



**CROZIER**

**PRIVATE SERVICING SOLUTIONS**  
to Address the Housing Crisis

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# AGENDA

- 1. Canadian Housing Crisis**
- 2. Municipal Servicing**
- 3. Private Servicing**
  - Individual Onsite Systems
  - Cluster Systems
  - Communal Sewage Systems
- 4. Operation and Maintenance**
  - Individual Owners
  - Cluster and Communal Owners
  - Barriers
- 5. Conclusions/Key Takeaways**

# ABOUT US

**Crozier is an Ontario-based consulting engineering firm in the land development and building industry**

We are committed to growing careers and building communities by delivering multidisciplinary engineering services to the private sector



**20+**

**Years** of organic and consistent growth since being founded in 2004

**300+**

**Workforce** of entrepreneurial, energetic, and caring employees

**5**

**Offices** in key Ontario markets: Collingwood, Milton, Toronto, Bradford and Guelph

# CANADIAN HOUSING CRISIS

- In Ontario, developments are proposed in many settings (urban/rural)
- Issues concerning private servicing in growing communities
- Costs, large footprints for each system



# CANADIAN HOUSING CRISIS - ONTARIO

- May 2019 – More Homes, More Choice: Ontario's Housing Supply Action Plan
  - Long term strategy to increase housing supply and provide attainable housing
- November 2022 - Bill 23, More Homes Built Faster Act, 2022
  - Part of the Action Plan to support the goal of 1.5 new homes in Ontario by 2031
  - Included extensive changes to DC Act, Planning Act, Municipal Act and others
- October 2024 – New provincial policy statement (PPS) comes into effect
- Many grant programs (federal and provincial) aimed at housing enabling infrastructure
  - These programs miss the mark when it comes to nonurban development



# TYPES OF PRIVATE SERVICING



## INDIVIDUAL SYSTEMS

(Single household)



## CLUSTER SYSTEMS

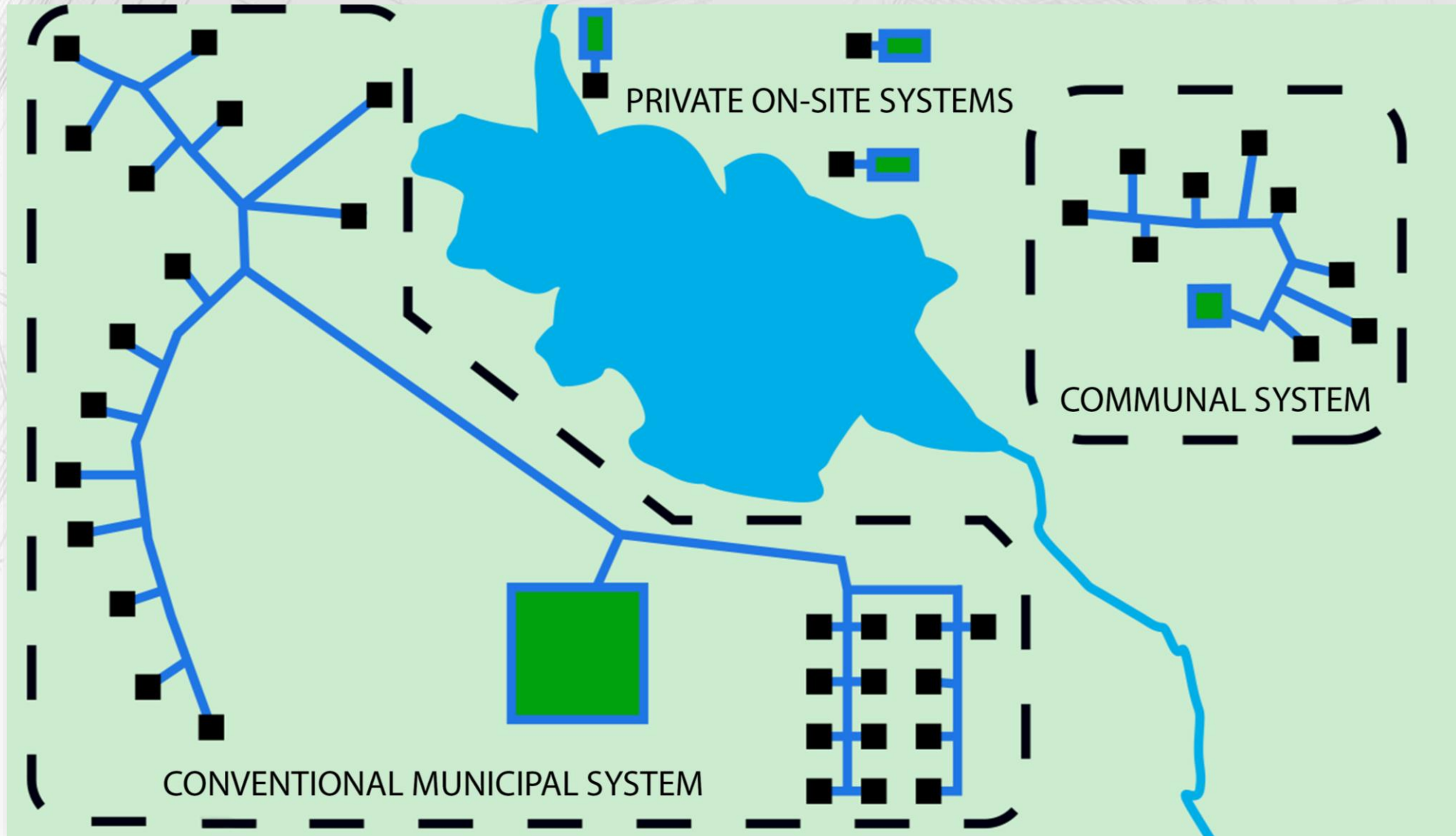
(2-10 households)



## COMMUNAL SYSTEMS

(Multiple households  
to a subdivision)

# MUNICIPAL VS INDIVIDUAL VS COMMUNAL



# URBAN DEVELOPMENT

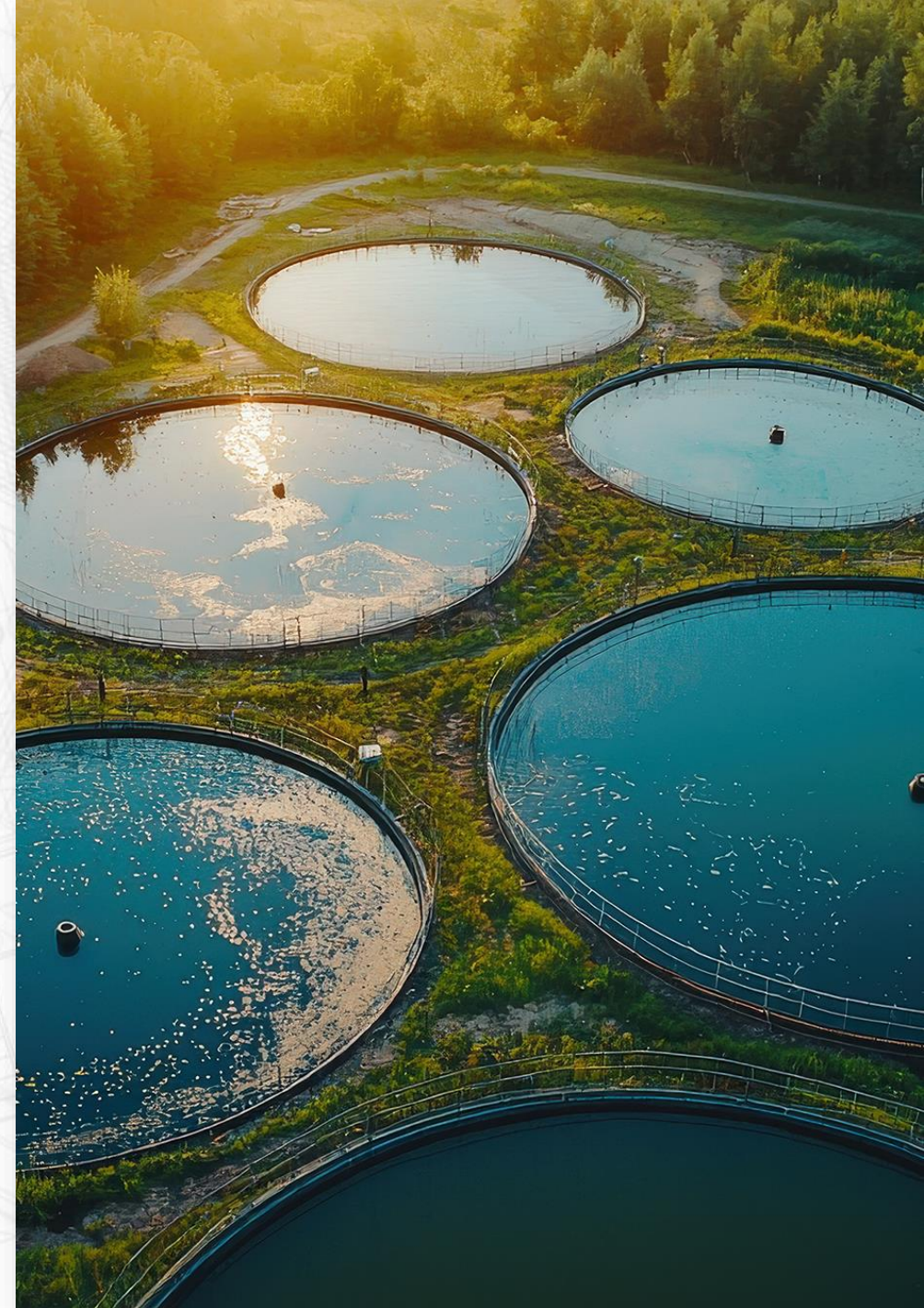
- Water –supplied by a large-scale municipal water system
  - Can be groundwater or surface water based
  - Treatment, storage, distribution
- Wastewater – centralized treatment system (wastewater treatment plant)
  - Collection system complete with pumping stations (if required)
- Publicly owned and operated. In Ontario this is at the municipal level, either upper or lower tier
  - Some joint servicing boards





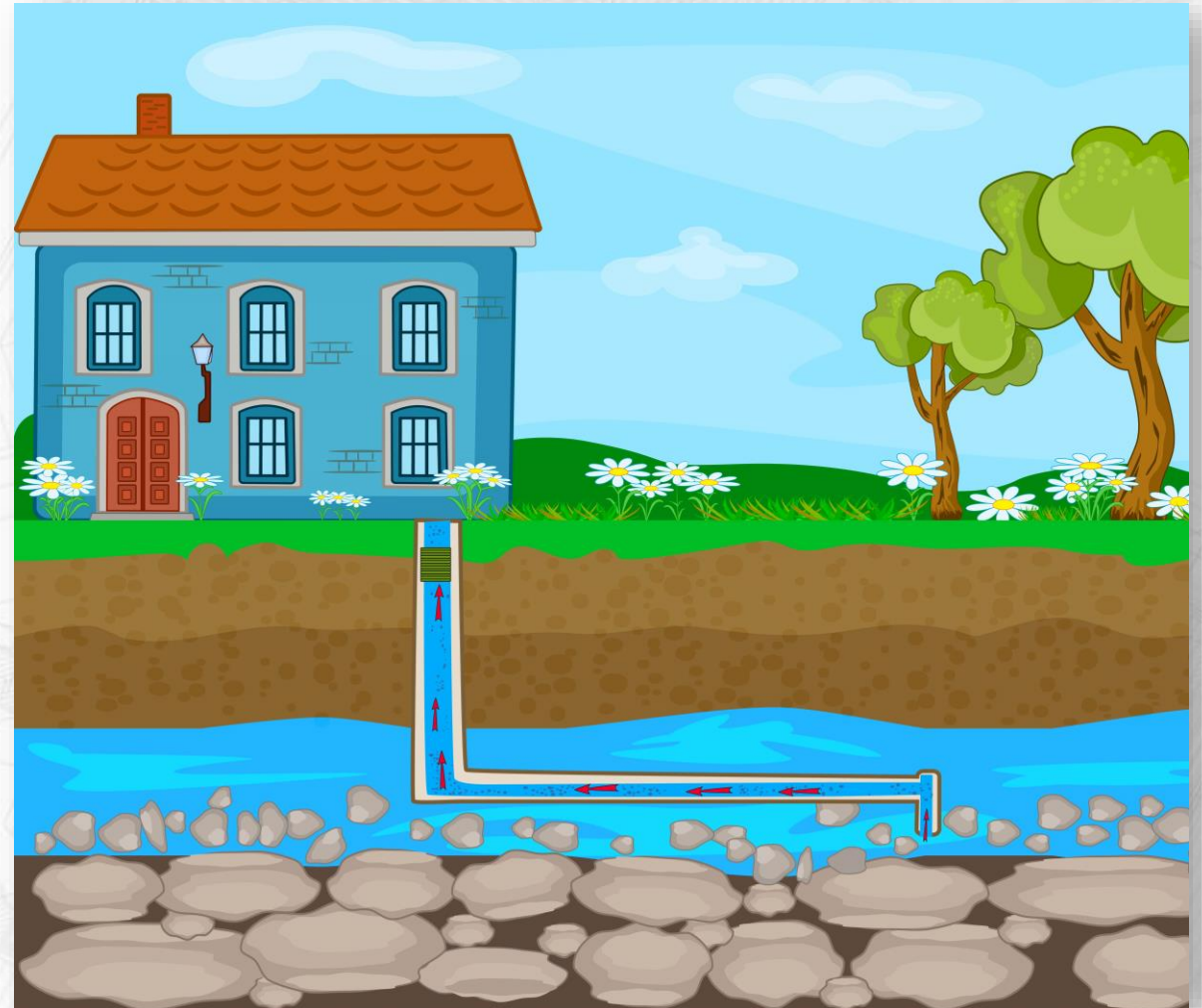
# URBAN FRINGE AND RURAL DEVELOPMENT

- Water – typically supplied by a smaller-scale water system
  - Groundwater or surface water based for all kinds of applications (golf courses, campgrounds, resorts etc)
  - May be individual, municipal or communal
  - May include treatment, storage, distribution
- Wastewater – smaller scale wastewater system
  - May be individual, municipal or communal
  - May service all variety of land uses, not just residential
  - May include collection, treatment and disposal
- Can be privately owned and operated in Ontario under certain circumstances
- Connecting to the “BIG PIPE” is just not feasible in huge swaths of the country



# WHAT DOES PRIVATE WATER SERVICING LOOK LIKE?

- Individually owned ground water wells or surface water intakes
  - Typically service a single residence
  - Property owner is responsible for O&M
  - Treatment (if required) is the responsibility of the property owner
- Communal systems – either groundwater or surface water supply
  - Condo corp. or other private entity responsible for O&M, treatment and **all capital costs**



# PRIVATE WATER SERVICING

- The threshold for regulation as a Water System varies across the country on a province by province basis
- Ontario - Regulated by Ontario Regulation (O.Reg.) 903, O.Reg. 319/08 (Small Drinking Water Systems) and O.Reg. 170/03 (Drinking Water Systems)
- In Ontario communal water supply systems can be owned and operated either by a private entity or a municipality



# PRIVATE WATER SERVICING

- BC, Quebec, Newfoundland – Small Water System (SWS)/Very Small Water System (VSWS) <500 individuals served
- Saskatchewan, Ontario, Manitoba, PEI – SWS/VSMS/Micro Water Works definition is based on service connections
  - SK - <15
  - Man – 14 or less
  - ON – 5
  - PEI – 5-20 (VSWV), 21-150 (SWS)



# PRIVATE WASTEWATER SERVICING

- Privately owned sewage treatment and disposal system
- Generally located on the property where sewage is generated
- Subsurface or surface discharge
- Ontario - Regulated by Part 8 of the Ontario Building Code or the OWRA – 10,000 L/day threshold
- All other provinces – Ministry of Environment or Ministry of Health

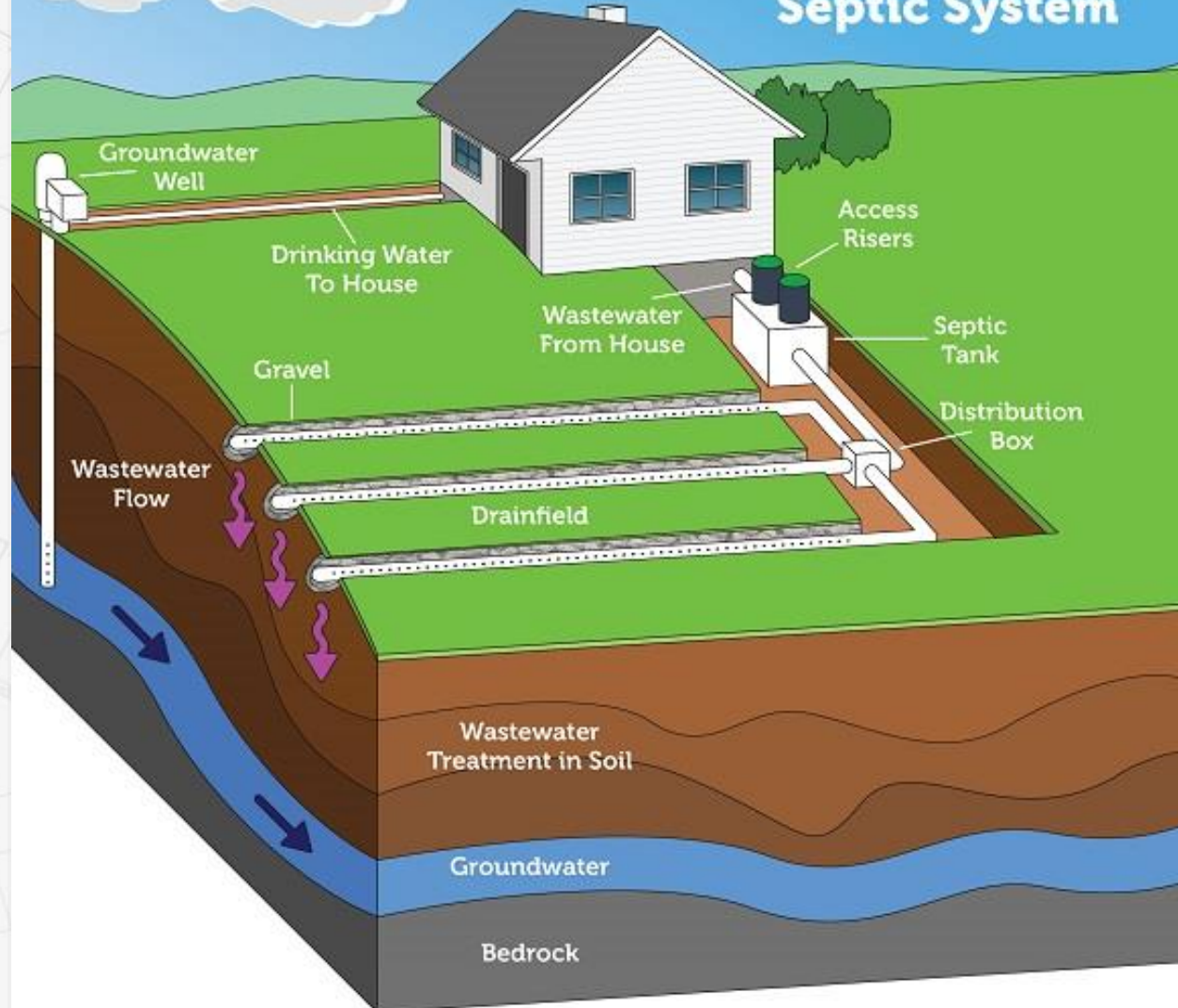


# INDIVIDUAL ONSITE SYSTEMS

- Septic tank and leaching bed
- A typical subsurface discharge system
- Very common in Ontario
- Property owner responsible for operation and maintenance
- Currently no guidance for tiny homes



# Conventional Septic System



Please note: Septic systems vary. Diagram is not to scale.

# LIMITATIONS



## ONLY SERVICE ONE/FEW LOTS

- Not efficient use of land in a housing crisis
- Limits the size of the building and number of housing units per lot



## REQUIRE LARGE FOOTPRINT

- Large lots, less density
- Nutrient removal technologies for nitrogen and phosphorous are not recognized by current building code



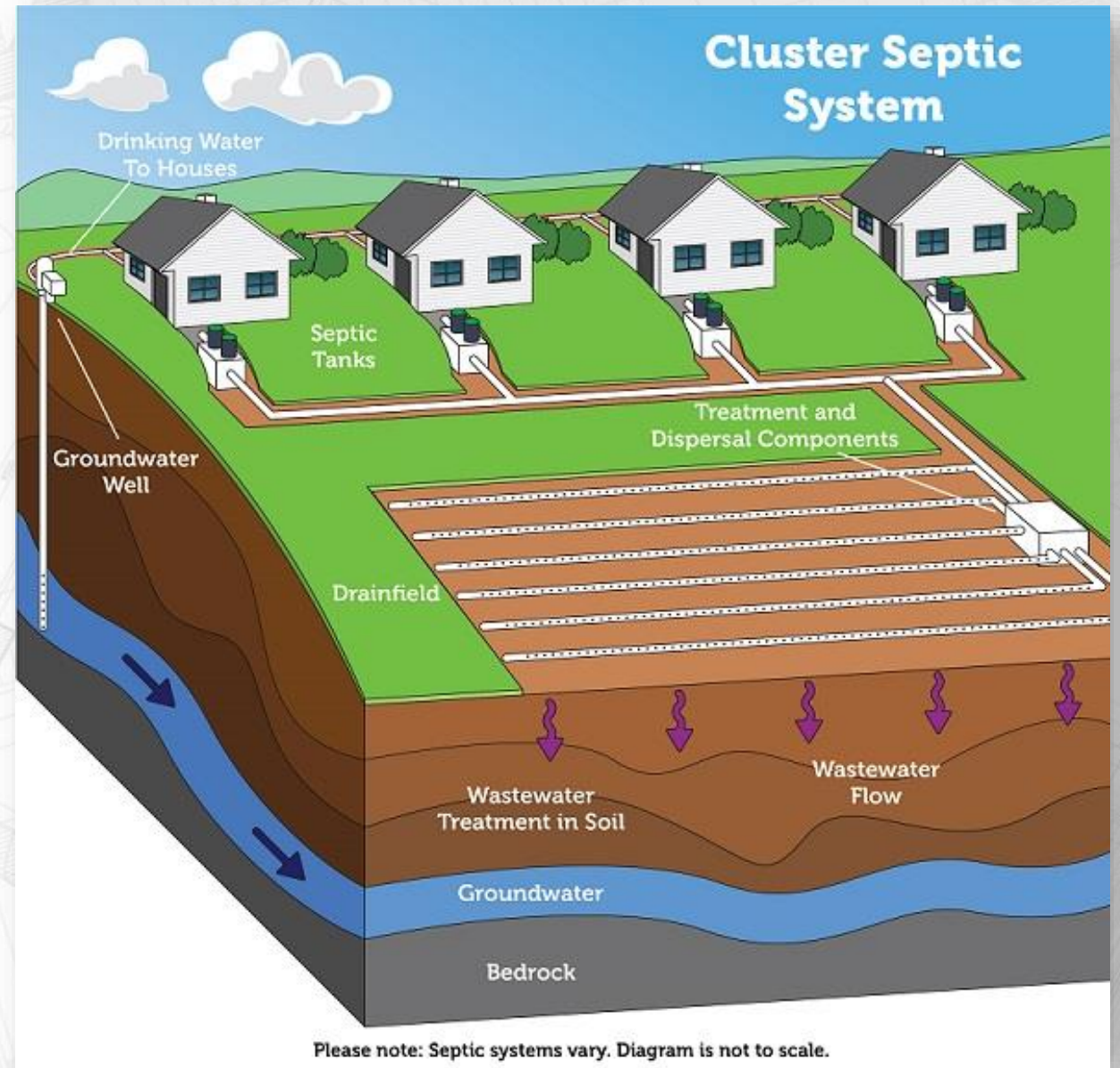
## O&M COSTS FOR PROPERTY OWNER

- Home-owners are generally not motivated to invest in their sewage system
- Out of sight, out of mind



# CLUSTER SYSTEMS

- For 2 – 10 homes
- Small collection system – STEP/STEG
- Treatment and dispersal system located near the dwellings
- Subsurface or surface discharge
- In Ontario, If the lots are subdivided than an MECP approval is required regardless of the size of the sewage system
- May require additional agreements for continued operation



# COMMUNAL SEWAGE SYSTEMS

- 10+ homes to an entire new subdivision
- Collection system – can include STEP/STEG but doesn't have to
- Servicing blocks required for treatment and disposal
- Subsurface or surface discharge
- Ownership can be a private entity or municipality
- In Ontario require an ECA/MRA as from MECP
- Allows denser developments in small communities and rural areas



Image: Global News

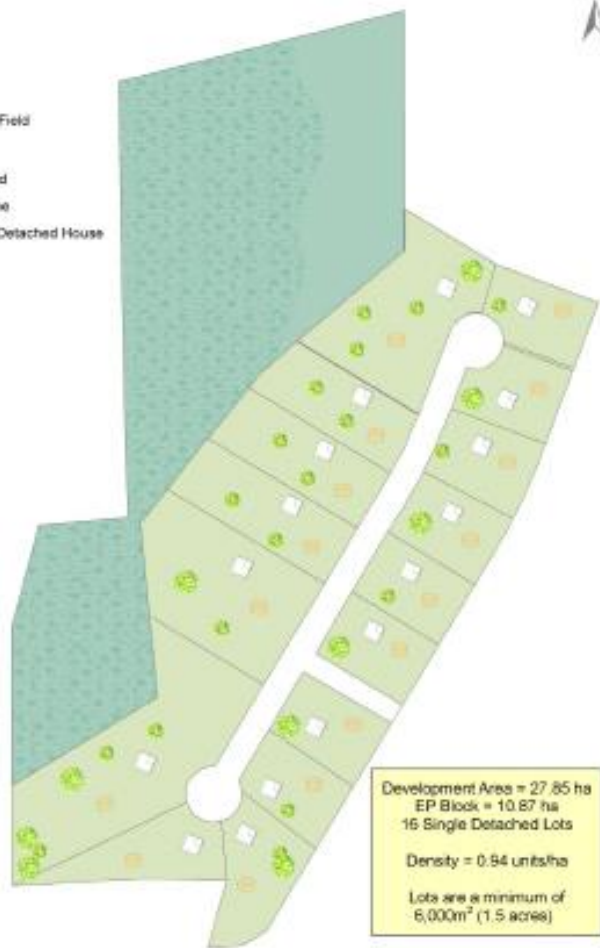
## POTENTIAL FOR DEVELOPMENT ON COMMUNAL SERVICES

The figures below illustrate an actual 28-hectare residential development in the County with private on-site services, compared to the development potential which could be enabled through the implementation of communal services, representing nearly four times the density.

### INDIVIDUAL SERVICING

#### Legend

- House
- Septic Field
- Tree
- Wetland
- EP Zone
- Single-Detached House
- Road



### COMMUNAL SERVICING

#### Legend

- Townhouse
- House
- Building
- Tree
- Wetland
- Treatment System
- Communal Septic Field
- EP Zone
- Commercial
- Apartment Complex
- Single-Detached House
- Townhouse
- Road



# CLUSTER AND COMMUNAL SYSTEMS

- Typically some sort of package treatment plant
- Trickling filters, SBR's, RBC's, MBBR's, MBR's etc.
- Subsurface or surface discharge
- Supporting studies to look at the impact
- Subsurface disposal will require larger footprint, may have additional challenges with groundwater mounding etc.
- Surface discharge needs an adequate receiver
- There would typically be some sort of monitoring and reporting requirements for these types of systems



# ADVANTAGES AND DISADVANTAGES



- Permits smaller lot sizes
- Promotes more density and broader range of housing types
- More environmentally-friendly
- Costs shared over larger number of people
- Limits the number of point sources of potential pollution



- Who owns it/who is responsible?
- Require more approvals from the government and municipality (ECA, MRA)

# PRIVATE CLUSTER/ COMMUNAL SYSTEMS O&M

- Private entity is responsible for O&M
- Owner – developer? REIT or similar land lease entity
- Condominium corporation
- In Ontario permitted through ECA/MRA issued by MECP
- Will include conditions for ongoing O&M including sampling, monitoring and reporting



# BARRIERS – ONTARIO SPECIFIC (IN THE CONTEXT OF THE HOUSING CRISIS)

- Planning Policies
  - When development on individual lots is proposed, it is skewed toward conventional septic tank/leaching beds systems
    - Biggest footprint, least amount of density
    - Skepticism about the efficacy of advanced treatment units
  - The 10,000 L threshold limits the size of housing units with higher densities such as apartment buildings or townhouse blocks
  - OBC is entirely silent on tiny homes
  - Municipalities are hesitant to approve communal sewage systems due to risk associated with the MRA process



# BARRIERS – ONTARIO SPECIFIC MUNICIPAL RESPONSIBILITY AGREEMENT

- MECP requires a Municipal Responsibility Agreement (MRA) for any sewage works that exceeds 10,000 L/day AND services **permanent** residential communities
- MRA is an agreement between the owner of the sewage works and the municipality and provides a pathway for the continued operation of the sewage works in the event that the owner defaults
  - Includes a financial component, which is typically held by the Municipality
- Many municipalities in Ontario are very reluctant to enter into an MRA due to the perceived risk of having to assume infrastructure they did not want in the first place
  - Little trust that the private sector has any long-term investment in the sewage works
  - Over-riding belief that these systems don't work
  - If owned/operated by a condominium corporation they may be at odds with their own taxpayer base if there is ever an issue



# POSSIBLE SOLUTIONS

- Biggest issue with MRAs in Ontario is the financial risk to the municipality and the ownership structure
- Consider alternatives
  - Municipal ownership or transfer to municipality initially
    - Municipalities not currently with systems are generally hesitant to add this responsibility
  - Create a Municipal Services Corporation (MSC) to provide water and sanitary servicing
    - Permitted under the Municipal Act
    - A publicly owned utility that assumes the responsibility of managing the sewage works over their lifetime
    - Increases the debt capacity of the municipality
    - Some great examples in Ontario (Frontenac, Oro-Medonte etc.) but still perceived as “pilot projects”
  - Provide better tools for municipalities to leverage taxes or fees for “private” services

- Increase sewage flow limit for ECA approval from 10,000 L/d to 20,000 L/d for residential properties
  - 10,000 L/d limit was selected as a starting point many years ago – not based on science
  - Increased threshold would allow for increased densification in nonurban areas
    - Require an engineered design to manage risk
    - Consider management entities for O&M for individual systems in higher risk areas
- Province should assume responsibility of the MRA process
  - MECP already has a Financial Assurance Guideline for the process
  - MECP has the enforcement tools to regularly inspect facilities and issues orders to remedial work
  - This will allow for privately initiated and financed infrastructure upgrades required to increase housing and reduce housing costs



# KEY TAKEAWAYS/ RECOMMENDATIONS



- There are options for communal systems which alleviate individual costs and development limitations associated with an individual private system
- MRA is an example of a barrier that prevents new housing developments from proceeding on communal or cluster sewage systems
- This maintains the status quo of individual private services which limits density and variety in housing types
- In Ontario, increasing the threshold at which the MECP has jurisdiction is one way to easily add some more housing to individual lots or increase the potential for housing density on a small scale, i.e., apartment buildings or townhouse blocks

- Develop appropriate building code legislation to permit construction of tiny homes
- Add nutrient removal technologies for nitrogen and phosphorous to building code to remove barriers for more intense development on individual systems
- Consider other options for ownership and/or O&M of cluster and communal systems such as an MSC or a utility
- If municipalities remain uncomfortable with MRAs have other levels of government hold the agreement/financial assurance



# QUESTIONS **and** DISCUSSION

# THANK YOU

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