

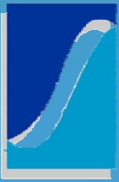
Aldergrove and Belmead Flood Prevention Improvements

Public Consultation



How Did We Get Here?

- Major flooding in July, 2004
- Flood prevention becomes top priority
- Commitment to public consultation and education
- Belmead & Aldergrove identified as at risk neighbourhoods



How Did We Get Here?

- Community consultations in 2006 & 2007 to discuss flood prevention options and get input
- Additional study and concept development led to some adjustments
- Here tonight to talk about those changes and the additional benefits



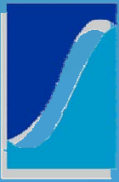
Today's Meeting

1. Present recommendations and implementation plan
2. Get your input and feedback
3. Make necessary adjustments



After Today's Meeting

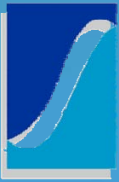
1. Summarize and share input
2. Incorporate input into final plan
3. Report progress
4. Continue community consultation as required until work is completed



Background and Review

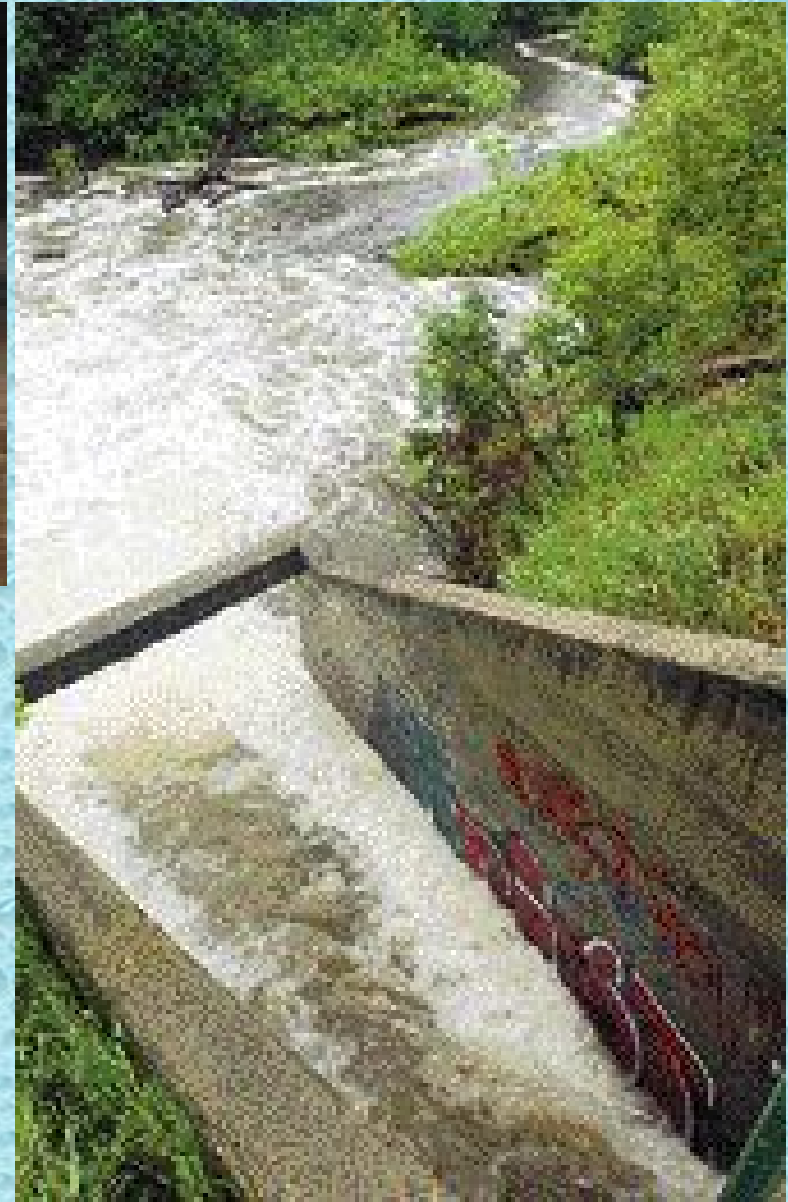
July 2004

- Three of the worst storm events ever recorded in the City of Edmonton
- Extensive surface and basement flooding
- Over 4,000 homes affected
- Several million dollars in damage to drainage infrastructure



Photos (Edmonton Journal)

July 2 & 3, 2004



BRUCE EDWARDS, THE JOURNAL

July 11, 2004 Flooding



Flooding Mechanisms

- Water volume exceeded storm sewer capacity
- Stormwater got into sanitary system via:
 - Flooded manhole covers
 - Weeping tile connected to home's sanitary sewer
- Most flooded basements caused by sanitary sewer backup



Project History

- Extensive flooding in 2004
- West Edmonton Flood Investigation 2005 - 2006
- Concept Design 2006 - 2008



Proposed Improvements:

1. Stormwater Retention via Aldergrove Dry Pond.
2. Summerlea Storm Surcharge Relief.
3. 178th Street Sanitary Surcharge Relief.
4. Arrow head Trail Regrading.
5. La Perle Stormwater Diversion



Stormwater Retention Strategy: Initial Concept, *Dry Pond in Aldergrove*



Aldergrove Dual Use Dry Pond

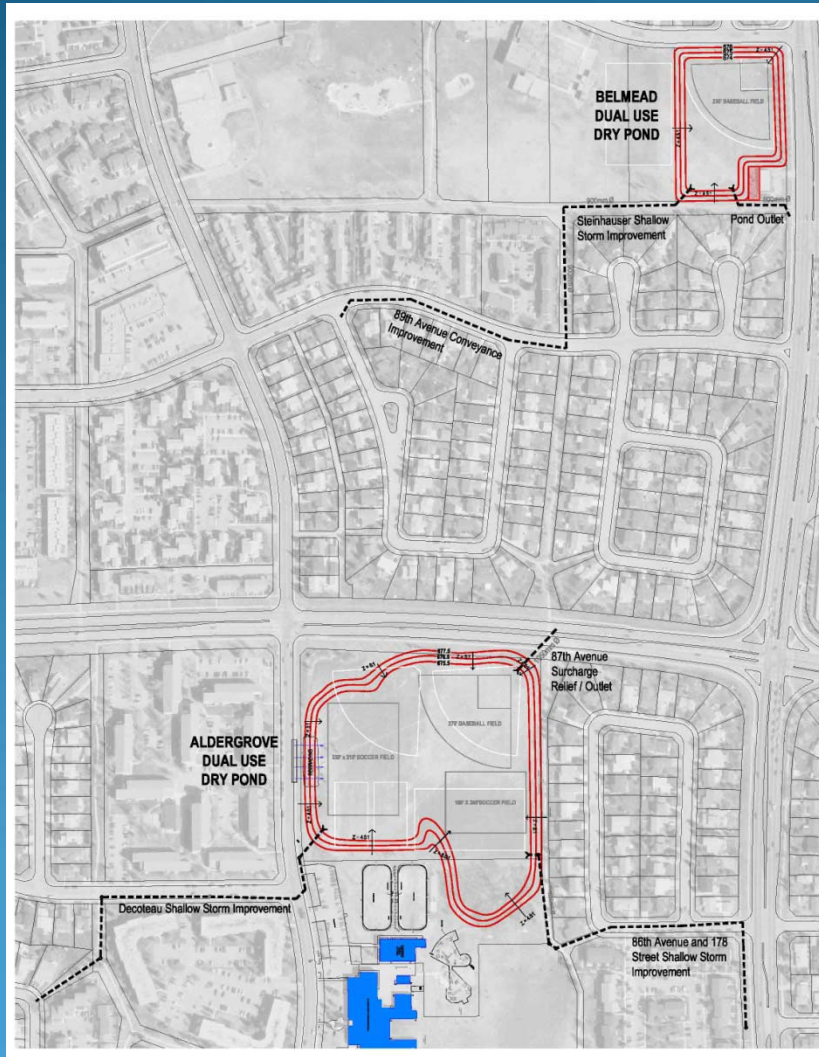
- 4-5 m facility depth.
- 1500 m of shallow storm sewer conveyance improvements.
- 5 inlet/outlet structures.



What's new?



Stormwater Retention Strategy: Revised Concept *Dry Ponds in Aldergrove and Belmead*



Belmead Dual Use Dry Pond

- 2 m facility depth.
- 500 m of shallow storm sewer conveyance improvements.
- 2 inlet/outlet structures.

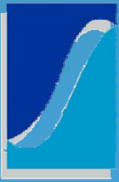
Aldergrove Dual Use Dry Pond

- 2 m facility depth.
- 700 m of shallow storm sewer conveyance improvements.
- 3 inlet/outlet structures.



Conceptual Design Basis

- Maintain existing playing fields within proposed dry pond
- Dry pond would only fill when storm system conveyance capacity is exceeded
- Storage Capacity of conceptual design approximately:
 - Aldergrove – 24, 000 m³
 - Belmead – 12,000 m³
- Special trees identified to remain in place.



Why did the concept change?

- Constructing two dry ponds allows for a shallower facility depth:
 - Concern for shallow groundwater table.
 - Public safety
 - Improved sightlines.
 - More aesthetically pleasing.

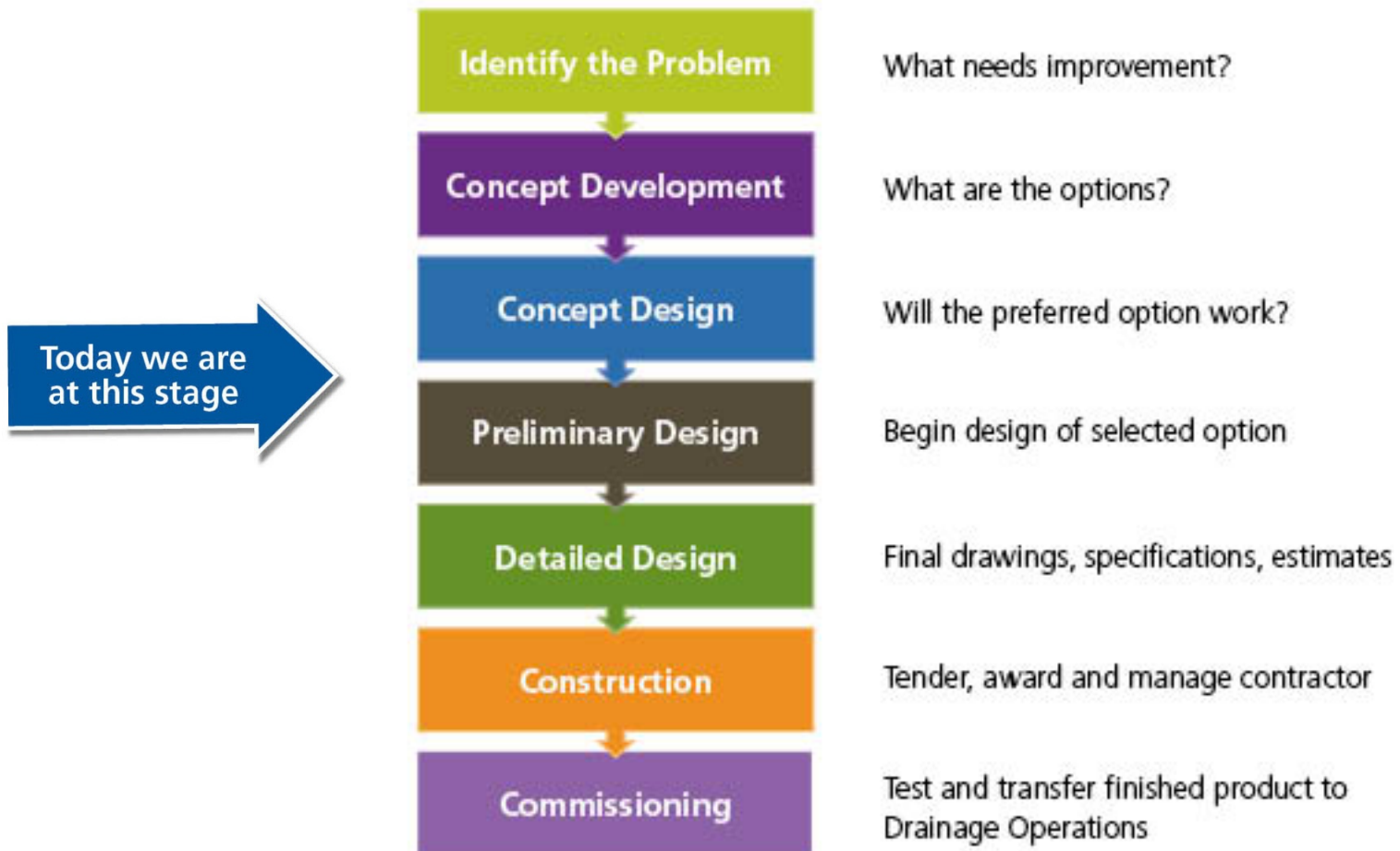


Where are we today?



Drainage Services Engineering Project Life Cycle

Every engineering project goes through a number of stages before it is finally constructed and completed. At certain points in the project life cycle we would like your input before proceeding to the next stage.



What is a dry pond?

- Low Area - collects storm water runoff
- Receives storm water from:
 - Surface drainage
 - Surcharged storm drain
- Usually takes 4 to 6 hrs to drain
- Landscaped to blend in
- Can be used for recreation when dry
- Common in many cities; some on school sites (incl. Regina, Red Deer & Calgary)
- 65-68 in Edmonton, mostly along roadways

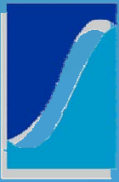


How do dry ponds work?



What are the Benefits?

- Quicker overall drainage
- Less pooling of water on the surface
- Less likelihood of basement flooding
- Less property damage
- Savings of time, money and inconvenience



Safety

- Many safety features built in
 - Gentle slopes, grated inlet/outlet, signage
 - Risk moved from street to field
 - Wet meadow cleans flow
 - Ponding a rare occurrence (storm sewers take most runoff)
 - Remote monitoring (SCADA)
- Adult supervision – security guard
- Post-event clean up

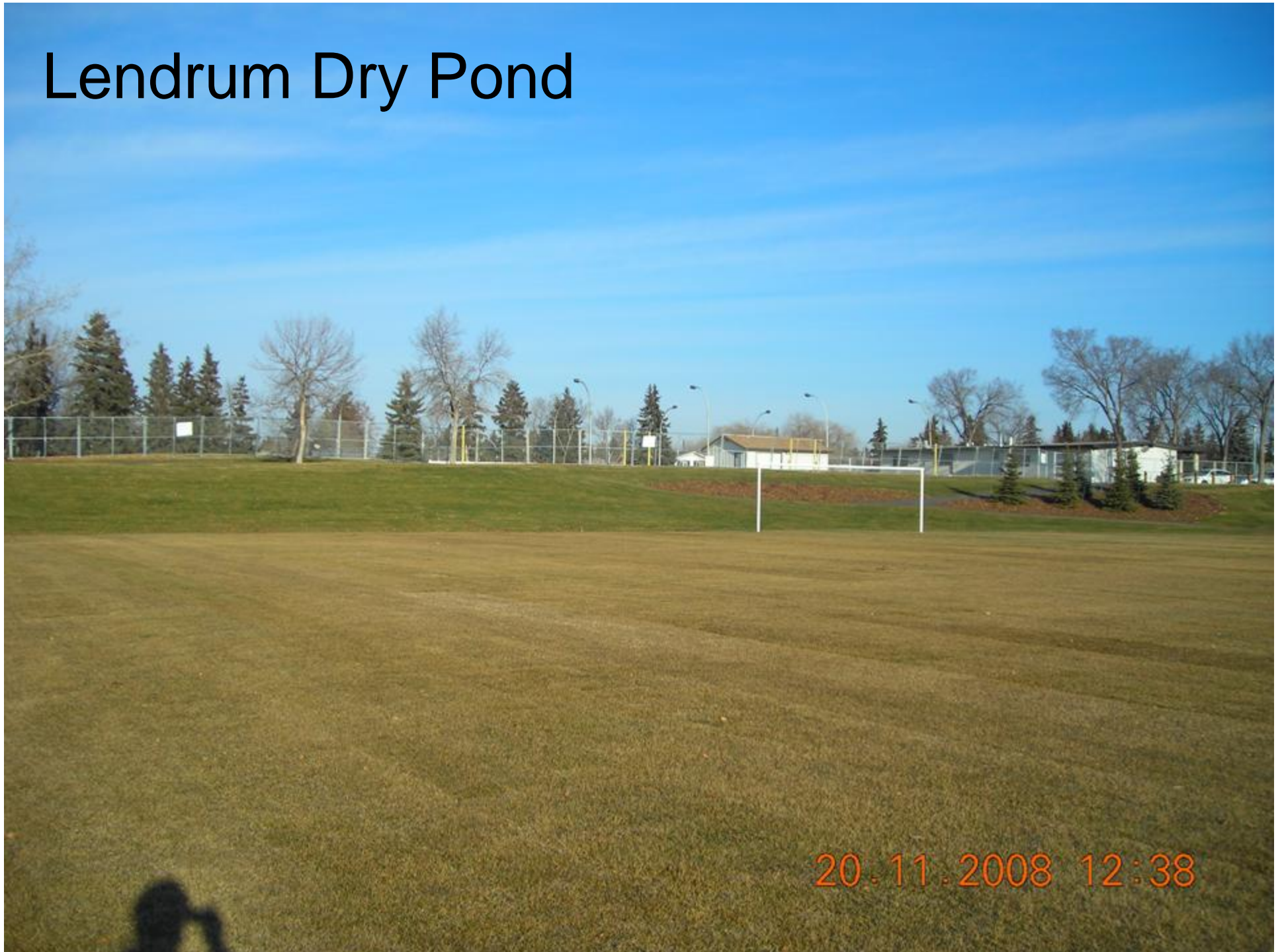


Lendrum Dry Pond



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Lendrum Dry Pond



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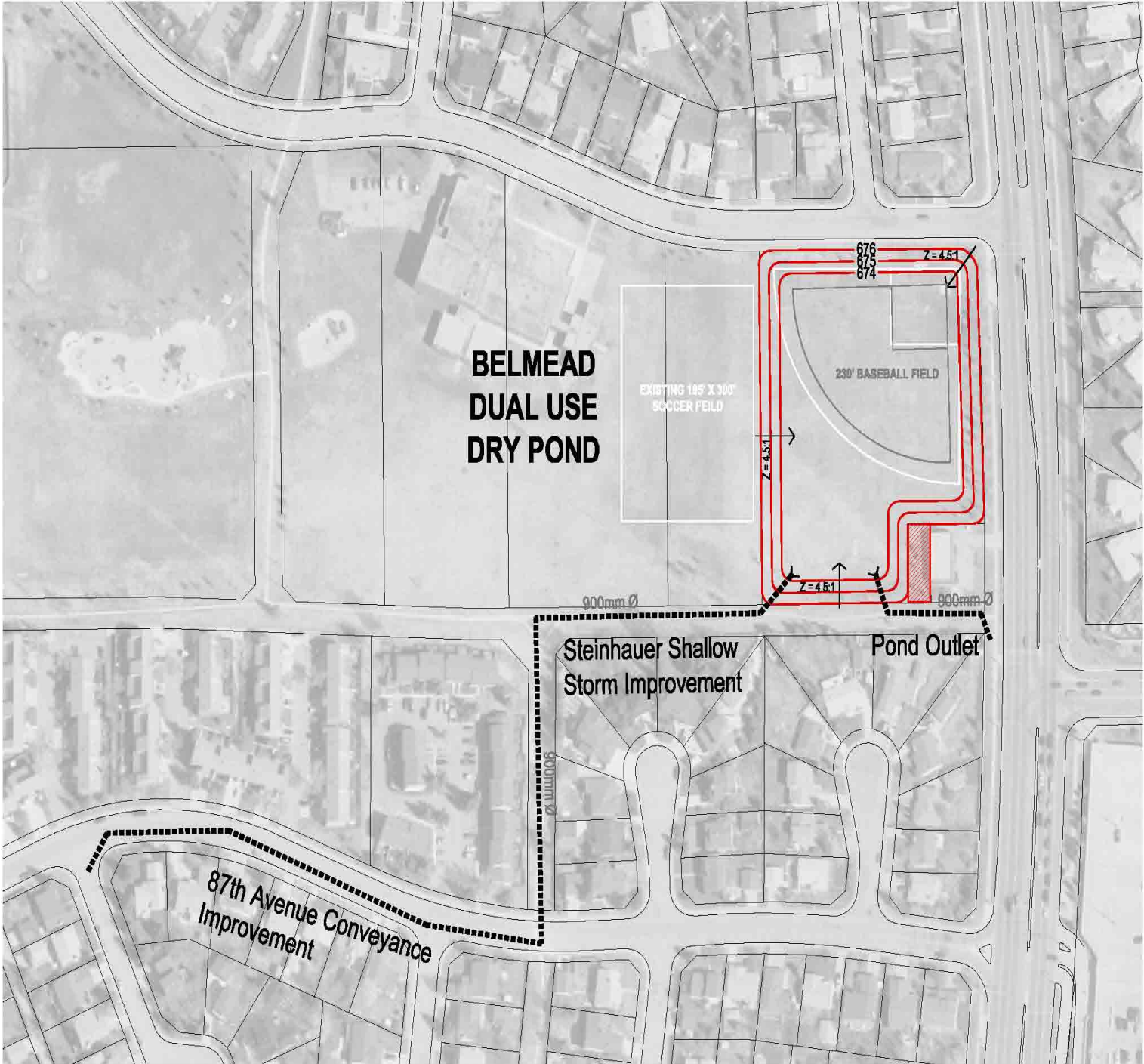
Belmead Park



Belmead Dual Use Dry Pond

- Recreation Facilities: subject to final agreement with parks, community, school.
- Physical Dimensions
 - 2 m facility depth
 - Gentle slopes
 - Covers entire sports field
- Performance
 - Sees water during a 2-5 year event (less than 0.5 m)
 - Water depth during a 100 year event ~ 1.4 m





Aldergrove Park

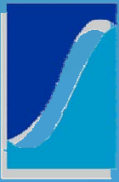


Existing Tree Stand (south end)



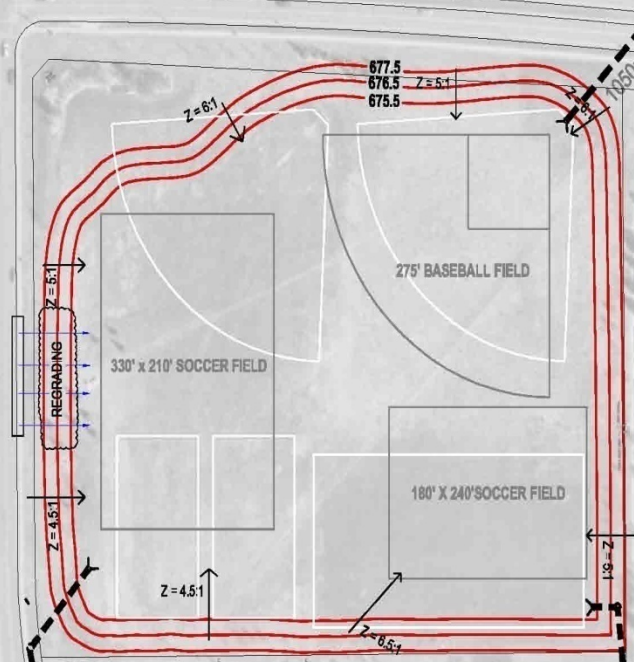
Aldergrove Dual Use Dry Pond

- Recreation Facilities: subject to final agreement with parks, community, school.
- Physical Dimensions
 - 2 m facility depth
 - Gentle slopes
 - Covers entire field
- Performance
 - Sees water during a 2-5 year event (less than 0.5 m)
 - Water depth during a 100 year event ~ 0.7 m



Option 1

**ALDERGROVE
DUAL USE
DRY POND**

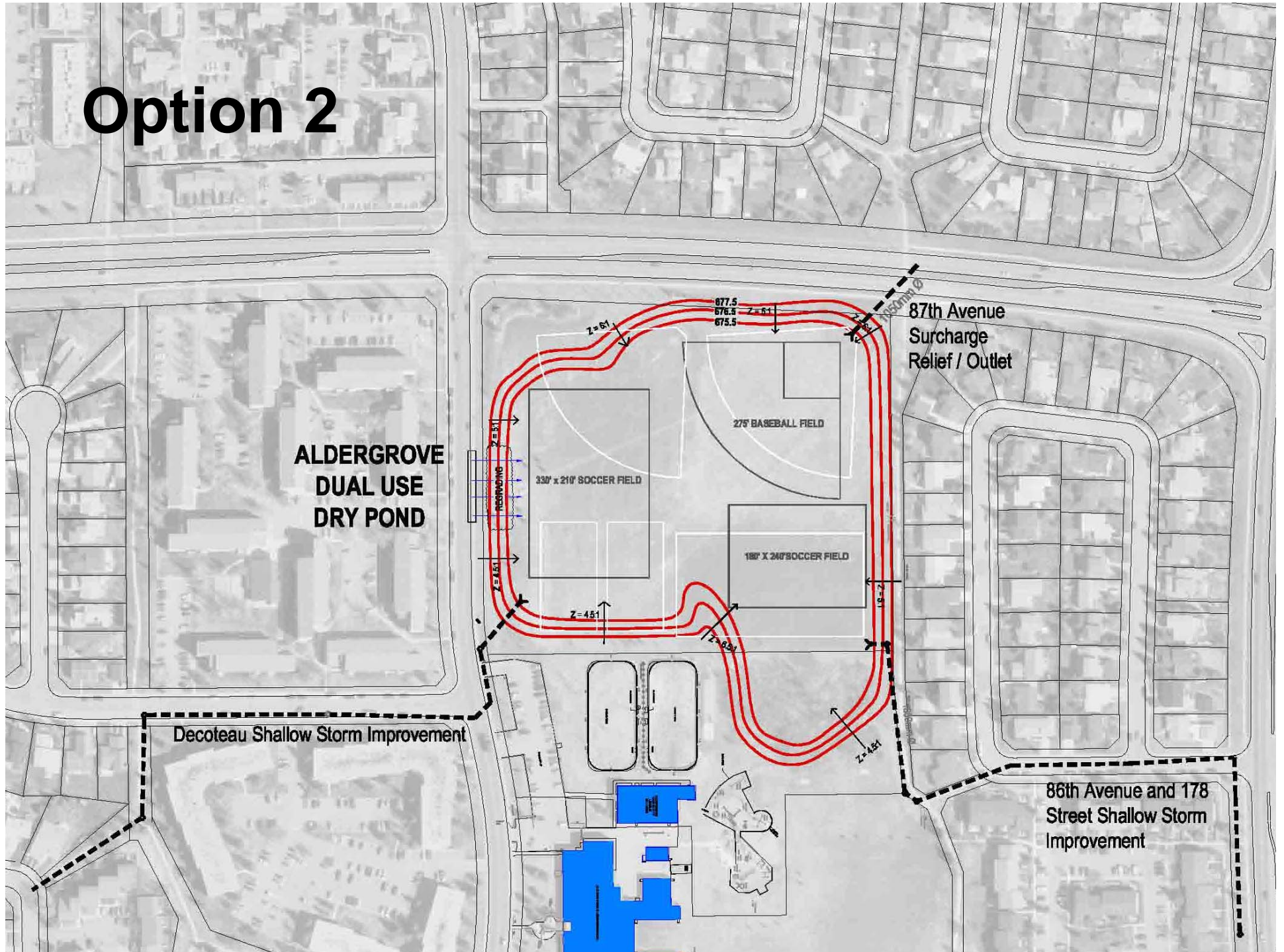


**87th Avenue
Surcharge
Relief / Outlet**

Decoteau Shallow Storm Improvement

**86th Avenue and 178
Street Shallow Storm
Improvement**

Option 2



Implementation Schedule

2005-2006	2006-2008	2009											2010											2011		
		M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Identify Problem																										
	Concept Design																									
		Preliminary Design																								
							Detailed Design																			
										T e n d e r																
											Construction															
																							Commission			



Construction Stages

- There are three major stages in the construction of the dry pond:
 - Bulk excavation
 - Landscaping and Restoration
 - Connection to existing storm sewers



More Questions?

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(780) 496-5537



Flood Prevention Program

- Backwater valve homeowner subsidy program
- Home Flood Prevention Checkup
- Information bulletins, notices and education material to residents
- Ads, stories and educational information in print, on TV, in newspapers and on the web.
- Backwater valve education workshops
- *Homeowners Guide to Flood Prevention*

Recommendations for Homeowners

- Improve lot grading to get surface water away from house
- Install/maintain adequate eaves troughs
- Channel downspout water to proper place
- Install backflow prevention valve
- In some cases, install sump pump



Discussion and Feedback

Clarifying Questions?



Issues, comments, concerns?



Additional information needs?

