running along the lane which backs onto the Wasagaming Drive businesses, and one at the water lift station at the southern end of the lot. The installation of new street and bollard lighting will improve visibility, lessen concerns over safety and security, and undoubtedly contribute to cabin area residents and visitors feeling more comfortable in making use of this parking lot during the evening.

Option 1 - Increased Accessibility

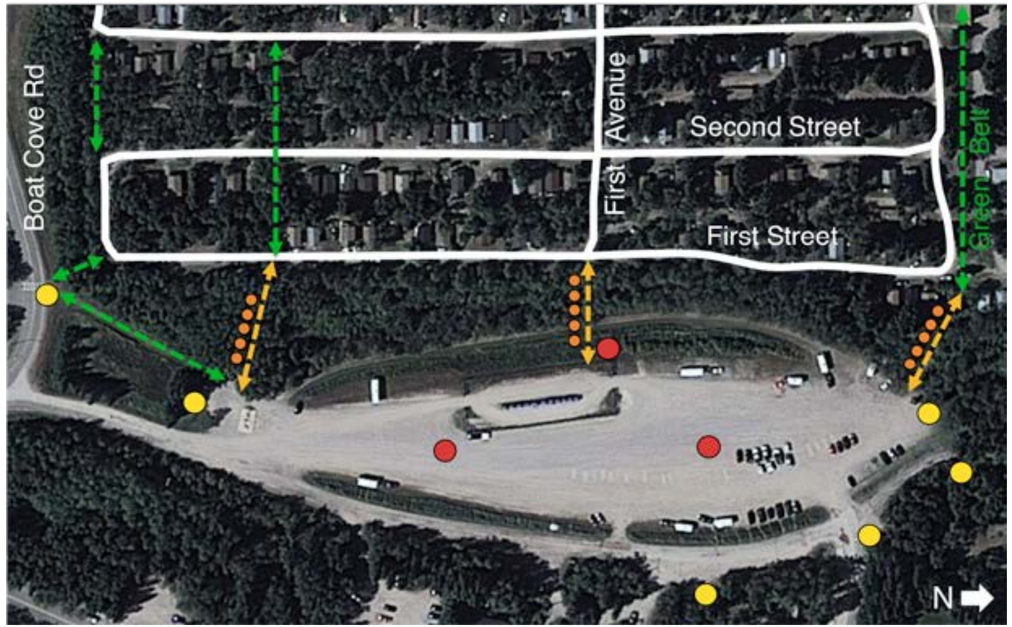


Figure 16: Existing and Proposed Infrastructure Changes to the Large Parking Lot

LEGEND

- Road
- Existing Path
- Proposed Path/ Upgraded Path
- Existing Street Light
- Proposed Street Light
- Proposed Bollard Lighting

Option 2 - Cabin Resident Parking Zones

In addition to the lighting and physical connectivity improvements laid out in Option 1, Option 2 adds 'Cabin Residents Parking Zones.' So as not to take away day-use parking from visitors to the Townsite, these marked sections would be identified with time restrictions, such as reserved parking only after 7:00pm.

These designated parking spaces, with room for approximately 40 vehicles, will not only ensure overflow parking for the cabin area, but also contribute to the impression that cabin owners and their guests have these zones as viable alternative option for parking.

All that would be required is the installation of signage to mark the start and end of each of the three zones.

Figure 17: Cabin Resident Parking Signs

Option 2 - Cabin Area Resident Parking Zones

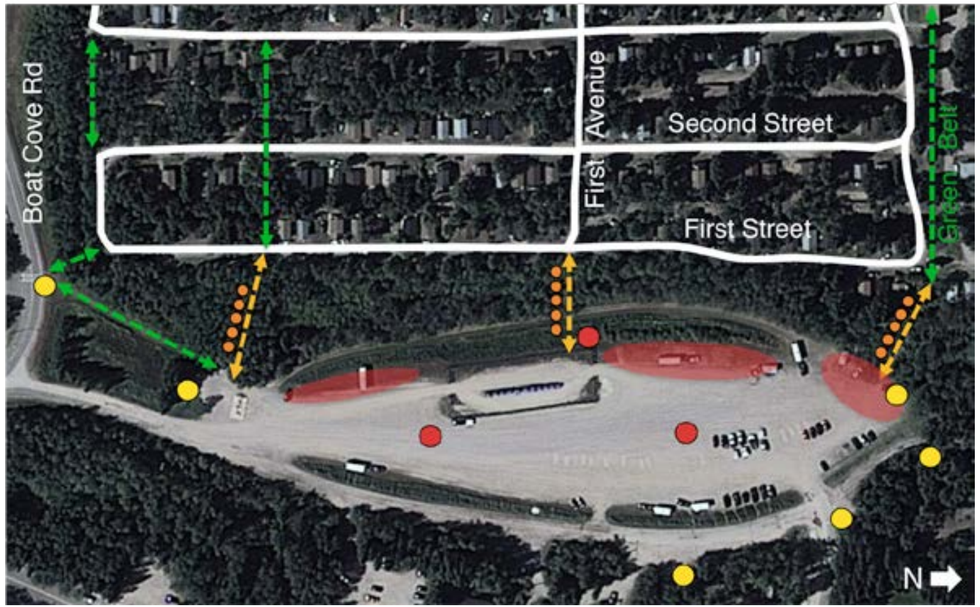


Figure 18: Existing and Proposed Infrastructure Changes to the Large Parking Lot

LEGEND

- Road
- Existing Path
- Proposed Path/ Upgraded Path
- Cabin Resident Parking
- Existing Street Light
- Proposed Street Light
- Proposed Bollard Lighting

Option 3 - Enclosed Parking Lot

Option 3, keeps the same infrastructure upgrades that were presented in Option 1. However, this plan for the large parking lot would see the creation of a fenced-in parking within the lot. This new secure parking space could be used for vehicles as well as boats and their trailers. Motorists would enter the cabin area using the South Access Road, drive eastward along First Avenue, descend down a new access road, and park in a secure and will-lit parking lot. This fenced lot could function both as seasonal and weekend use for the boats and trailers of cabin area residents.

The fencing which currently surrounds the recycling compound could be repurposed for this project, thus lowering ma terial costs. The recycling and garbage bins could then be relocated to the southwest corner of the parking lot.

Additionally, trees should be planted to provide shade cover, and further improve parking conditions while also making aesthetics improvements.

Figure 19: Existing Conditions of the Large Parking Lot

Option 3 - Enclosed Parking Lot

Figure 20: Proposed Changes to the Large Parking Lot

3.2 Cabin Area Traffic Concerns

Many cabin area residents have expressed concern over vehicles in the cabin area travelling above the 20 km/h designated speed limit. This has been observed a number of times, particularly along Main Avenue, as well as around corners in Quadrant 4 where 3rd Street turns into 4th Street, and where 1st Street turns into 2nd Street. Additionally, there has been extra traffic in the cabin area over the past two years and will likely continue in the near future relating to the construction or renovation of cabins.

A number of measures can be taken to inform drivers of the speed limit (20 km/h), and of other traffic concerns. These include:

Radar Speed Displays

Radar Speed Displays can be mounted to existing poles and are powered by a solar panel. These small and portable devices display a drivers speed. They are also able to generate reports to assist in identifying where problems actually exist while also collecting baseline data. This data can then be accessed via smart phone apps. Also, Radar Speed Displays do not contribute to noise pollution, nor significant light pollution.

Figure 21: Pole-Mounted Radar Speed Display

Additional Signage

On street corners where sight lines are poor, such as where 3rd Street turns into 4th Street in Quadrant 4, 'SLOW Blind Corner' signs can be placed. Additionally the placement of additional speed limit signs could be placed throughout the cabin area, as currently there are only three in place.

A number of cabin owners in Quadrant 1 at the end of the dead end streets have raised concerns with drivers attempting to turn around or parking at the end of the street. 2nd Street N, 3rd Street N, 4th Street N, and 5th Street N in particular are quite narrow at their northern terminuses, which forces drivers to turn around or reverse their vehicles, often over cabin lots. In the past this has resulted in damage to vehicles and cabins.

One way to mitigate this is to place 'Dead End – No Thru Traffic' signs at the intersections of 1st through 5th Streets and Main Avenue. Larger, more specific 'No Parking at Any Time' signs could also be placed at the end of the streets.

Another way to reduce overall traffic in the Cabin Area is to place 'NO THRU TRAFFIC' signs at both entrances of the cabin area to dissuade non-residents from driving into the community unnecessarily.

Figure 22: Examples of Clear Lake Cabin Area Traffic Signage

Traffic Calming Techniques

Traffic calming techniques are typically utilized to reduce vehicle speeds, overall traffic volume, or both. These techniques, when implemented correctly, result in safer conditions for cyclists and pedestrians while also positively contributing towards neighbourhood character. Volume-control measures limit the amount of traffic by restricting vehicle access. Full street closures, in the form of cul-de-sacs or dead ends, completely close a road to through traffic. Half closures are barriers that close one direction of travel for short distance along a two-way road.

Speed-control measures can be categorized into three types: vertical, horizontal, and narrowing. Due to the narrow roads and relatively tight spaces in the Clear Lake Cabin Area, horizontal or narrowing speed-control measures will not work due to the lack of appropriate space. The most common horizontal speed controls include traffic circles, alternating curb extensions (referred to as chicanes), and intersection corner bump-outs. Narrowing speed-control measures reduce the

amount of lateral space in which vehicles can maneuver such as pinch points.

Vertical speed controls are most commonly speed humps, which are mounds placed across a roadway. The speed hump should not be confused with the speed bump, the latter being steeper and used most often in parking lots. The Institute of Transportation Engineers suggests a 3.7 m long speed hump that has a maximum height of 9 cm. It should also be noted that vehicle speeds typically increate 0.8 - 1.6 km/h for each 30 m separation between speed humps. When placed along in a row, speed humps are typically 60 – 245 m apart. Rubber speed humps can be installed permanently or temporarily if need be.

Speed tables are essentially speed humps that have a flat top, and are often referred to as speed platforms. These traffic calming devices are placed midblock between intersections and raise the entire wheelbase of a vehicle to reduce its traffic speed.[10] Speed tables are typically between 7.5 – 10 cm high and 6.7 m long, with 1.8 m ramps at either end or a 3 m flat section in the centre.[11]

Considering the current configuration and use of roads in the Clear Lake Cabin Area, speed humps may be the best, all be it more drastic, option in terms of implementing a traffic calming technique. Speed bumps, which are typically near 30 cm in width, and 7 – 10 cm in height, generally slow vehicles 8 – 16 km/h before they speed up again. Speed humps, however, which are much wider than speed bumps slow vehicles 16 – 32 km/h. Speed bumps, with their narrow design, often allow vehicles to pass over them without a significant reduction in speed, if at all, with the vehicle's wheels and shocks absorbing most of the shock. Contrarily, speed humps with their longer slopes move the entire vehicle vertically, causing a greater shock to the occupants when travelling at higher speeds.[12] With both speed humps and speed bumps there is some noise created by vehicle vibrations travelling over the devices. Additionally, if either device is implemented, proper signage and markings on the pavement needs to be in place in order to give drivers' adequate warning of their presence.

It is important to note that fairness and equity is a significant concern regarding traffic calming schemes as measures that slow traffic on one street can simply displace traffic to adjacent streets. In many municipalities community support in the form of supportive signatures by neighbours must be collected before traffic calming measures can be approved.

In addition to the placement of additional traffic warning signs (ex. speed limit signs), and radar speed displays, speed humps if properly placed could result in calming traffic in areas where speeding is a significant problem. In this case, the most suitable places are along Main and First Avenues.

Figure 23: Rubber Speed Bumb

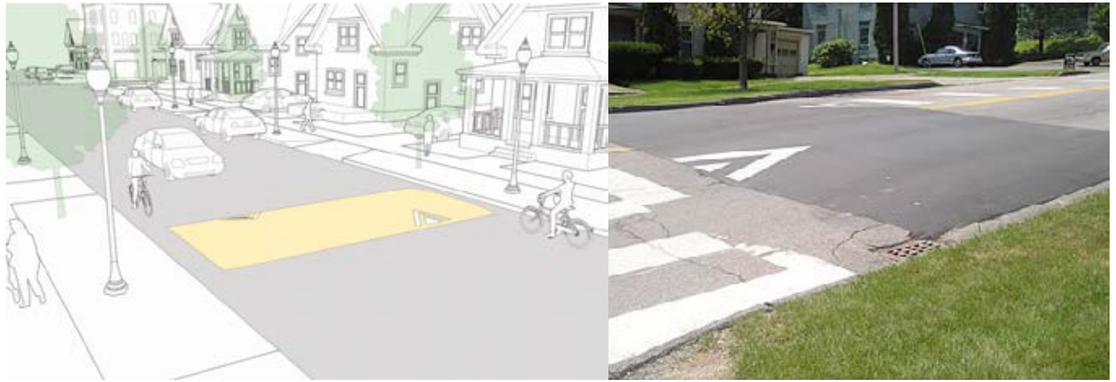


Figure 24: Speed Hump

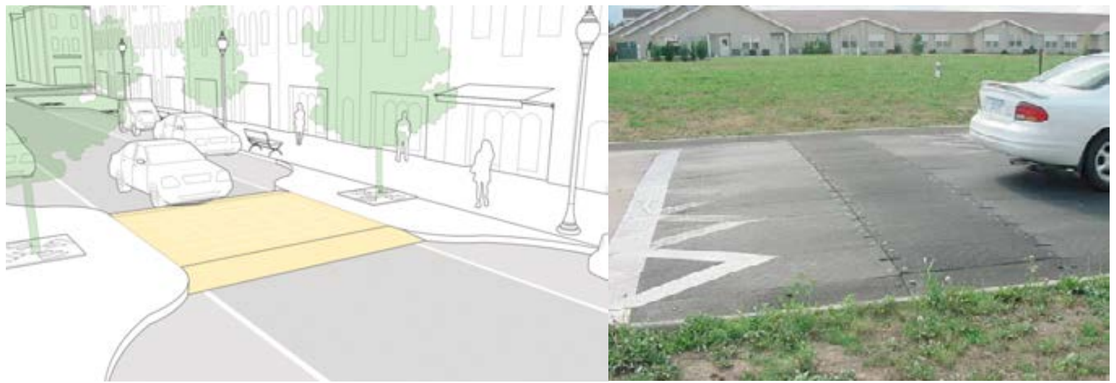


Figure 25: Speed Table

Traffic & Parking Signage Installation Sites

Figure 26: Proposed Sites for New Traffic and Parking Signage

LEGEND

- Back Lane
- Three-Way Stop
- 'NO THRU TRAFFIC' Sign
- Welcome Sign
- Speed Hump
- 'Dead End NO THRU TRAFFIC' Sign
- 'No Parking Anytime' Sign
- 'Slow Down Blind Corner Ahead' Sign

3.3 Wayfinding

There is some general confusion regarding wayfinding in the Clear Lake Cabin Area, particularly with Main Avenue and First Avenue being unmarked and their names relatively unknown. Only a large 'S' (south) and 'N' (north) sign denote these streets when turning off of Boat Cove Road. To help improve wayfinding in the area, it is suggested that these two streets be renamed in keeping with the character of Wasagaming and Riding Mountain National Park, and for them to be properly marked with signage. Their current names, Main Avenue and First Avenue are uninspiring and confusing. This is particularly the case for First Avenue, as there is also First Street, which runs north to south. In order to delineate the northern section of the cabin area from the southern section, it would be helpful for the replacement names to in some way reference north or south. For example, Main Avenue (in the northern section) could become Northern Lights Avenue, and First Avenue (in the southern section) could become Southern Plains Avenue.

Updating these two street names offers an excellent opportunity to add community character to the neighbourhood, while reducing confusion. Altering First Avenue and Main Avenue makes sense, as there is little personal attachment to these street names by cabin area residents, as they are widely unknown. The five north-south streets, 1st through 5th, however, do hold significant importance to residents and should remain as is.

Improving wayfinding, while also creating signage that better represents the Clear Lake Cabin Area community, has a number of benefits. Firstly, it assists visitors locate streets and addresses when they are unfamiliar with the area. It also works towards building community spirit and pride by identifying that the Clear Lake Cabin Area is unique from the rest of Wasagaming and has a culture and history that is worth acknowledging and celebrating. This can be further achieved by installing 'Welcome to the Clear Lake Cabin Area' signs. This will let all visitors and residents know that they are entering a distinct community within Wasagaming.

Figure 27: CLCA Entrance Signs

Figure 28: Proposed Street Name Changes

3.4 Boat Parking

There has been a considerable amount of concern from numerous cabin area residents regarding the parking of boats within the Clear Lake Cabin Area. During site visits during July and August 2013, the number of boats parked in the cabin area ranged from 39 to 45. These varied from small fishing boats to large pontoon boats.

It is evident from through observations that boat parking is a concern, though not as severe as originally perceived. That being said, the lengths of boats present are often 18 feet or longer (excluding their trailer).

It is recommended that boats may be permitted to park within the cabin area under the following circumstances, however it is ultimately up to the Clear Lake Cabin Association Board and Parks Canada to enforce, or not to enforce, these suggestions. Generally, it should be noted that unless boats can be parked within the confines of cabin lots, parking elsewhere within the cabin area is a privilege and not a guaranteed right.

Front Yard

Boat and trailer (including engine) are able to fit within the allotted front yard of cabin lots; that is, under 25 ft. (7.62 m) and parallel to the street. The boat and trailer should not extend beyond their owners lot. Boats should also be set back a minimum 1 ft. from the edge of the street to improve sightlines and safety for other drivers and cyclists.

Figure 29: Appropriate Front Yard Boat Parking

Rear Yard

When back lane access allows for it, boats and their trailers should be permitted to park in rear yards when they are able to fit within the rear of a cabin lot. They should be no longer than 25 feet, so as to fit within the lot, and do not encroach over into neighbouring lots. Again, there should also be a set back of a minimum 1 ft. from the edge of the back lane so that other drivers and cyclists are not having to cope with blocked sight lines and overly tight spaces.

Boats can be parked perpendicular or at an angle to the back lane on vacant green space as long as it does not block any pedestrian or vehicle right of ways, this includes pedestrians paths to washrooms. Only, however, if this poses no harm to existing vegetation, including hitting overhead branches. Boat owners should be aware however that any boat parked on Parks Canada land within vacant green spaces has no specific right to be there and will have to be moved at the request of Parks Canada.

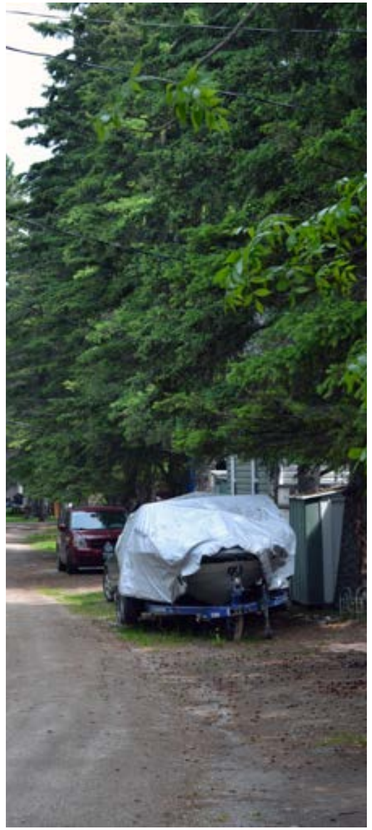


Figure 30: Appropriate Back Lane Boat Parking

Public Green Spaces

Boats and corresponding trailers may be permitted to park at the end of blocks, or in other green spaces in areas that have been ALREADY cleared of bush and ONLY if no pathways, trails, and roads are blocked and visual sightlines obstructed. However, these spaces ideally should be left to re-naturalize by encouraging natural vegetation growth that is in keeping with the environmental sustainability principles that Parks Canada ascribes to.

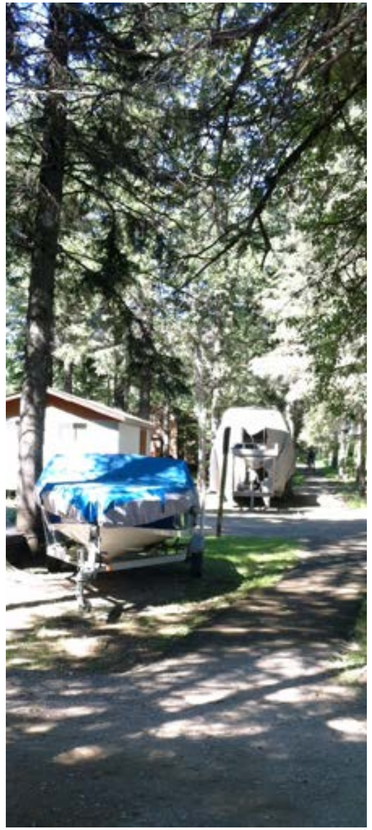


Figure 31: Boats Parked in Green Space at the End of Blocks

Proposed Parking Restrictions

Additionally, deck or pontoon boats, or boats (with their trailers) that exceed 25 ft. in length should ideally park outside of the cabin area in one of the larger parking lots.

Boats of these sizes simply pose too great a risk towards safety in the obstruction of space, both on the ground, but just as important in terms of height by blocking sight lines. These large boats also become hazards when moving. The Clear Lake Cabin Area is too compact with too narrow of roads (both front streets and back lanes) to adequately park boats of these sizes in a safe and responsible manner that does not overcrowd public space. These boats should be stored in either the large parking lot on the eastern edge of the cabin area, or in the Boat Cove Road parking lot. All be it, both these parking lots should be upgraded with adequate lighting and pedestrian connections.

Boats nearing the size of small cabins cannot be parked on their owners lot, and instead are parked on public green space that could be used to plant more trees and vegetation, or used for other public recreational or leisure activities.

Evaluation of Existing Infrastructure & Assets

A Kitchen Shelter in Qudrant 3 Between 4th and 5th Streets

4.0 Kitchen Shelters

Figure 32: A Kitchen Shelter in the 1950's

In total there are 32 kitchen shelters and categorized into three categories.

1. The oldest, or 'Original', kitchen shelters are characterized by lower ceilings, round support log columns, and two stoves. This style of kitchen shelter is the most numerous with 24 structures in total. They measure 10 m by 3.7 m.

2. The second class are the three 'Ice House' kitchen shelters, former ice houses that have been modified to their current use. These buildings are fully enclosed log structures with one stove, and have two or three doorway entrances. These structures measure 7.5 m by 5.5 m.

3. The final class is the 'Modernist' kitchen shelters which are the most recently built structures. There are five of these type of kitchen shelters, and they measure 8.6 m by 4 m. They have two stoves, higher roofs than the Original structures, and have square timber support columns.

Overall kitchen shelters are in good condition considering their age, constant use, and exposure to the elements. There are some cases where shingles are beginning to curl (5 in total), and moss spreading across roofs (8 in total) as of July 2013. Only a very few kitchen shelters show signs of rotting and weathering at the roof edge.

Floors have not fared as well as the roofs. Some Original kitchen shelters have two concrete floor pads. Over time with settling and age, these two pads have separated from each other causing a large crack to form creating a serious tripping hazard. Other Original shelters have large cracks formed from the pressure created by the stoves weight, or have some of the surface concrete chipping away. Ice House and Modernist shelters, aside from some minor cracking, have floors that are in relatively good condition. However, in some cases Ice House shelters have crumbling stairs or tripping hazards at the door thresholds.

In regards to log condition, just about all the kitchen shelters could use a new coat of paint or stain. Ice House kitchen shelters are the worst in terms of peeling paint.

Summary of Kitchen Shelter Observations

- Eight kitchen shelters will need new shingles within the next five years, while the remaining will need to be replaced in the next five to ten years.
- Cabin area residents could be made responsible for the re-staining or painting of their particular kitchen shelter on a particular weekend organized by the Clear Lake Cabin Association, with materials and paint provided for.
- Nine kitchen shelters need cracks and cut-outs in the floor filled in and leveled to prevent injuries from trips and falls.
- Six kitchen shelters need to have their water taps adjusted to prevent water pouring down the support log column they are attached to, so as to prevent further rotting of the log. This could be achieved by extending the tap outwards away from the support log, or sloping the cement base away from the structure so that water drains away.

Figure 33: Example of 'Original' Kitchen Shelter

Figure 34: Example of 'Ice House' Kitchen Shelter

Figure 35: Example of 'Modernist' Kitchen Shelter

4.1 Firewood Plan

As part of the Clear Lake Cabin Area Comprehensive Design Review, alternatives to the current firewood distribution plan were explored primarily as a way to reduce the cost of firewood delivery. These potential costs savings could then be used for other capital or operating projects within the Clear Lake Cabin Area as determined by the Clear Lake Cabin Area Board and area residents. Additionally, there is some concern amongst residents regarding wood delivery trucks travelling down back lanes, and the risk they pose to children playing for example. As well, in many cases the accessibility of firewood under the current delivery system results in firewood being burnt unnecessarily.

Currently there are thirty wood drop-off locations; with the vast majority being separate wood shed structures. The exception to this are the Ice House kitchen shelters in which firewood is stored inside.

The following are three approaches that can be considered as options.

Option 1- Modified Status Quo Approach

With this approach, wood delivery would continue as usual, with wood continuing to be dropped off at each kitchen shelter. This is the most expensive and time intensive option. This is also the most unsustainable approach, as firewood remains readily available to be burnt at all times, and vehicles need to visit all thirty locations. Large delivery trucks would also continue to travel down back lanes, potentially creating a safety hazard. However, this is the most convenient option for cabin area residents, as there is no need to transport the wood.

There is the possibility in the future of amalgamating kitchen shelter wood sheds in the middle of blocks, so that wood drop-off locations would decrease roughly by half. Each drop-off would be approximately half way between each kitchen shelter. However, this would only work in Quadrants 1-3 where there is room in the back lanes. This modified approach may decrease the cost of wood delivery, and amount of wood consumed, but would also limit access to properties that were previously unhindered.

Option 2 - Cluster Approach

This option would see firewood drop-off locations be placed where bathroom buildings are currently located. With the implementation of the water and sewer project, the washroom buildings may become obsolete in 5-10 years as cabins hook up to the water and sewer system, allowing for the space that they currently occupy to be used as wood drop-off locations. These nine locations are serviceable by the front streets, and have two to four kitchen shelters clustered around them.

The one exception is Washroom #3 in Quadrant 4 between 1st and 2nd Street due to its isolation from other kitchen shelters. The kitchen shelter nearest, #7, may still require an individual drop-off of firewood because of its distance from other proposed wood locations.

With this plan, each kitchen shelter would be provided with a wheelbarrow that has corresponding markings with its particular kitchen shelter so as to avoid theft or misplacement. This option also minimizes theft of wood by individuals from outside the Clear Lake Cabin Area by having indirect supervision provided by neighbouring cabins.

While some convenience to cabin area residents is lost as compared to Option 1, walking distance to the new wood drop-off locations have been kept to under the length of a block. As well, placing the drop-off locations where the washrooms are currently located does not add to overcrowding, nor encroach on any leased property. The main drawback is that this option cannot be implemented until the washrooms have been removed.

Option 3 - Centralized Location Approach

This plan is the most cost effective, while also being the easiest to implement. However, it is also the least convenient for cabin area residents. Three larger firewood drop-off centres would be created at central locations in the cabin area that have been chosen to minimize their impact on neighbouring cabins as much as possible.

The three locations are:
- The southern side of the intersection of First Avenue and the back lane between 3rd Street and 4th Street. Currently this space sits empty, providing access to the adjacent kitchen shelter.
- The south side of the shower building within the green belt.
- The eastern side of Jamboree Hall in the clearing running alongside the back lane adjacent to the lake.

Three locations were chosen instead of just one in order to minimize the distance that would be requited for residents to go pick up wood. After all, firewood delivery is service that cabin owners pay for, and thus expect a certain level of service that one drop-off location would not be able to achieve. Again, like with Option 2, wheelbarrows would be provided to each kitchen shelter. This option is the most environmentally sustainable, as less greenhouse gasses would be emitted by delivery trucks, and will most likely cut down on the amount of wood consumed in under-used fires throughout the daytime.

Like with option 1 and 2, firewood sheds would stay in their current locations. Though, with options 2 and 3, wood sheds could remain in place, or be removed to make room for other activities. Firewood could then be stored in a lean-to type structure against the kitchen shelters.

Option 1 - Modified Status Quo Approach

Figure 36: Existing Locations of Wood Sheds at Kitchen Shelters

LEGEND

- Road
- Back Lane
- Path / Side Walk
- Cabin Lot
- Washroom Building
- Jamboree Hall
- Kitchen Shelter
- Garbage Bin
- Fire Wood Shed

Option 2 - Proposed Cluster Approach

Figure 37: Proposed Locations of Wood Sheds at Washroom Buidling Sites

LEGEND

- Road
- Back Lane
- Path / Side Walk
- Cabin Lot
- Washroom Building
- Jamboree Hall
- Kitchen Shelter
- Garbage Bin
- Fire Wood Shed

Option 3 - Centralized Location Approach

Figure 38: The Locations of the Three Proposed Locations of Wood Sheds Within the Fire Wood Centralized Location Approach Plan

LEGEND

- Road
- Back Lane
- Path / Side Walk
- Cabin Lot
- Washroom Building
- Jamboree Hall
- Kitchen Shelter
- Garbage Bin
- Fire Wood Shed

Figure 39: A Wood Shed Needing Repair in Quadrant 1

Figure 40: Firewood Stacked in an Ice House Kitchen Shelter

4.2 Garbage Plan

Figure 41: A Garbage Bin in Green Space Without Aesthetic Improving Vegetation

This review was also tasked to look at alternatives to the current garbage pick-up plan within the Clear Lake Cabin Area, in an effort to reduce the cost of the program, and also to avoid having garbage trucks traveling down back lanes.

Currently there 26 garbage bins spread throughout the cabin area. Six are located in Quadrant 1, seven in Quadrant 2, five in Quadrant 3, and eight in Quadrant 4. Many of these garbages are only one third, or half full at the time of pick up. The underuse of many bins was taken into consideration when alternative options were developed. If fewer garbages are filled faster, then the number of pick-ups can be increased to those bins, as opposed to emptying more bins but less often.

Option 1

This plan reduces the number of garbage bins from 26 to 18. This option retains a garbage bin on a back lane in Quadrant 1, removing the other existing back lane bins, but adds a new more centrally located bin adjacent to Jamboree Hall. This was done so that cabin owners adjacent to the lake do not have to walk the 140 metres to Main Avenue in order to dispose of their garbage in the bins located there.

Four new bins would be placed directly along Main Avenue on the boulevard; one new bin would be placed in the green belt, and one new bin along First Avenue. The majority of cabin owners will be required to walk less than 100 m in order to access a garbage bin. The route for this option has been designed so that garbage trucks will continue to access the northern half of the cabin area via the back lane between 3rd and 4th streets.

While two bins remain along a back lane, the distance required for garbage trucks to travel along these lanes has been significantly reduced. The convenience of residents along the northern periphery of the cabin area justifies the placement of these bins.

Option 2

This option reduces the number of garbage bins from 26 to 17, and completely removes all bins from the back lanes. As well, garbage trucks would access both the southern and northern portions of the cabin area via Boat Cove Road.

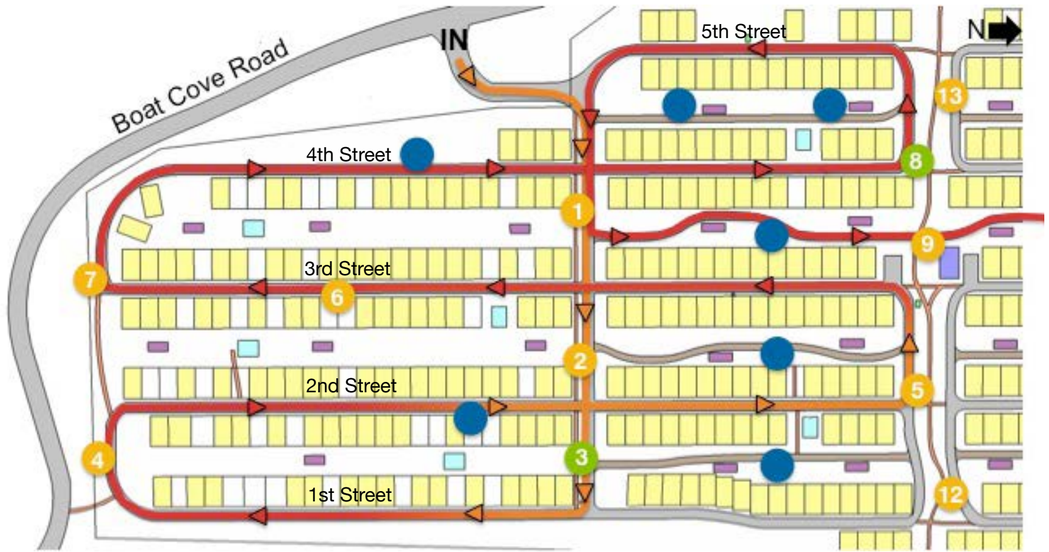
Five existing bins would be re-located along Main Avenue, an increase to six in total. Like with Option 1, the green belt would only see a net increase of one garbage bin, and First Avenue would receive one new bin. With this option, some cabin owners would have to travel a maximum distance of 120 m (the length of one block) to reach a garbage bin. However, this is also the most cost effective plan as it is less labour and time intensive.

General Notes

Both options would see Main Avenue and First Avenue transform into more of a service corridor where the placement of garbage bins would not encroach on cabin lots, nor affect any real useable space. This is not the case however, when garbage bins are placed along back lanes or on front streets where the space could be used for parking or leisure activities. In order to mitigate any loss of aesthetic quality along these new service corridor streets, it is suggested that these bins be placed in between existing trees so that the trees can act as a visual shield. If a garbage bin is placed where there is no existing vegetation, then it is suggested that appropriate trees or shrubs be planted at either side of the bin. Camouflaging garbage bins with vegetation should also become common practice for garbage bins that are placed within the green belt.

Additionally, when garbage bins are removed or re-located to another location, the remaining topsoil should be removed and replaced as many garbages have leaked hydraulic fluid and other contaminants over the years. The spaces formerly occupied by garbage bins ought to be then re-vegetated as a way to contribute to the overall increase in the amount of vegetation in the cabin area, and to counteract tree loss from ongoing development.

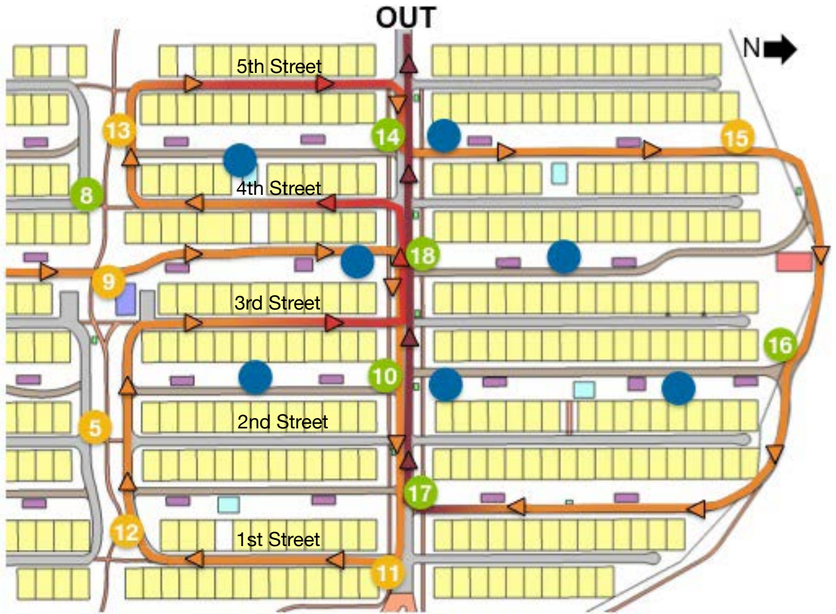
Garbage Plan
Option 1 - Southern Section



LEGEND

- 1 Existing Garbage Bin To Remain
- 3 Re-located Garbage Bin
- Garbage Bin To Be Removed
- Garbage Truck Route

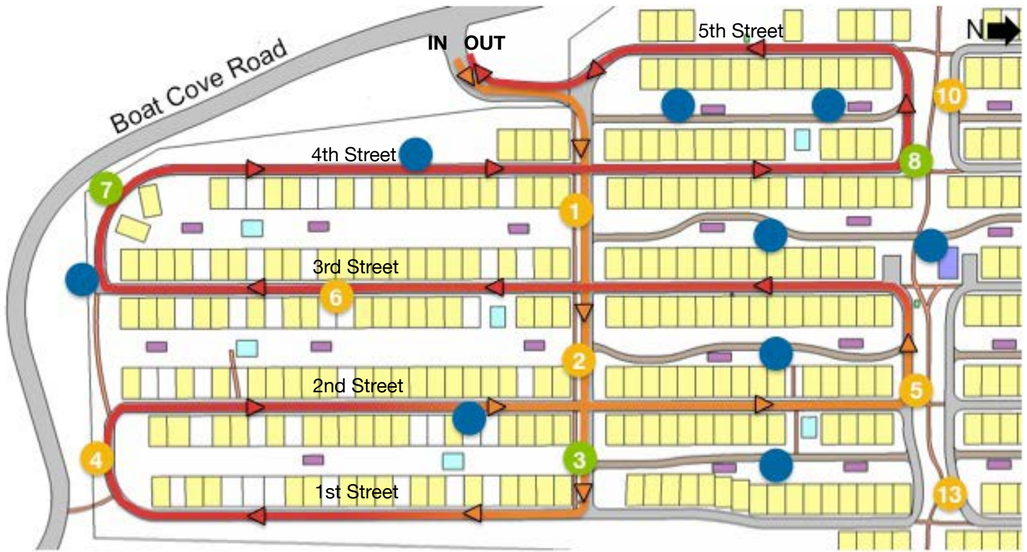
Garbage Plan
Option 1 - Northern Section



LEGEND

- 1 Existing Garbage Bin To Remain
- 3 Re-located Garbage Bin
- Garbage Bin To Be Removed
- Garbage Truck Route

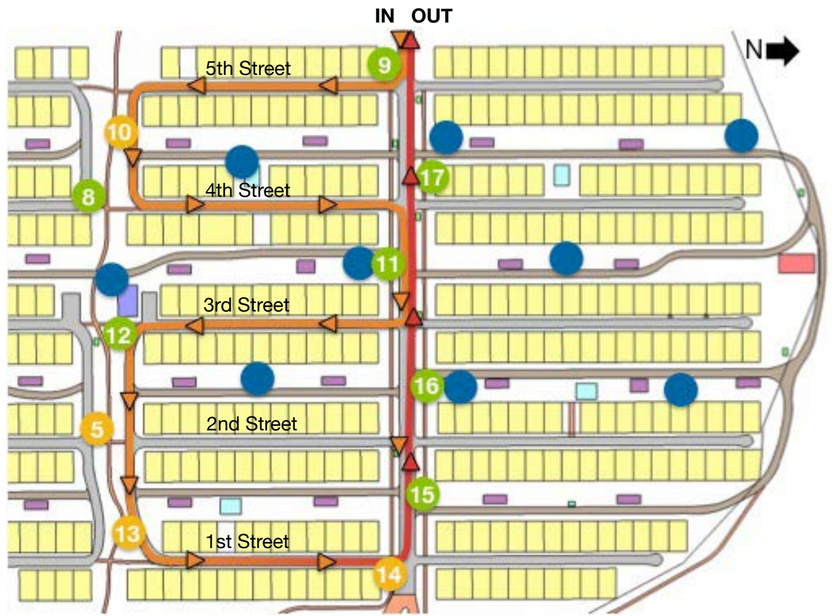
Garbage Plan
Option 2 - Southern Section



LEGEND

- 1 Existing Garbage Bin To Remain
- 3 Re-located Garbage Bin
- Garbage Bin To Be Removed
- Garbage Truck Route

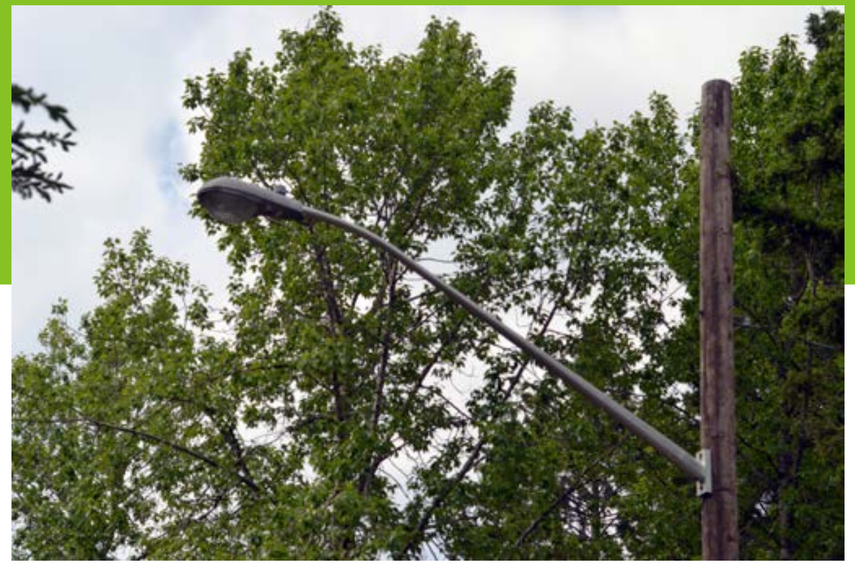
Garbage Plan
Option 2 - Northern Section



LEGEND

- 1 Existing Garbage Bin To Remain
- 3 Re-located Garbage Bin
- Garbage Bin To Be Removed
- Garbage Truck Route

Lighting



Pole Mounted Street Light

5.0 Lighting

Dark-Sky Preserve (DSP)
A Royal Astronomical Society of Canada Designation

Riding Mountain National Park is currently pursuing a Dark-Sky Preserve designation following the successful designation of Point Pelee and Elk Island National Parks in 2006.[12]

A Dark-Sky Preserve is an area in which no artificial lighting is visible and active measures are in place to educate and promote the reduction of light pollution to the public and nearby municipalities. Sky glow from beyond the borders of the preserve will be of comparable intensity, or less, to that of natural sky glow.[13]

This section of the Comprehensive Design Review follows *Parks Canada's Guidelines and Specifications for Outdoor Lighting*.

This lighting plan emphasizes four objectives; ecosystem protection, energy savings, dark sky preservation, and personal safety.

Artificial light impacts safety, use, orientation, and the quality of public spaces after dusk. Lighting design is extremely important to create safe and accessible public spaces. Artificial lighting facilitates movement along roads and paths, and illuminates services and infrastructure such as washroom buildings and parking lots.

Animal Behaviour

The proliferation of outdoor artificial lighting can have a negative behavioural impact on a number of species. Nocturnal mammals adapt their behaviours with the changing illumination of the moon. Both predators and prey depend on the darkness of the night. As well, some insects are drawn towards light sources. When this occurs, their normal mating and foraging activities are halted, while their concentration around a light source can increase predation.[14]

Community Character

The Clear Lake Cabin Area originated as an electricity-free campground, where early campers were able to re-integrate themselves with the natural environment. Despite decades of increasing development cabin owners still come to Wasagaming and the CLCA to experience the tranquility and restfulness that the national park setting offers them. The ability to view stars, the Milky Way, and the northern lights is something to be celebrated and protected. Today, the vast majority of Canadians live in sprawling urban settings where the night sky has become polluted with artificial light. "Our current generation is the first for whom much less than half the population has seen a star-filled night sky. Most children have never seen the Milky Way."[15] Thus, light pollution needs to be avoided in the Clear Lake Cabin Area.

Energy Consumption

When light is directed upwards away from the ground it becomes inefficient and energy is wasted, costing more money to operate. Directing light to were it is actually needed, while minimizing the energy output will reduce electricity costs as well as greenhouse gas emissions.[16]

Cabins

In keeping with Dark Sky Designation guidelines so as to limit light pollution, cabin owners should be encouraged to refrain from using floodlights, decorative lighting, and high voltage light bulbs. If every cabin were to keep on bright high voltage bulbs at night, the area would quickly lose its 'cabin area' character.

Figure 42: The Northern Lights Over Clear Lake

5.1 Lighting in the Cabin Area

Street and Back Lane Lighting

When possible all light fixtures should be full cut-off fixtures. Also called fully shielded fixtures, these fixtures prevent light from shining beyond the intended area that is to be illuminated. Full cut-off fixtures reduce glare as no light is permitted to shine horizontally, and their cut-off angle is less than 90°. By reducing horizontal glare, both animals and people can see better because their eyes become more accustomed to the dark, allowing them to see into areas with lower illumination levels farther from the light.

Full cut-off fixtures require lower wattage bulbs due to the reduction of undirected light and thus reduce energy consumption. Also, when illumination levels are lowered, less light reflects off the ground and into the sky. This in turn reduces the impact of artificial light on the night environment even more.

Where it is not possible to replace fixtures, light shields should be attached to existing lights. Where possible, pole heights should also be limited to below the surrounding tree canopy so that vegetation can further help contain misdirected light from shining into adjacent areas.[17]

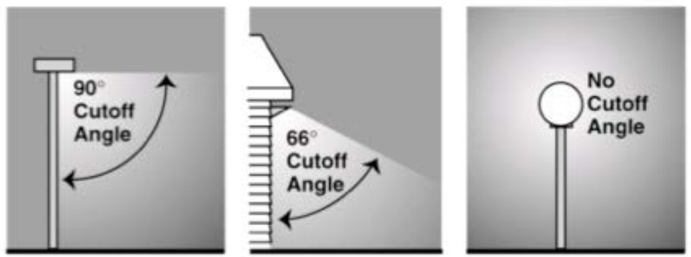


Figure 43: Light Cut-Off Angles

Washrooms and Shower Building

Full cut-off fixtures should be used to illuminate the entrances of these buildings and walkways leading up to them.

Suggested light: 25 w incandescent yellow LED, at a height of 2m.[18]

Figure 44: Example of Bollard Path Lighting

Parking Lots

Pole mounted lights should be placed one pole-height from the edges of the parking lot and be distributed evenly along the perimeter. Poles should be spaced no less than 4 times the height of the light. The light should be directed into the parking lot, and not the surrounding areas.[19]

Pathways

In regards to lighting paths and sidewalks, overhead lighting will illuminate areas much wider than the path itself. Instead, lower wattage bollard lights should be used so that their light is directed down and along the path, not into the surrounding area or forest. The small distance of bollard lights to the ground means that low intensity lights can be used.

Suggested Light: 7 watt incandescent yellow LED, at a height of 1m.[20]

Figure 45: Main Beach, Wasagaming, as Seen From Clear Lake at Night

Vegetation and Green Space Management

Prairie Rose in the Clear Lake Cabin Area

6.0 Natural Vegetation in the CLCA

It is important to stress the need for public safety and the protection of property, while also protecting and enhancing the cabin area's natural vegetation. This section of the Comprehensive Design Review has been influenced by the *Wasagaming Vegetation Management Strategy (2005-2015).*

The Clear Lake Cabin Area is a highly developed area that had managed to maintain some form of a natural 'park like' setting, despite having 527 cabins in a very small space. It is crucial for the character of the community and for the related aesthetic benefits to protect existing vegetation, while also ensuring that characteristics of the natural Southern Boreal Plains forest are retained. It is also paramount that Parks Canada and the CLCA Board work closely with residents to maintain and improve upon existing vegetation. The increasing amount of development, both in terms of new lots being developed, as well as the expansion and new construction of existing cabins to accommodate washrooms will place severe pressure on existing vegetation as more land is converted to building use.

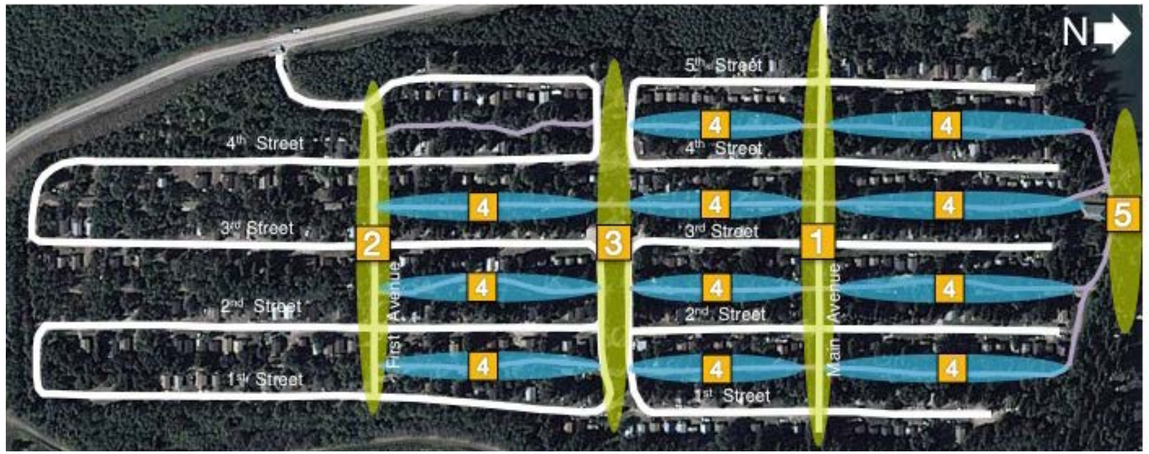
Mature and aging spruce trees dominate the Clear Lake Cabin Area. These trees, which were planted during the early years of the cabin area in linear rows primarily in the northern two thirds of the cabin area (Quadrants 1-3), have defined the atmoshphere of the area for decades and are now coming to the end of their lifespan. These trees, and other hazard tress are major concern that needs to be addressed. Hazard trees become susceptible to falling, especially when there is sustained strong winds, when they have become diseased, affected by insects, or are too old. A hazard tree can be identified by: signs of decay or disease, dead or broken tops, insect infestations, an excessive lean, damage to the trunk or roots, or close proximity to power lines. In a natural forest setting these trees would act as important wildlife habitat and not cause any harm. However, the dense and populated are of the CLCA means that hazard trees pose a serious threat to public safety, private property, and Parks Canada assets.

In order to minimize the risk to people and their property a healthy mix of tree species of varying ages should be maintained. A yearly assessment of trees in the CLCA should occur to identify any trees that need treatment or immediate removal. Subsequently, trimming, pruning, and removal of dead or damaged trees ought to occur. When possible, several trees (especially the stands of spruce) should be removed at once to save time and resources. On Parks land, every tree that is removed should be immediately replace. It is also important that information is shared with the Clear Lake Cabin Association and cabin area residents relating to vegetation concerns or news.[21]

Particular Problem Areas

1. Main Avenue – linear stands of spruce of similar age, reaching the end of their lifespan, 93 trees in total.
2. First Avenue – linear stands of spruce of similar age, reaching the end of their lifespan, 39 trees in total.
3. Central Green Belt – Some spruce trees remaining from before the green belt was created, 16 trees in total.
4. Back lanes in Quadrants 1, 2, and 3 – linear stands of spruce running the length of the back lanes often on the rear edge of property lines.
5. Shoreline – Sections of exposed shoreline that is at risk of further bank erosion.

CLCA Vegetation Problem Areas



LEGEND

General Problem Area

Back Lane Problem Area

As Main Avenue and First Avenue are solely situated within Parks Canada land, these areas are easier to replant than locations on leased land. Some replanting has occurred on Main Avenue in the past few years. However, this effort should be reinvigorated, with every tree being removed replaced by a new tree. These two avenues, with their linear canopy of spruce trees, have defined the entrance to the cabin area for years and are a significant aesthetic element of the community. Thus it is important that these trees are continually replaced as needed.

The back lanes are used heavily by cabin owners not only for parking but also for leisure activities. Trees within the green space along back lanes will need to be replaced in coordination with neighbouring lessees. Parks Canada land that is not currently being occupied or used ought to be planted with trees and shrubs. While lessees should be encouraged to plant a tree for every tree removed as well as other native vegetation on their cabin lot. If parking space is a concern, an alternative would be to plant vegetation along the lengths of the cabins, as opposed to in the front or rear yards.

Sections of the lakeshore are also at risk of collapse due to erosion and the lack of stabilization from vegetation. Trees and shrubs should continue to be planted along the lakeshore to stabilize the bank.

When infrastructure on Parks property, such as garbage bins or washroom buildings are removed or re-located, the space should be automatically planted with vegetation. It is also highly encouraged that vegetation such as shrubs be planted along the sides of garbage bins to act as a natural and low-maintenance visual shield.

It should also be encouraged that species that are native to Riding Mountain National Park and the surrounding area should be planted. The planting of FireSmart trees should also be a priority. FireSmart trees have foliage that is less susceptible to catching fire, or less flammable. Fir and spruce trees, on the other hand, have foliage that is highly flammable.

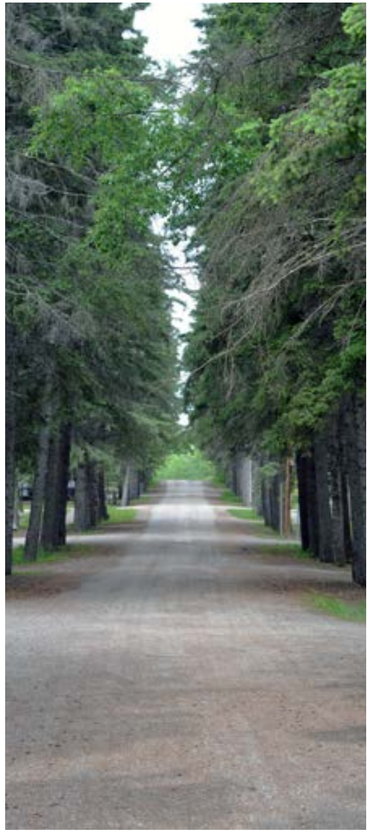


Figure 46: Mature Spruce Trees Along Main Avenue

6.1 Suggested Species to Plant

Trees	Bushes/Shrubs
Trembling Aspen (Populus tremuloides)	Saskatoon (Amelanchier alnifolia)
White Spruce (Picea glauca)	Pin Cherry (Prunus penslyvanica)
Black Spruce (Picea marian)	Choke Cherry (Prunus virginiana)
Jack Pine (Pinus banksiana)	Nannyberry (Viburnum lentago)
Balsam Fir (Abies balsamea)	High Bush Cranberry (Viburnum trilobum)
Eastern Larch (Larix laricina)	Green Alder (Alnus crispa)
Balsam Poplar (Populus bslamifera)	Speckled Alder (Alnus rugosa)
White Birch (Betula papyrifera)	Scrub Birch (Betula glandulosa)
White Elm (Ulmus americana)	Water Birch (Birch occidentalis)
Green Ash (Fraxinus pennsylvanica)	Prickly Wild Rose (Rosa acicularis)
Mountain Maple (Acer spicatum)	Long Spined Hawthorn (Crataegus succulenta)
Bur Oak (Quercus macrocarpa)	Round Leaved Hawthorn (Crataegus chrysocarpa)
Mountain Ash (Sorbus americana)	Willow (Salix sp.)
	Red Osier Dogwood (Cornus sericea)
	Alternate-leaved Dogwood (Cornus alternifolia)

**FireSmart Trees*

Figure 47: Eastern Larch

Figure 48: High Bush Cranberry

Flowers

For Dry to Medium Soil:

Yarrow (Achillea millifolium)
Pink Onion (Allium stellatum)
Pussy Toes (Antennaria parvifolia)
Whorled Milkweed (Asclepias verticillata)
Harebell (Campanula rotundifolia)
Purple Coneflower (Echinacea angustifolia)
Gaillardia (Gaillardia aristata)
Gumweed (Grindelia squarrosa)
Coneflower (Ratibida columnifera)
Prairie Rose (Rosa arkansana)
Showy Goldenrod (Solidago nemoralis)
Western Silvery Aster (Symphyotrichum sericeum)

For Medium to Moist Soil:

Giant Hyssop (Agastache foeniculum)
Cutleaf Anemone (Anemone multifada)
Wild Columbine (Aquilegia canadensis)
Fireweed (Chamerion angustifolium)
False Sunflower (Heliopsis helianthoides scabra)
Red Lily (Lilium philadelphicum)
Wild Bergamot (Monarda fistulosa)
Black Eyed Susan (Rudbeckia hirta)
Crowfoot Violet (Viola pedatifida)

For Moist to Wet Soil:

Swamp Milkweed (Asclepias incarnata)
Marsh Marigold (Caltha palustris)
Wild Iris (Iris versicolor)
Wild Mint (menthe arvensis villosa)
Blue Vervain (Vebena hastata)
Northern Bog Violet (Viola nephrophylla)


Figure 49: Whorled Milkweed


Figure 50: Wild Columbine


Figure 51: Wild Bergamot


Figure 52: Fireweed


Figure 53: Giant Hyssop


Figure 54: Pussy Toes


Figure 55: False Sunflower


Figure 56: Wild Mint


Figure 57: Blue Vervain


Figure 58: Gaillardia


Figure 59: Showy Goldenrod


Figure 60: Harebell

6.2 Wildflower Gardens

Another way of beautifying the Clear Lake Cabin Area while adding additional natural vegetation, and attracting native fauna is to add wildflower gardens throughout the central green belt. This linear green space traversing the width of the cabin area is an ideal location to add pockets of wildflowers and remove sections of grass that continually needs to be mowed. These gardens could partly mask unsightly garbage bins, re-enforce visual vistas, and provide a peaceful and calming public space. The nature of these proposed gardens is that they would be allowed to develop naturally, requiring only minimal maintenance. Native plants and grasses would be planted which would require little or no watering.

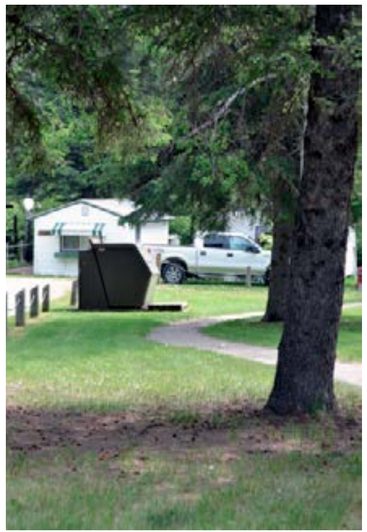


Figure 61: Existing Green Belt Looking East

Figure 62: Proposed Wildflower Garden

6.3 Invasive Species

In order to control the invasion, spread, and impacts of non-native invasive species, residents should be informed of invasive species that are not native to the Riding Mountain area and pose a threat to natural vegetation and wildlife. This information could be distributed through information bulletins on washroom bulletin boards, information kiosks, and given to new cabin owners.

The following are a list of high priority invasive species:
- Crested wheatgrass (Agropyron cristatum)
- Redtop (Agrosti stolonifera)
- Common wormwood (Artemisia absinthium)
- Smooth brome (Bromus inermis)
- Leafy spurge (Euphorbia esula)
- Meadow fescue (Festuca pratensis)
- Ground ivy (Glechoma hederacea)
- Rush (Juncus compressus)
- Toadflax (Linaria vulgaris),
- Tatarian honeysuckle (Lonicera tatarica)
- Spearmint (Mentha spicata)
- Red clover (Trifolium pratense)

Figure 63: Tatarian Honeysuckle

Figure 64: Toadflax

Figure 65: Rush

Figure 66: Red Clover

6.4 Environmental Stewardship

Living in a national park means that all residents should demonstrate a commitment to environmental stewardship by:

- Reducing the use of chemicals in lawn and garden maintenance
- Reducing the use of motorized equipment in lawn maintenance
- Reducing the total area of manicured lawn on private lots
- Increasing the use of native plant species in landscaping

Parks Canada should also explore the idea of banning synthetic pesticides for cosmetic use in the Clear Lake Cabin Area, in addition to the Townsite of Wasagaming. In the spring of 2014 the Province of Manitoba introduced legislation to ban synthetic pesticides for cosmetic use. Parks Canada and the CLCA board should also support a synthetic pesticide ban for the CLCA. Pesticides are toxic to many forms of life, including beneficial insects such as ladybugs and bees. Furthermore, pesticide residues can accumulate in the food chain, causing harm to birds, fish, and other animals. Children are also more at risk from pesticides than adults due to their increased skin area relative to their body size. Children's skin may also be more permeable to pesticides, which is troublesome considering that many children play for hours outdoors, putting dirty fingers and other objects in their mouths. As well, the lack of a storm water system in the cabin area means that runoff carries the pesticides into Clear Lake. The Ontario College of Family Physicians found "consistent links to serious illness, such as cancer, reproductive problems and neurological diseases" associated with long-term exposure to pesticides.[22]

The use of pesticides for cosmetic purposes directly contradicts Parks Canada's mandate of no net-environmental impact.

Figure 67: Existing 3rd Street North

6.5 Concluding Thoughts

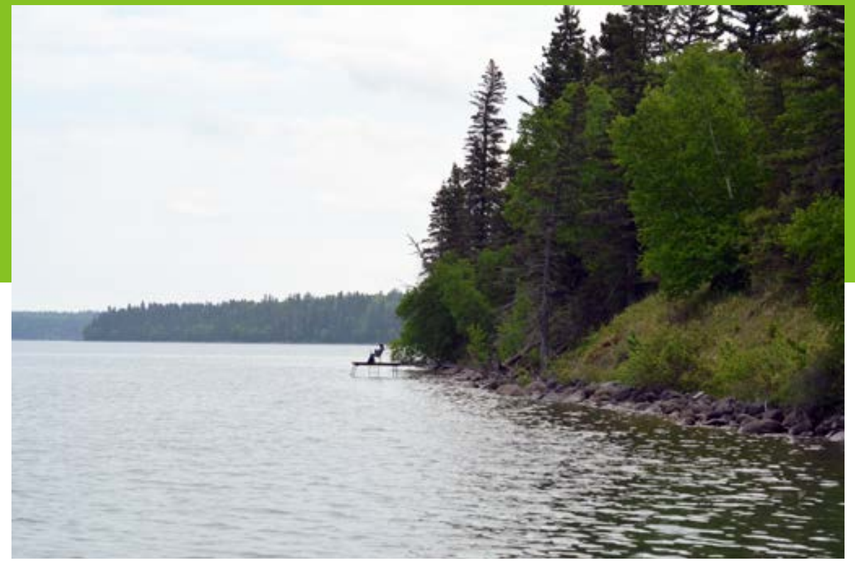
Figure 68: 3rd Street N After Loss of Spruce Trees

The health of natural vegetation and trees in the Clear Lake Cabin Area is a serious concern that needs to be addressed. Due to the evolution from camping permits to leases, lessees are not obligated to plant trees or other vegetation on their lots, though they are strongly encouraged to do so. Therefore it falls on Parks Canada and the Clear Lake Cabin Association to aggressively re-vegetate all available space on Parks owned land. This land includes the boulevards along Main and First Avenues, the green belt, and spaces along the lake and throughout the back lanes. Any Parks Canada land that is vacated of infrastructure in the future should be re-vegetated.

Furthermore, if cabin owners could access native species saplings through Parks Canada or the CLCA board, they would be more likely to plant trees on their lots. An annual tree-planting day each summer season organized by the board is another way to encourage re-planting in the CLCA.

If planting does not coincide with the ongoing rapid removal of trees, then the atmosphere and character of the Clear Lake Cabin Area will be dramatically altered as illustrated here.

Lakeshore Management



The Clear Lake Cabin Area Shoreline

7.0 Accessibility Concerns

Clear Lake and its lakeshore is arguably the greatest asset of the Clear Lake Cabin Area and the reason why many cabin owners have decided to spend their summers here. Thus, it is important that the lakeshore is made accessible to everyone, and is protected so that it can continue to be enjoyed for years to come.

All the docks in the cabin area are well used, and it is important that everyone regardless of their age or ease of mobility can make use of them. For example, dock ladders should have wide steps, with round and thick handles with grips and have no sharp edges. This will allow everyone to be able to get in and out of the lake with greater ease.

The path from the lakeshore lane down to the 2nd Street dock is particularly steep and difficult to walk up and down, and is especially challenging for those with mobility concerns. Erosion, improper trail construction, and use, have over time worn away the path, exposing roots resulting in uneven ground. There are a number of ways to improve the accessibility of this well-used path.

Before anything can be done in terms of improving the condition of the path, further erosion needs to be prevented. One way to accomplish this is to install water bars.

At controlled points along a trail, water bars divert water off the trail. If installed correctly, water bars are an effective way to mitigate the effects of water erosion, and stabilize a trail. Water bars can be constructed from rocks, logs, or beams.

A more intensive alternative to creating water bars is to cut the slope of the path into steps. To prevent people from slipping on wet rocks, it is suggested that log risers are used, and anchored into the ground with rebar stakes. Compacted gravel behind the log risers will absorb and dissipate any water during rainfalls. However, log steps may be more cumbersome to traverse while carrying a canoe and kayak, or pushing a stroller, as opposed to a sloped path with two or three water bars.

Regardless of the option, a handrail should be installed to lend support to those with mobility concerns, or anyone who requires a more sure footing.

Water Bar Installation

A water bar should be set a 60 degree angle across the trail for optimal drainage, and be partially buried so that they are easy to walk over. The water bar should extend beyond the width of the path so that water flows off the path and is not bypassed around the water bar. Rocks and stones should be placed at the downward-slop end to dissipate the diverted water and prevent erosion at the side of the trail. It is important to note that the water bar should be nearly flush with the surface of the trail so as not to act as a tripping hazard, though still be effective at diverting water. Occasionally water bars do require some maintenance to unplug the bar at the downward end of debris, otherwise they will not function properly.[23]

Figure 69: The Path to the 2nd Street Dock

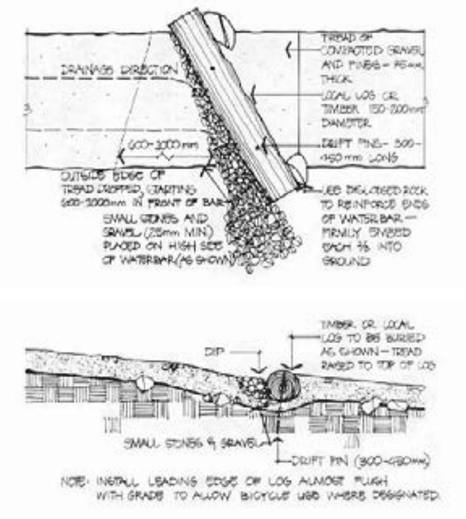


Figure 70: Water Bar Schematics

7.1 Canoe & Kayak Infrastructure

The popularity of the 2nd Street dock, and the number of canoe, kayak, and paddleboard users warrants the placement of an additional dock in the cabin area. The ongoing development within the CLCA ought to be matched by additional investment in the community's lakeshore. With the popularity of kayaking and canoeing on the rise, more and more cabin area residents are bringing these people-powered watercraft to Clear Lake. However, in the past there was little infrastructure in place for people to easily launch and dock their kayaks and canoes. Previously, the two existing docks at 2nd Street and 5th Street are too high above the water level to be able to launch a kayak or canoe, so paddlers were forced to launch from the shoreline in a hollow created by a fallen tree. This activity has over time eroded the shoreline at this point.

Stemming from preliminary work done for this Comprehensive Design Review in 2013, a kayak and canoe dock was installed at this location in July 2014. This dock will protect the shoreline from further erosion, but more importantly will enable people with mobility concerns to more easily launch their paddlecraft. This will allow even more people to enjoy Clear Lake in and in a sustainable manner. This dock allows paddlers to easily launch using a system of rollers and handrails. Initial feedback from cabin area residents has been overwhelmingly positive, and this project should act as an example of how to make Clear Lake more physically accessible.

This dock also has the added benefit of providing a space for dogs and their owners away from the original 2nd Street dock, which is usually busy with swimmers.

Figure 71: New Canoe & Kayak Dock

Demand has outstripped supply in terms of canoe and kayak storage options at the 2nd Street Dock Canoe and Kayak Storage Area, commonly referred to as the 'Canoe Graveyard.' In July 2013 there were 54 kayaks or canoes that were being properly stored on the provided log racks. However, a shortage of rack space meant that an additional 20 canoes and kayaks were being stored on the ground. These improperly stored paddlecraft present a tripping hazard and contribute to the cluttering of the area.

The storage area requires additional infrastructure improvements in order to clean up the site, reduce safety hazards, and to be less intrusive on natural vegetation.

One option to maximize existing space and to prevent the spread of canoes and kayaks into previously unused land, is to install new multi-tiered racks. Able to hold 4-6 paddlecraft (2-3 vertically on each side), these new racks would greatly improve the haphazard nature of the current Canoe Graveyard.

Another option would be to install more single level lean-to racks that are currently in place. This may be the easier to implement and less expensive option, but would require more physical space.Regardless, there should be rack to handle an additional 30 paddlecraft.

It is also recommended that all the canoes and kayaks be removed by their owners at the end of every second season and stored on their respective properties. This will allow Parks Canada to perform regular maintenance on the area without being impeded by dozens of kayaks and canoes. This will also take care of the problem of individuals abandoning their paddlecraft at the site. Those paddlecraft that have not been removed by the end of the appointed season can then be impounded by Parks Canada, and released back to their owners for a release fee, or donated away.

Figure 72: Abandoned Canoes

Figure 73: Existing Canoe & Kayak Storage

Figure 74: Proposed Multi-level Canoe and Kayak Rack

7.2 Clear Lake South Shore Trail

The Lakeshore Trail follows the southern shore of Clear Lake from Wasagaming's downtown to the eastern end of the lake, and connects with the Clear Lake North Shore Trail at the Clear Lake Golf Course. At the western end of the downtown area the Lakeshore Trail connects to the Clear Lake South Shore Trail (on maps at least), for visitors however, the connection through the Clear Lake Cabin Area is unclear and confusing.

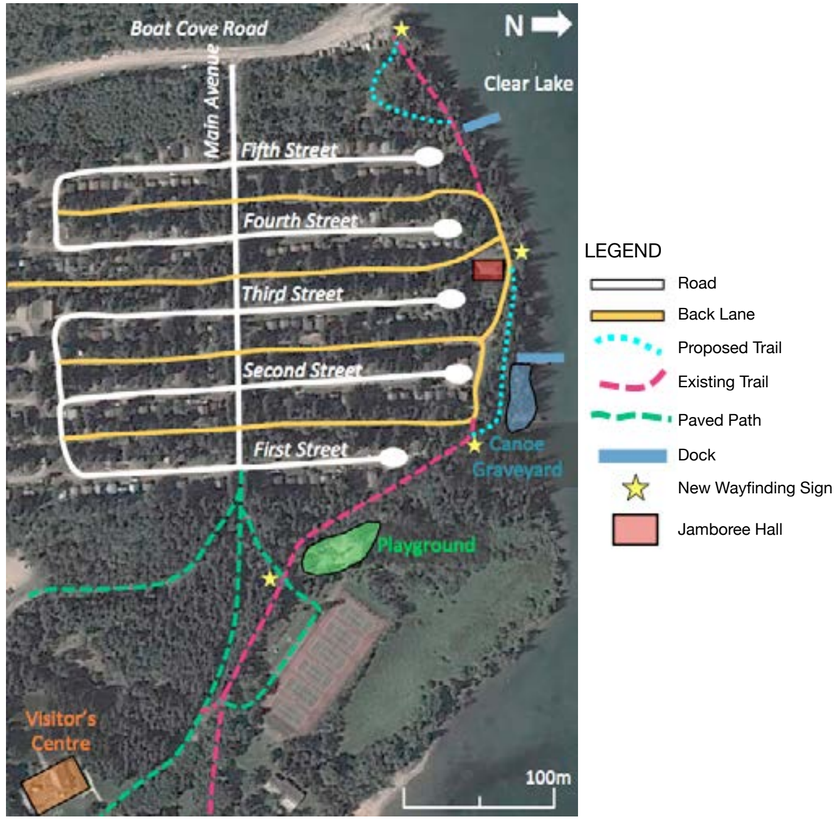
In order to promote Clear Lake, active living, and improve visitor experience, improvements should be made to this trail. Rerouting the trail so that is skirts the existing lakeshore lane running along the northern edge of the CLCA, and instead follows the lakeshore, would offer a more naturalized and enjoyable way to walk or cycle through the cabin area. This new route would also afford improved views of the lake for those travelling along it. The rerouted section would rejoin the back lane at Jamboree Hall due to lack of space along the shore because of bank erosion.

Wayfinding should also be improved from the main beach area, through the cabin area, and down into the boat cove. The installation of wayfinding signs, and the trimming back of branches and bush along the trail from the playground to Jamboree Hall will go a long way to improve this trail connection.

In order to create a safe and accessible trail, the section of trail connecting the cabin area to the boat cove is in dire need of maintenance. The steep slope, erosion from runoff, and bike and pedestrian traffic has degraded the trail so that it is difficult to traverse for even the physically fit. For example, it would be impossible to walk with a stroller up or down the slope in its current situation. The continuing use of this path will only make the situation worse.

It is recommended that this trail section be blocked off and allowed to regenerate, while a new trail route is cut. This new trail, starting and ending at the same points as the original, would switchback to the south away from the lake in a wide arc so that both cyclists and pedestrians can travel up and down the slope at a more suitable grade. In addition to the new route, the trail should be widened to accommodate both cyclists and pedestrians, as well as include a handrail.

Proposed Clear Lake South Shore Trail Improvements



7.3 Lakeshore Park

At the northern edge of the Clear Lake Cabin Area, along the shoreline of Clear Lake, there are few areas devoted to leisure and recreational opportunities. These include the 5th and 2nd Street docks, as well as the canoe and kayak dock. However, between 2nd Street and 5th Street, a distance of 140m, the shoreline is dominated by a gravel lane, which connects the four back lanes running north and south in the cabin area. This lakeshore lane abuts right against the northern wall of Jamboree Hall, one of the cabin area's greatest historical and cultural assets. At Jamboree Hall a pinch point is created, so that there is very little room from pedestrians and cyclists to share the lane with vehicle traffic.

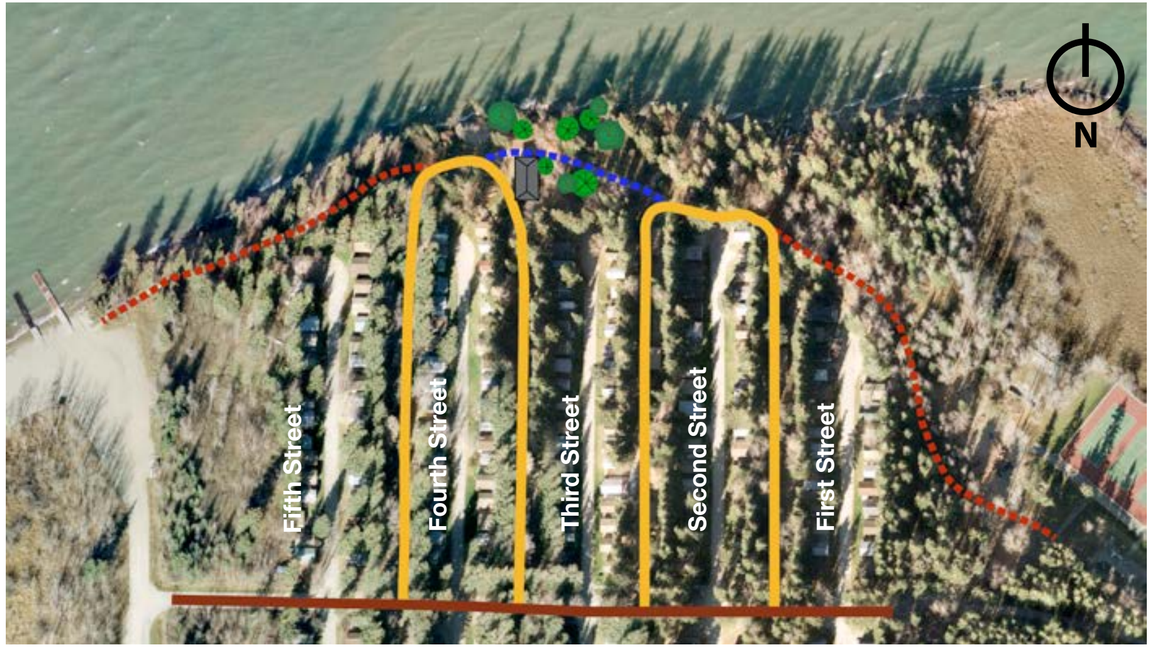
Additionally, at this pinch point the bank of the lake is eroding away, steadily encroaching on the lane. More trees need to be planted along the bank in order for it to be stabilized and prevent more erosion.

In order for this area to better function as a public space and not just a traffic corridor, it is suggested that the lakeshore lane between 2nd and 4th Streets be converted into a walking and cycling path. The removal of the roadway, planting of additional trees, and placement of benches and picnic tables would make this space more inviting and pleasant to be in. Currently this portion of the lane is not regularly used, and its closure would not have a significant effect on traffic flow through the northern portion of the cabin area.

This new parkette would give cabin area residents more space to enjoy views of clear lake, relax, and interact with their neighbours. There would also be the added benefit of having space to plant trees, thereby stabilizing the shore. Furthermore, Jamboree Hall would be highlighted in a park setting instead of being jammed against a road. Informational signage could also be placed, which describes the history of the Clear Lake Cabin Area and of Jamboree Hall. Removal of the lane would also make the space safer for those on foot and on bikes.

Creating this park would celebrate the great assets of the cabin area, instead of maintaining a road that divides the cabin area from the natural treasure that is Clear Lake.

Proposed Lakeshore Park



LEGEND

- Back Lane to Remain
- Main Avenue
- Existing Trail
- Proposed Back Lane to be Converted to Trail
- Jamboree Hall
- New Trees

Emergency Preparedness

Muskrat Creek Fire, October 2011

8.0 Emergency Evacuation Plan

This section of the Comprehensive Design Review has been influenced by *Riding Mountain National Parks Fire Management Plan*.[24]

The Clear Lake Cabin Area consists of residential cabins that are in extremely close proximity to each other. As well, mature spruce trees overhang many of the cabins. Emergency vehicles also have restricted access due to the narrow streets and tight corners.[25]

This plan is meant to act as a guideline in coordinating the evacuation of the Clear Lake Cabin Area in the event of an actual disaster or the threat of imminent danger. This plan should be worked into a more comprehensive Wasagaming Townsite Evacuation Plan.

Categories of Evacuation

Precautionary Evacuation – when it is recommended that residents and visitors voluntarily leave a designated area.

Mandatory Evacuation – A pre-emptive evacuation may occur when there is a serious threat for all persons in the CLCA. The evacuation may be limited to a specific quadrant or section of the cabin area. If time permits this evacuation may be staggered to avoid traffic congestion and public panic. An emergency evacuation of all the residents and visitors of the cabin area may be necessary if a natural disaster or some other event has occurred which requires the removal of all persons from the area as quickly as possible.

In some cases, it may be deemed safer for residents and visitors to remain inside their cabins or other designated building until the situation no longer poses a danger.

Cabin owners should receive a copy of *FireSmart: Wasagaming* so that the are aware of and understand the emergency evacuation procedures regarding wildfires.

Cabin Area Evacuation Routes

The geographic layout of the Clear Lake Cabin Area can be best described as two sections, North and South, divided by the green belt with only one back lane access road between the two sections which runs between 3rd and 4th streets. Both the north and south sections have five (though only 4 in Quadrant 4) parallel streets running north and south. Three of Quadrants (1-3) have back lanes running parallel between the streets. There are also five dead end streets.

Currently there are only two entry and exit ways in an out of the cabin area. These are the south section access road (First Avenue) and the north section access road (Main Avenue). These two entry roads connect with Boat Cove Road, which, when travelled southwards, connects with the townsite at Wasagaming Drive. These two exits may be incapable of handling traffic from a potential 530 or more cabins during a rushed evacuation. It is strongly recommended that two new emergency exit routes be opened in the cabin area to adequately handle the outflow of traffic during an evacuation.

When emergency evacuation roads are not normally in use, then they should be blocked at both ends with bollards so that vehicles cannot travel along them unless during an emergency. It is suggested that collapsible bollards are used, that can be collapsed when bumped by the bumper of a vehicle, and then can be reset to its upright position at a later time.

Option 1

Southeastern Exit

Exiting the cabin area from the far eastern end of First Avenue would be conducted via a new emergency exit road into the Large Parking Lot.

Northeastern Exit

Traffic would travel east on Main Avenue to the Large Parking Lot via a re-opened access road, the former Clear Lake Campground exit road.

Southwestern Exit and Northwestern Exits

Traffic originating from the northwest and southwest sections would exit the cabin area via the existing N and S access roads (Main Avenue and First Avenue respectively) and onto Boat Cove Road.

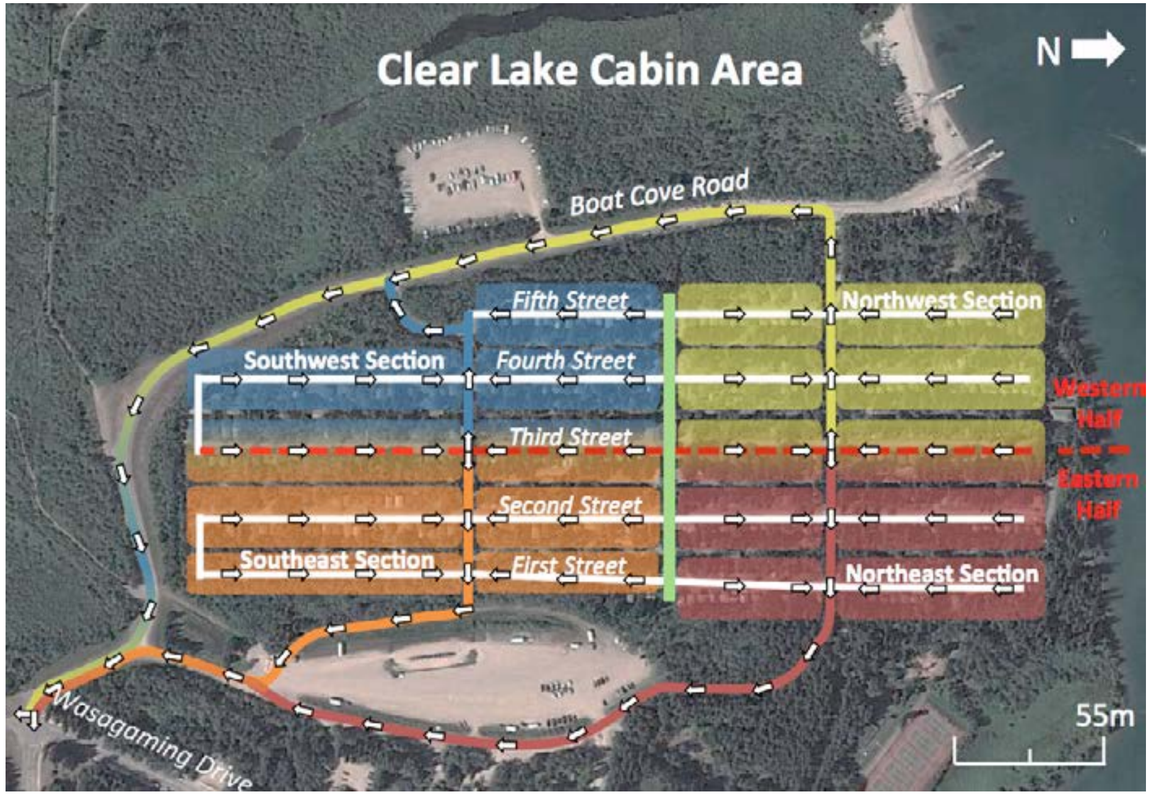
Option 2

Southeastern Exit

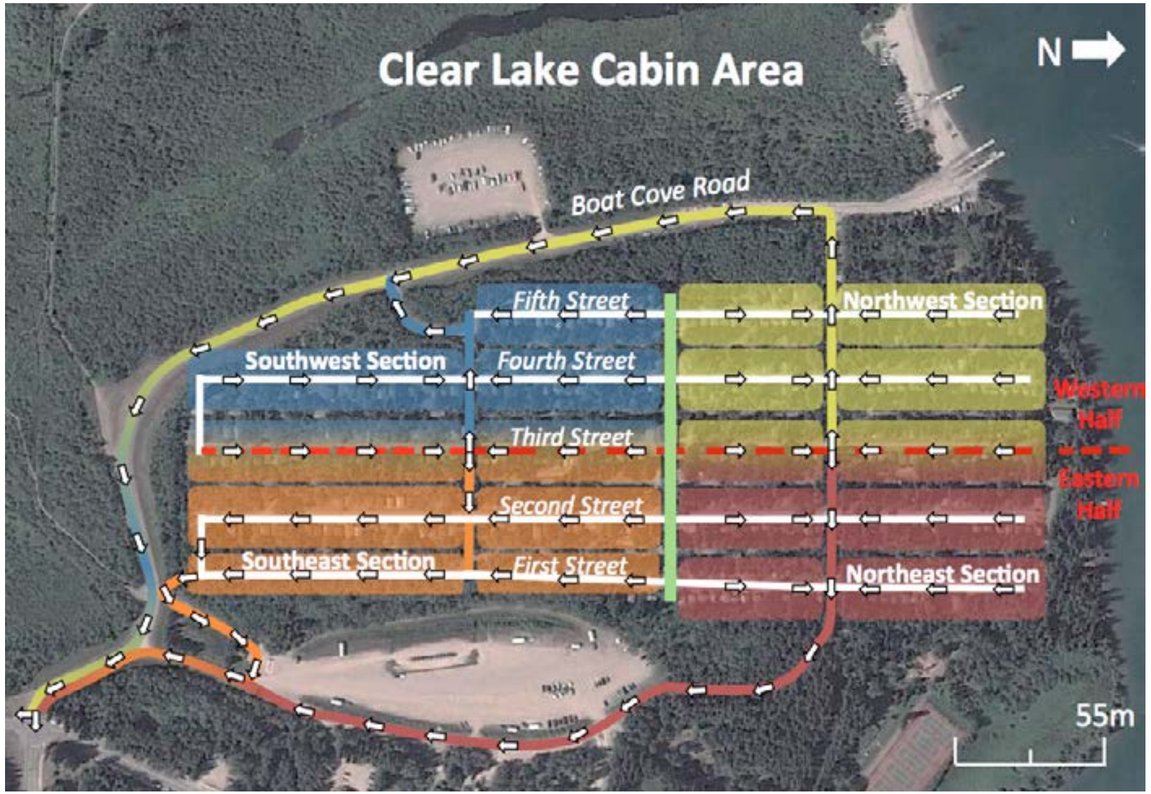
Southeastern originating traffic would exit the cabin area via an expanded path/road that currently leads to the Ominik Marsh Trailhead. This expanded road would be less cost prohibitive than the southeastern exit proposed in option 1. Though, it is recommended that the emergency exit road does not link up directly with Boat Cove Road (as the path currently does), but instead bends around to the Large Parking Lot. A direct intersection could result in a potentially dangerous bottleneck on the slope of the hill, as there is limited room to allow for the proper merging of vehicles travelling along Boat Cove Road.

The northeastern, southwestern, and northwestern exit routes would use the same routes identified within option 1.

Evacuation Route Option 1



Evacuation Route Option 2



Pedestrian Evacuation Route

Figure 75: Fire Fighting Helicopter

Fireworks Over Clear Lake, Date Unknown

Concluding Thoughts

This Comprehensive Design Review for the Clear Lake Cabin Area has been developed to act as a guide for the long-term development of the cabin area. Suggestions and recommendations are solely those of the author and have been influenced from conversations with cabin area residents, Clear Lake Cabin Association board members, and Parks Canada staff.

As a final thought, it is important that community spirit within the Clear Lake Cabin Area is strengthened as the community evolves through ongoing development. Activities such as community bbqs, Jamboree Hall movie nights, and community cleanup days (to name a few), will go a long way in building upon the strengths and assets of the CLCA.

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