

# Mulhurst Bay Lagoon Expansion Project



**50 Years of Proudly  
Serving Our Communities  
1958 - 2008**

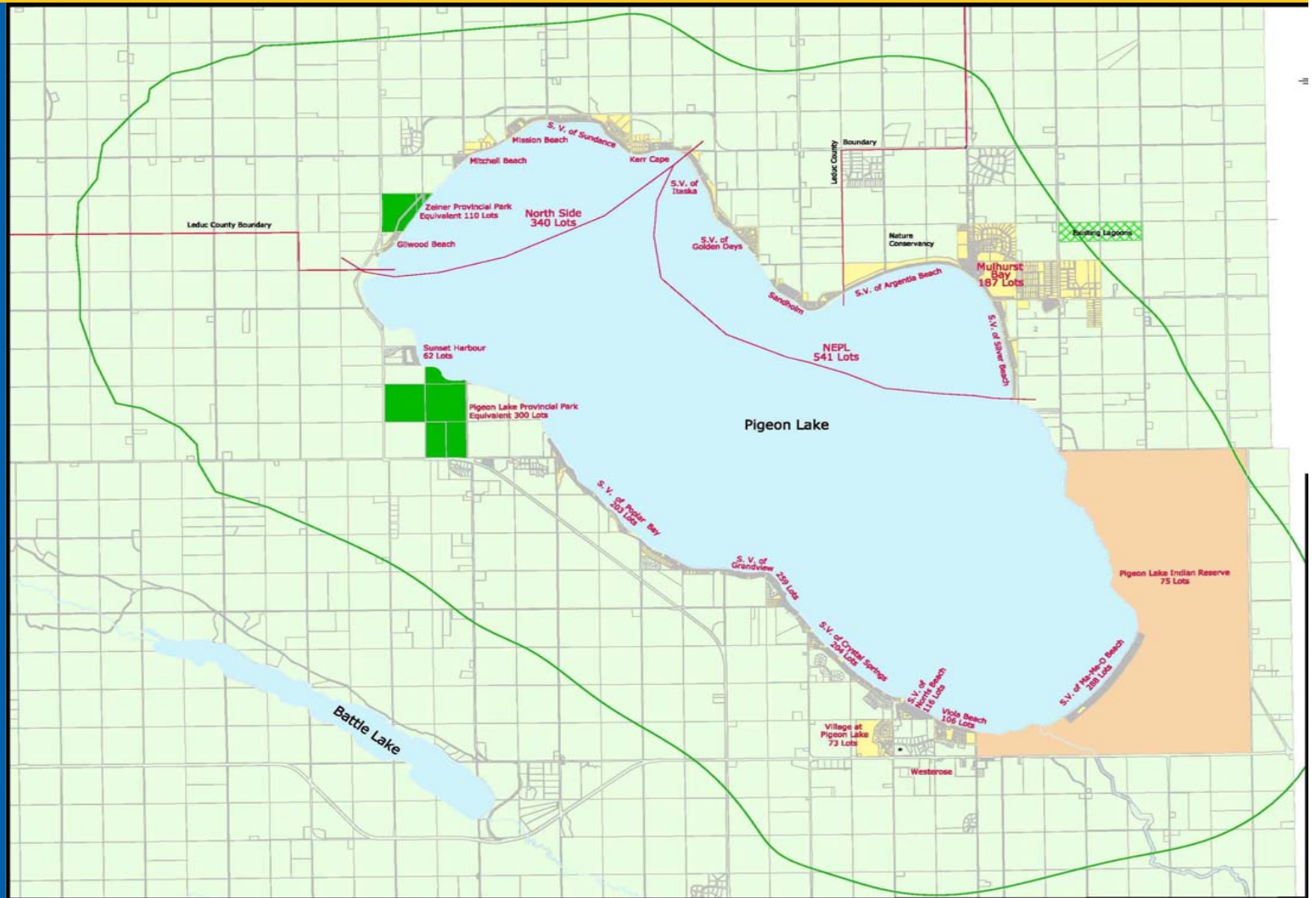
Mulhurst Bay Lagoon Improvements  
Meeting  
October 9, 2007, 5:00 p.m., Mulhurst Bay  
Community Hall

**EXH** Engineering  
Services  
Ltd.

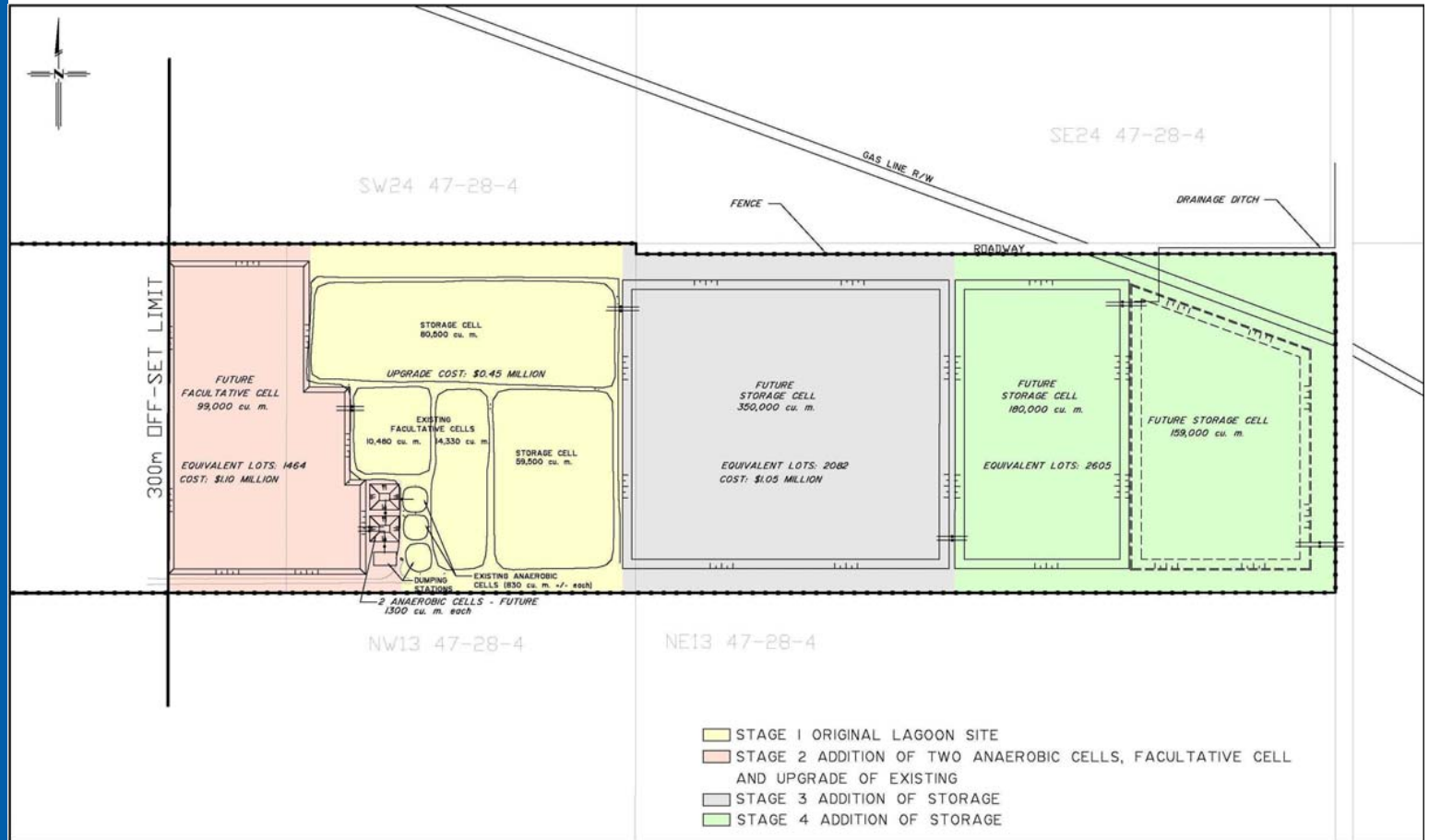
# History

- The initial waste water collection system was constructed in 1984 by the County of Wetaskiwin to service the Hamlet of Mulhurst.
- In 1987 the system was expanded by the NEPL to include the Summer Villages of : Itaska, Golden Days, Argentia Beach and Silver Beach. This expansion is the system that is presently in place
- In March 2004 a feasibility report on the expansion of the Wastewater Treatment system was prepared for the NEPL that contemplated a phased implementation of an expansion that would meet the project growth requirements of the Pigeon Lake Watershed Area. The expansion included the increasing significant number of truck haul customers.

# Pigeon Lake Watershed Boundary



# Staged Strategy of Development



# History

- In November of 2004 funding for the first stage of expansion of the Mulhurst Lagoon was applied for under the Alberta Municipal Water/Wastewater Partnership Program.
- In February of 2006, the County of Wetaskiwin and the NEPLRSC received funding approval for the Mulhurst Lagoon expansion project that had been applied for in 2004.
- In December of 2006, EXH Engineering Services Ltd. was engaged to provide engineering services, including design, tendering and contract administration services for the Mulhurst Lagoon expansion project.

# Design

The design of the first stage of the expansion of the Mulhurst Lagoon incorporated:

- a 96,000 cubic meter facultative cell
- the reconstruction of the existing 830 cubic meter anaerobic cells to increased capacity of to 1300 cubic meter each.
- two additional 1300 cubic meter anaerobic cells
- two new truck dumping facilities
- an interconnected recirculation system to facilitate the reduction of sludge volumes in the anaerobic cells.

The facultative and anaerobic cells are designed to meet the projected 20 year population growth for the Pigeon Lake watershed area. Upgrades to the existing storage cells and development of future storage cells will be dependant on existing collection, transmission system upgrades and development in the area.

# Tender / Contract Award

- The Mulhurst Lagoon Expansion Project was tendered on March 15th, 2007 with a closing date of April 13th 2007.
- Eighteen copies of the contract were sold and 3 addendums were issued. Two bids were received; Iron Horse Earthworks (\$5,533,319) and BYZ Construction Inc. (\$4,144,877).
- The contract was awarded to BYZ Construction Inc. on June 13, 2007 for \$4,144,877. The total value of the project is currently estimated at \$4,404,877.

# Construction

BYZ Construction mobilized onto site on June 29th 2007 and commenced the stripping and earthworks construction for the facultative cell in the first week of July 2007.



# Construction

136,000 cubic meters of material was excavated to construct the facultative cell



# Construction

Installation of 80,000 square meters of 60mil HDPE Liner commenced on October 1<sup>st</sup> 2007



# Construction



# Construction



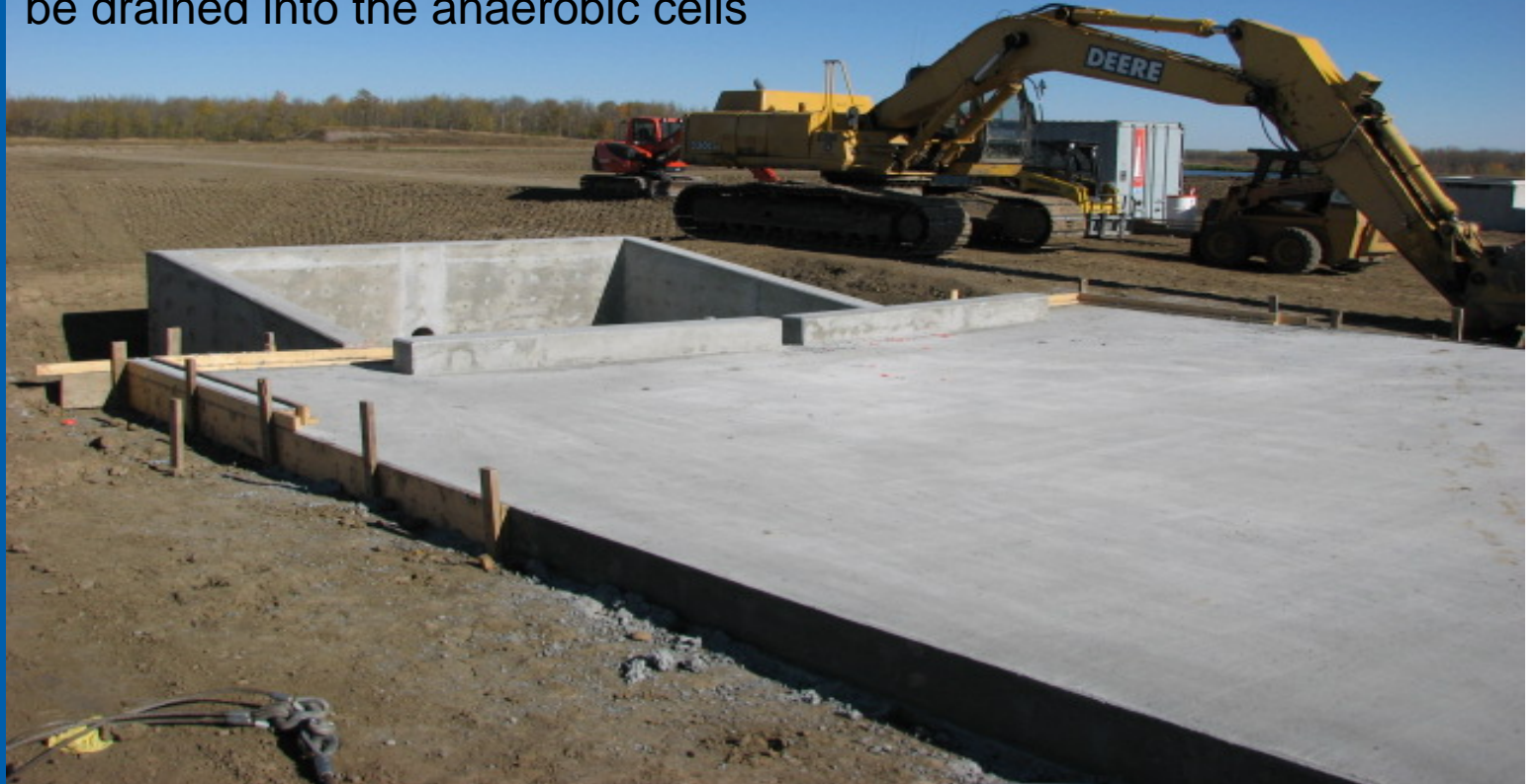
# Construction

Installation of outflow structure from new facultative cell to storage cell



# Construction

truck dump facilities are design to enable the facility operator to monitor quantities and view wastewater prior to be drained into the anaerobic cells



# Construction

the anaerobic cells have a 1300 cubic meter capacity and will be HDPE lined (similar to the facultative cell).



# Construction

the geotubes store the sludge removed from the old anaerobic cells and after a period of time the sludge breaks down and becomes inert and is then transported to a suitable landfill.



# Schedule and Timelines

- Construction of the interconnecting circulation system and vaults are expected to commence in the second week of October.
- The placement of the HDPE Liner is expected to be completed by the third week of October.
- Construction of the truck dump facilities is expected to be completed by the end of October.
- Schedules and timelines may change as the ongoing work is subject to weather conditions.

# Summary

- EXH has been monitoring the work of the Mulhurst Lagoon Expansion project on an ongoing basis and progress on the project is moving along satisfactorily.
- BYZ contracting has been working diligently with full intention of substantial (functional) completion by November 30th 2007.
- Presently the project is on budget with no foreseen challenges at this time.

# Questions

