MUNICIPALITY OF BLUEWATER (BAYFIELD)

CLASS EA FOR EXPANSION OF THE BAYFIELD SEWAGE TREATMENT FACILITY

PUBLIC INFORMATION CENTRE
SCHEDULED FOR OCTOBER 31ST, 2015

WELCOME

Municipality of Bluewater

BMROSS
engineering better communities

MUNICIPALITY OF BLUEWATER

COMMUNITY OF BAYFIELD

PUBLIC INFORMATION MEETING

OCTOBER 31, 2015

AGENDA

10:00 a.m. – 10:30 am	OPEN HOUSE
10:30 – 11:15 a.m.	PRESENTATION
11:15 – 11:45 a.m.	QUESTIONS
11:45 – 12:00 p.m.	OPEN HOUSE

PROJECT TIMELINES

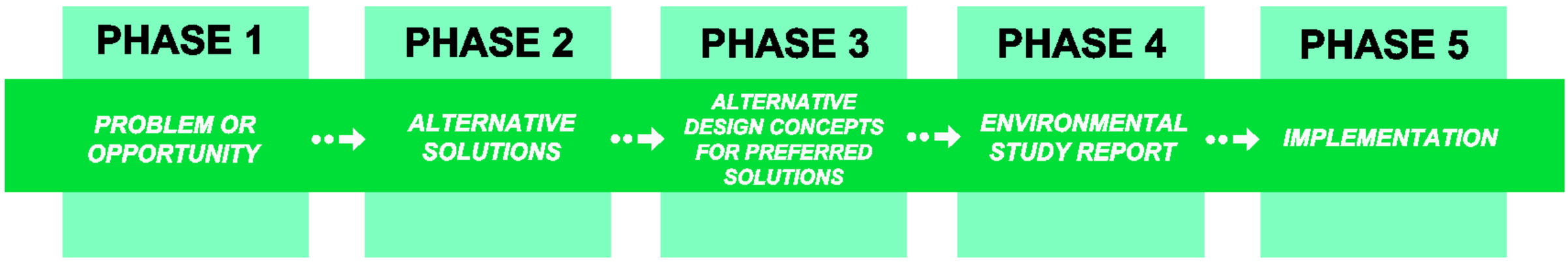
- **AUGUST 2011** – CLASS EA PROCESS INITIATED
- **SUMMER 2010 - 2011** – BAYFIELD RIVER WATER QUALITY INVESTIGATIONS COMPLETED
- **2011 - 2015 –** ONGOING DISCUSSIONS WITH CENTRAL HURON REGARDING SHARED STP EXPANSION
- **2012 – 2014 –** INVESTIGATION OF TREATMENT PLANT EXPANSION OPTIONS
- **OCTOBER 2015 –** PUBLIC INFORMATION CENTRE
- **FEBRUARY 2016** – PREFERRED ALTERNATIVE PRESENTED TO MUNICIPAL COUNCIL(S)
- **APRIL 2016** – FINAL PUBLIC INFORMATION CENTRE
- **JUNE 2016** – FINALIZE CLASS EA PROCESS AND PUBLISH ENVIRONMENTAL STUDY REPORT (ESR) FOR PUBLIC REVIEW

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

SUMMARY OF CLASS EA PROCESS:

- PLANNING AND DESIGN PROCESS FOR MUNICIPAL WATER, WASTEWATER, AND ROAD PROJECTS
- CONDUCTED TO EVALUATE THE POTENTIAL IMPACTS OF THE PROJECT ON THE NATURAL, CULTURAL, SOCIAL, ECONOMIC, AND BUILT ENVIRONMENTS

STUDY PHASES:



SCOPE OF THIS STUDY:

- EXPAND EXISTING SEWAGE TREATMENT PLANT BEYOND EXISTING RATED CAPACITY INCLUDING OUTFALL TO RECEIVING WATER BODY CLASSIFIED AS A "SCHEDULE C" ACTIVITY
  - SCHEDULE C PROJECTS APPROVED SUBJECT TO COMPLETION OF FULL CLASS EA PROCESS (PHASES 1 THRU 5)

- GENERAL STUDY COMPONENTS:
  - DEFINE PROBLEM / OPPORTUNITY;
  - IDENTIFICATION OF ALTERNATIVE SOLUTIONS;
  - CONSULTATION WITH THE PUBLIC / REVIEW AGENCIES;
  - SELECTION OF A PREFERRED ALTERNATIVE;
  - EVALUATION OF ALTERNATIVES / IMPACT MITIGATION;
  - PREPARATION OF ENVIRONMENTAL STUDY REPORT (ESR); AND
  - FINAL PUBLIC NOTIFICATION.

CLASS EA STUDY PROCESS
(PHASES 1 -5)

IDENTIFY PROBLEM OR OPPORTUNITY

BACKGROUND REVIEW

EVALUATE PROBLEMS AND IDENTIFY ALTERNATIVE SOLUTIONS

IDENTIFY IMPACT OF ALTERNATIVE SOLUTIONS ON THE ENVIRONMENT, AND MITIGATING MEASURES

CONSULT WITH THE PUBLIC AND REVIEW AGENCIES TO IDENTIFY ANY ISSUES OR CONCERNS WITH DEFINED PROBLEMS AND ALTERNATIVE SOLUTIONS

EVALUATE ALTERNATIVE SOLUTIONS: IDENTIFY RECOMMENDED SOLUTIONS

WHERE WE ARE TODAY

SELECT PREFERRED SOLUTION

IDENTIFY ALTERNATIVE DESIGN CONCEPTS FOR PREFERRED SOLUTION

IDENTIFY IMPACT OF ALTERNATIVE DESIGNS ON ENVIRONMENT, AND MITIGATING MEASURES

CONSULT REVIEW AGENCIES/STAKEHOLDERS

PREPARE ENVIRONMENTAL STUDY REPORT AND PUBLISH NOTICE OF COMPLETION

ADDRESS OUTSTANDING CONCERNS

FINALIZE ESR AND PROCEED TO FINAL DESIGN

BAYFIELD STP CAPACITY

- **FACILITY CONSTRUCTED IN 1999/2000**
- **CAPACITY FOR APPROXIMATELY 1000 HOMES**
- 660 HOMES SERVICED INITIALLY
- 250/300 VACANT LOTS
- CONSTRUCTED TO SERVICE FORMER VILLAGE OF BAYFIELD ONLY – PRE-AMALGAMATION

- **ADDITIONS TO SERVICE AREA**
- POST-AMALGAMATION CAPACITY GRANTED TO A NUMBER OF TRAILER PARK FACILITIES AND SUBDIVISION DEVELOPMENTS
- NEW CONSTRUCTION IN BAYFIELD AVERAGING 20 UNITS PER YEAR
- PLANT IS CURRENTLY OVER-COMMITTED ALTHOUGH STILL OPERATING WITHIN DESIGN LIMITS

- **ADDITIONAL CAPACITY NEEDED WITHIN 2-3 YEARS TO ALLOW DEVELOPMENT TO PROCEED AT CURRENT GROWTH RATE**

CLASS EA INVESTIGATION

STUDY PURPOSE:

- TO IDENTIFY PLANT EXPANSION OPTIONS WHICH WILL MEET HIGH TREATMENT STANDARDS AND PROVIDE SUFFICIENT CAPACITY FOR 20 – 25 YEARS;

- REVIEW PLANT EXPANSION ALTERNATIVES AVAILABLE TO ADDRESS STUDY SCOPE;

- DEFINE ANY POTENTIAL IMPACTS WITH THE PROPOSED ALTERNATIVES AND EVALUATE MEASURES TO MITIGATE ANY IDENTIFIED CONCERNS; AND

- SELECT A PREFERRED EXPANSION ALTERNATIVE (INCLUDING DEFINING ANY REQUIRED MITIGATION).

CLASS EA ALTERNATIVES:

1) REDUCE SEWAGE FLOWS IN THE COMMUNITY

2) LIMIT COMMUNITY GROWTH

3) EXPAND THE EXISTING SEWAGE FACILITY

4) CONSTRUCT A NEW SEWAGE TREATMENT FACILITY

5) DO NOTHING

BAYFIELD RIVER WATER QUALITY

- **BENTHIC ANALYSIS**
- ANALYSIS OF BUGS/ORGANISMS LIVING IN RIVER CHANNEL SUBSTRATE
- PROVIDES A MORE ACCURATE LONG-TERM ASSESSMENT OF WATER QUALITY
- CONDUCTED DURING SPRING 2010

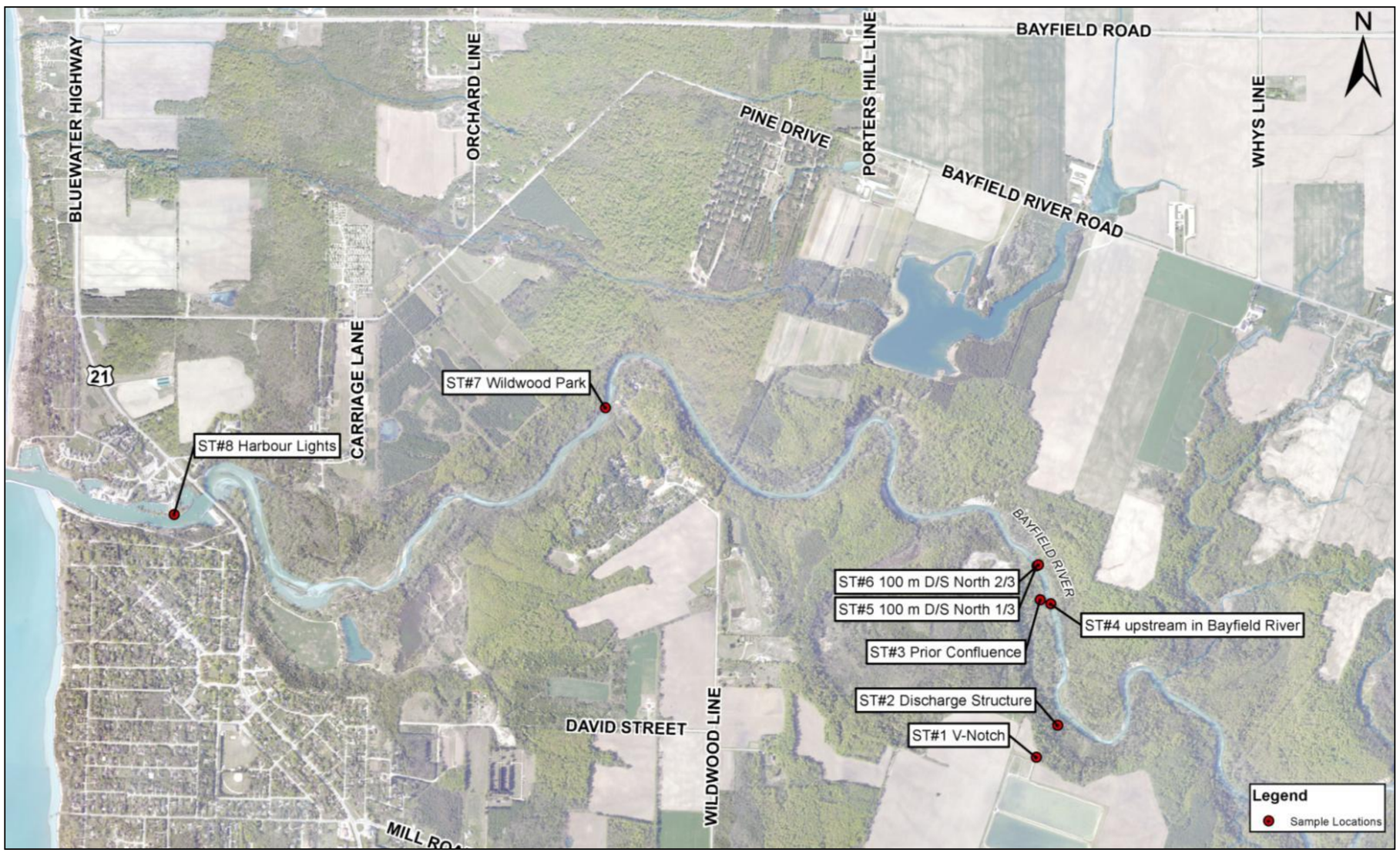
Outfall discharge at side channel

River at junction with side channel

- **RESULTS**
- SAMPLES COLLECTED AT 3 LOCATIONS IN RIVER (ONE UPSTREAM OF OUTFALL, TWO DOWNSTREAM)
- RESULTS INDICATE UNIMPAIRED WATER QUALITY AT ALL THREE SAMPLE LOCATIONS
- SPECIES RICHNESS GOOD, INDICATING HIGH QUALITY STREAM ENVIRONMENT
- STUDY WILL SERVE AS A BASELINE FOR FUTURE

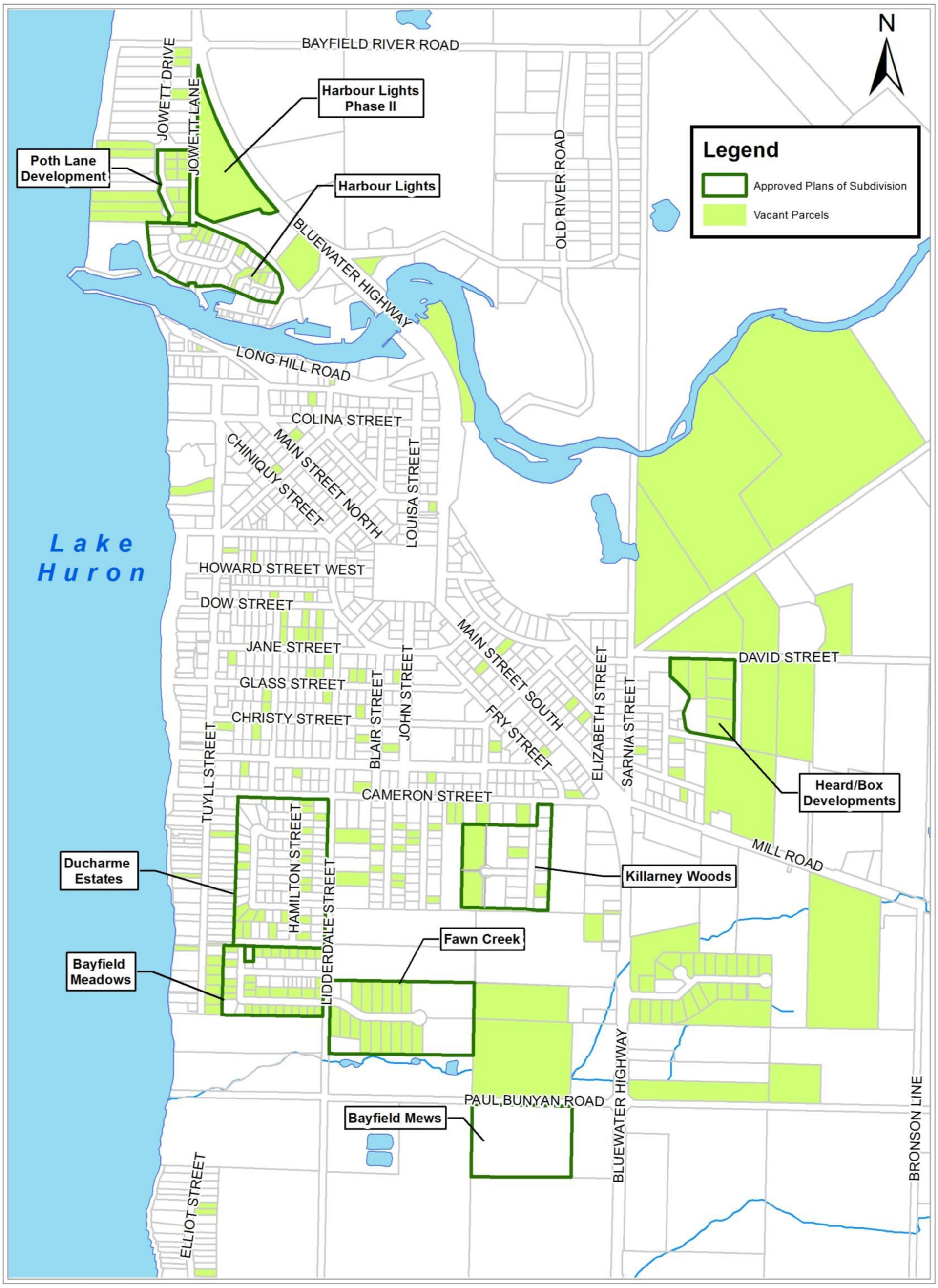
BAYFIELD RIVER WATER QUALITY

- **ASSIMILATION STUDY**
- CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF BAYFIELD RIVER WATER QUALITY
- MIXING ZONE STUDY ALSO CONDUCTED TO SEE HOW STP EFFLUENT ASSIMILATES WITHIN THE CHANNEL
- CONDUCTED DURING SUMMER 2011



- **RESULTS**
- SAMPLES COLLECTED AT 8 LOCATIONS (1 AT PLANT, 2 AT OUTFALL, 1 UPSTREAM, 4 DOWNSTREAM)
- EFFLUENT OF VERY HIGH QUALITY FOR PARAMETERS MEASURED
- NO NEGATIVE INDICES IN RIVER THAT ARE ATTRIBUTABLE TO THE PLANT EFFLUENT
- EFFLUENT STREAM IS EFFECTIVELY ASSIMILATED WITHIN RIVER WITHIN 100 METRES OF SIDE CHANNEL MERGING

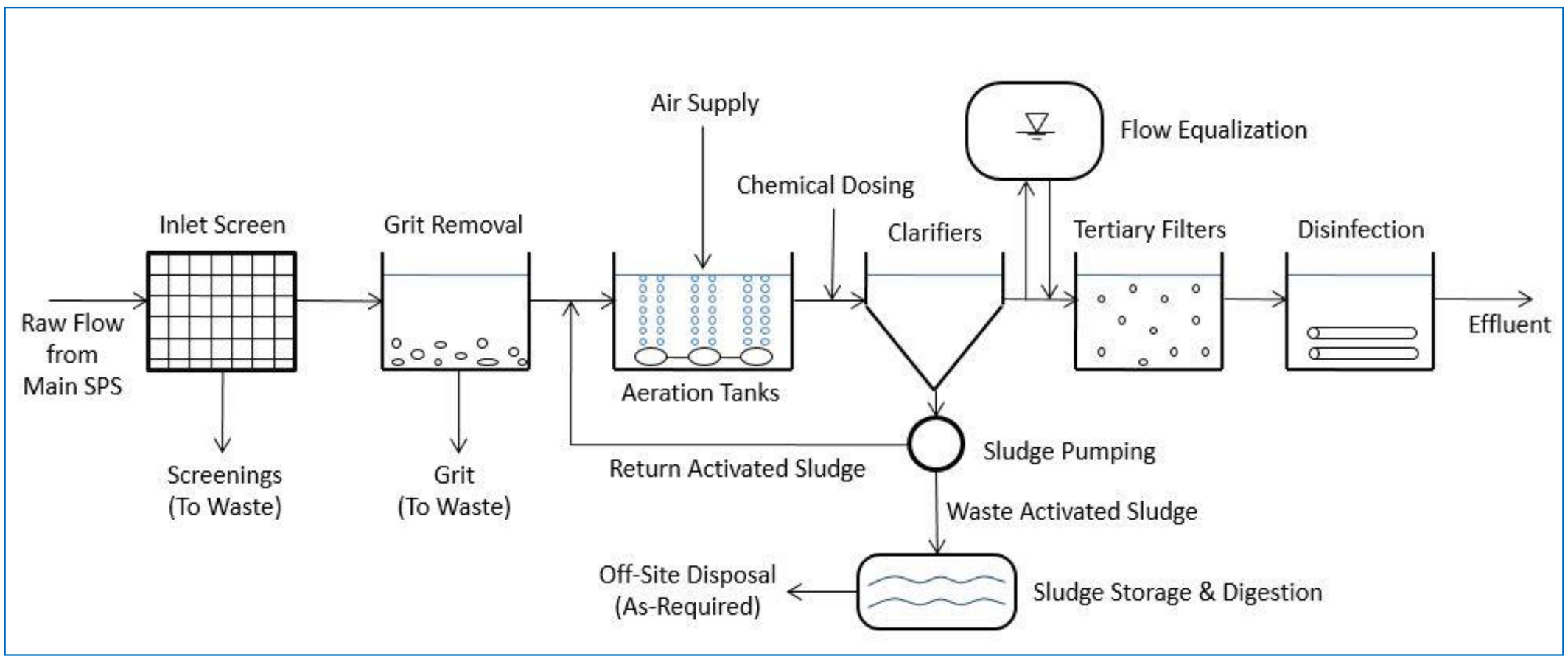
FUTURE DEVELOPMENT AREAS



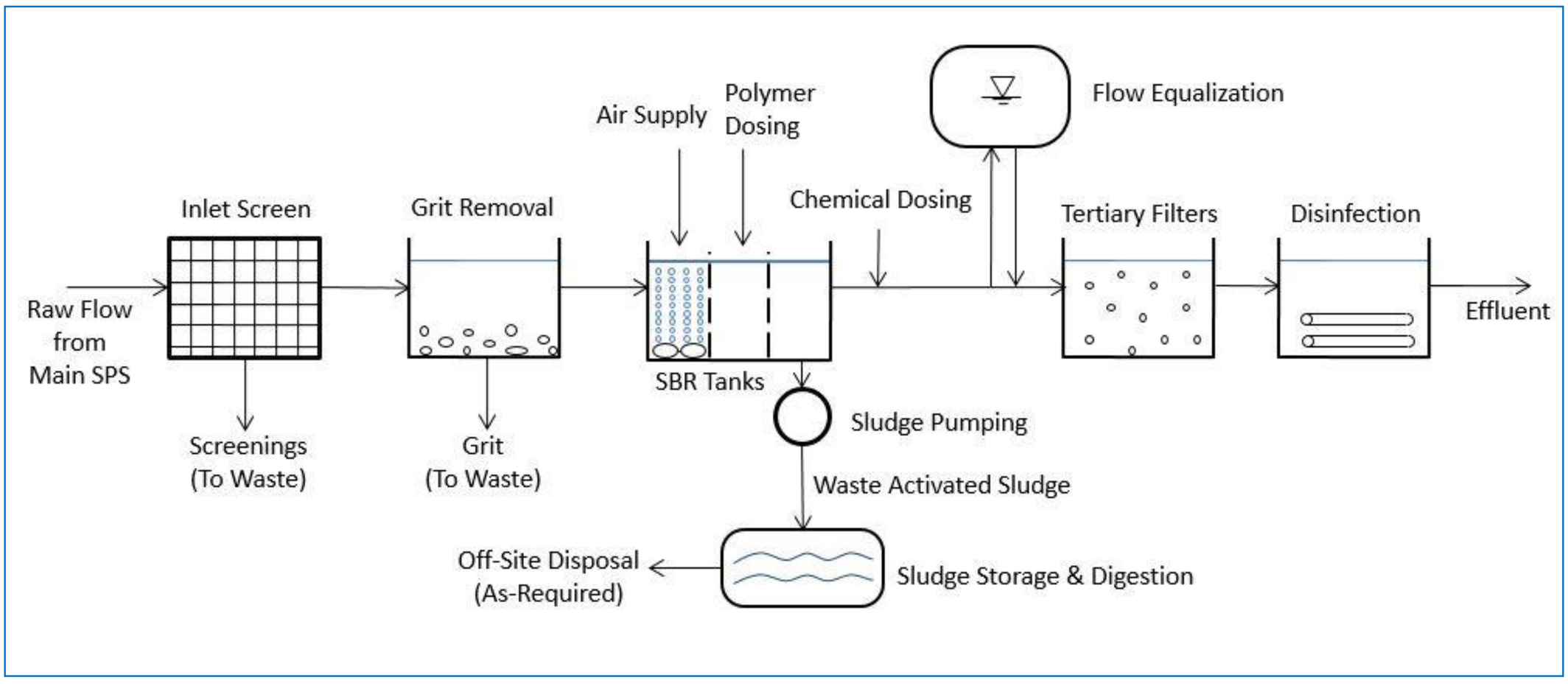
DEVELOPMENT PARCELS

- EXISTING LOTS OF RECORD IN BAYFIELD
- APPROVED PLAN OF SUBDIVISION DEVELOPMENTS

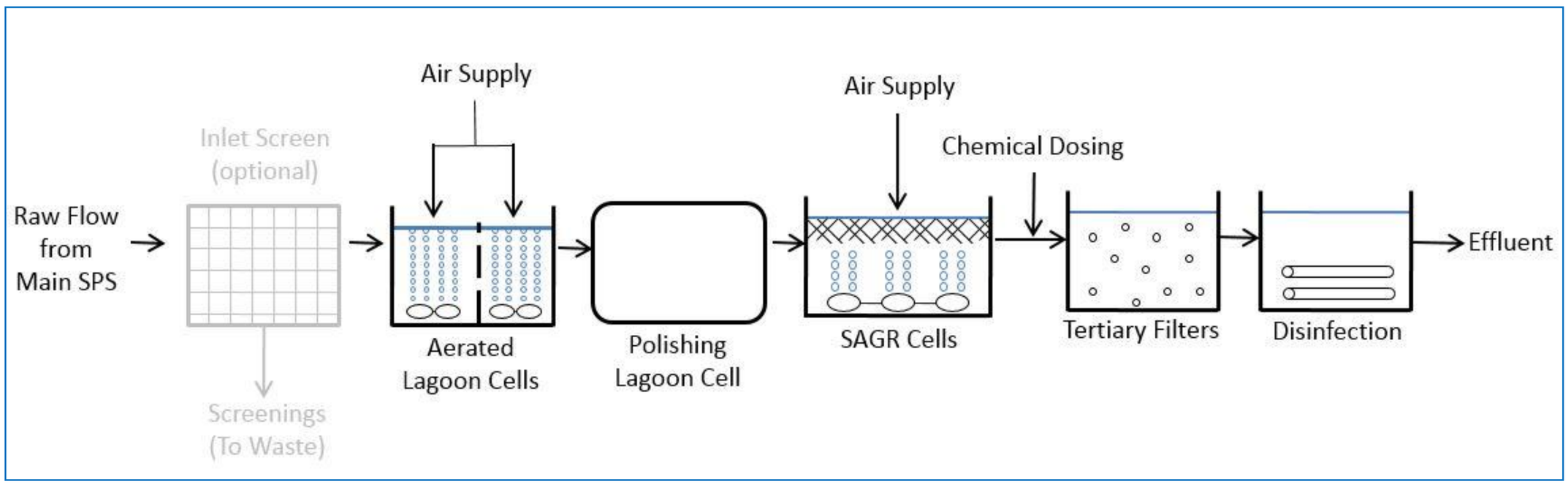
PRELIMINARY DESIGN ALTERNATIVES



Extended Aeration Alternative



Sequencing Batch Reactor Alternative



SAGR Alternative