Potential Redevelopment of 621 Cook Rd., Marmora

WELCOME TO OUR SECOND WORKSHOP!

Subject Site:
621 Cook Road, Marmora

Welcome to Our Second Crowe Lake / Marmora Community Workshop!

May 02, 2014 4:00pm - 7:00pm

PURPOSE:

1. Discuss the potential revitalization and redevelopment of the site, located at 621 Cook Road, Marmora.

2. Solicit community feedback on initial schematic ideas and suggestions at this early stage. Please note - understanding the Marmora Community's preferences, visions, and concerns regarding the potential redevelopment of this site, is imperative to developing a final plan for this beautiful under-utilized lakefront property.

3. Discuss options, constraints, and ideas with you - the Crowe Lake residents, Marmora Community, environmental specialists, Township / Municipal planners, decision-makers, the Aboriginal community, and everyone else that makes the existing community "whole".

FORMAT:

1. Sign In - please sign in at the entrance, on the sheet provided.

2. Circulate - please circulate the room at your leisure, view the information boards, engage with the architect and owners, and give us your verbal feedback and ideas.

3. Refreshments & Snacks - please help yourself.

4. Exit Survey - please fill one out after having reviewed the information boards.

Your input will guide the design process and allow us to proceed with an integrated approach.

THANK YOU - for assisting in shaping the potential development of this incredible waterfront site.

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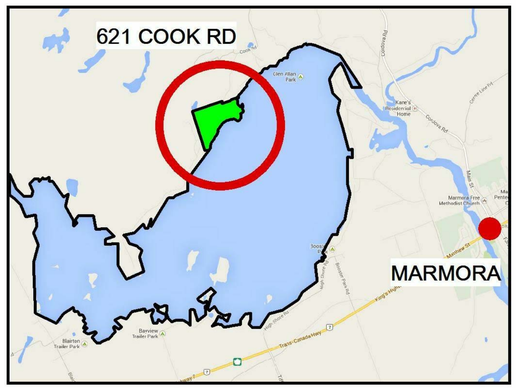
Potential Redevelopment of 621 Cook Rd., Marmora

SITE OVERVIEW & HISTORY



SITE OVERVIEW & HISTORY

621 Cook road site (621 Cook Rd. Part Lot 12, Concession 2 of Marmora)

- Located on beautiful Crowe Lake, in Marmora, Ontario.
- Previously the site housed a trailer park (Crowhill Estates), for temporary, seasonal residents. This has not been in operation for a number of years.
- This site is still under ownership of the same family.
- Currently being considered for revitalization and development.
- Site is approximately 74 acres
- There is approximately 1 KM of beach front.
- The site rises up to 100 meters at the furthest point.

Former this site's use was a trailer park for temporary, seasonal residents and summer visitors.

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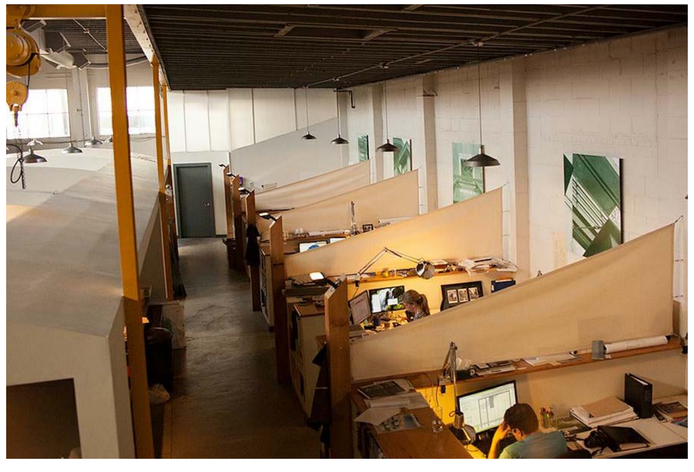
INTRODUCTION

OUR PHILOSOPHY:

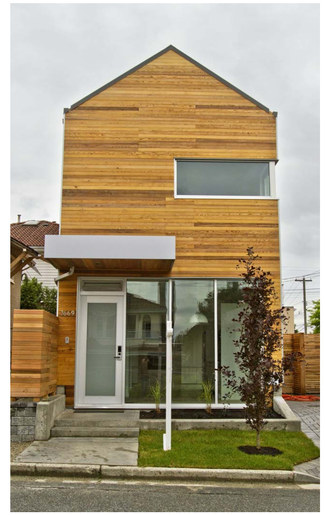
AMA has been operating for almost 25 years, with a long track record of participatory planning work and community engagement. We understand the development issues and have noted the negative effects poor quality developments can have on communities. That's why we take great pride in engaging with community stakeholders right from the beginning. We call this our "grass roots" approach. This approach allows us to fully appreciate the specific opportunites and constraints that a particular development will have, with respect to neighbouring residents, natural habitats, the broader Marmora and Lake Community, municipal planners and the like.

First we seek to understand the Community's views, as well as fully appreciating the site constraints. Following this "learning process", we also feel it is important to design this project in co-operation with the existing community to ensure the most liveable and appropriate development for all parties involved with this project, and who have a stake in building on a healthy, happy, and sustainable local community.



Potential Redevelopment of 621 Cook Rd., Marmora

INTRODUCTION



FairTradeWorks

FairTradeWorks is a revolutionary new construction system. We recognize that there are many things wrong with the current way the industry operates so we've deconstructed it and rebuilt it with the client in mind.

FairTradeWorks was created to make new home builds, commercial construction, renovations and development easier and more efficient.
Our systems drive market value and allow for transparency. As construction advocates, we manage projects from concept to completion. We handle all trade organization, schedules, timelines and payments. We even hold funds in escrow until the work is done to your satisfaction.
We're all about reviving true pride and professionalism in the industry and rebuilding client confidence.
Our goal is to ensure you have a trusted industry professional who can:

1. Answer your construction questions and provide you with a detailed scope of your project.
2. Provide you with access to a huge labour pool of pre-screened industry professionals.
3. Ensure you get fair pricing through a transparent tendering system.
4. Monitor the quality of your construction work to ensure it meets the pre-determined scope of the project.
5. Manage the project timelines and budget yet be in the position to hold trades to contract.
6. Lastly, keep you up-to-date with the progress of your project and provide you with a single point of contact from start to finish.

The Team:

We know that the revolutionary changes we are introducing can only be accomplished by a united team with a shared belief that there must be a better way forward.
When you experience our standardized online bidding system, the professional assistance of our knowledgeable Advisors and our innovative project management software, we know we'll change your mind about the construction industry. Our confidence comes from experience. Learn More about the people behind ***FairTradeWorks.biz***
FairTradeWorks was founded and is owned and operated by Jim Perkins of Perkins Group. His head office is in Vancouver but expansion plans including this project have already execrated his expansion plans to Ontario.

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Potential Redevelopment of 621 Cook Rd., Marmora

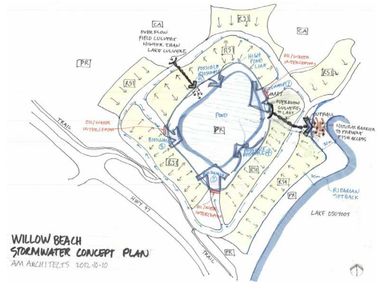
RELATED BACKGROUND EXPERIENCE

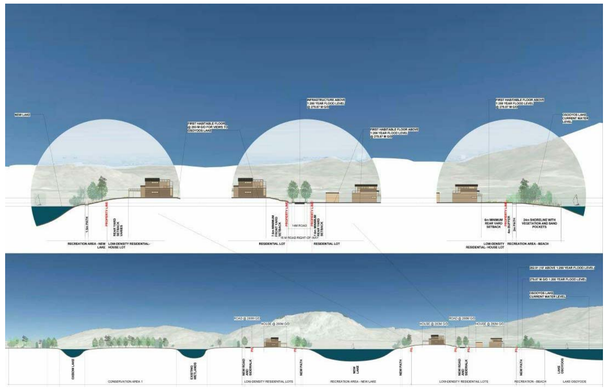
EXPERIENCE IN COMMUNITY / URBAN / RESORT PLANNING DESIGN

Ankenman Marchand Architects (AMA) have successfully completed numerous urban design, master planning, and development projects.

Some of these include:

1. Willow Beach, Osoyoos
2. Cottonwood, Osoyoos
3. Sundance, Osoyoos
4. Tobiano, Kamloops
5. Bedford Landing, Fort Langley
6. Samish Heights, Washington
7. Oroville, Washington
8. Spring Creek, Whistler
9. Bear Ridge, Whistler
10. The Marin, Washington

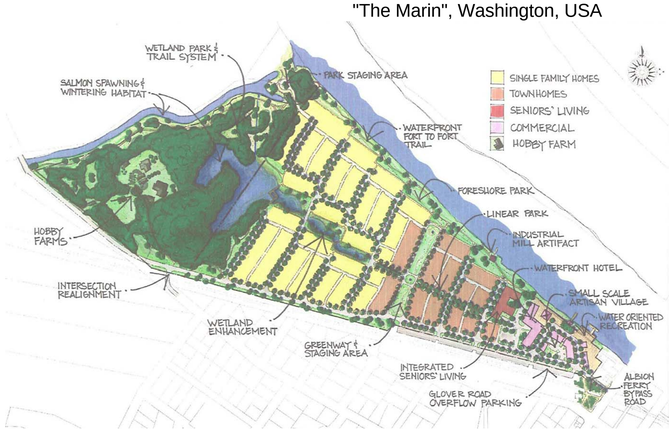


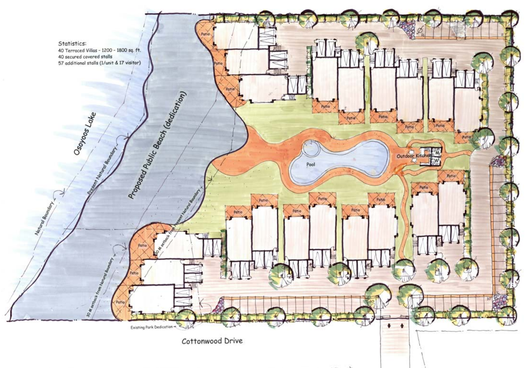


"Willow Beach", Osoyoos B.C.

"The Marin", Washington, USA

"Sundance", Osoyoos B.C.





Bear Ridge, Whistler B.C.

Tobiano Homes & Clubhouse, Kamloops, B.C.

Potential Redevelopment of 621 Cook Rd., Marmora

FAQs

FREQUENTLY ASKED QUESTIONS

Q1. Have the proponents of this site filed a formal application yet?

A) No. We were waiting for the feedback from this open house in order to combine all of our feedback for our final development plan.

Q2. Is the plan we are viewing tonight subject to change?

A) Possibly. Though consensus is difficult to obtain, if the vast majority of respondents to tonight's meeting feel that the project, or certain aspects of the project are heading in the wrong direction then we will take those comments to heart and refine the proposal accordingly.

Q3. Crowe Lake has elevated phosphorus levels. Wouldn't a new development cause further problems?

A) No, not if development were undertaken sensitively. The main contributors of phosphorus to the lake system are anthropogenic sources such as septic systems and storm water runoff. That is why we believe it is important to consider opportunities for using state-of-the-art technology for sanitary disposal, when planning this site's future (please refer to the board called: "Environment - Sanitary Treatment" for examples). Other techniques such as 'foreshore plantings', improved stormwater runoff methods (e.g. detention ponds with water treatments) could be harnessed to improve the current health of the lake. In fact, it is our intention, to not only protect, but to *enhance* the health of Crowe Lake. We are already working with a local environmental consultant to better understand the health of Crowe Lake and the site property. Please refer to the "Environment - Rehabilitation" board, the "Environmental Considerations" board, "Stormwater Treatment", and "Sanitary Treatment" boards. Our architecture firm has done similar, successful revitalization projects, and we are adamant about setting a good example for any future development in this beautiful, lakeside area.

Q4. If the property were to be developed, where would the access come from?

A) There are two main access possibilities, one of which is boat access via Crowe Lake, as the community provided feedback in February's Public Open House that a public dock would be a benefit. If either private or public docking is considered, it is likely that a boat traffic study would be required. Secondly, Cook Road would be the main vehicular access route to this site. A traffic study would be undertaken to determine the feasibility of using the road "as is" once densities have been established. A traffic study would determine what improvements are required, such as widening, paving, pass-by traffic lights, etc. Please refer to the board labeled "Access & Road Options".

Q5. Is this site suitable for agriculture? Would this site, if redeveloped be taking away from potential agricultural inventory?

A) Soils mapping suggests that the soils found on this particular parcel fall under Agricultural Soil Class 7, which suggests that the property has no natural sustainable capacity for agricultural or pastoral use.

Q6. What is the current zoning of this site? What type of zoning is being proposed here?

A) Currently this site is zoned as 'Rural / Recreational'. Previously, this site was used as temporary residence by mobile home / trailer owners. Proposed uses could be multi-family or single family residences, hospitality, nature reserve and / or commercial uses, such as a marina, or hospitality (vacation rentals or restaurant).

Q7. How many stories are being proposed for a new building on this site?

A) 58% of those surveyed at our last Public Open House suggested that a maximum 2 story building height would be appropriate. 34% suggested that they didn't care or were comfortable with 3 stories. Here is why we believe 3 stories are important:

- A smaller footprint that results from a 3 story vs. 2 story envelope is desirable for additional outdoor open space and greater landscaping opportunities.
- Allowing 3 stories means greater number of senior's units can be built.
- 3 stories means a more efficient "vertical" plan and elevators, meaning seniors have less horizontal distance to travel.
- No view blockage will occur.

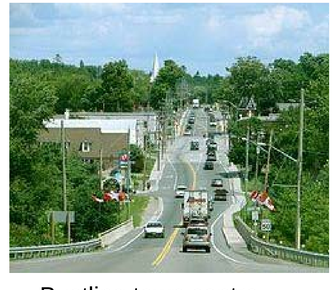
Q8. What impact would this development have on the environment and natural habitat? Has the environmental impact been considered?

A) The potential environmental effects of any such project are currently being considered: Oakridge Environmental undertook a preliminarily review of potential constraints for the development and site. Their investigation highlighted some constraints that would need to be considered during the development planning stage. Further, a low-impact construction plan would need to be undertaken, in order to preserve the beautiful natural landscape and support biodiversity in Crowe Lake.

Social community: Bunker's Hideaway

Local horseback riders

Views of the site, from across Crowe Lake



Bustling town centre

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FREQUENTLY ASKED QUESTIONS - CONTINUED...

Q9. A vast majority of those who responded at the first Public Open House suggested that a new marina/public dock, for use by both the new and existing communities would be desirable. Who would pay for this?

A) This would be paid for by the developer as part of their new development cost. No costs associated with this feature would be borne by the existing Community yet a direct net benefit would potentially be realized by the Community.

Q10. Have any meetings already been taken place with the Marmora & Lake Municipal Councilors, or Hastings County Councilors?

A) An introductory meeting took place yesterday afternoon with the Hastings County Planning Department.

Q11. Is there a possibility for a small neighborhood retail component within the new development that could be used by the community?

A) Yes. The vast majority of respondents at the February Open House felt that a small retail component would be suitable use along the waterfront accessible by locals, visitors and tourists alike. Accordingly we have proposed this use near the project entrance along the waterfront.

Q12. Why should this particular site be considered for a redevelopment of this nature vs. many other sites around Crowe Lake?

A) There are several reasons:

a. It is a large, contiguous land parcel that has not been subdivided:
b. There is a long, low, shallow sandy beach section and therefore ideal for swimming, and other water recreation, particularly for children.
c. The existing point of land offers a sheltered bay that is free from prevailing winds:
d. There is a deep water portion of the beach front, ideal for a small marina/public dock.
e. Due to so few people living within direct proximity of the site, it will have a negligible impact (if any) on the livability of surrounding residents.

Q13. Would the developer consider using local trades, materials, labour, transporting of goods etc., from within the Marmora and Lake community?

A) Yes without question. If a development were to go ahead, the developer fully intends to use as much local talent as possible, which in turn would create both short and long-term employment opportunities as well as permanent economic viability to the area.

Q14. Would this project be built in one phase?

A) As mentioned in the first Public Open House, this project, if it comes to fruition, is envisioned as being a multi-year, multi-phased development. This provides several benefits:

a. Slow change
b. Slow absorption
c. Eases “seasonal” economic highs and lows that currently exist in the region today.
d. Provides long term employment opportunities (both construction and permanent employment)

Q15. What’s in it for me? Will I see any overall benefits to the community, my family or my real estate values?

A) If this project is executed, and in a fashion that is sensitive to the environment, is visually appealing to current and future residents and visitors, and if several public amenities are introduced to the project, there would likely be tremendous economic benefits to existing businesses and associated families, plus enhanced lifestyles and property values.

Q16. Are there any old oil tanks buried on the site that are causing contamination?

A) No. There have never been any oil tanks on the property that were used for oil. When the site was being used as a trailer park, there were buried holding tanks used for sanitary sewage that had the Ministry of Environment’s approval, but the majority of these were removed when the trailers were removed from the site. Some may still exist and they would be removed if and when the site grading and servicing were to commence.

Q17. How does this potential project affect the local Aboriginal Community?

A) Our project team recognizes the importance of Aboriginal Consultation and takes the requirements of the "duty to consult" process seriously. Given the site's situation within the Alderville First Nation's Traditional and Treaty Territory, we had proposed consultation. However, they determined, per their Alderville First Nation Consultation Protocol, that our proposed project was a 'level 3', having minimal potential to impact their First Nations’ rights. As they requested, we will certainly keep Alderville informed about this project, and notify and all other interested Aboriginal communities, of any changes.

Crowe Lake Cruises


Proposed Northland Pump Storage Site

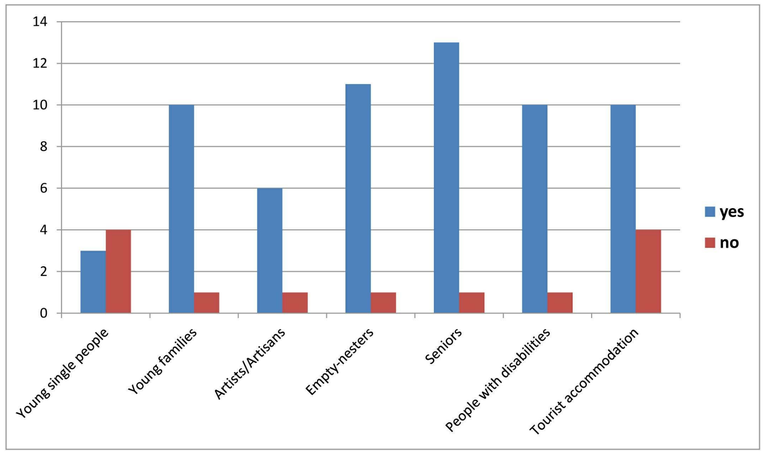

"Country Cuisine" cafe & restaurant

Potential Redevelopment of 621 Cook Rd., Marmora

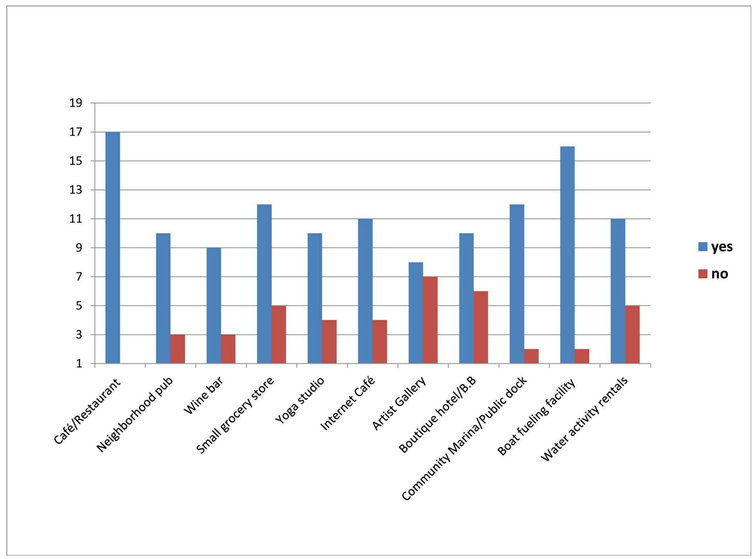
COMMUNITY FEEDBACK

EXIT SURVEY RESULTS

On February 5th 2014, the first Public Open House and information meeting was held at the Marmora Community Centre in Marmora. Despite poor weather, which prevented some from attending, 35 people attended the meeting, 24 of those who attended submitted their feedback on the exit survey. Thank you very much to the attendees who took the time to complete the surveys and for providing us with such valuable feedback.



Housing Demographic



Preferred Retail Uses

EXECUTIVE SUMMARY

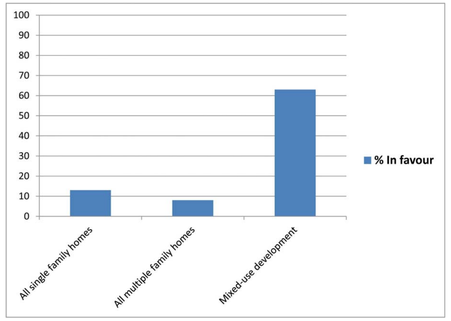
·Sustainability: Revitalizing the land and Crowe Lake, reducing any impact on the environment and preserving areas for natural habitat, was deemed very important by the Community. It was felt that this site could concurrently be used for the Community's enjoyment perhaps by adding park benches, and bike trails - for people to enjoy nature.

·Development Type: A two-storey, mixed-use development was preferred by the majority of people. A combination of townhomes, single family, and small retail shops was supported. In terms of commercial, people felt a marina/ public dock (including boat fueling facility) and cafe or restaurant were most desirable. A respondent suggested a Long Term Care Facility be considered.

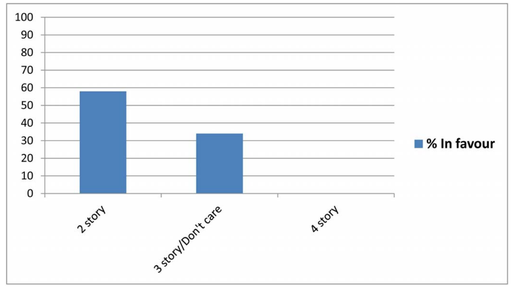
·Demographic: It was felt the development should be aimed at the following end-users: seniors, people with disabilities, empty-nesters, young families, as well as accommodation for attracting tourists to the Community.

·Architecture: There was overwhelming support for Muskoka cabin style - to "fit in with rural sensibilities" as per one respondent.

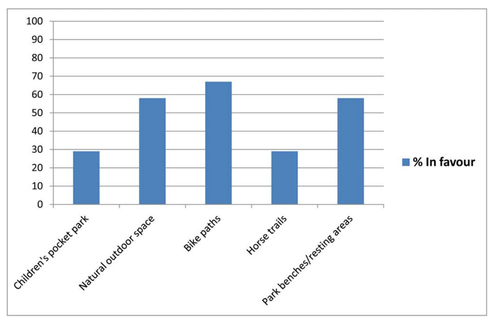
·General: The majority of respondents felt strongly that if well managed, this project could bring much-needed employment and tourism - that would generate long-term economic benefits, to the area. The majority of respondents also felt the project is heading in the right direction, and wanted to continue to be involved in the planning process...That is why we are here!



Development Type



Building Height



Recreational Land Use

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SENIOR'S HOUSING

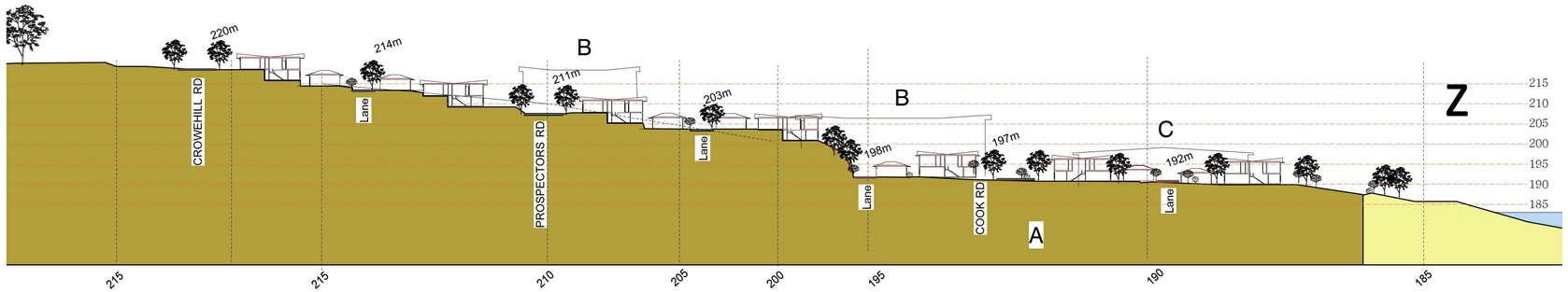
The majority of the exit survey responents, over 90%, agreed that housing for seniors should be considered for the potential redevelopment of 621 Cook Rd. We also agree, and we would like to take this opportunity today at our second open house to hear your views. What would you like to see included in this plan?

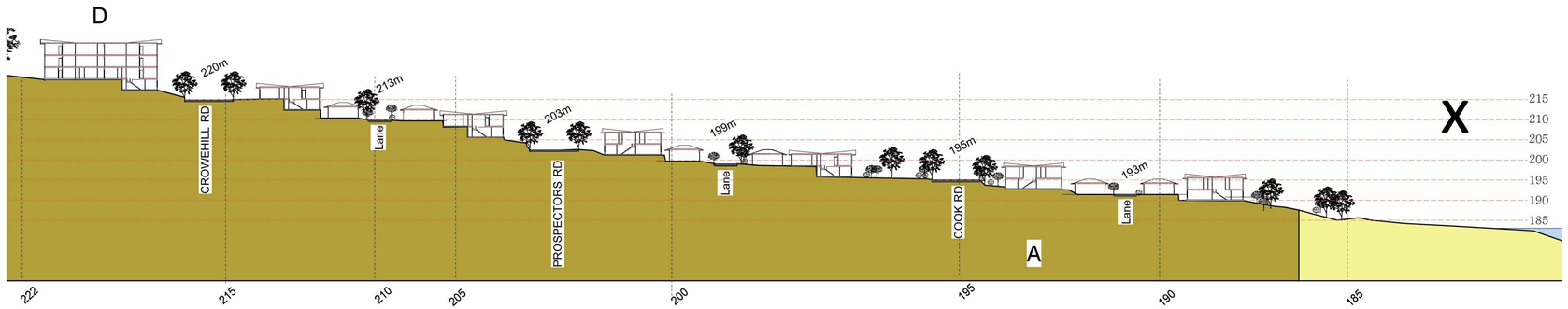
Potential Redevelopment of 621 Cook Rd., Marmora

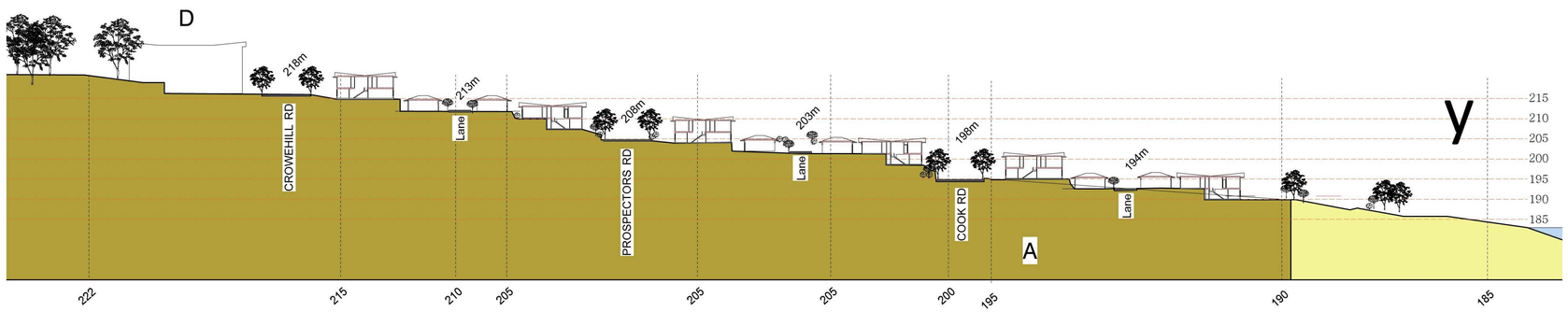
OVERVIEW

Potential Redevelopment of 621 Cook Rd., Marmora

SITE SECTION







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EXISTING SITE CONDITIONS

The site is not a "green field" by any means, since it was previously used as a holiday trailer and beach destination. The site has areas where trees appear to have been cleared. (Left photo).
Multiple existing roads and trails already traverse this site.

View from the once trailer sites

Aerial View

View of Crowe Lake

View directly toward site's beach front

Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENT- REHABILITATION

ENVIRONMENTAL PROTECTION & REHABILITATION

621 Cook Road is not a "blank slate", rather the site has inherent opportunities and constraints:

+ OPPORTUNITIES

- Increased Lake Access
- State-of-the-art Effluent Treatment system
- Stormwater Retention / Biofiltration ponds
- Nature trails / foot paths / bike routes / horse trails
- Enhanced foreshore vegetation

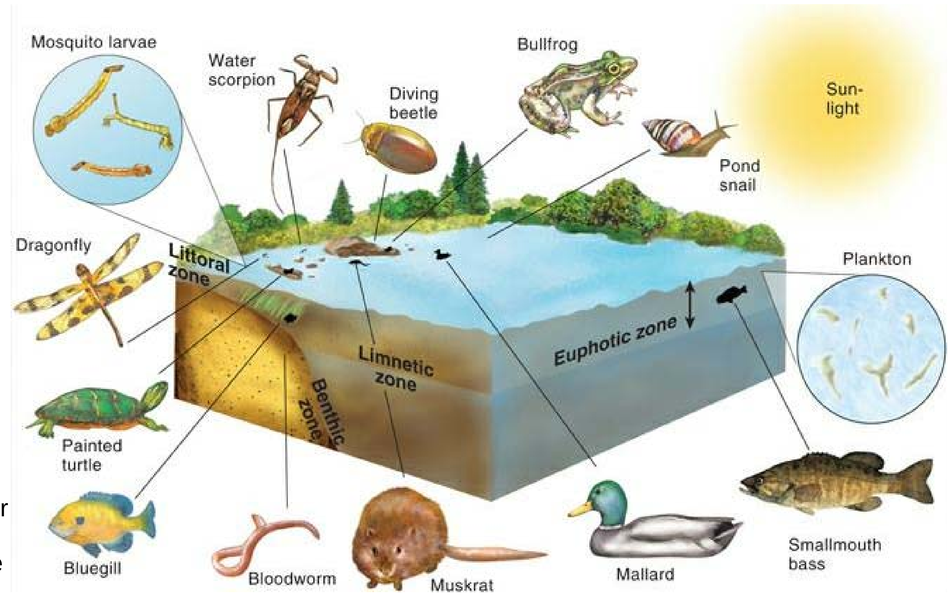
- CONSTRAINTS

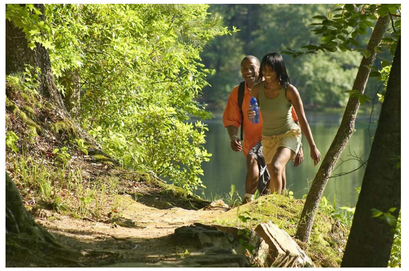
- Potential Wetlands
- Potential & Associated Setbacks
- Shallow across lakeshore
- Access route (Cook Road)
- Animal / Bird habitat
- Floodplain

An environmentally sound development plan for 621 Cook Rd. would help to protect and/or improve the environment, as follows:

+ BENEFITS TO THE ENVIRONMENT

- Shoreline restoration & rehabilitation (e.g.native vegetation plantings, shoreline erosion protection)
- Fisheries Habitat restoration & rehabilitation
- Lake monitoring program (e.g. Participation in a M.O.E. sponsored volunteer program that collects & studies water quality data).
- Land restoration & rehabilitation - Improves the current conditions at the site e.g. removal of old septic beds, planting native trees & shrubs etc.





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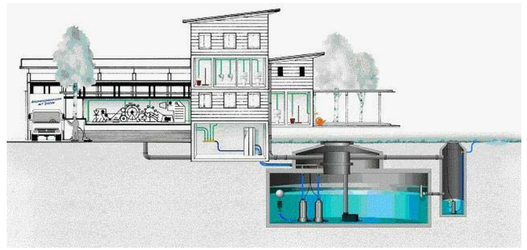
Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENT - STORMWATER TREATMENT

TYPICAL SCENARIO: STORMWATER ENTERING UNDERGROUND SYSTEM



RAINBARREL / CISTERN HARVESTING FOR RE-USE

GRASSED SWALES

BIO-RETENTION CELL

PERMEABLE PAVERS / PAVEMENT

STORMWATER TREATMENT

OVERVIEW: STORMWATER

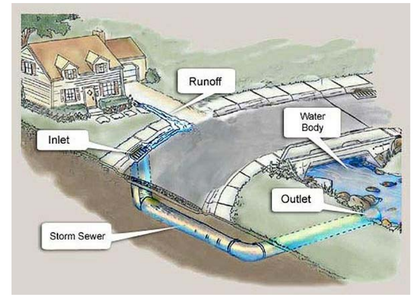
- Originates from rainfall or snowmelt that enters the stormwater system.
- Stormwater that does not soak into the ground becomes surface runoff, which either flows directly into surface waterways or is channeled into storm sewers, which eventually discharge to surface waters.
- 2 Factors:
  1. Managing volume and timing of runoff water (flooding)
  2. Contaminants that the water is carrying, i.e. water pollution.

STORMWATER MANAGEMENT

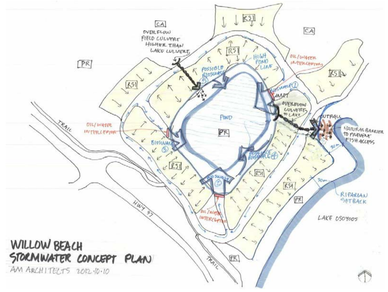
Stormwater management would be required to mitigate the effects of urbanization on the hydrologic cycle including increased runoff, and decreased infiltration, of rain and snowmelt.

BEST PRACTICES THAT MAY BE INCORPORATED INTO THIS SITE DESIGN:

Bioretention cells (aka "rain garden") - Depressed area with porous backfill under a vegetated surface. Encourages filtration and infiltration, groundwater recharge, pollutant removal, and runoff detention.
Curb and gutter elimination - Transport flows quickly to a stormwater drain without allowing for infiltration or pollutant removal, so eliminating curbs & gutters can increase sheet flow. Maintaining uniformly distributed "sheet flow", by re-directing runoff into vegetated swales or bioretention basins, helps prevent erosion.
Grassed swales - Shallow grass-covered hydraulic conveyance channels that slow runoff and facilitate infiltration.
Infiltration trenches - Rock-filled ditches with no outlets. Collect runoff during a storm and release it into the soil by infiltration.
Inlet protection devices / hydrodynamic separators - Flow-through structures with a settling or separation unit to remove sediments, oil and grease, trash, and other stormwater pollutants.
Permeable pavers / Permeable pavement - Rather than creating a barrier (traditional pavement), this allows rainwater to permeate the pavement, and successfully enter the groundwater system.
Rain barrels and cisterns - Used to catch and "harvest" rainwater for reuse later (e.g. gardening).
Riparian buffers - An area along a shoreline, wetland, or stream where development is restricted or prohibited.
Soil amendments - Increase the soil's infiltration capacity and reduce runoff from the site. This is done by changing the physical, chemical, and biological characteristics so that the soils become more effective at maintaining water quality.
Stormwater planters - Small landscaped stormwater treatment devices that use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality, similar to rain gardens and green roofs but smaller in size.
Tree box filters - In-ground containers used to control runoff water quality and provide some detention capacity.
Vegetated filter strips - Bands of dense vegetation planted downstream of a runoff source; suitable for gently sloping areas.
Green roofs / Vegetated roofs - Consist of a lightweight planting mix with a high infiltration rate and vegetated, tolerant plants. It reduces runoff volume / frequency and improves runoff water quality.
Green Parking - Refers to several techniques that reduce the contribution of parking lots to total impervious cover. E.g. minimizing the size of parking stalls; utilizing alternative pavers in overflow parking areas; encouraging shared parking, etc.



TRADITIONAL STORMWATER SYSTEM



EXAMPLE OF AMA SITE SPECIFIC STORMWATER CONCEPT PLAN

STORMWATER PLANTERS

AMANKENMAN MARCHAND ARCHITECTS
METRIC ARCHITECTURE
FairTradeWorks

Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENT - SANITARY TREATMENT

SANITARY TREATMENT

BEST PRACTICES

The following shall be considered as part of any development proposal:

1. Maximize the separation distance between the lake and any new sewage system(s) to achieve the greatest natural attenuation of nutrients in the effluent.
2. To enhance phosphorus reduction from sewage systems, any proposed tile bed components can be constructed of suitable fill materials having a high phosphorous retention capacity.
3. Incorporate tertiary treatment to reduce nutrient loading in the effluent.
4. Decommission any old sewage systems on site (i.e., remnants from the former trailer park).
5. Assure compliance with operational requirements of the Environmental Compliance Approval (s) for the wastewater treatment systems, in accordance with Ontario provincial regulations.
6. Conduct routine monitoring of all wastewater treatment systems to ensure their proper function.
7. Have suitably trained operators on staff to manage and efficiently maintain all wastewater treatment systems.
8. Participate in Crowe Lake water quality monitoring programs.

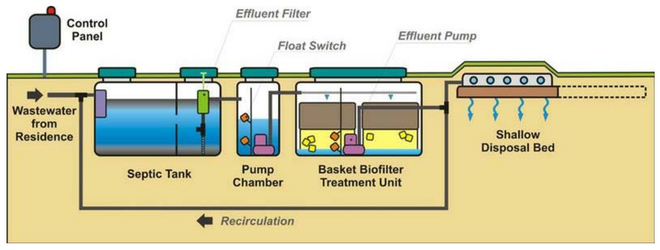
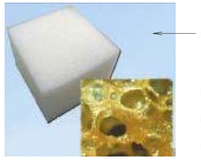


Diagram: simplified / residential process. Commercial uses requires the same process, but would be tailored design to suit specific site requirements.



synthetic material; relies on bacteria growth, to 'digest' and cleanse the sewage (pre-treatment)

Installation of "Basket" type biofilters below ground.

BIOFILTRATION TREATMENT SYSTEM DESCRIPTION

A state-of-the-art biofiltration system is a "tertiary" treatment system, because it essentially pre-treats the sewage, whereas traditional treatment systems rely on the soil alone to treat sewage (e.g. 'Waterloo', 'Whitewater Aerobic', and 'BioMicrobics' are suppliers of such systems).

General

- A high-tech septic system that treats and possibly re-uses wastewater.
- It is effective for a site such as this, as well as heavy clay soils, shallow bedrock and high water table.
- Installed below ground in a buried concrete tank, or above ground in an insulated cedar or vinyl shed, so it minimizes tree cutting and excavation.
- Good for seasonal or year-round use, small footprint, low energy, and 99% fecal coliform removal.
- Bacteria medium lives on foam, to treat the wastewater in an on-going basis.

Benefits

- M.O.E. would require on-going monitoring of the biofiltration system, which can be provided
- Provides a combination of biological treatment and physical filtration of wastewater.
- Engineered filter medium is stable over long periods of time, accepts high loading rates without plugging, and provides an aerobic treatment environment that passively absorbs wastewater - thereby increasing retention time and treatment outcome levels.
- Low-impact and positive environmental outcomes.

Design:

- Works like a low-pressure membrane: a physical barrier that wastewater must pass through for treatment before entering the environment.
- Includes exterior grease traps, septic tanks, a surge pump tank, filters, effluent re-circulation to the septic tank for ammonium removal.

Other features / Add ons:

- Re-use for toilet flushing.
- Phosphorous and / or nitrogen removal.
- Remote monitoring service available.
- UV disinfection or chlorination - for irrigation use.

Commercial Case Studies:

A) ClubLink golf clubs e.g. Blue springs and resorts in Ontario are treating sewage wastewater to the highest degree and reusing the treated effluent in the golf course irrigalion system.
B) An Ontario Truckstop, Huky Oil, in London ON
C) An Ontario Overnight camp.

- In Ontario, where a site processes > 10,000 litres / day, systems design is subject to Ministry of the Environment review and Environmental Compliance Approval (ECA)

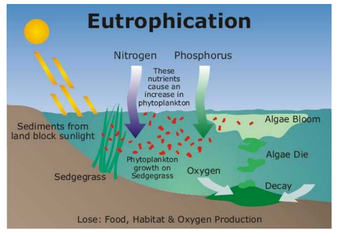
Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENTAL CONSIDERATIONS - PHOSPHORUS

EXCESSIVE ALGAE GROWTH

PICKEREL ON CROWE LAKE
TO BE PROTECTED

SHORELINE
VEGETATION BUFFER



EUTROPHICATION

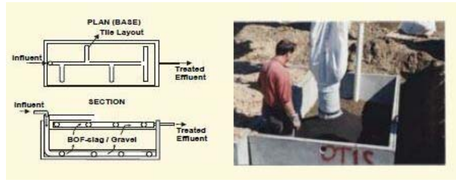
PHOSPHORUS OVERVIEW:

- An essential nutrient for plant growth found in small amounts in lakes & streams (typical concentrations 0.005 & 0.05 mg/L in ground & surface water).
- Human activities from residential, urban and agricultural areas contribute a significant amount of phosphorus. Elevated concentrations can be generated through activities associated with agriculture, waste management and urbanization.
- Stormwater runoff travels across land, picks up phosphorus from fertilizers, eroded soil particles, septic systems and pet waste and discharges it into nearby lakes and streams.
- Even small increases in phosphorus to waterbodies like Crowe Lake, can have a negative impact on water quality and can stimulate algae and plant growth.
- As algae die and decay, the water is robbed of it's dissolved oxygen. This can devastate fish populations.
- To minimize impacts on groundwater and aquatic systems, phosphorus removal from groundwater, domestic wastewater and stormwater can form part of a nutrient management program.

PLANNING FOR PHOSPHORUS REDUCTION MANAGEMENT

The following best management practices have been recommended by a local environmental consultant and would be considered as part of any proposed development plan for this site:

1. Incorporate landscape design elements to reduce direct run-off to the lake where possible.
2. Incorporate passive controls such as grassed swales and ditches in the development plans.
3. Reduce the area of impermeable surfaces in the development plans (e.g., utilize permeable surface treatments) or technologies that promote infiltration, such as permeable pavement, infiltration trenches, soakaway pits, etc.
4. Consider designs that incorporate green rooftops to promote infiltration of precipitation and nutrient uptake.
5. Incorporate a healthy shoreline vegetation buffer into the development design, to reduce sediment loading and to prevent shoreline erosion.
6. Post-construction, ensure that Stormwater Management facilities and systems are regularly inspected and maintained to promote proper function.
7. Promote natural meadow field lawns for unit owners. These lawns require little or no fertilizer and require less frequent cutting and irrigation.
8. Incorporate healthy vegetated buffer zones on, and at the base of slopes. Plant and manage areas of native trees and shrubs where possible.
9. Utilize silt fencing and hay bales during construction to prevent erosion and sediment loading to the lake.
10. Suspend or reduce construction activities during heavy rain periods to reduce the potential for mobilizing sediment.
11. Monitor and repair erosion controls following storm events.
12. Avoid unnecessary stockpiling of fill materials and contain stockpiles within suitable sediment controls.
13. Maintain erosion/sediment controls post construction, until vegetation is well established.
14. Educate users about the need for phosphorus reduction and what can be done to mitigate nutrient release to Crowe Lake.
15. Encourage users to dispose of pet wastes appropriately.
16. Encourage occupants / management to eliminate or reduce the use of phosphorus-rich fertilizers.
17. Conduct routine monitoring of runoff water quality to ensure that the Stormwater Management System is achieving the desired outcome.



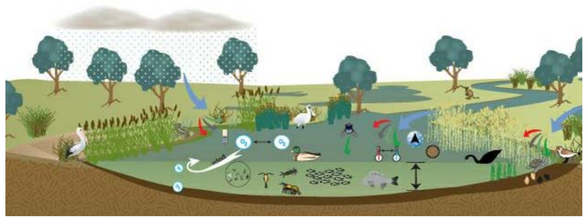
SYSTEM REMOVAL OF PHOSPHOROUS

CROWE LAKE PHOSPHORUS LEVELS

- 2011 Lakeshore Capacity Study Update showed the average concentration of phosphorus was approximately 10 ug/L, which is below the Ministry's previous Provincial Water Quality Objective (PWQO) of 20 mg/L, however, is above the revised PWQO, which now allows for a 50% increase in phosphorus from a modeled baseline of water quality in the absence of human influence, and is completed on a lake by lake basis.

Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENT - NEXT STEPS



POTENTIAL ENVIRONMENTAL STUDIES FOR THIS SITE

In addition to completing conceptual designs, any future redevelopment of the site would need to be supported by a variety of technical studies. Those technical studies would be subject to rigorous review by various Government agencies and the public. The following is a brief outline of potential requirements:

Archeological Assessment

- Required if / when land has the potential to contain archaeological resources (ie. water source, unusual land formations, proximity to historic transportation routes, etc.).

Boat Impact Study

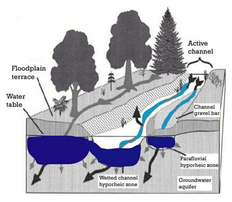
- Existing recreational boating uses on the waterway are reviewed, along with an assessment of shoreline development and the useable space of the waterway.
- Verifies whether increased boating activities (associated with a potential development proposal) would have a negatively effect, e.g. safety concerns re: additional capacity.

Environmental Impact Study (EIS)

As this site consists of potentially sensitive environments (forests, wetlands, near shore fish habitat, etc.), it is expected that a comprehensive Environmental Impact Study (EIS) would be required.

- Identifies key natural features that a future redevelopment plan should protect.
- Recommendations for mitigating impact, e.g. establishing buffer areas, set-backs, etc.
- Map Species at Risk habitats, on-shore and offshore.
- Recommendations are used to plan in an environmentally sustainable manner.
- EIS is likely subject to technical review by the Municipality & Conservation Authority.

Floodplain Analysis



- Currently, it is proposed that the redevelopment would be well set back from the lake.
- A local floodplain study may be undertaken, as required.
- A floodplain engineering assessment may be necessary to prevent potential impacts or significant risks within the Crowe Lake floodplain.
- Any construction within the floodplain would be avoided and/or subject to technical review and permitting by the Conservation Authority.

Functional Servicing Study (FSR)

- Includes an engineering study regarding potable water and wastewater treatment requirements.
- Relies on existing studies (e.g. hydrogeological study), combining their findings into a single conceptual site services plan - for review by the Ministry of Environment (MOE).

Hydrogeological Study

- Assesses physical features, landforms and water balance; re: constraints on development.
- Identifies whether sufficient, high quality groundwater resources are available.
- Potential impact on the environment or neighbouring groundwater users.
- Well drilling is usually included in the hydrogeological testing.
- Provides important analysis and recommendations regarding the preferred location for a treatment system and treatment alternatives for the site - for review by the MOE.

Lake Impact Study

- Assesses current lake "health" plus potential effects of the proposed redevelopment
- Compares the existing permitted uses (e.g., trailer park) to the proposed redevelopment, to ensure that nutrient loading (nitrogen / phosphorous) of the lake does not increase.
- This study may provide limits on the redevelopment - for incorporation into any future design.

Stormwater Management Report (SWM)

- SWM Plan - completed so that any post-development runoff conditions (e.g. quantity) would not result in any impacts to neighbouring lands or Crowe Lake.
- Good SWM protects receiving water body from excessive nutrient loads generated by roads and landscaping.
- Proposed redevelopment would incorporate design features to mitigate nutrient exports.
- SWM Plan: incorporates recommendations of Lake Impact Study to achieve a “no net increase” in nutrients.
- Subject to technical review by the Municipality and the Conservation Authority.

Minimum Distance Separation Study

- A Minimum Distance Separation Study may be required *if* any livestock facilities or permanent manure storage (or other agricultural land uses) are located on adjacent lands.
- Addresses nuisance effects associated with odour, groundwater contamination, etc., and establishes a minimum separation distances, if required.

Examination Previous Studies re: Crowe Lake:

a. ***“Preliminary Lake Capacity Study Update; Dickey, Twin Sisters and Crowe Lake; Municipality of Marmora and Lake, Hastings County”***, Oakridge Environmental Ltd. (Sept. 2011)

b. ***“An Assessment of the Capacity of Crowe Lake to Sustain Additional Cottage Development”***, Paul Wisner Associates, Inc. (May 1989)

c. ***“Report on Water Quality in Crowe Lake”,*** Ontario Ministry of the Environment (1972)

“Trent Assessment Report”, Drinking Water Source Protection, Trent Conservation Coalition (Oct. 2011)

OTHER ? - This list is not comprehensive. Please feel free to suggest to suggest further studies that could have a positive impact on this lake.

Potential Redevelopment of 621 Cook Rd., Marmora

COMPARISON OF DEVELOPMENT TYPES

BELOW ARE EXAMPLES OF MIXED-USE DEVELOPMENT TYPES

Based on the results of the exit survey from the February 5th meeting, a mixed-use development was preferred by 63% of the respondents.

Examples of Waterfront, Mixed Use Developments

Development includes hospitality & residential mixed-use & Master-plan Village called Muskoka Wharf. The condo-hotel units are part of a 106-unit, five-storey building operated under the Residence Inn banner by Marriott

"Residences at Muskoka Wharf", Lake Muskoka

Development here of an existing town with a commercial waterfront centre of restaurants and other buisnesses has been a great example of revitalization of existing community of the great lakes.

Nautical Village, ON

Development with 2-4 storey condos, common greenspace, boat docks, commercial shops at street level. This residence & resort will include an golf course, a 200-acre nature preserve, a vibrant marina village and up to 1,000-slip marina

"Friday Harbour", Gravenhurst ON

Examples of Lakefront Mixed-use: Residential & Hospitality

Mixed-use multi- family residential & hospitality. Condo owners have shared access to pool and walking trails.

"The Cove" Lakeside Resort, Kelowna B.C.

Mixed single family residential & hospitality, marina. Condo owners have shared access to year round docks, tennis, miles of walking trails, & private beaches.

"Maracaibo", Saltspring Island, B.C.

The mix of residential and commercial (or hospitality) uses requires considerable skill and expertise - to provide a development that is attractive and viable for both uses. One use should not be developed at the expense of the other, nor should the economic viability of one use depend on the provision of the second use.

Potential Redevelopment of 621 Cook Rd., Marmora

ARCHITECTURAL STYLES

A majority, or 42%, of the exit survey respondents preferred a "Muskoka Cottage" architectural style for the potential new development. In addition, 71% preferred the potential development to include tourist accommodation.

Muskoka Cottage style

Muskoka Cottage style

Muskoka Cottage style

Hotel with Low Beach access

Marina Boat house

Public Waterfront Access

Potential Redevelopment of 621 Cook Rd., Marmora

MARINA & COMMON AMENITIES

The survey responents expressed strong support for recreational boating amenities, such as a new marina, public dock and a boat fueling facility. The desire for a cafe and restaurant and small scale retail was also strongly supported. All the respondents agreed that community open areas, such as parks, trails and nature reserves should be included in the potential development.

Yoga studio

Public beach

Bike parking

Picnic area

Public walkway

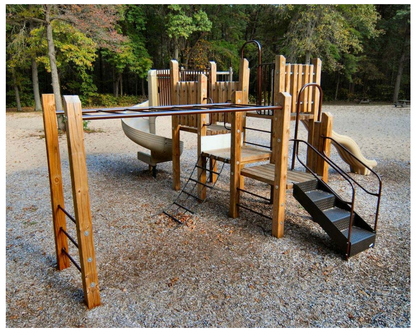
Gym

Gas dock

Small marina

Clubhouse. Outdoor pool.

Recreational water activities / rentals



Children's park

Public Dock

Cafe

Potential Redevelopment of 621 Cook Rd., Marmora

LAND USE- SMALL SCALE COMMERCIAL

COMMERCIAL OPPORTUNITY

With the current adjacent and lakefront population, combined with the potential future residents and visitors to Cook Rd, a majority of the survey respondents agreed that that a small Waterfront Commercial Village was appropriate for this site.

We listened to the Marmora community and we heard that there is strong support for a community marina with a public dock and fueling station. You would also like to see a cafe, restaurant, wine bar or pub on this site, but had some concerns that a retail component may not be sustainable by the future resident population.

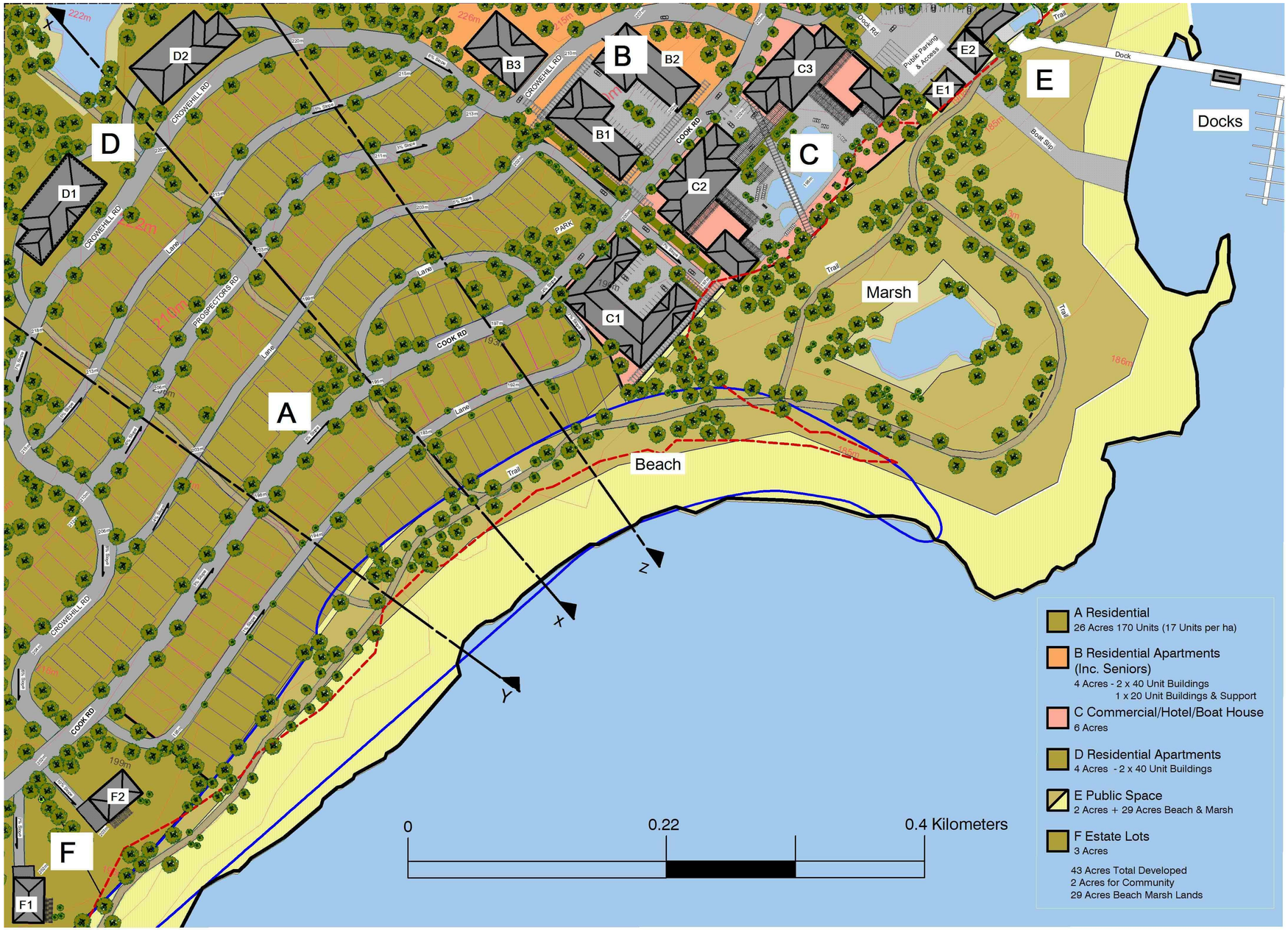
ANKENMAN MARCHAND ARCHITECTS

METRIC ARCHITECTURE

FairTradeWorks

Potential Redevelopment of 621 Cook Rd., Marmora

SCHEMATIC LAND USES



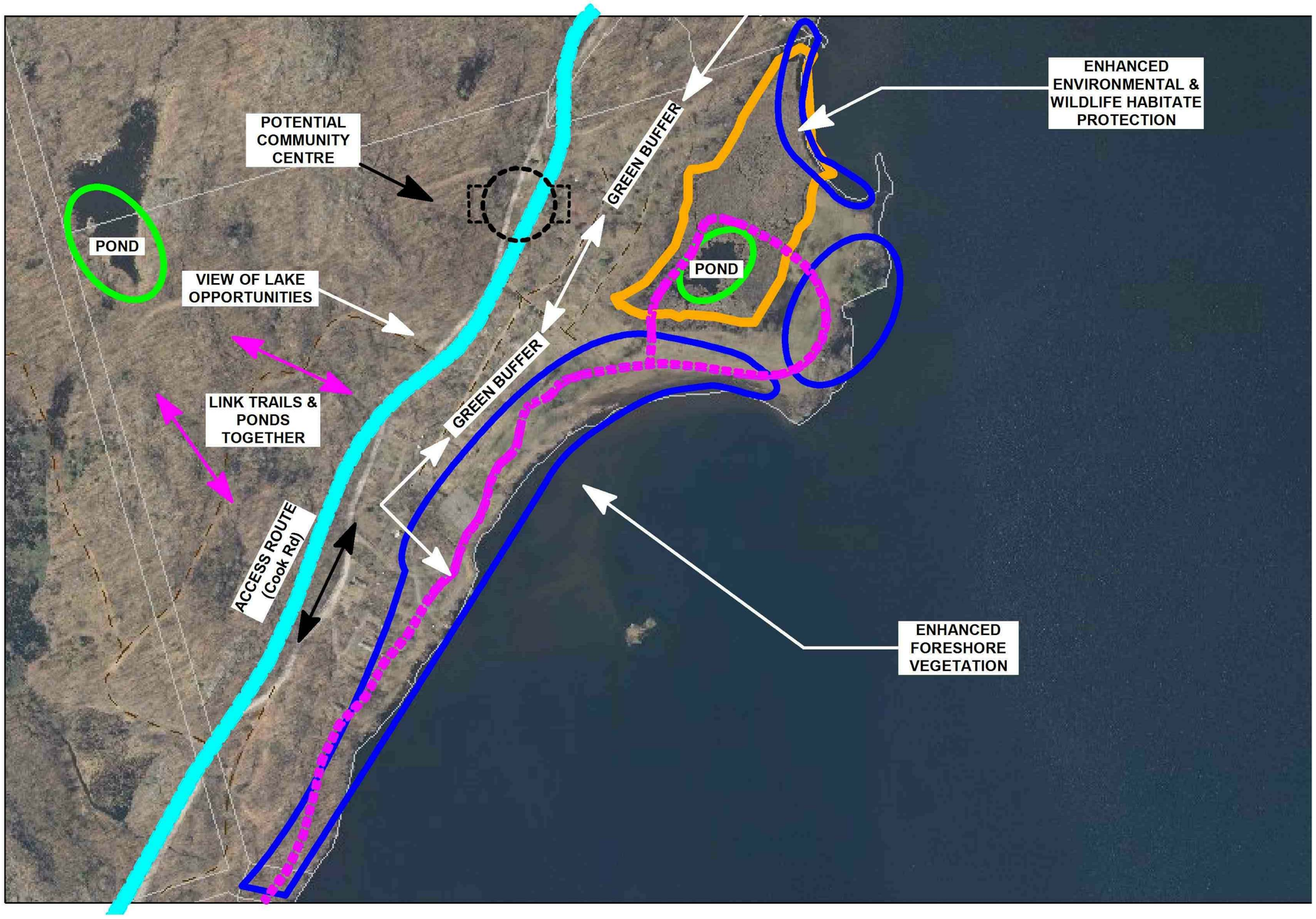
ANKENMAN MARCHAND ARCHITECTS

METRIC ARCHITECTURE

FairTradeWorks

Potential Redevelopment of 621 Cook Rd., Marmora

SITE OPPORTUNITIES



THE SAME CONSTRAINTS CAN (IF UNDERSTOOD & MANAGED) BE THE BIGGEST POTENTIAL OPPORTUNITIES:

(+) OPPORTUNITIES

- Increase of Lake Access Via Natural Trails Boardwalk / Bike Routes / Horse Trails
- State-of-the-art effluent treatment & Stormwater retention / biofilter ponds
- Enhanced Foreshore rehabilitation
- Environmental Buffer Zone
- Potential Commercial Village reducing overall car use for local residents grocery and essentials

ANKENMAN MARCHAND ARCHITECTS

METRIC ARCHITECTURE

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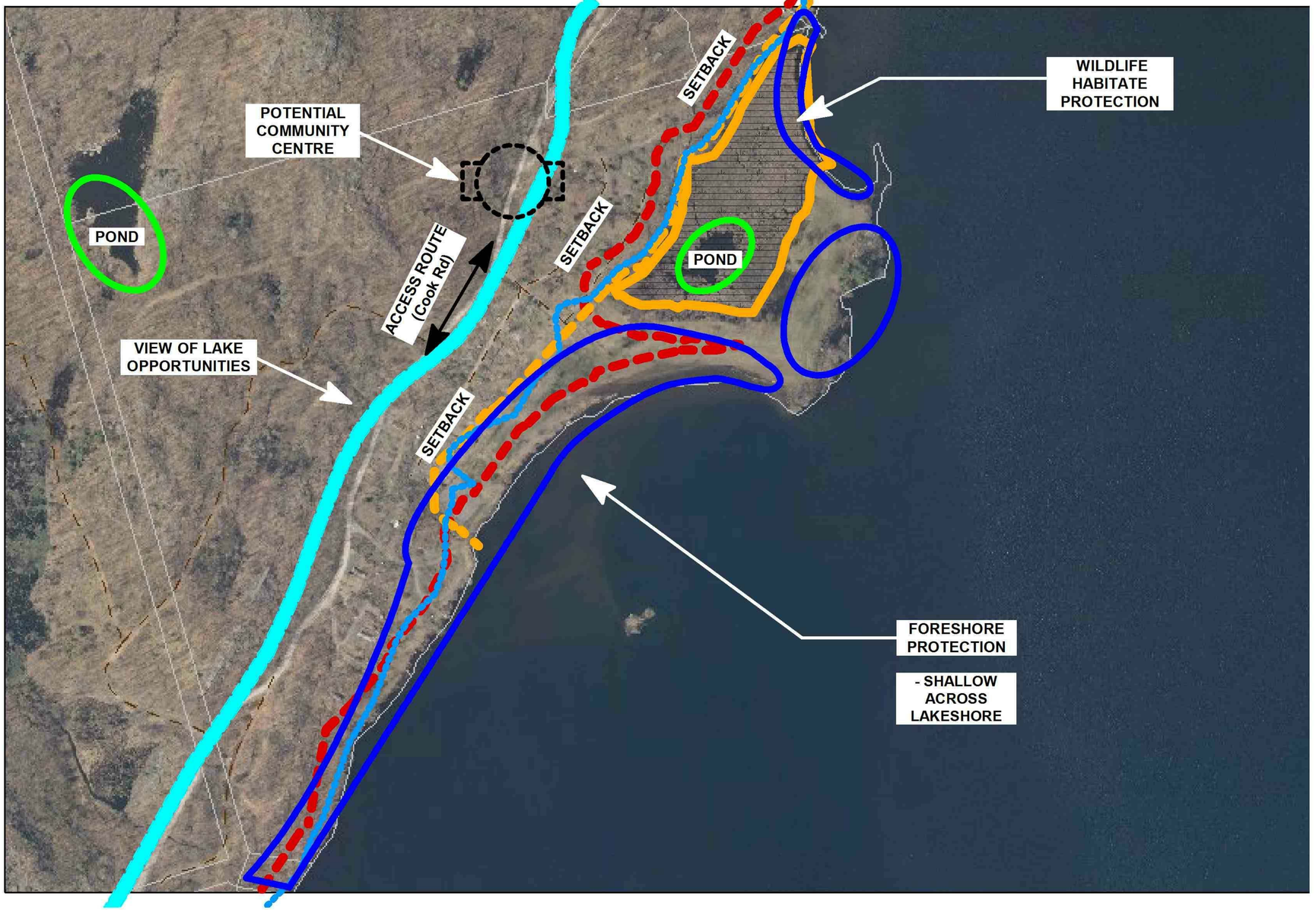
Potential Redevelopment of 621 Cook Rd., Marmora

ENVIRONMENTAL OPPORTUNITIES



THIS SITE IS NOT A "BLANK SLATE", RATHER THE SITE HAS INHERENT OPPORTUNIRIES AND CONSTRAINTS:

(-) CONSTRAINTS

WETLANDS

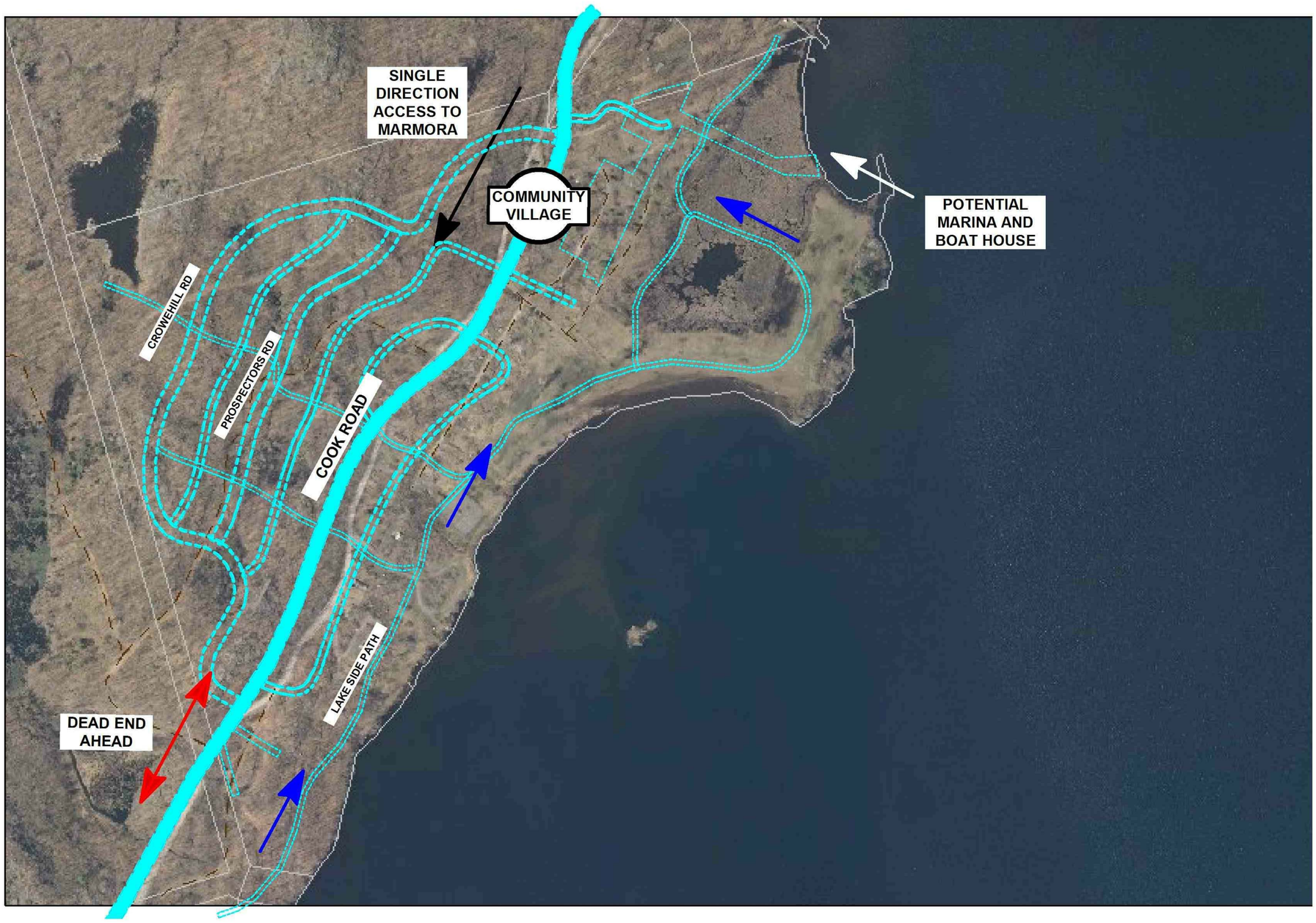
- Creek / Pond
- Extent of Wetlands (Ministry of Natural Resources Parcel & unevaluated wetlands within)
- Wetlands (Hastings County EP)

ENVIRONMENTAL CONSERVATION

- Foreshore Protection
- Environmental Buffer Zone
- Flood Plain

Potential Redevelopment of 621 Cook Rd., Marmora

ACCESS & ROAD OPTIONS



COOK ROAD

Opportunity - Existing road from North can be upgraded in capacity by repaving and widening, to serve existing & new residents.

Glen Allen Rd
Corova Rd, leading to Mormora's Main st

Constraint - Traffic increase but only one way in and out of area for site including Cook rd further West for :

Beaver falls Ln
Big Island Rd.

LAKE SIDE PATH

Opportunity - Existing Lane can be enjoyed and extended around marsh as a board walk, linking this to potential marina and other facilities.

Constraint - Potential Approval issues with Environmental

MARINA

Opportunity - Potential alternative route to town and other communities. Canoe/boat & other activities as well as save storage and refuling of craft

Constraint - Potential Approval issues with Environmental

EXISTING ROAD

POTENTIAL ROAD NETWORK