

# Cottage No. 138 BBR

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- Question
- Will the road ditching work that was completed in late 2018 be designed deep enough and wide enough to address drainage issues? Will the ditch be deep enough to reach the sand? Will this be completed before other projects? Can ditch be designed as a swale/rocked waterway?
- Answer
- The road authority ran out of room to complete further ditching. The ditch was as deep as it could be without becoming dangerous. Approximately two feet of material was removed. Ditches can be part of the solution. Can include perforated tiles/pipes with clear stone.

# Cottage No. 123 BBR

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- Question
- Will the project be reviewed by Environment Canada to ensure the project is purpose designed and built?
- Answer
- We will obtain all necessary permits and approvals. The project will be circulated to all appropriate regulatory agencies after the preliminary design is established.

# Cottage No. 149 (BBR)

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- Question
- How is the SWM facility to be designed? Will it be constructed on private property?
- Answer
- The project can provide allowances for land taken/crop damages under the Drainage Act. There is an appeal process in place if landowners are not satisfied. The pond can be designed even without landowner support. There is no change in ownership. Yes, it will be constructed on private property. Municipal Drains are primarily constructed on private lands. SWM facilities are being incorporated in the designs of Municipal Drainage systems more often.

# Cottage No. 136 BBR

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- Question
- Will there be further investigation into the water quality/quantity changes? Why have there been changes? Do you have historical rainfall data and has it been reviewed?
- Answer
- With respect to development changes within the watershed, so far, historical aerial photography has been reviewed and compared to recent aerial photography. Rainfall events are becoming more intense and frequent; this is happening in many different places across Ontario. Drainage issues may also be an accumulation of many small things such as driveway paving, tree removal, shed construction; changes in land use in the watershed. LID (Low Impact Development); can encourage infiltration at a localized level (property by property). Conventional stormwater management for quantity control tries to maintain pre-development peak flows in post-development build out scenarios. Township will encourage this type of development. This must be enforced at a municipal policy level and cannot be enforced in a report written under the Drainage Act. The Drainage Act can lead to the construction of a new drainage system, and can enforce maintenance of an existing drainage system, but cannot regulate lands within the watershed.

# Cottage No. 98 BBR

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- Question
- What will be done with the privately owned drain on this property?
- Answer
- At the very least, what exists will be incorporated under the drainage act (allowances provided).

# Cottage No. 318 HD

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- Question
- What is the timing for Option 5 soils investigation?
- Answer
- We have recently received two proposals from Geotech firms to complete a soils investigation. We need to select a firm. Could take 6 to 8 weeks for results after investigation is completed. Results would likely allow us to decide if it is a viable option.

# Cottage No. 157 & 162 BBR

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- Question
- What was proposed in 2009 and how does it compare to the current proposal?
- Answer
- The 2009 proposal was along BBR and had a few outlets to the beach. The current proposal includes a detention area and has fewer outlets to the beach. Infiltration will be investigated more than what was reviewed in 2009.

# Cottage No. 123 BBR

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- Question
- Instead of using the gullies, can a drain be constructed in a different location and outlets directly into the lake?
- Answer
- We agree with the findings of the MVCA gully investigation (sediment transported by gully systems originates in the gully itself, and not so much from the lands within the watershed). DEL is looking at a different course for the drain. It will be very expensive to pipe the drain along the road (road recon and large system). This will not address surface flow to the ravines; ground water seepage and local surface water still needs to be addressed. The toe of the slope needs to be stabilized and flows should be reduced. “Rehab” of the ravine is likely necessary, as is attenuation of flows using a controlled outlet from a detention area.



# Cottage No. 168 BBR, 158-10<sup>th</sup> Concession

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- Question
- Are there plans to go beyond Highland Drive? How realistic is a SWM facility on productive agricultural lands?
- Answer
- The conceptual design for the SWM facility on farm land is likely a reshaping of lands so that it could still be farmed/used. Not a typical urban SWM pond. Detention in many shallow areas that would slowly release to the ravine; little to no maintenance. May be wet in some years and not as productive. Farmer will be paid allowances to compensate.
- Will not expand N or S at this time with this project. Additional requests/petitions must be received to authorize an expanded scope.

# Cottage No. 714 LRD

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- Question
- How deep is the SWM facility, how high are the berms, how will mosquitos be controlled, how will property owners be compensated? Permitting requirements? How is maintenance assessed out?
- Answer
- There is no design yet. Conceptual design does not include “noticeable” berms. It is designed to be a dry pond, mosquitos won’t be a problem. Underground drainage may be included with draw down times of 24-36 hours. Ravine elevations will be brought up.
- Maintenance for the SWM facility will be minimal. Outlet structure from the pond across the road could include an OGS and may require some flushing/suction.
- Maintenance to the ravine would be covered under the Drainage Act process. Drainage Superintendent would be contacted to maintain issues raised by requestors; costs will be prorated as per the Engineer’s report.

# Cottage No. 310 HD

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- Question
- What area would be required for the infiltration area? Would it require moving land/ creating a berm?
- Answer
- Area depends on conductivity of soils. Better draining soils will provide a larger outlet and require less area for the infiltration gallery. The opposite is true for poorly draining soils. Some sort of chamber structure may be required. Next meeting will have more information on this.

# Cottage No. 88-3 BBR

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- Question
- Where is the water from homes on LRR supposed to drain according to building permits?
- Answer
- Dashed lines on the plans represent watershed boundaries (delineated from provincial topographical data). Water within these lines pass through the outlet of that particular watershed. It is likely that the water runs from the LRR properties towards BBR and the lake. The CBO can better answer questions relating to building permits.

# Cottage No. 120 BBR

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- Question/Comment
- Highland to 8th; lots of blue clay, perhaps dig a trench (18 feet), fill with 2" gravel and let the water drain itself naturally. Environment Canada rainfall data for last 10 years to determine the depth and width of the ditch.
- Answer
- Soils Engineer would recommend specs on infiltration gallery. Details of the possible infiltration gallery will be presented at the next meeting.

# Cottage No. 123 BBR

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- Question
- Drains/infrastructure from LRR properties should be investigated as part of this project.
- Answer
- Cannot extend a drain further upstream than what is outlined on the petition under the Drainage Act. Landowners must add initiate another petition to authorize an expanded scope.
- DEL asks landowners how many other localized issues there are in the area along BBR? 98 and 123/120 BBR and highland have been identified in this project so far. Are there other areas?

# Cottage No. 84-2 & 86-2 BBR

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- Question
- Has had three floods this year; backyards are flooded ~1 foot
- Answer
- There is a storm sewer system on 8<sup>th</sup>. Issues are related to properties on LRR regrading and installing drainage systems directed onto the lower properties (118-120?).
- To be followed up after the meeting. DEL and Township to discuss and follow up with landowners. A branch (petition) may be required.

# Cottage No. 122 BBR

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- Question: What is the life of a French drain? Is there maintenance required?
- Comment: micro-projects need to be completed as well. French drain maintenance.
- Answer
- Township could look into reconstructing the French drains at those locations or maintenance of these drains. Similar to an infiltration gallery.



# Cottage No. 100 BBR

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- Question
- Will there be recommendations of reforestation on the east side of BBR (on the hill)?

- Answer

Regulations of land use in large areas not occupied by the municipal drain is not something that can be addressed in an engineers report under the drainage act. This would exceed the authority given by the Drainage Act.

# Cottage No. 123 BBR

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- Question
- SVCA needed to review building design, they made recommendations. There needs to be permitting for the new home development.
- Answer
- This should be brought up with the Conservation Authority. Site drainage should be dealt with before any development.

# Cottage No. 136 BBR

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- Question
- Can more notice be provided for meetings? Is there a way to provide feedback from landowners after the meeting?
- Answer
- With Emily's permission, DEL will submit the powerpoint to Township. Engineer and TWP will discuss how to receive information moving forward. (HaveYourSayHK website?)

# Cottage No. 111-2 BBR

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- Question
- Is there any way to make the ravine east of 98 BBR more stable?
- Answer
- Remove deadfall, fill in bottom end of the ravine. Stabilize toe, infill, control grade, hard armoring to allow for steps to control grade (flexamat or cable concrete).

# Cottage No. 702 LRD

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- Question
- What is the design for the pink watershed? Would paving the BBR surface help?
- Answer
- The pink watershed (Cameron) is beyond the scope of the appointment. Currently there is a ravine. This would require an extension of the petition. The pink dotted line on the map depicts the watershed boundary for the pink arrow at the lake.
- The Roads Superintendent will not pave the road unless the drainage project addresses the flooding of the road first. This will be addressed at a later date.

# Cottage No. 123 BBR

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- Comment:
- Grader is on the road every month, ~10 loads of gravel that washes off per year.
- Answer
- If the drainage can be improved so that the road can support a hard top surface, then paving may be a possibility in the future. There township will be looking for landowner support prior to making a decision on paving.

# Cottage No. 98 BBR

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- Question
- Short term corrective action: are there any plans to ensure that this piped system is maintained/free from blockages during the design process?
- Answer
- Currently, it is a private drain so the Township does not have any authority to maintain this drain in the interim. Once it is incorporated under the act, the township can be contacted to maintain all parts of the drain (open/closed/culverts). Currently, landowners may contact the Roads superintendent if there are debris build ups/blockages on road culverts.