

# TERTIARY EFFLUENT FROM A CONVENTIONAL ACTIVATED SLUDGE PLANT

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# MIDLAND, ONTARIO



TOWN OF MIDLAND



# MIDLAND HARBOUR





ARIEL VIEW OF MIDLAND

# MIDLAND 1991

- Limited Capacity for Town Expansion
- Pressure from Severn Sound Remedial Action Committee for improved effluent.
- Digesters leaking and gas system not to code
- Loss of land fill (no place to dispose of sludge cake from filter press)
- Little or no Govt. grants available.





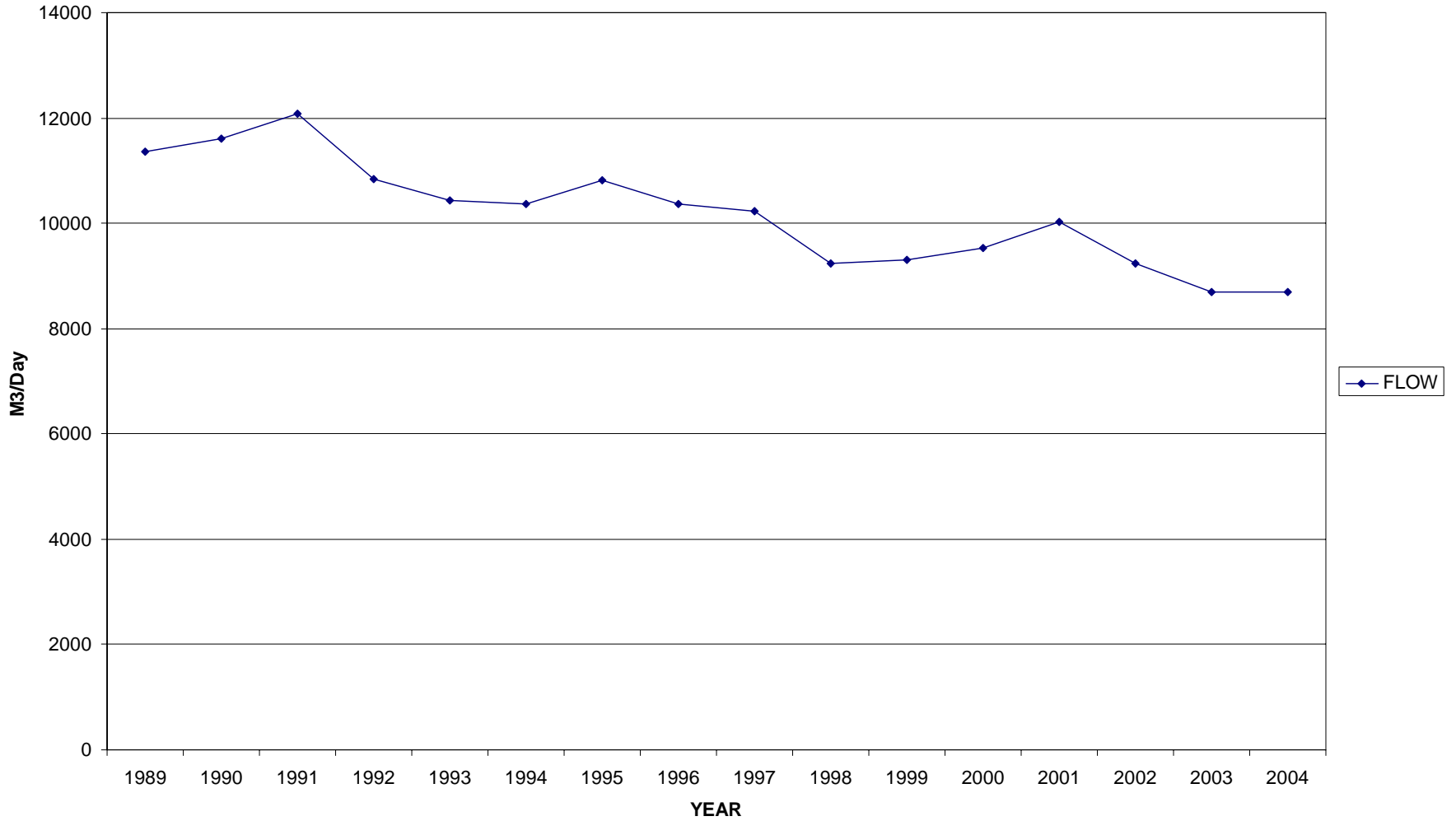
# MIDLAND'S SOLUTIONS

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- Bring in new Sewage use By-Law
- Accelerate sewer separation program
- Convert sewage to a user pay system.



## Average Daily Flow



Average Daily Flow



# MIDLAND'S SOLUTIONS

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- Bring in new Sewage use By-Law
- Accelerate sewer separation program
- Convert sewage to a user pay system.
- Optimize plant





# WASTEWATER TREATMENT CENTRE

# MIDLAND'S SOLUTIONS

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- Bring in new Sewage use By-Law
- Accelerate sewer separation program
- Convert sewage to a user pay system.
- Optimize plant
- Expand and upgrade plant







# HEADWORKS





# PRIMARY CLARIFIERS





AERATORS



# SECONDARY CLARIFIERS





ALUM





# CHLORINATION



**PRIMARY DIGESTER (ESD)**



# SECONDARY DIGESTERS





# GAS UTILIZATION



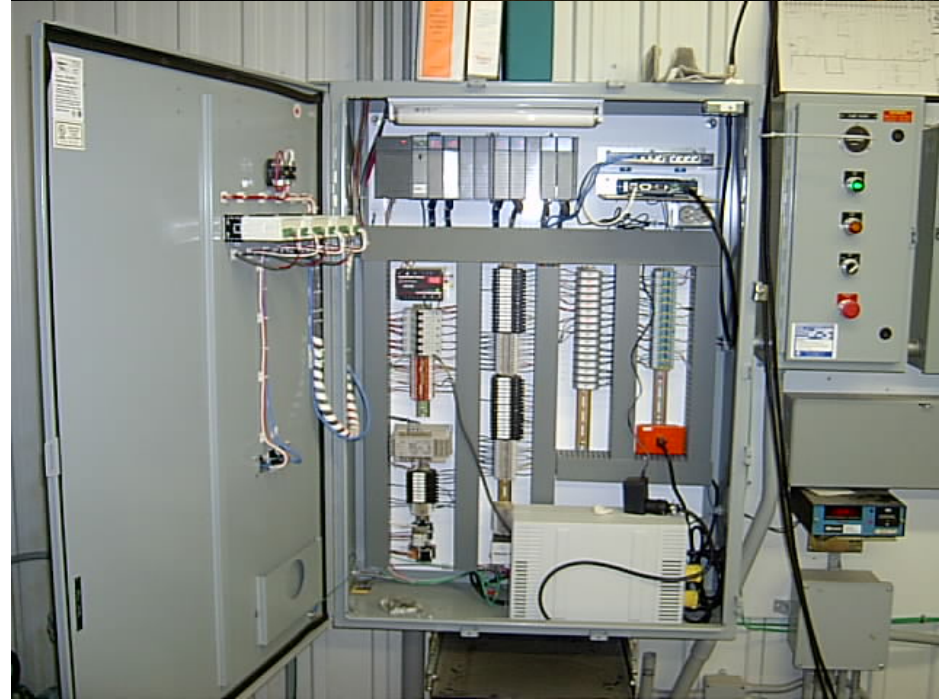
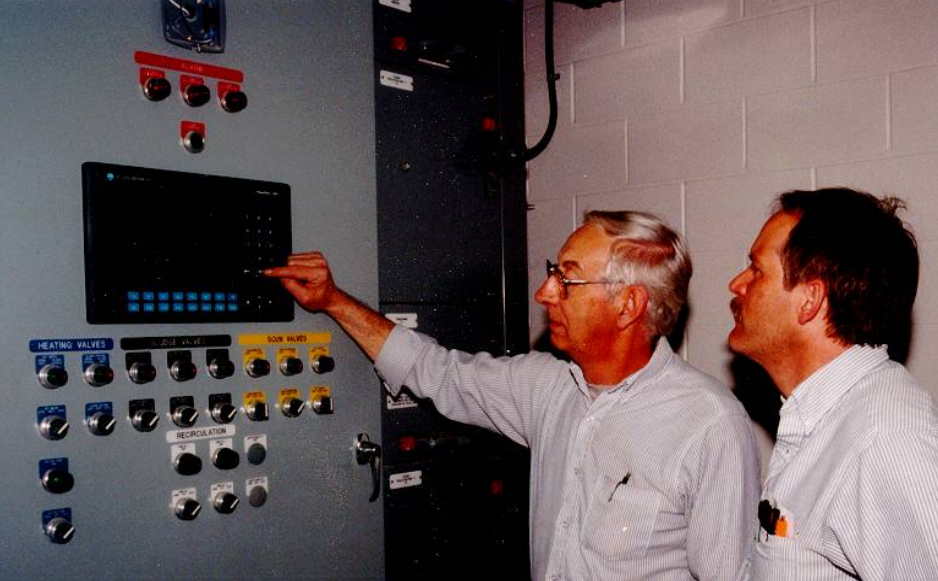


# SLUDGE UTILIZATION



STORM EQUALIZATION





SCADA





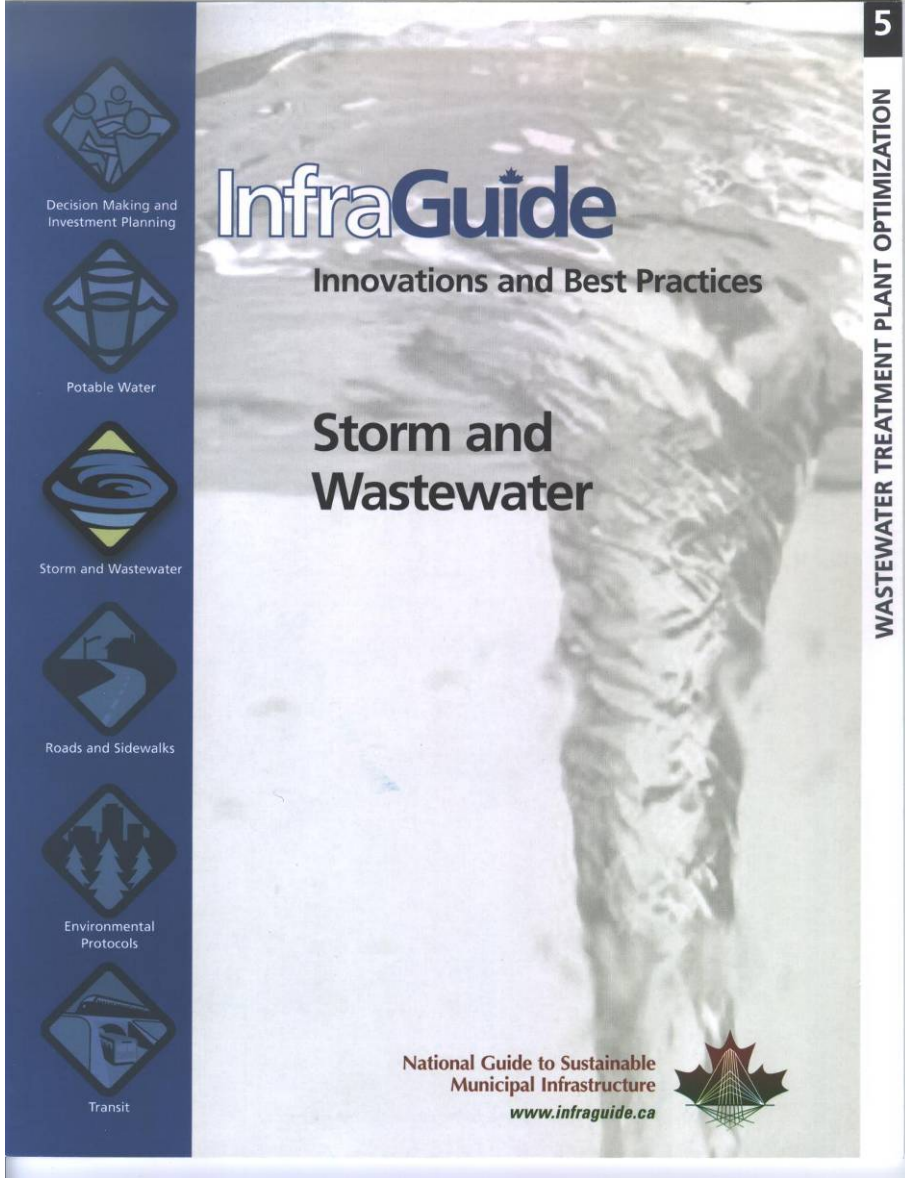
ADMINISTRATION BUILDING

# MIDLAND'S SOLUTIONS

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- Bring in new Sewage use By-Law
- Accelerate sewer separation program
- Convert sewage to a user pay system.
- Optimize plant
- Expand and upgrade plant
- Optimize operations





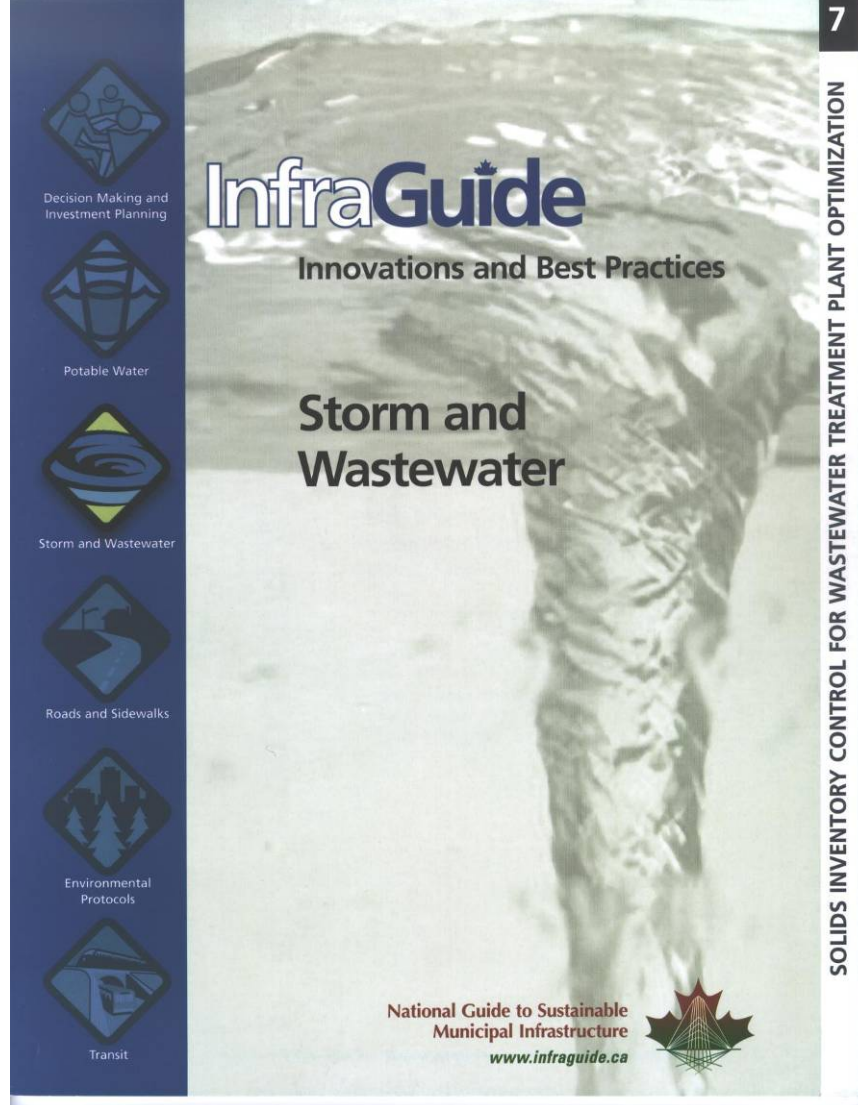
# WASTEWATER TREATMENT PLANT OPTIMIZATION



# MIDLAND'S SOLUTIONS

- Bring in new Sewage use By-Law
- Accelerate sewer separation program
- Convert sewage to a user pay system.
- Optimize plant
- Expand and upgrade plant
- Optimize operations
- Solids Inventory & Performance Checks





# SOLIDS INVENTORY CONTROL FOR WASTEWATER TREATMENT PLANT OPTIMIZATION



ONGOING PERFORMANCE  
CHECKS



# PRESENT PLANT PERFORMANCE

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## Present C of A Criteria

Effluent BOD – 10 mg/l

Effluent SS – 10 mg/l

Effluent TP – 0.3 mg/l

2004

Average Daily Flow - 8688 m<sup>3</sup>

Average Effluent BOD – 2.07 mg/l

Average Effluent SS – 2.9 mg/l

Average Effluent TP – 0.15 mg/l



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THANK YOU  
Questions?

