



S. BURNETT
& ASSOCIATES LIMITED
ENGINEERING & ENVIRONMENTAL

Shelburne Water/Wastewater MSP Class EA

Alternative Solutions Update

May 2022

EA Status



Notice of Commencement



Evaluating/Selecting Preferred
Alternative Solution

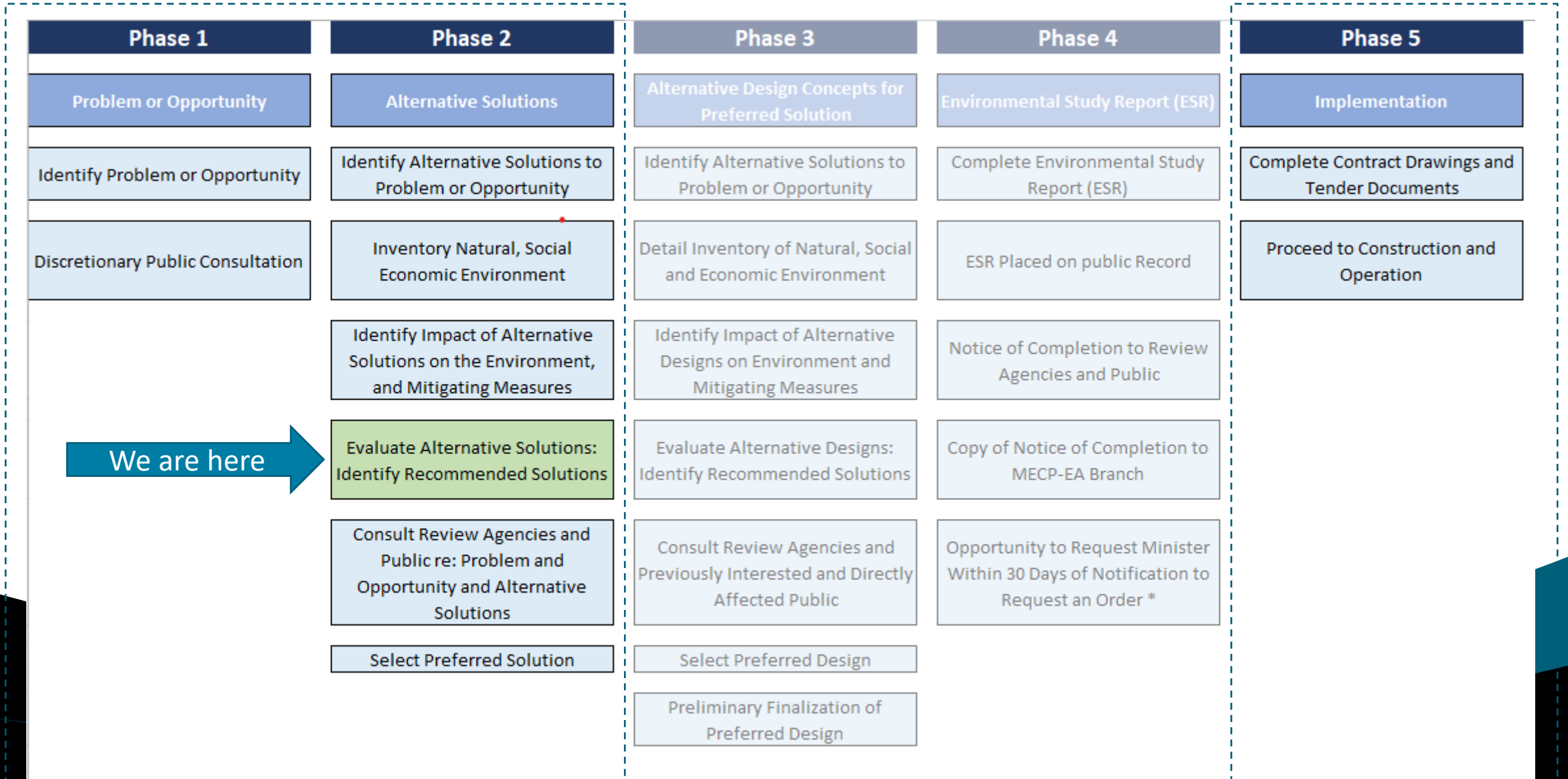


PIC #1 – Feedback on Alternative
Solution



Finalize EA and Issue Notice of
Completion

EA Status



Planning Considerations

Proposed 2041 Population: 15,000

Approved Developments	Residential (units)	ICI (ha)
<u>Stage 1</u>		
600 Main Street	58	
Infill and Intensification Projects	14	
BMP Expansion		0.37
<u>Stage 2</u>		
Summerhill Plaza		0.19
Hyland Village	178	
Shelburne Towns (Scone)	33	
Turnstone		0.2
Industrial Park		1.17
Fieldgate Commercial		0.74
<u>Stage 3</u>		
Emerald Crossing (Fieldgate)	257	

Planning Considerations

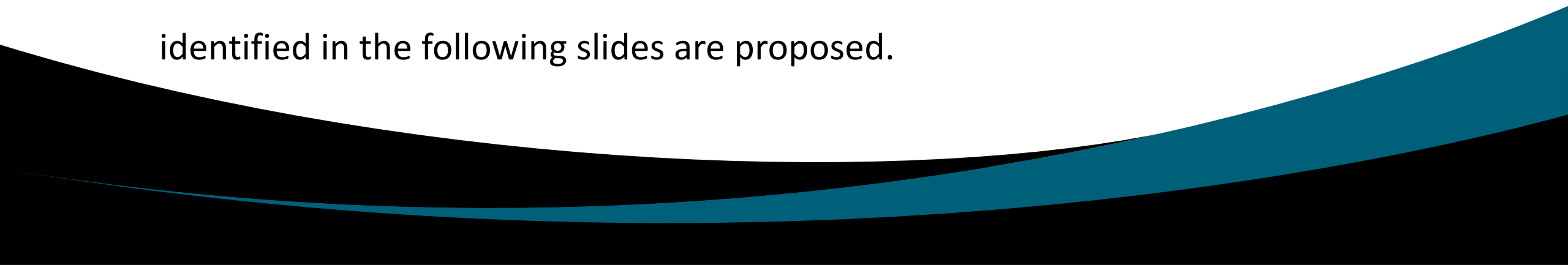
Developments in the Planning Stage	Residential (units)	ICI (ha)
<u>Other</u>		
Fieldgate MR	59	
Fieldgate Com - 2		0.32
IKW	124	0.05
John St.	179	
Stoneridge – 1B	11	
434 Main St. West	28	
ICI		2.16
Intensification	75	1.45
<u>Stage 4</u>		
Flato 1	93	0.19
Flato 2	211	
Flato 3	99	
Flato 4	153	
Additional Shelburne West Lands	328*	

*Based on zoning
density

Problem Opportunity - Water

The Town of Shelburne needs to update the 2003 Master Servicing Plan to ensure that infrastructure is in place to provide a safe supply of water that meet's the Town's needs for the next 20 years.

Based on the background information, the problem/opportunities identified in the following slides are proposed.



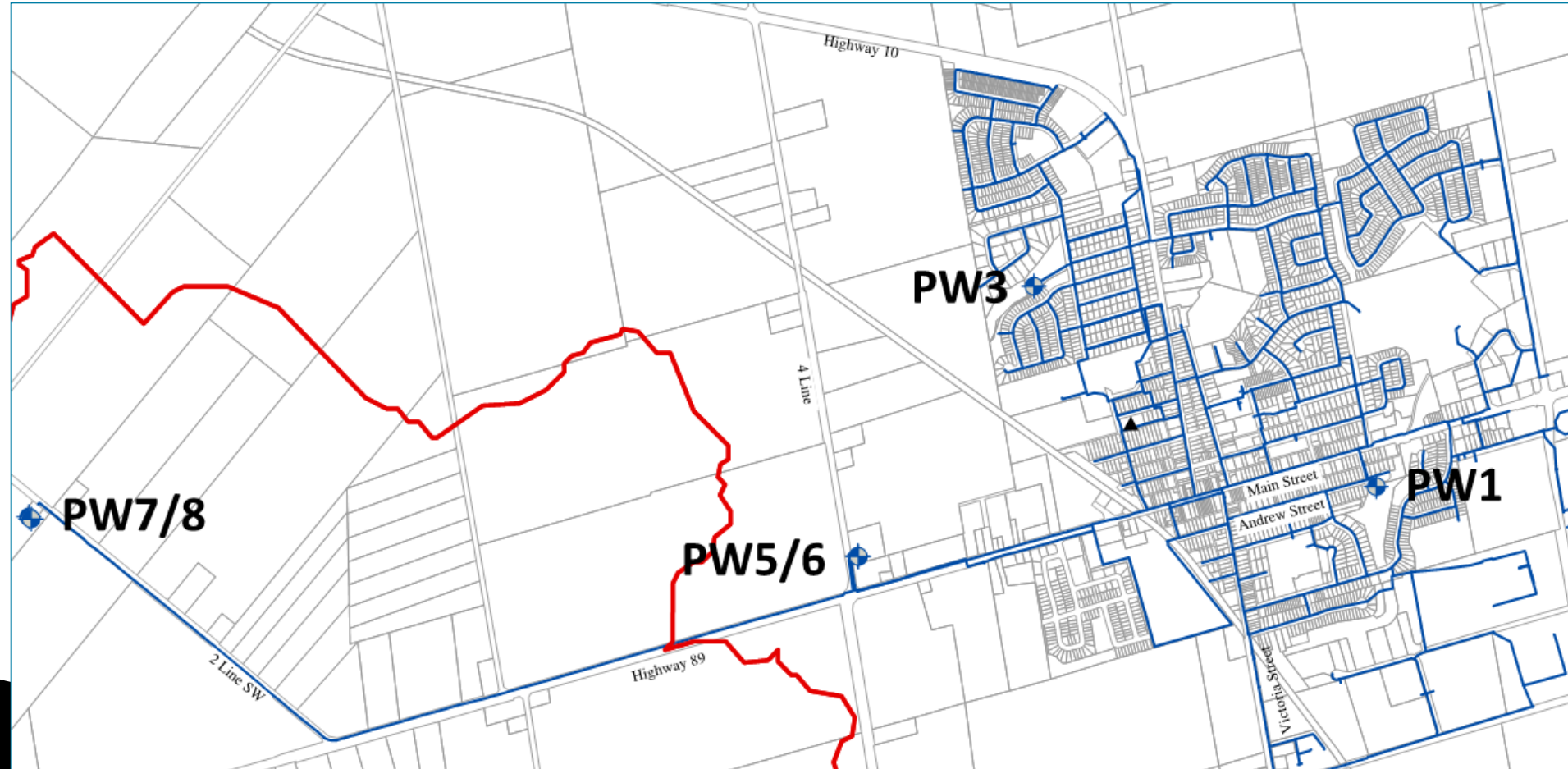
Problem Opportunity - Water

Category	Problem/opportunity	EA Requirements
Water supply	Current water supply cannot meet the current or future max day flow needs	Schedule B Class EA – in progress
Water Quality	No issues once upgrades to Wells 1&3 are completed	—
Water Storage and Fire Flow	Based on hydraulic model analysis, no issues once the new water tower is commissioned in early 2023	—
Water Distribution and Demand	Recommend: • Replacing sections of pipe known for frequent leakage or breakage • Monitoring 282 iron pipes and pipes >50 years old or of unknown age • Continuing program of flushing watermains, testing valves and hydrants	Schedule A Class EA – pre-approved

Water Supply – Production Wells



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Water Supply

PW1

- Air entrainment issue resolved
- Town/OCWA/SBA is currently working on a flushing plan for the chlorine contact tank to resolve turbidity issues
- Scheduled to be back online summer 2022 after confirming sustainable pumping rate (72-hr pump test)

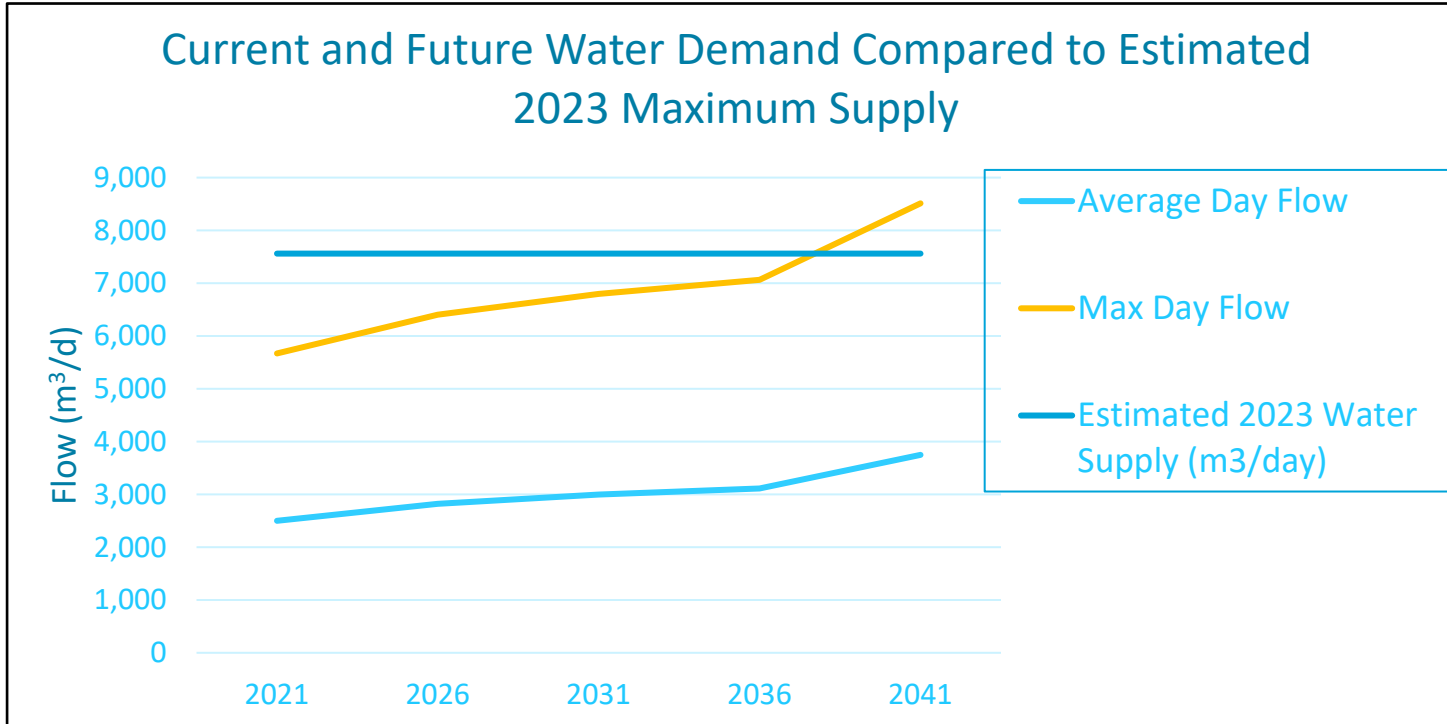
PW3

- Scheduled to be back online summer 2023 following water treatment improvements and adding a new well pump with connection to VFD
- Absorption filters (arsenic remediation) and UV system to be added for treatment

PW7/8

- Ongoing EA and source water protection work to allow concurrent pumping of wells to be completed spring/summer 2023. Well PW9 installed in 2023 as backup for wells PW7/8.

Water Supply



A Schedule B Class EA is currently evaluating how best to meet Town's water supply needs up to 2041.

Estimated (2023) sustainable pumping rates from wells upon completion of projects mentioned in the previous slide:

- PW1 – 14 L/s (1,210 m³/day)
- PW3 – 13 L/s (1,123 m³/day)
- PW5 and 6 – 22.7 L/s (1,961 m³/day)
- PW7 and 8 – 37.8 L/s (3,266 m³/day)

Total – 87.5 L/s (7,560 m³/day)

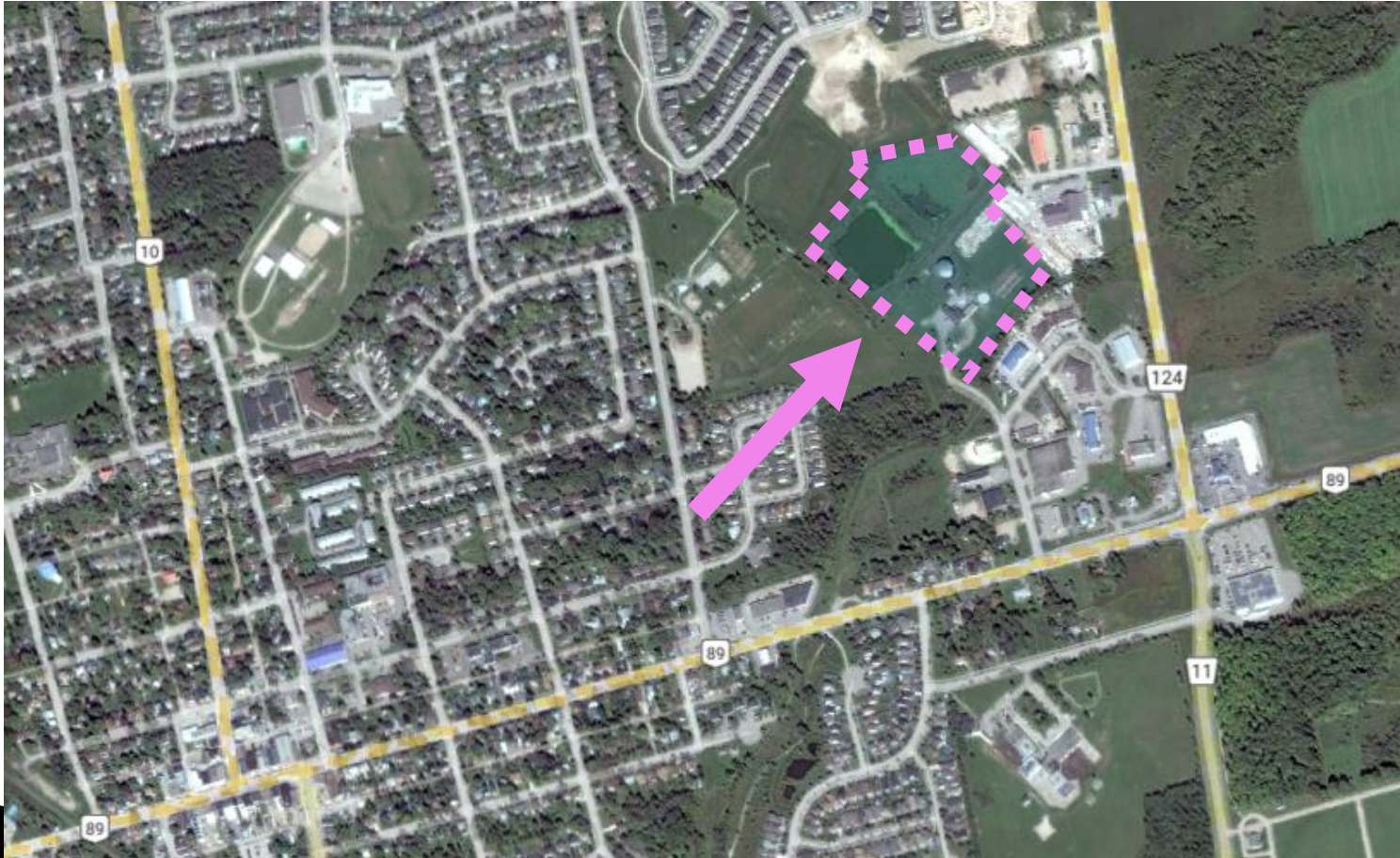
Problem Opportunity - Wastewater

The Town of Shelburne need to update the 2003 Master Servicing Plan to ensure that infrastructure is in place to provide adequate transport and treatment of wastewater to meet the Town's needs for the next 20 years.

Based on the background information, the problem/opportunities identified in the following slides are proposed:



WPCP Location



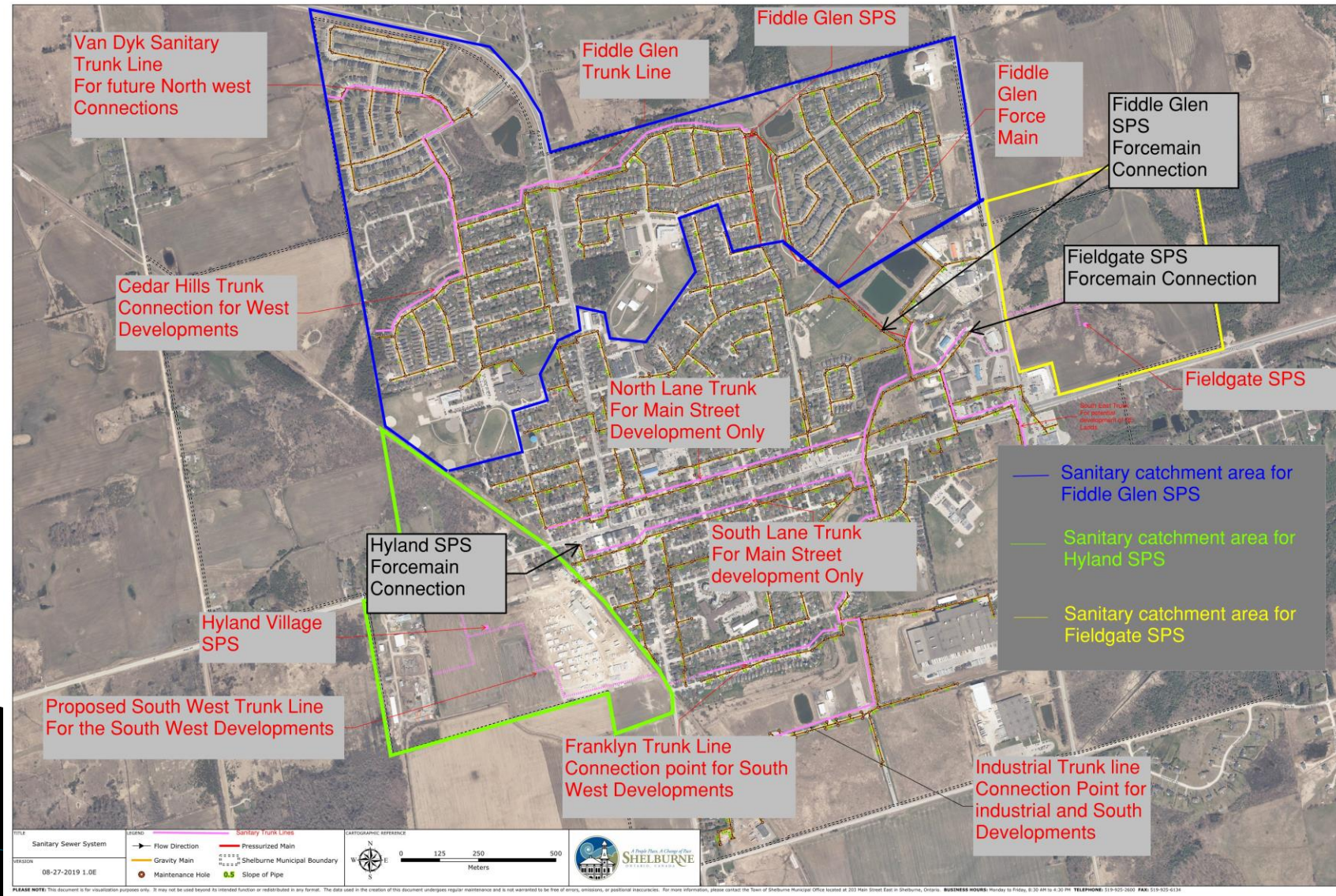
Wastewater- Treatment

- WPCP built in 1981, upgraded to an average day flow rated capacity of 3,420 m³/day and a peak rated capacity of 8,921 m³/day
- This translates to a population of approximately 10,058 based on 340 L/p/d
- With a current estimated population of 9,993, the plant is at capacity and unable to meet the demands of the projected 2041 population of 15,000
- Meeting future demand requires an average day flow rated capacity of 5,100 m³/day and a max day capacity of 12,750 m³/day
- WPCP also requires a treatment system upgrade to be able to meet the future effluent water quality requirements established by an assimilative capacity study completed in 2020

Problem/Opportunity - Wastewater

Category	Problem/opportunity	EA Requirements
Wastewater Treatment	Current wastewater treatment plant is at capacity and cannot meet the needs of planned growth. Treatment system upgrade required.	Schedule C Class EA – in progress
Pumping Stations	The Fiddle Glen pumping station will not be able to manage planned flows	Schedule A+ – No EA, notification required. Next step would be to do a feasibility study for the pumping station upgrade
Trunk Line Capacity	Some trunk lines are at capacity with additional lines unable to meet planned growth	Schedule A+ – No EA, notification required

Wastewater Pumping Stations - Catchment Areas



- This map uses an
2016 aerial base and
some changes to the
Town have occurred
since then.

Wastewater- Pumping Stations

Pumping Station	Current Capacity (L/s)	Future Demand (L/s)
Fiddle Glen (1 duty + 1 standby)	110	149/170 ¹
Hyland Village (1 duty + 1 standby current) Hyland Village (2 duty + 1 standby future)	36.93 ²	Recently built. Full build-out capacity accounts for future demand.
Fieldgate (2 duty + 1 standby)	24.89	Being Built. Current capacity accounts for future demand

¹ Development of Flato Phases 1-4, then subsequent development of external lands around Flato

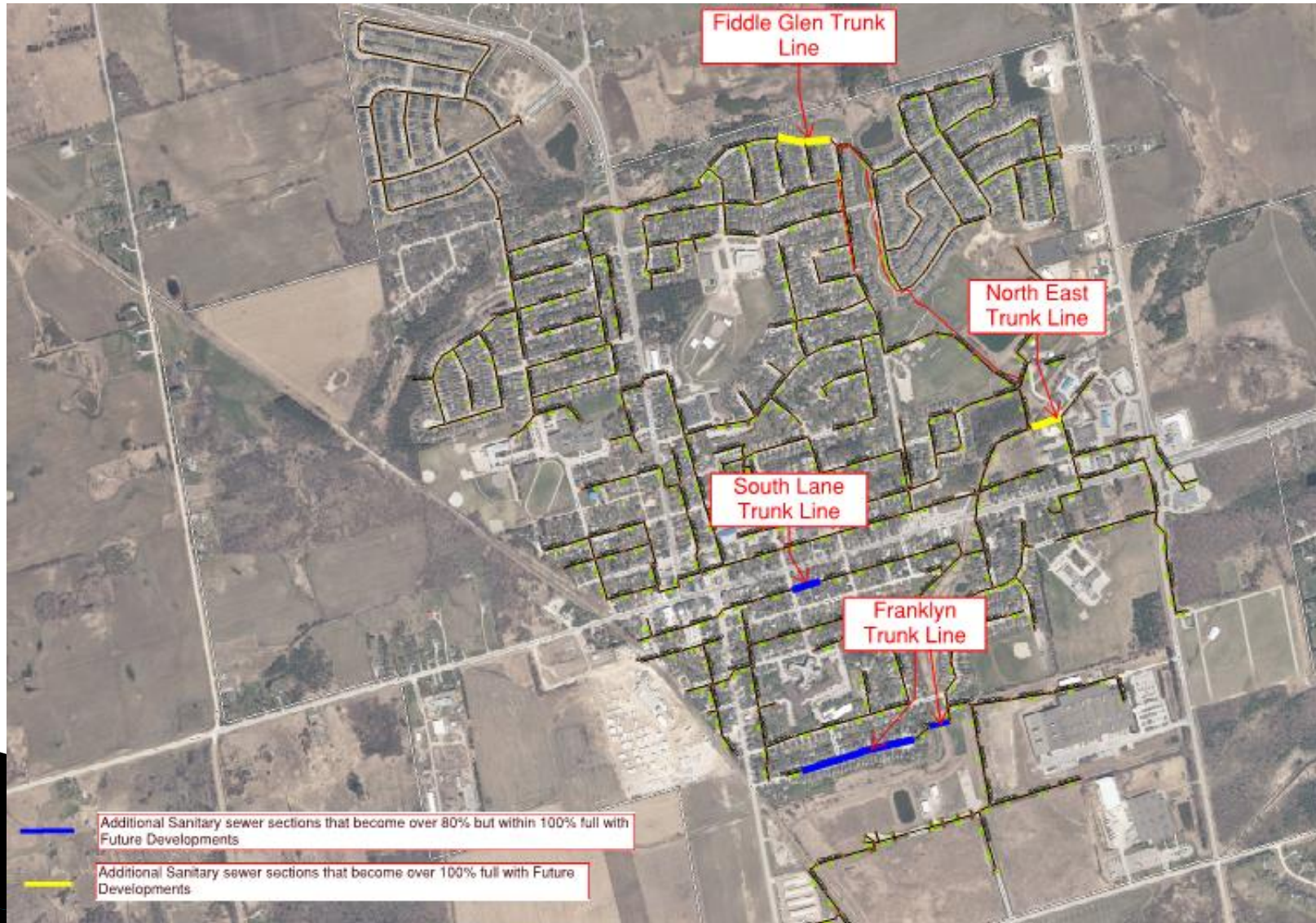
² Full build-out capacity. Ultimate forcemain route is still to be implemented

Wastewater Collection – Existing



- Without considering future demand, some sanitary sewer sections are already near or over capacity
- Inspections to be conducted spring 2022 to verify bottlenecks

Wastewater Collection – Future



- When considering future demand, additional sanitary sewer sections are near or over capacity

Stewardship Opportunities

- Starting in 2022, the Town of Shelburne, in collaboration with the Nottawasaga Valley Conservation Authority, will start implementing the Boyne River Stewardship and Monitoring Plan
- The plan focusses on maintaining cold water temperature in the Boyne River and improving aquatic habitat
- Examples of planned projects include:
 - Tree planting;
 - Removal or redesign of in-stream ponds
 - Working with farmers to avoid animals entering the river

Next Steps



- Finalize EA Report (early summer, 2022)
- Notice of Completion (early summer, 2022)