

Phragmite Program & Roadside Drains



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Municipality of Leamington




2012/11/15



Background

Kingsville began Phragmite control in 2014. In 2010 we were trying to control it but it just kept coming back . In 2012 we began spraying the ditches and in 2014 came upon a new method of phragmite control called Wet Blade Technology.



Leamington began the leg work in 2015 this included GPS technology of mapping drains and getting to understand the different types of phrag stands, depths of drains, water vs. no water in drains, etc. The phragmite control program began in 2016 using different methods.



INVASIVE PHRAGMITES

Invasive Phragmites (European Common Reed) is an invasive plant causing damage to Ontario's biodiversity, wetlands and beaches. Invasive Phragmites is a perennial grass that has been damaging ecosystems in Ontario for decades. It is not clear how it was transported to North America from its native home in Eurasia.

Invasive Phragmites is an aggressive plant that spreads quickly and out-competes native species for water and nutrients. It releases toxins from roots into the soil to hinder the growth of and kill surrounding plants. While it prefers areas of standing water, its roots can grow to extreme lengths, allowing it to survive in relatively dry areas.

Some Impacts of Invasive Phragmites:

- grows very quickly thereby causing lower water levels as water is transpired faster than it would be with native vegetation;
- Increases fire hazards as strands are composed of a high percentage of dead stalks; and
- Affects agriculture, cause road safety hazard and impact recreational activities such as swimming, boating and angling.

Essex County Phragmite Working Group (ECPWG)

The purpose of the group is:

- To understand how big of a problem Phrag is in Windsor Essex County
- To learn from each other
- To educate each other and to bring what we learn back to other staff
- To work together in controlling phrag

What we are learning...

| Burning | Spraying |
|---------|-------------------|
| Cutting | Cutting & Rolling |
| Tarping | Pulling |

ECFA

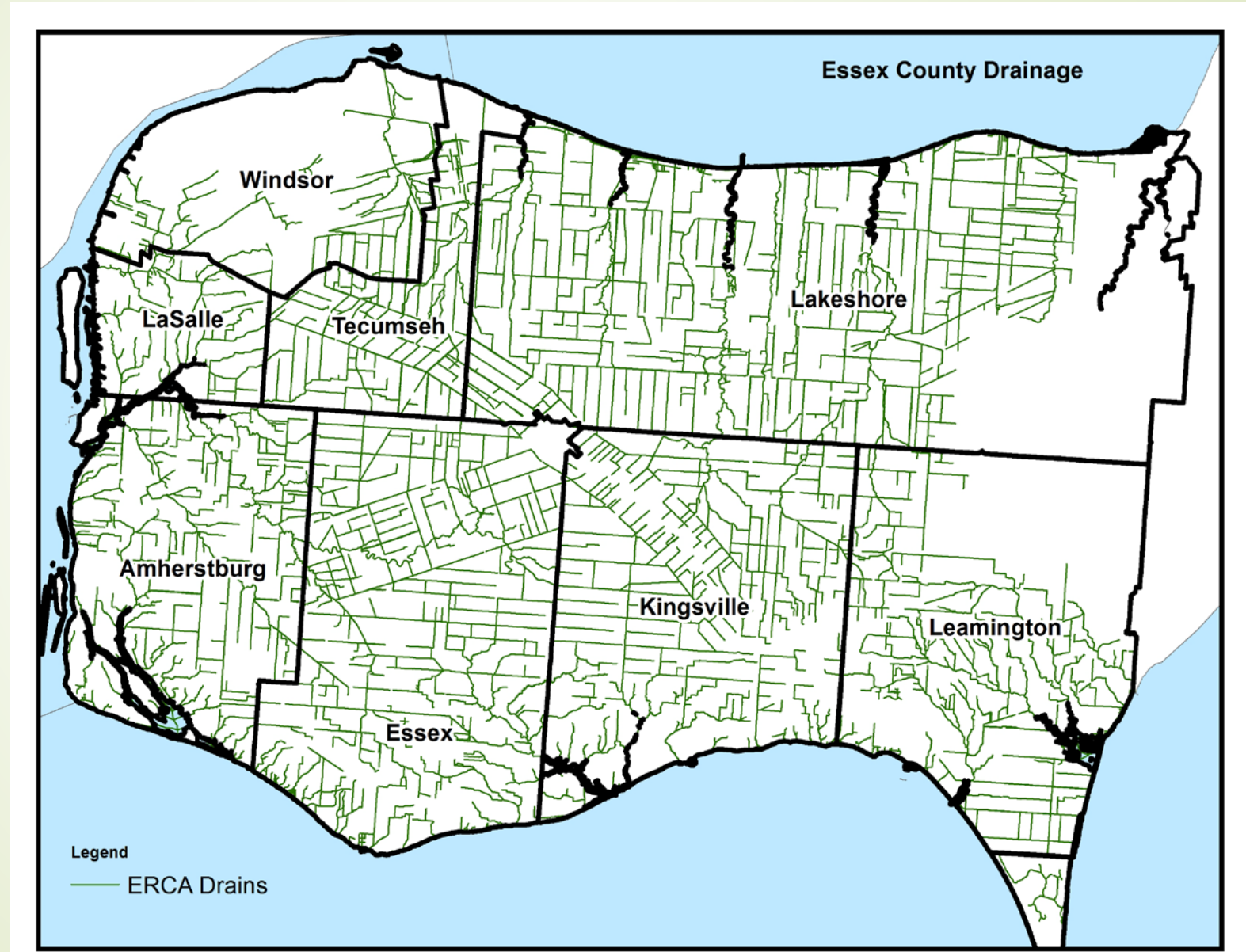


MINISTRY OF TRANSPORTATION

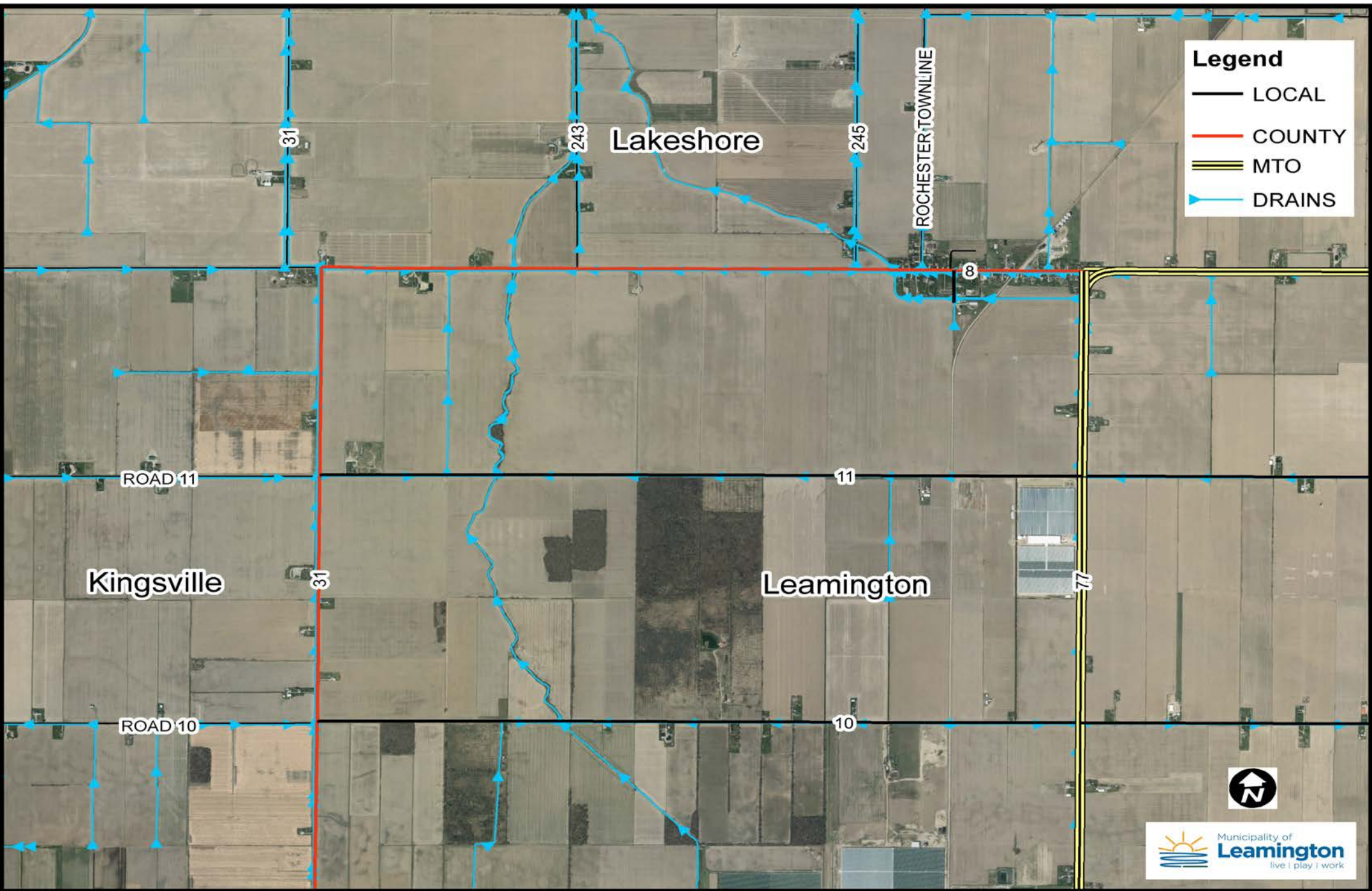


Ministry of Natural Resources and Forestry

WINDSOR-ESSEX COUNTY



8 Municipalities



Legend

- LOCAL
- COUNTY
- == MTO
- ▶ DRAINS



555 Essex County Rd 2

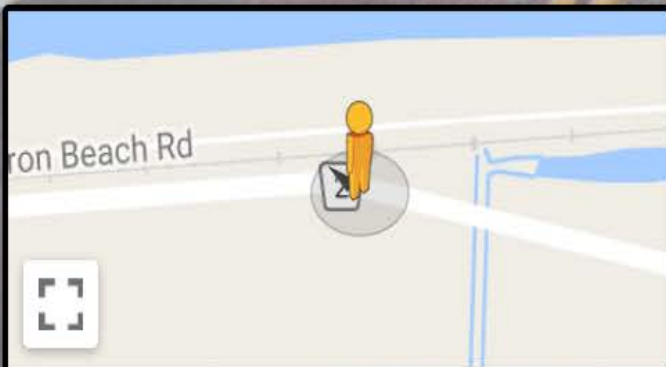
Lakeshore, Ontario



Street View - Jun 2014



Essex County Rd 2



Google



The Plan

We have tried 3 different methods to control phragmites.

- Spray Only - Apply herbicide to already existing adult phragmites
 - Cut-Wait-Spray - Brushing of Phragmites, let it grow to approximately 3 feet (1-2 months) and then apply herbicide
 - Wet Blade Technology - where the phragmites is cut and herbicide is applied simultaneously
-
- Types of Products being used today

Spraying



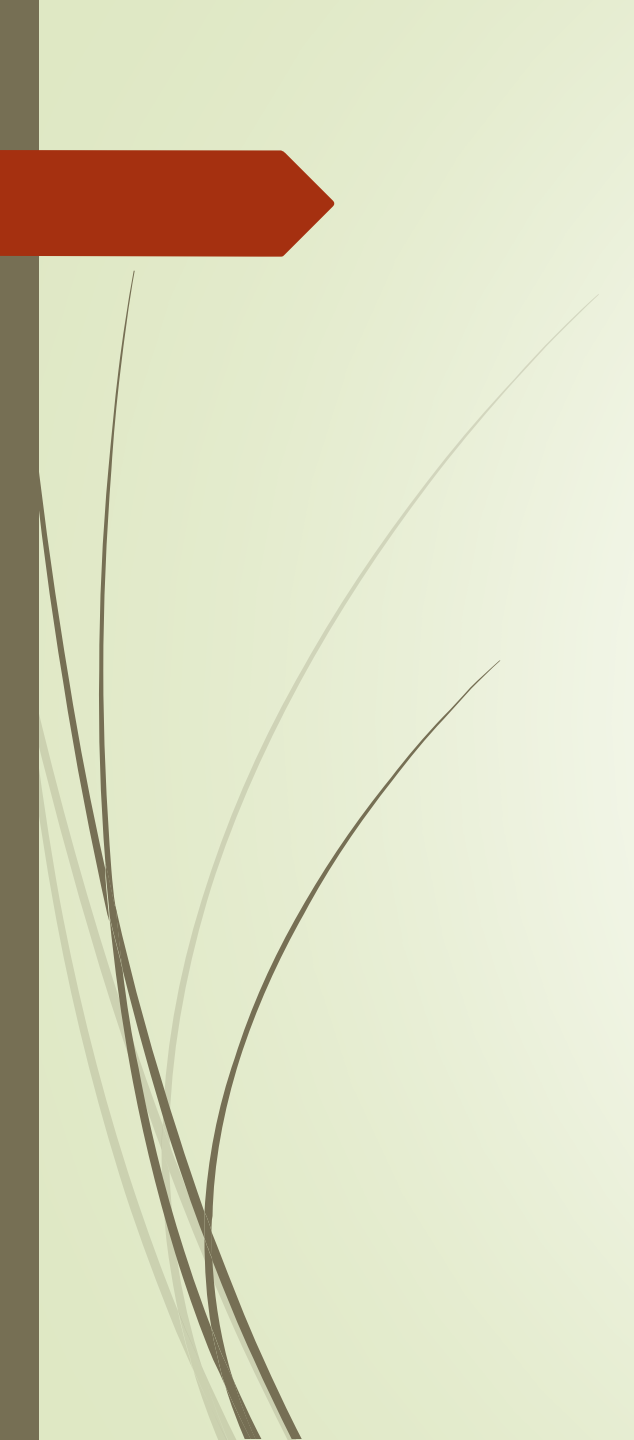
Brush Mower / Spraying

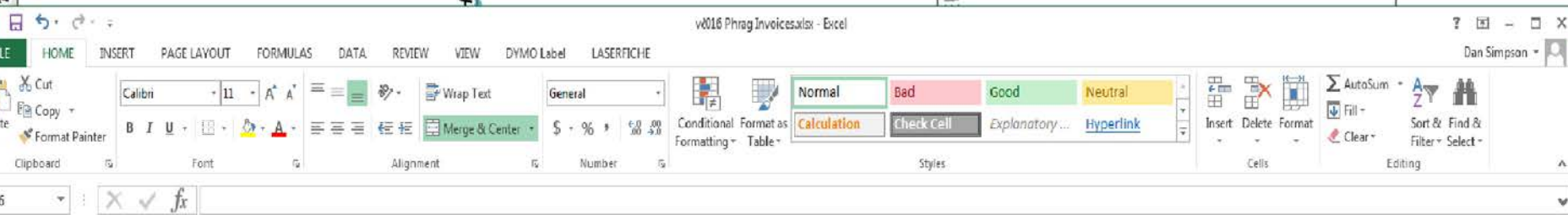
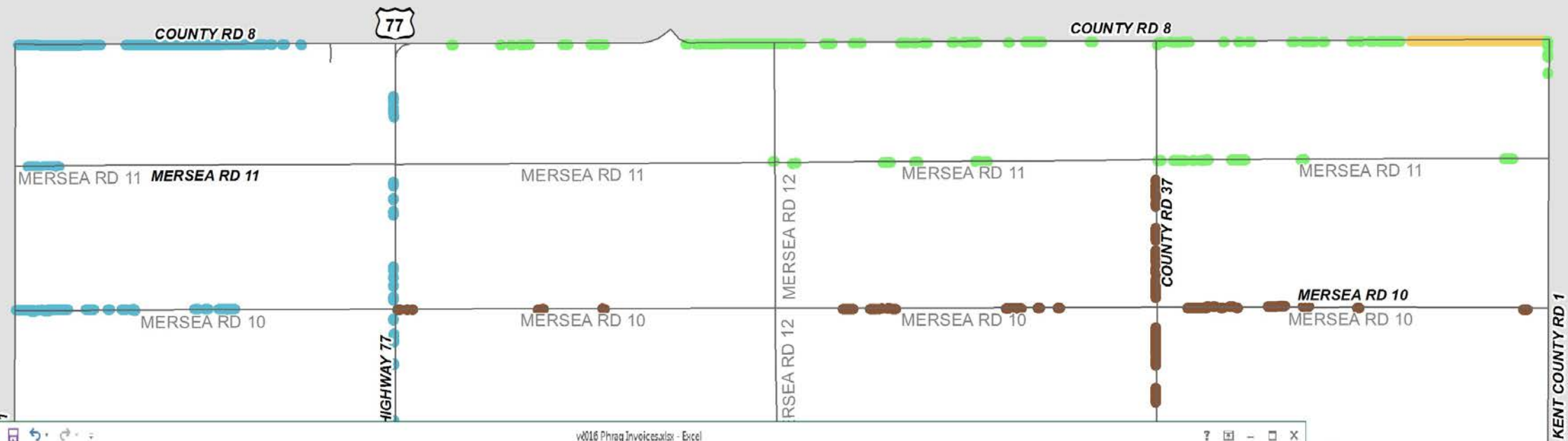






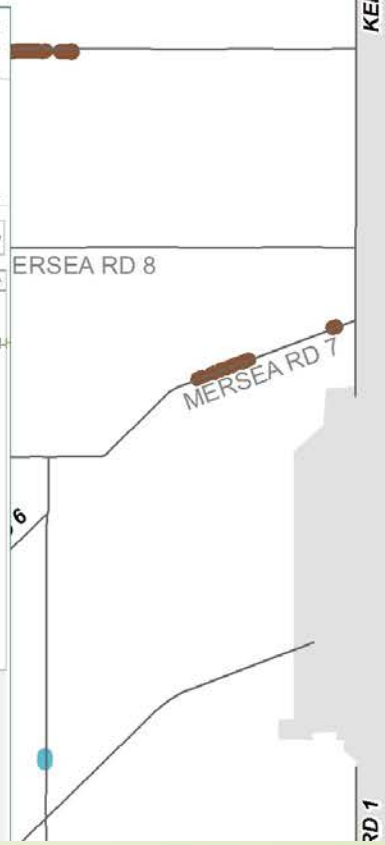
Wet Blade Technique





| | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|-------|---|---------------|-----------------|--------------|----------|-------|---|---|---|---|---|---|---|---|---|
| | | Length Meters | Cost percentage | Pre-Tax cost | Full Tax | Type | | | | | | | | | |
| Steve | | 269 | 2.23% | 93.06 | 105.16 | drain | | | | | | | | | |
| Steve | | 390 | 3.24% | 134.76 | 152.28 | drain | | | | | | | | | |
| Steve | | 1872 | 15.53% | 646.81 | 730.89 | drain | | | | | | | | | |
| Steve | | 472 | 3.92% | 163.23 | 184.45 | drain | | | | | | | | | |
| Steve | | 249 | 2.06% | 85.38 | 97.16 | drain | | | | | | | | | |
| Steve | | 450 | 3.74% | 155.59 | 175.81 | drain | | | | | | | | | |
| Steve | | 108 | 0.89% | 37.13 | 42.02 | drain | | | | | | | | | |
| Steve | | 170 | 1.41% | 58.75 | 66.38 | drain | | | | | | | | | |
| Steve | | 82 | 0.68% | 28.47 | 32.18 | drain | | | | | | | | | |
| Steve | | 253 | 2.10% | 87.49 | 98.87 | drain | | | | | | | | | |
| Steve | | 1305 | 10.82% | 450.85 | 509.46 | drain | | | | | | | | | |
| Steve | | 363 | 3.01% | 125.27 | 141.55 | drain | | | | | | | | | |
| Steve | | 175 | 1.45% | 60.58 | 68.45 | drain | | | | | | | | | |
| Steve | | 26 | 0.21% | 8.85 | 10.00 | drain | | | | | | | | | |
| Steve | | 120 | 0.99% | 41.35 | 46.73 | drain | | | | | | | | | |
| Steve | | 10 | 0.08% | 3.40 | 3.84 | drain | | | | | | | | | |
| Steve | | 135 | 1.12% | 46.69 | 52.76 | drain | | | | | | | | | |
| Steve | | 465 | 3.85% | 160.55 | 181.42 | drain | | | | | | | | | |

| I | J | K | L | M | N | O | P |
|--|--------|------------|------------|--------|------------|-------------|---------------------------|
| | | | | | | | |
| Roadside | | | | | | | |
| Road | | Time (min) | Length (m) | % | Pre Tax Cd | Full Tax Cd | Picture |
| COUNTY RD 14 - Steve | | | 17 | 0.14% | 5.90 | 6.67 | |
| Mersea RD 1 - D - Steve | | | 31 | 0.26% | 10.83 | 12.24 | |
| MERSEA RD 10 - Steve | | | 263 | 2.20% | 90.92 | 102.74 | |
| MERSEA RD 11 - Steve | | | 130 | 1.09% | 44.84 | 50.67 | |
| Mersea RD 7 - D - Steve | | | 143 | 1.20% | 49.42 | 55.85 | |
| MERSEA RD 7 - Steve | | | 294 | 2.46% | 101.55 | 114.75 | |
| Milo | | | 40 | 14.73% | 13.82 | 15.62 | |
| Deer Run | | | 58 | 21.36% | 20.04 | 22.65 | |
| | Totals | 0 | 976 | 43% | 337.32 | 381.17 | 10-5-0630-7965-002040-008 |
| Municipal Drain | | | | | | | |
| Drain | ByLaw | Time (min) | Length (m) | S/m | Pre Tax Cd | Full Tax Cd | GL |
| 10th Concession Road Drain East 3662 - Steve | 3261 | | 269 | | 93.06 | 105.16 | 10-5-0680-6680-803261-005 |
| 11th Concession Road Drain - West Branch | 4342 | | 390 | | 134.76 | 152.28 | 10-5-0680-6680-804342-005 |
| 8th Concession Road Drain 3406 - Steve | 3406 | | 1872 | | 646.81 | 730.89 | 10-5-0680-6680-803406-005 |



One year after treatment shows that the phragmites has not come back 100% and that natural grasses have begun to take hold



Method of Phragmites Control



- Do the most good with the least harm
- Wet blade technique is application of choice
- Application 4.5 to 5% (VisionMax) with 1% surfactant (Peanut Oil)
- In the case of Municipal Drains - All assessed properties pay for maintenance costs including Town roads, County roads, and Provincial Highways

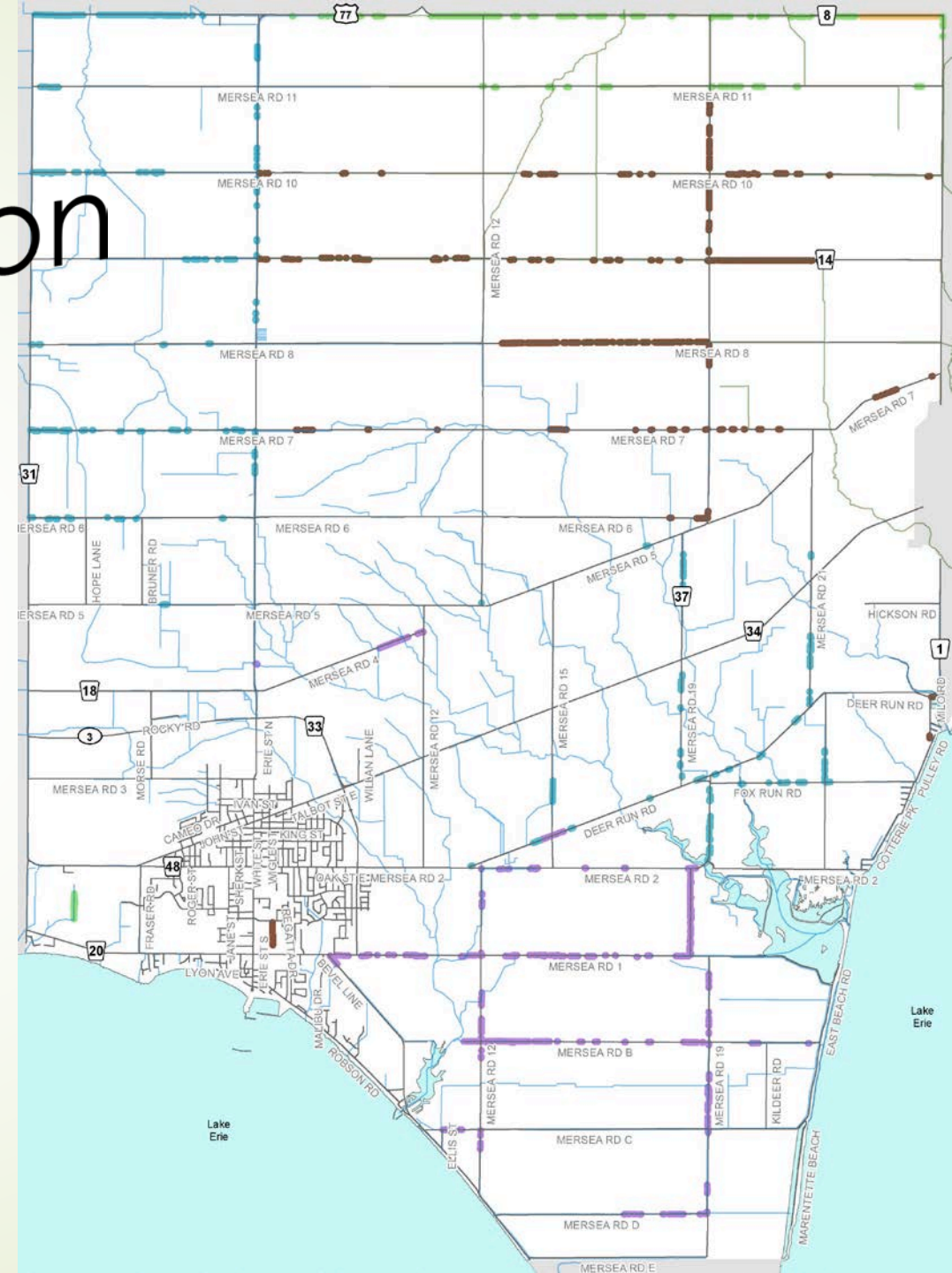
Concerns:

- Kills everything
- Crossing Property Lines
- Site Line Issues
 - Driveways
 - Intersections



Going Forward Into 2017 Leamington

- Roadside Phragmites Program will continue
- All municipal drains will be mapped using GPS Technology for Phragmites
- Control on Municipal Drain will begin
- Our Budget for this year:
 - \$20,000 for Roadside
 - \$40,000 for Municipal Drains



Sturgeon Creek



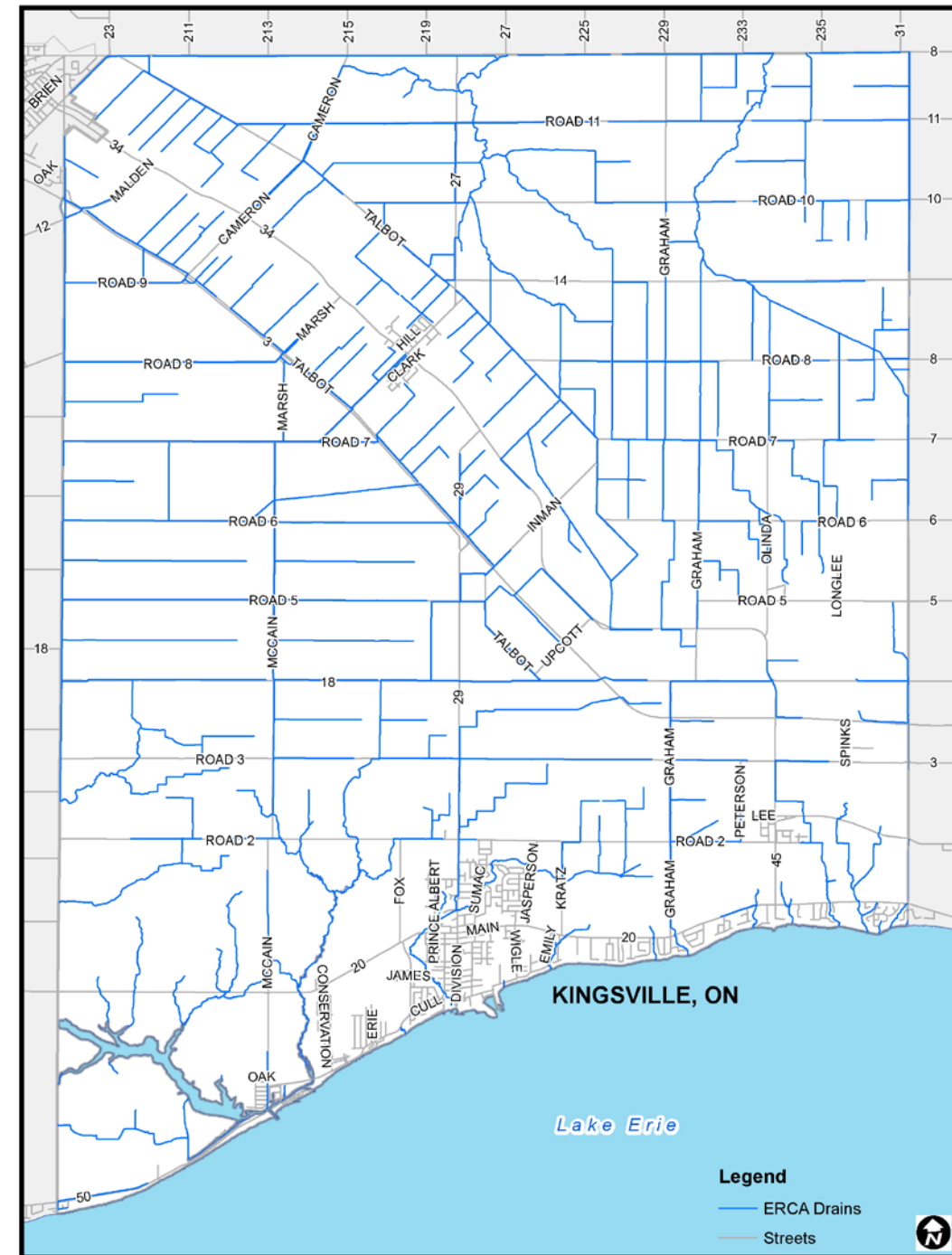
Going Forward Into 2017 Kingsville

- Roadside Phragmites Program will continue
- Control on Municipal Drain will begin
- We are proposing a budget of
 - \$85,000

Every year less new growth is anticipated
Educating the public of the seriousness of the problem

Unless continued control measures are used, the Phrag problem will continue to grow

By being proactive we will see the current phragmites problem shrink





I will win
Maybe not today
Or tomorrow
But one day
I will win

@TheElite

Ongoing and Future Plans

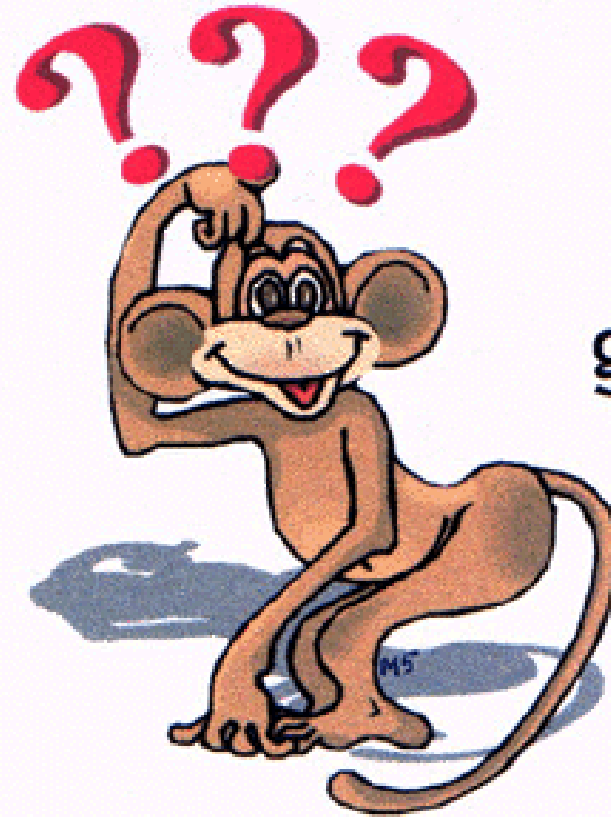
The purpose of a buffer strip is to delineate between farming practices and the drain. It allows the holding back of sediment and provides a positive amount of herbicides/pesticides and fertilizers need to be retained on the farmland.

This policy allows for the implementation of buffers along Municipal Drains on new Engineer's Reports.

Therefore anytime during the Phragmites Program a buffer strip should be there, the Municipality will re-instate it as part of the works.

We are learning that if you are persistent on the phrag removal and have opportunities to plant seed of a native grass the phrag is likely not to return.





Questions
are
guaranteed in
life;
Answers
aren't.