



**Township of Georgian Bluffs, ON**

## **Municipal Drain Capital Operating Plan 2024**

**Submitted to:**

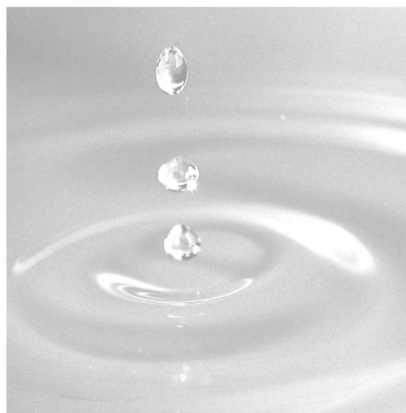
Township of Georgian Bluffs  
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**Submitted by:**

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November 2024

Project No. 2401177(210383)



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# 1. Introduction

GM BluePlan Engineering Limited (now GEI Canada) has been Georgian Bluffs' Drainage Superintendent and Drainage Engineer since 1972 with the construction of the Kramer Drain followed shortly after with the Vary-Gruber Drain in 1979. We have been working closely with Georgian Bluffs over the past fifteen (15) years; compiling and reviewing Municipal Drains to ensure proper mapping and documentation of all Municipal Drains in the area. This operating plan is to serve as a brief introduction to Georgian Bluffs sixteen (16) Municipal Drains along with a further, two (2) drains under review and six (6) stormwater projects/ drains that were abandoned or determined not to be a drain by the Drainage Superintendent.

## 1.1. Drainage Works

As a brief introduction to Drainage Works; under the Drainage Act for a Drainage Work is to be a Municipal Drain, it requires three (3) pieces of documentation; 1. a By-Law, 2. an Engineer's Report, and 3. an Engineer's set of Plans and Profiles. For a by-law to be valid, under Section 45 of the Drainage Act. A by-law is to be "given two (2) readings by council, the report shall be considered adopted and the by-law shall be known as a provisional by-law". Under Section 58 of the Drainage Act the provisional by-law "thereby authorizing the construction of the drainage works, and work may be commenced ten (10) days after the by-law is passed if no notice of intention to make application to contest the by-law has been filed". A third reading of the by-law is generally given at this stage, however, the Drainage Act does not specifically require it.

For an Engineer's Report to be valid under the Drainage Act, Section 8 of the Drainage Act requires the following:

- a) Plans, profiles, and specifications of the drainage works, including a description of the area requiring drainage;
- b) An estimate of the total cost thereof;
- c) An assessment of the amount or proportion of the cost of the works to be assessed against every parcel of land and road for benefit, outlet liability, and injuring liability;
- d) Allowances, if any, to be paid to the owners of land affected by the drainage works.

In summary, for Drainage Works to be considered a Municipal Drain it needs a by-Law that is read twice along with an Engineer's report including the information above, and a set of Engineer drawings including the Plans and Profiles of the Drain.

## 2. Responsibilities of Drainage Superintendent Vs Engineer

Under the Drainage Act of Ontario (O.Reg. 500/21 General) the Drainage Superintendent must initiate and supervise the maintenance and repair of any drainage works in accordance with the current by-law. This is done through the use of existing Engineer's Reports and Drawings along with the current by-law. A Drainage Superintendent must inform and report to the council on a regular basis of any

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drainage works occurring in the Municipality. Inspection on a regular basis is recommended under the Drainage Act as directed by the council.

Other duties of the Drainage Superintendent are to advise landowners of approaches that they might take to solve their drainage problems, aid a person in drawing up a petition but not circulating the petition, review and comment on engineering reports received by council; attend meetings to consider the report to advise council and affected ratepayers at the time of consideration of the report, act as a liaison between council, engineer, contractor, and landowner during drain construction and inspect drain construction upon completion. Further duties of the Drainage Superintendent are found within the Drainage Act. However, as stated previously the main duty of the Drainage Superintendent is to initiate and supervise maintenance and repair of any drainage works and be a liaison between council, engineer, contractor, and landowners. This ensures drainage works are completed smoothly and in accordance with the Drainage Act.

## **2.1. Duties of the Drainage Engineer**

The Engineer shall, to the best of the engineer's skill, knowledge, judgment, and ability, honestly and faithfully, and without fear of, favour to or prejudice against any person, perform the duty assigned to the engineer in connection with any drainage works and make a true report thereon.

A Drainage Engineer is responsible for the design and creation of Drainage Works through a Petition process Section 6 under the Act or an Improvement process Section 78 under the Act. They are responsible for ensuring the Report and Drawings contain enough information to properly maintain the drain in the future.

This is different and separate from the Drainage Superintendent. The Drainage Superintendent is responsible for maintaining Municipal Drains over time while reporting to council, where as the Drainage Engineer is responsible for the design and creation of new drains or improving existing drains. The activities of a Drainage Superintendent and Drainage Engineer are funded differently through OMAFRA. OMAFRA provides a 50% grant for employing a Drainage Superintendent and the costs of the Drainage Superintendent are not charged to the Landowners. Under the Drainage Act, the Drainage Engineers' costs are compiled and charged as part of the drain and costs are sent back to the landowners upon completion of the Drainage works.

## **3. Overview of the last 15 Years (up to September 2024)**

The table below describes the works carried out over the last 15 years. Where the item refers to "Maintenance" it means field work done to ensure the drain is functioning as intended and is considered to be general, common maintenance such as cleaning sediment out of the drain. Construction refers to constructing the drain or improving the drain from its original state. Other works, such as inspection, assessment updates, resolution, and abandonment are activities performed by the Drainage Superintendent in support of the Municipal Drains within Georgian Bluffs.

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Date	Item	Description of Action Taken
November 2010	Maintenance	Johnson Drain (Portion of Branch A Cleanout)
July 2013	Maintenance	Ruhl Drain (Branch O, Q and a portion of Main Branch)
July 2013	Assessment Update	Ruhl Drain (Section 65 Report)
November 2015	Construction	Construction of the Springmount Drain
May 2016	Inspection	Johnson Drain (Recommending Removal of Beaver Dams and Repair of Tiles)
November 2016	Maintenance	Johnson Drain (Beaver Dam removal and Tile Repair)
November 2016	Inspection	Ruhl Drain (No Maintenance work deemed necessary at the time)
April 2017	Maintenance	Johnson Drain (Replacement of Clay/Concrete Tile to PVC for entire Branch D)
May 2017	Construction	Charlton Drain Constructed as of May 2017
August 2017	Inspection	Hall Drain (Recommended Main Drain Cleanout + Potential Culvert Repair Branch C)
August 2017	Maintenance	Hall Drain (1.8km of Open Drain, Cleanout)
July 2018	Inspection	Scott Municipal Drain (Recommending Cleanout of Branch B, Installation of rock check pool at STA B0+325, Cleanout + Removal of beaver dams on Branch A, Removal and Replacement of Culverts at STA A2+455 and A2+613, wooden bridge crossings be repaired by landowners)
July 2018	Maintenance	Scott Drain (Cleanout + Removal of beaver dams on Branch A and B)
July 2018	Inspection	Webb Drain (Recommending Cleanouts along the Main Drain, Erosion Control Measures Main Drain, Beaver Dam Removal, Main Drain, Cleanout of Branch A)

July 2018	Maintenance	Webb Drain (Branch A and B)
September 2018	Assessment Update	Assessment Update Scott Drain (Section 65 Report) Sept 2018
November 2018	Maintenance	Leask Drain (Beaver Dam removal)
July 2019	Inspection	Leask Drain Drain (Recommending Replacement of Culvert by Property Owner, 25m of cleanout, Consideration of Replacing Culvert on Concession Road 7, Retain a Drainage Engineer to Update the Assessment Schedule)
July 2019	Inspection	Inspection of the Taylor Drain
August 2019	Resolution	RES 2019-275 (Adopting the Leask Municipal Drain Inspection Report)
August 2019	Abandonment	Abandonment of the Taylor Drain (RES 2019 – 276)
September 2019	Assessment Update	Webb Drian (Section 65 Report)
October 2019	Assessment Update	Johnson Drain(Section 65 Report)
October 2019	Assessment Update	Leask Drain (Section 65 Report)
September 2024	Maintenance	Charlton Drain (Beaverdam Culvert Re-installation and Spillway Cleanout)

## 4. Maintenance Requests Received

### Current Maintenance and Repair Projects

Date	Item	Drain	Description of Maintenance
January 26, 2024	Maintenance and Repair	Johnson Drain	Landowner is requesting approximately 1km of Bottom Cleanout along Concession 4 and Brushing Top of one Bank. Along with approximately 800m of Debris removal in the Drain along Concession 5 up to Branch B.
March 2024	Mutual Agreement	Johnson Drain	A landowner is requesting to extend Branch B North through a Mutual Agreement Process. Information was provided to the landowner regarding the steps and required information for a Mutual Agreement.
April 10, 2024	Improvement Request	Ruhl Drain	A landowner requested a crossing along the Main Drain. Updated landowner of steps to take. We are awaiting a response. Next Steps are per the 2017 Inspection letter.
March 12, 2024	Maintenance and Repair	Webb Drain	A landowner is requesting a portion of the main drain be cleaned out. Would require a spot cleanout in two sections.

### Previous Maintenance and Repair Projects Requiring Confirmation of Assessment

From the available records, it appears that the following actions were taken as part of regular maintenance but assessment of the works to the landowners remains outstanding. These works, if completed, should be billed to the benefitting landowners (at the discretion of the municipality). It is believed that COVID-19 had a factor in these outstanding assessments.

Date	Item	Drain	Description of Maintenance
2017	Maintenance and Repair	Hall Drain	2017 Hall Drain (1.8km of Open Drain, Cleanout)
2022	Maintenance and Repair	Ruhl Drain	U-Branch Repair (450ft of Repair/Replace)
2019	Maintenance and Repair	Webb Drain	Cleanout of Beaver Dams and Bottom and One Side Cleanout in sections of Drain

## 5. Drains with Missing Information

Not all of the files that were reviewed were able to produce enough evidence to prove that they are in fact Municipal Drains, being Drains with the three (3) factors discussed previously. It is important to document the decision on how to address these drains. Our recommendations are described below, and further discussion will be brought back to Council for direction/decisions.

Drain	Item	Recommendation
Scott Drain	By-Law from 1974	Lost by-law of 1947 adopting the Repair and Improvement of Branch A. An inspection of the area is needed to confirm if the Improvement of Branch A from 1947 was constructed. If so, we recommended the reading of a by-law (First and second time as a minimum) adopting the engineer's report of 1974.
Scott Drain	By-Law of 1960	Township to review archives to determine by-law number and include in documentation. No further recommendation as this by-law is in accordance with the Drainage Act.
Hall Drain	Original Engineers Report and Drawings Lost	Branch A of the Hall Municipal Drain can not be maintained as there is no Engineer's Report including an Assessment Schedule for Branch A. Abandonment of Branch A Under Section 84 of the Drainage Act is recommended. This would result in a notification to all landowners assessed to the Hall Drain and would allow for Landowner feedback on the matter.
Webb Drain	By-Law from 1981	Lost by-law from 1981 adopting the improvement under the Engineer's Report completed by Gamsby and Mannerow. An inspection of the area is needed to confirm if the Improvement of from 1981 was constructed. If so, we recommended the reading of a by-law (First and second time as a minimum) adopting the engineer's report of 1981.
Ames Survey Drain	By-laws from 1918 and 1967	The by-law from 1967 was never signed or dated to have been read twice. The engineer's drawings have been lost and therefore does not meet the test of a Municipal Drain. Further work including Inspection is needed of the Ames Survey Drain area to determine if this was ever a Municipal Drain.
Sydenham River	Missing Engineered Drawings	The Provisional By-law and Engineers report are available however there are no records of the Engineer's Drawings. Further work including inspection is needed of the Sydenham River area to determine if this was ever a Municipal Drain.

It is recommended that inspections are held prior to any By-law readings to confirm the condition of the Municipal Drain. This may help determine if the Improvement projects were completed



In summary, the Scott, Hall, and Webb Drainage Works are clearly Municipal Drains. The Ames and Sydenham River Drainage Works have yet to be confirmed if they are Municipal Drains. It is recommended that the Township review its files to determine if there are any remaining pieces of documentation in accordance with the above. Missing by-laws result in the township being unable to perform the required maintenance and repair on a drain in accordance with the Drainage Act.

## 6. Eight-Year Maintenance and Inspection Plan

Going forward it is prudent for the Township of Georgian Bluffs to schedule and budget for the maintenance of the Municipal Drains. This will fulfill their duties under the Drainage Act, and the works are to be coordinated and overseen by the Drainage Superintendent, with regular updates to Council and direction from Council as necessary.

<b>Date</b>	<b>Item</b>	<b>Drain</b>	<b>Description of Works</b>	<b>Costs</b>
2025	Inspection	Ames Drain	Inspection to determine if the Ames Drain is a Municipal Drain	\$1000
2025	Inspection	Sydenham River Drain	Inspection to determine if the Sydenham Drain is a Municipal Drain	\$1000
2025	Maintenance	Johnson Drain	Maintenance of the Johnson Municipal Drain potentially involving a bottom only cleanout of approximately 2km	\$70,000
2026	Inspection	Scott Drain	Inspection to determine if Branch A is constructed in accordance with the Engineers report of 1974	\$2,000
2026	Maintenance	Scott Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$20,000
2027	Inspection	Vary-Gruber Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$1,000
2027	Inspection	Kramer Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$1,000
2027	Maintenance	Vary-Gruber Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization.	\$10,000

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2027	Maintenance	Kramer Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$10,000
2028	Inspection	Kilsyth Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$1,000
2028	Maintenance	Kilsyth Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$10,000
2029	Inspection	Hall/Farrow Drains	Inspection to determine the existing condition of the drain and if maintenance is required	\$5,000
2029	Maintenance	Hall/Farrow Drains	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$30,000
2030	Inspection	Leask Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$2,000
2030	Maintenance	Leask Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$10,000
2031	Inspection	Ruhl Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$6,000
2031	Maintenance	Ruhl Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$80,000
2032	Inspection	Springmount Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$1,000
2032	Maintenance	Springmount Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$5,000
2033	Inspection	Charlton Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$500
2033	Maintenance	Charlton Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$1,000

2034	Inspection	Johnson Drain	Inspection to determine the existing condition of the drain and if maintenance is required	\$1,000
2034	Maintenance	Johnson Drain	General maintenance of Beaver dam removal, spot cleanout, bank stabilization	\$5,000

Maintenance and Repair recommendations found in Inspection processes are recommended to occur in the year of inspection or the following year. An inspection report will be created and delivered to the Township summarizing the condition of the Drain and any recommended works therein. Currently, there is one Maintenance and Repair request sent to the township regarding Johnson Municipal Drain.

## 7. Conclusions & Recommendations

GEI Canada is recommending the above scheduled inspections and maintenance works for the Municipal Drains to ensure that all drains are meeting the intended drainage requirements. Over the course of eight years all Municipal Drains throughout Georgian Bluffs will be inspected, and maintenance will be scheduled promptly to prevent future damages and costs accruing. As apart of the inspection works GEI will record the condition of road crossings to aid the Township in scheduling required maintenance or replacement of road crossing culverts.

Respectively Submitted;

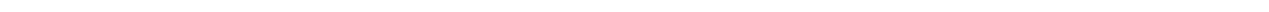
### **GEI Consultants Canada Limited**

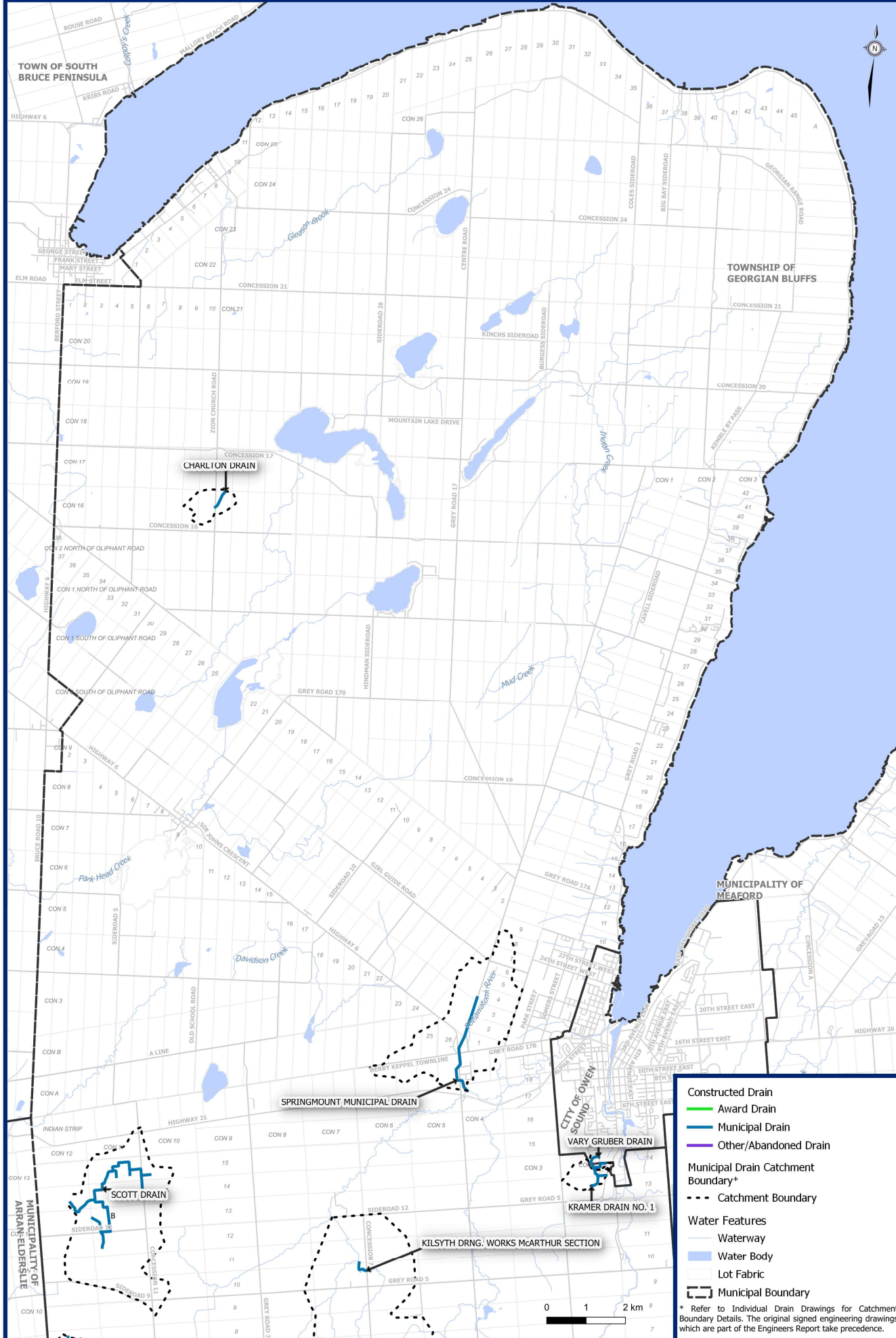
Prepared by:  
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Reviewed by:  
Amanda Froese, B.Eng., P.Eng.

# **Appendix A**

## **MAP CONTAINING GEORGIAN BLUFFS MUNICIPAL DRAINS**





**Constructed Drain**

- Award Drain
- Municipal Drain
- Other/Abandoned Drain

**Municipal Drain Catchment Boundary\***

- - - Catchment Boundary

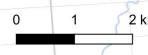
**Water Features**

- Waterway
- Water Body
- Lot Fabric

**Municipal Boundary**

- Municipal Boundary

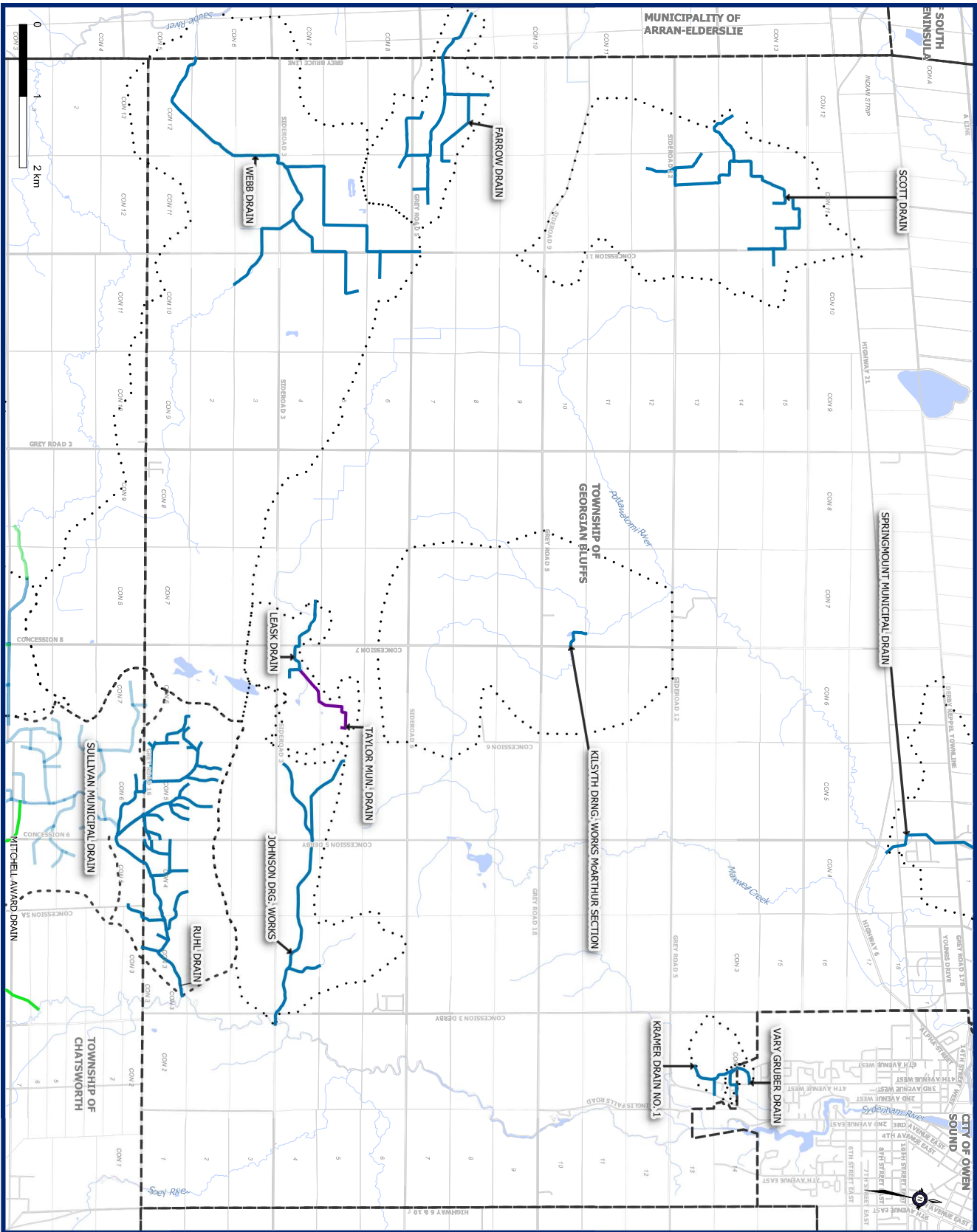
\* Refer to Individual Drain Drawings for Catchment Boundary Details. The original signed engineering drawings which are part of the Engineers Report take precedence.



**Municipal Drain Location Overview**  
 Figure 1 of 3: North Portion of Georgian Bluffs



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Township of Georgian Bluffs Municipal Drains

- Constructed Drain
- Award Drain
- Municipal Drain
- Other/Abandoned Drain
- Municipal Drain Catchment Boundary\*
- ... Catchment Boundary
- Water Features
- Waterway
- Water Body
- Lot Fabric
- Municipal Boundary

\* Refer to Individual Drain Drawings for Catchment Boundary Details. The original signed engineering drawings which are part of the Engineers Report take precedence.

### Municipal Drain Location Overview

Figure 2 of 3: South Portion of Georgian Bluffs



**Township of Georgian Bluffs**

Figure 3 of 3: Detailed Municipal Drain Locations Including Branch Names

- Constructed Drain
- Abandoned Drain
- Award Drain
- Other Municipality
- Municipal Drain Catchment Boundary\*
- Catchment Boundary
- Water Features
- Water Body
- Waterway
- Road Network
- Lot Fabric
- Municipal Boundary

\* Refer to Individual Drain Drawings for Catchment Boundary Details. The original signed engineering drawings which are part of the Engineers Report take precedence.

April 2023  
210383  
NAD 83 UTM 17 N



# **Appendix B**

## **FLOW CHART OF HOW ASSESSMENTS ARE CARRIED OUT**





# Updating Assessment Schedules – Land Use Changes or Connections

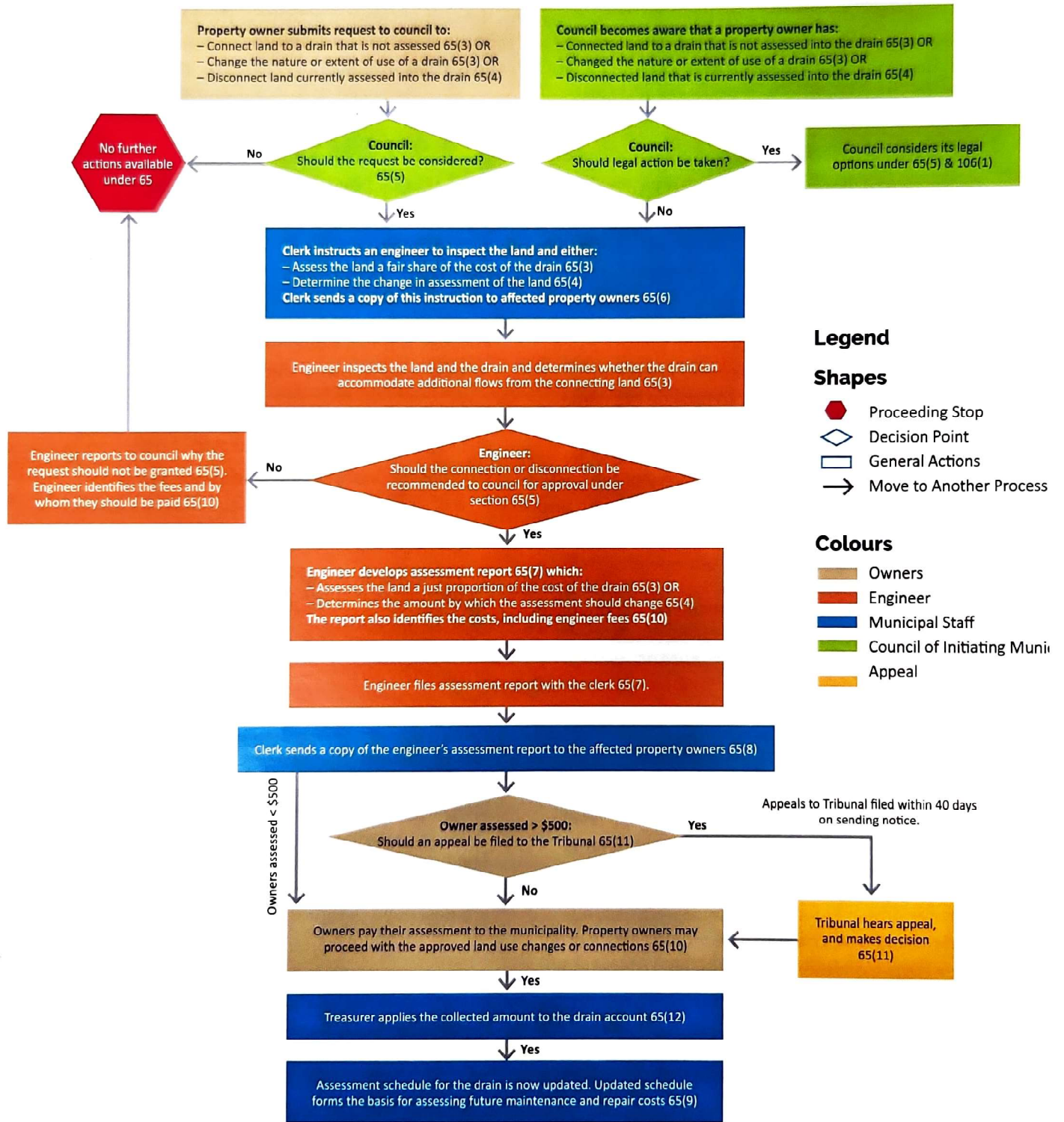





Figure A4-1. Updating assessment schedules – land use changes or connections.

# Updating Assessment Schedules – Severances or Subdivided Land

Section 65(1) and (2)

## Legend

### Shapes

-  Decision Point
-  General Actions
-  Move to Another Process

### Colours

-  Owners
-  Engineer
-  Municipal Staff
-  Council of Initiating Municipality
-  Appeal

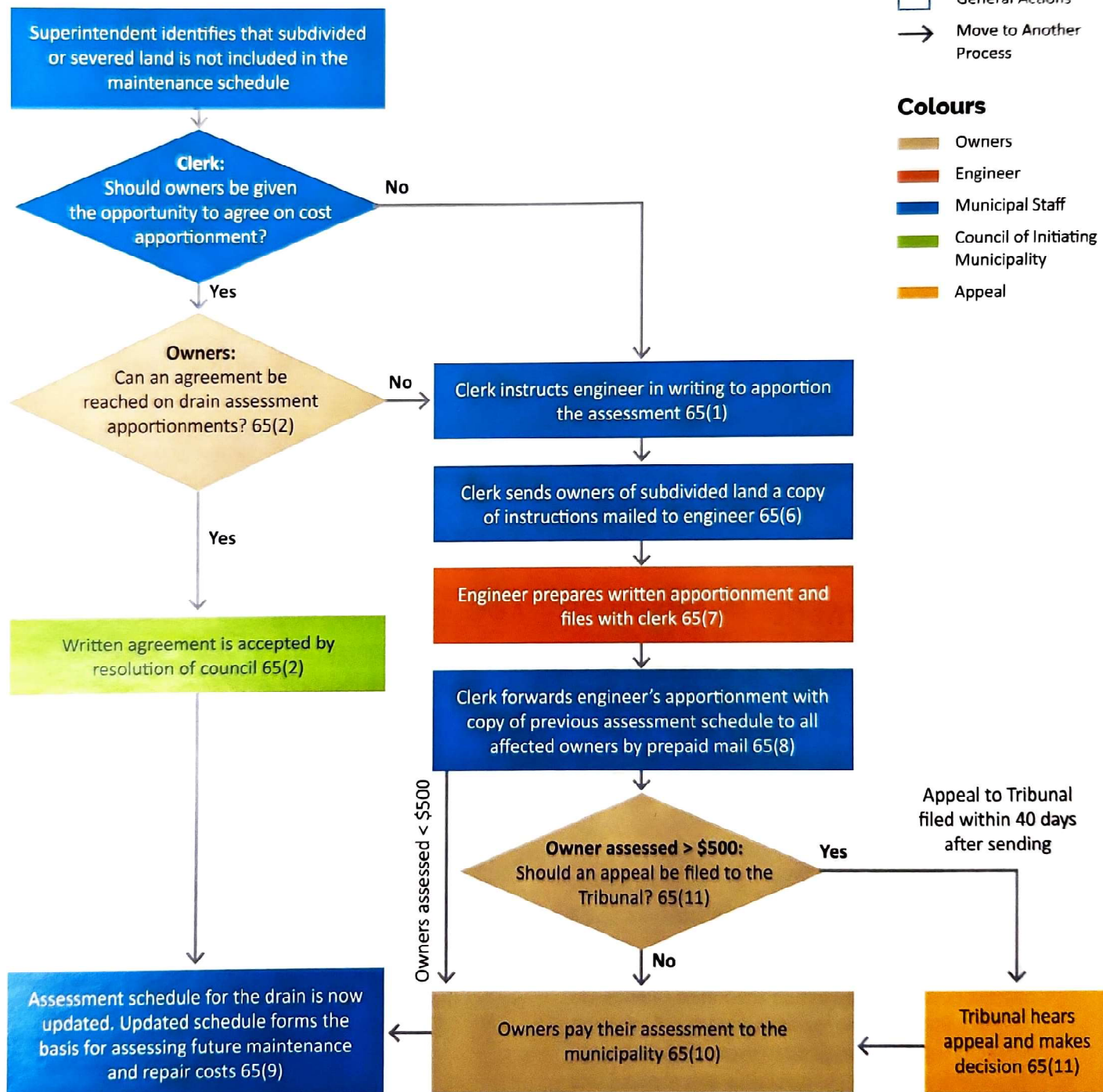


Figure A4-2. Updating assessment schedules – severances or subdivided land.