NORTH HURON WATER & WASTEWATER MASTER PLAN

RESERVE CAPACITY UPDATE
PRESENTATION TO COUNCIL

JULY 5, 2019

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Agenda

- Master Plan Scope
- Servicing Commitments
- Water System Reserve
  - Wingham
  - Blyth
- Wastewater System Reserve
  - Wingham
  - Blyth
- Summary
- Questions

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Master Plan Scope

- Review potential scale and rate of development
- Determine triggers for major facility (e.g. treatment, storage, pumping) expansion
- Analyze water distribution & wastewater collection capacities relative to projected needs
- Physical inspections – CCTV sewers, electrical/mechanical of treatment/pumping facilities
- Asset management planning
- Rate reviews & Financial Plan updates

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Servicing Commitments

- Existing customers
- Development plans, draft plans, pending...
  - Wingham
    - A2A Lands   -   454 units
    - Hutton Heights   -   100 units
  - Blyth
    - GJAJ Holdings   -   105 units
  - Each community infill -   25 units
- Cross-Border Servicing w/ Morris-Turnberry

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Servicing Commitments

- For residential development, determine water demand and wastewater flow per Equivalent Residential Unit (ERU):
  - Wingham
    - Water   -   1.23 m^3/d/ERU
    - Wastewater   -   1.25 m^3/d/ERU
  - Blyth
    - Water   -   1.62 m^3/d/ERU
    - Wastewater   -   0.84 m^3/d/ERU

- Apply above to development unit values

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Servicing Commitments

- Cross-Border Servicing Agreement (CBSA) with M-T, totals for all properties:
  - Water   -   682.5 m^3/d
  - Wastewater   -   247.7 m^3/d

- Other commitments for Wingham:
  - Water   -   712.2 m^3/d
  - Wastewater   -   723.8 m^3/d

- Commitments for Blyth:
  - Water   -   211 m^3/d
  - Wastewater   -   107 m^3/d

Water System Reserve
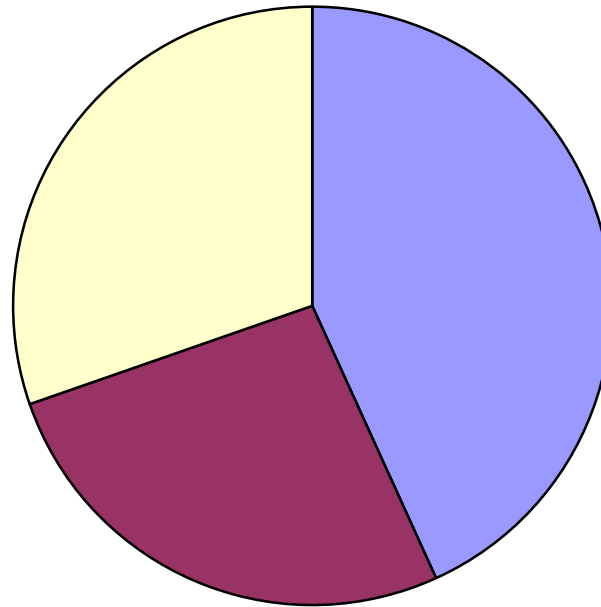
- Wingham
  - Well No. 3 Capacity   -   6,537 m^3/d
  - Well No. 4 Capacity   -   5,270 m^3/d

  - Firm capacity = capacity with largest well out of service = 5,270 m^3/d

  - Current maximum day   -   2,277 m^3/d

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Water Treatment Capacity - Wingham

☐ Uncommitted Reserve = 1,598 m³/Day, 30%

An additional 1,299 ERUs

☐ Existing Maximum Demand = 2,277 m³/Day, 43%

■ Commitments = 1,395 m³/Day, 27%

Firm Capacity = 5,270 m³/Day

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Water System Reserve

- Wingham Water Storage

Scenario	Volume Required (m^3)			
	For Equalization	**For Fire Protection**	**For Emergency**	**Total**
Existing	569	785	339	1,693
Existing + Commitments	887	1,225	536	2,679

- Existing standpipe is 1,680 m^3, but only about 232 m3 is actually available.

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Water System Reserve
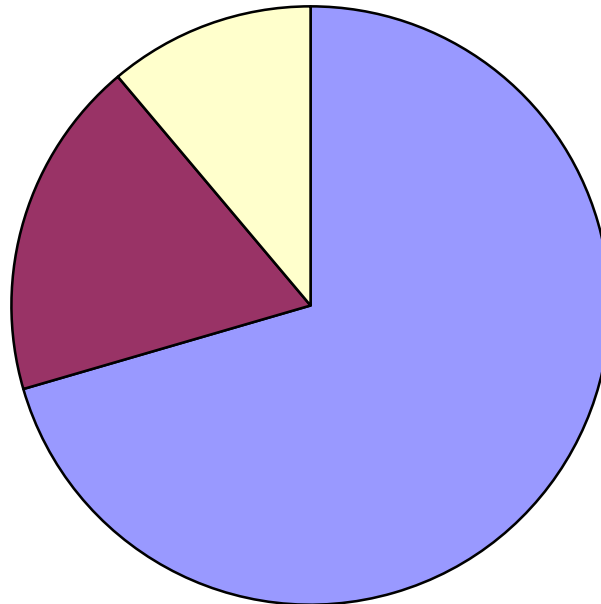
- Blyth
  - Well Nos. 1&2 Capacity   -   1,149 m^3/d
  - Well No. 5 Capacity   -   1,728 m^3/d

  - Firm capacity = capacity with largest well out of service = 1,149 m^3/d

  - Current maximum day   -   810 m^3/d
    - Excludes some hydrant flushing days

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Water Treatment Capacity - Blyth

□ Uncommitted Reserve = 128 m³/Day, 11%

Additional 79 ERUs

■ Commitments = 211 m³/Day, 18%

□ Existing Maximum Demand = 810 m³/Day, 71%

Firm Capacity = 1,149 m³/Day

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Water System Reserve

- Blyth Water Storage

Scenario	Volume Required (m^3)			
	For Equalization	For Fire Protection	For Emergency	Total
Existing	203	454	164	821
Existing + Commitments	255	518	193	966

- Existing reservoir is 379 m^3.

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Wastewater System Reserve

- Wingham
  - WWTP Capacity   -   3,400 m^3/d
    - Annual average day

  - Current average day   -   2,314 m^3/d

  - Also need to look at quality, not just quantity. Analysis to date shows calculating reserve based on quantity is acceptable approach.

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Wastewater Treatment Plant Capacity - Wingham

□ Commitments = 972 m³/Day 29%

□ Uncommitted Reserve = 115 m³/Day 3%

Additional 92 ERUs

□ Existing Flows = 2,314 m³/Day, 68%
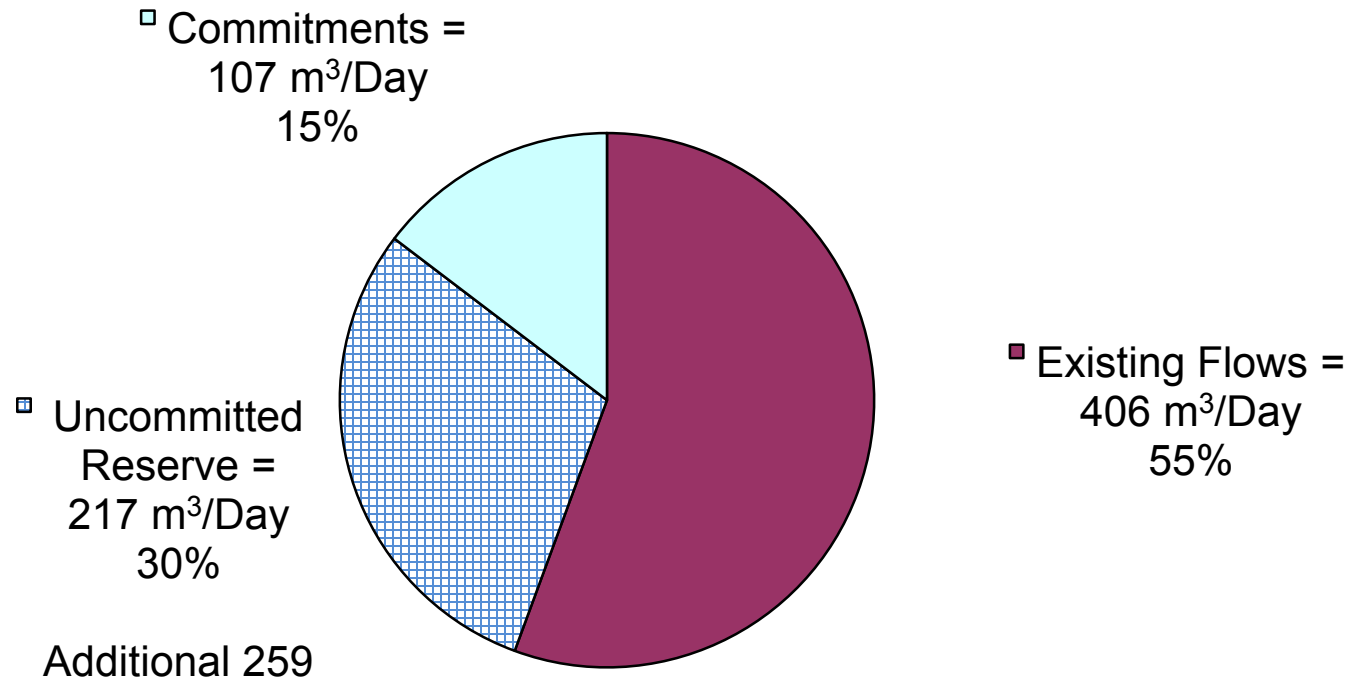
Total Capacity = 3,400 m³/Day

Wastewater System Reserve

- Blyth
  - WWTP Capacity   -   730 m^3/d
    - Annual average day
    - Peak rating of 2,730 m^3/d

  - Current average day   -   406 m^3/d

  - Also need to look at quality, not just quantity. Analysis to date shows calculating reserve based on quantity is acceptable approach.

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Wastewater Treatment Plant Capacity - Blyth

Commitments =
107 m^3/Day
15%

Uncommitted
Reserve =
217 m^3/Day
30%

Additional 259

Existing Flows =
406 m^3/Day
55%

Total Capacity =
730 m^3/Day

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Summary - Wingham

Facility	Rated Capacity (m³/d)	Total Reserve (m³/ d)	Uncommitted Reserve		
			(m³/d)	(% of Total)	(Approx. Units)
Water Treatment	5,270	2,993	1,598	30	1,299
WWTP	3,400	1,086	115	3	92

- Commitments assume full utilization of current CBSA values and full development of A2A and Hutton Heights.

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Summary - Blyth

Facility	Rated Capacity (m³/d)	Total Reserve (m³/d)	Uncommitted Reserve		
			(m³/d)	(% of Total)	(Approx. Units)
Water Treatment	1,149	339	119	10	79
WWTP	730	324	217	30	259

- Commitments assume full utilization of GJAJ Holdings.

Thank you for your attention.

Questions?