

Drainage Services Flood Prevention Program

Laurier Heights

Rio Terrace

Quesnell Heights

Community Consultation

November, 2005 Update



How Did We Get Here?

- **Major flooding in July, 2004**
- **Flood prevention becomes top priority**
- **Commitment to public consultation and education**
- **At risk neighbourhoods identified**
- **Public meetings in Sep/04**

How Did We Get Here?

- **Engineering studies of priority neighbourhoods completed Feb/05**
- **Community consultations in March and April/05**
- ***floodproof* launched**
- **Meetings with other stakeholders through the summer and fall/05**
- **Detail study of input and options**
- **Additional data collected and analyzed**

Flood Prevention Program

- **Backflow 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.**
- **Backflow valve education workshops**
- ***Homeowners Guide to Flood Prevention***



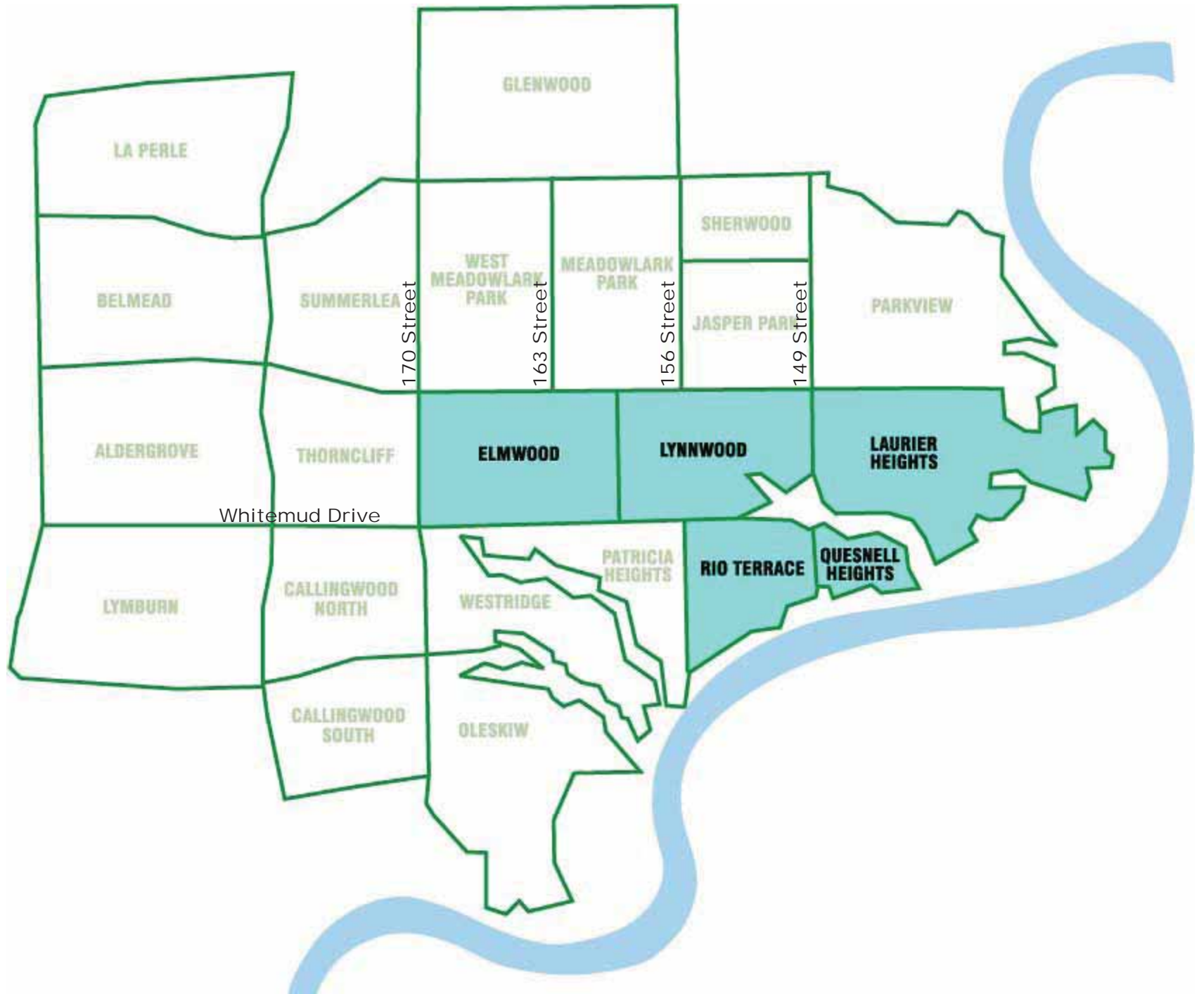
Today's Meeting

- 1. Present recommendations and implementation plan**
- 2. Get your input and feedback**
- 3. Make necessary adjustments**
- 4. Forward package to City Council for budget approval**



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**





Engineering Findings

- **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**



Engineering Findings

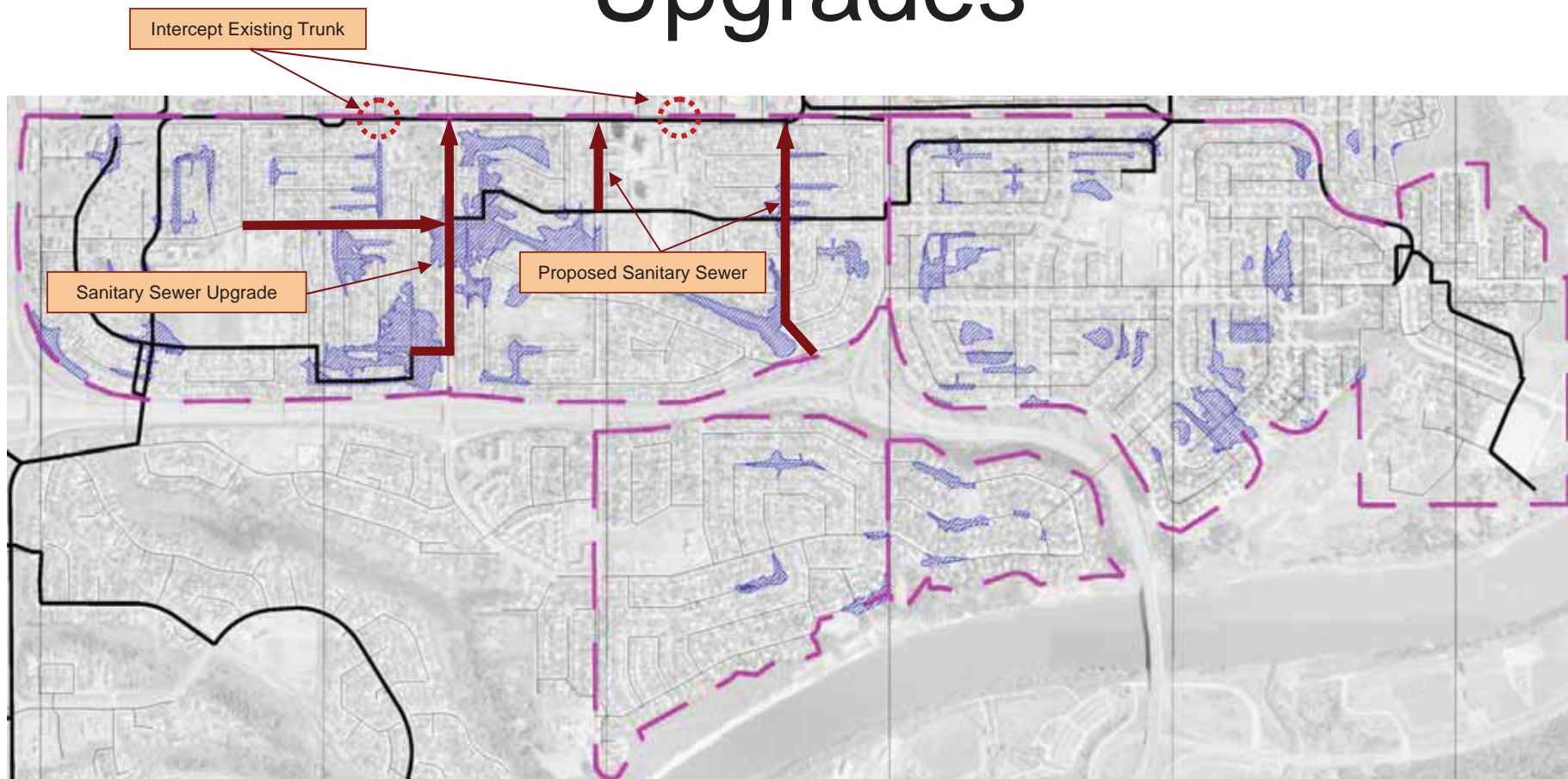
- **Common characteristics of flooded homes**
 - 60% had yard elevations above the street curb of 0.5 metres or less
 - 37% had landscaping or lot grading that caused water to drain toward the house
 - 30% had no roof leader or extensions were less than recommended length
 - Only 3% had backflow prevention valves








Recommendations for Homeowners

- **Improve lot grading to get surface water away from house**
- **Install/maintain adequate eavestroughs**
- **Set in place downspouts: 1.5 metre extensions**
- **Install backflow prevention valve**
- **Install sump pump**

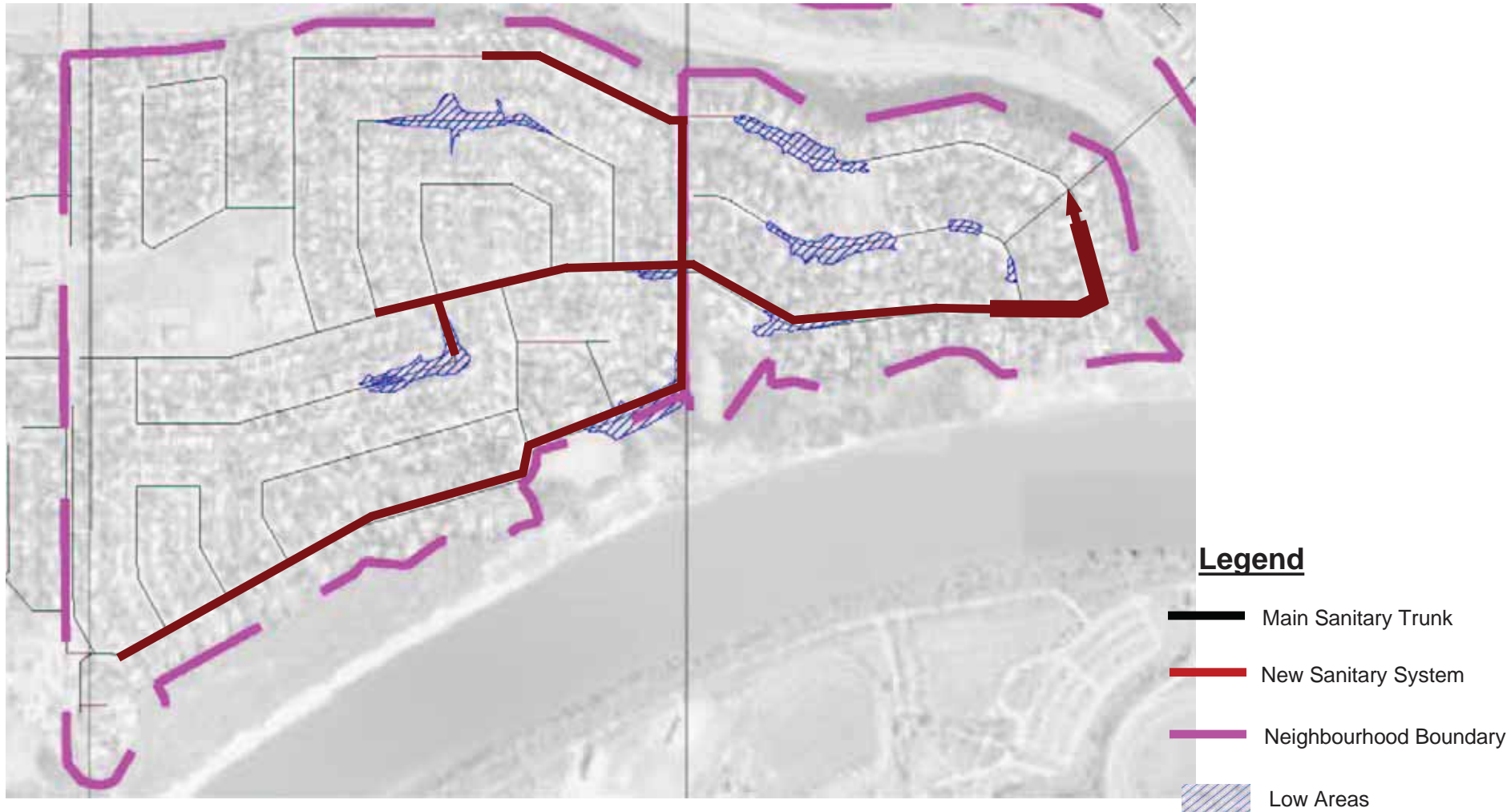
Laurier Heights Sanitary Upgrades



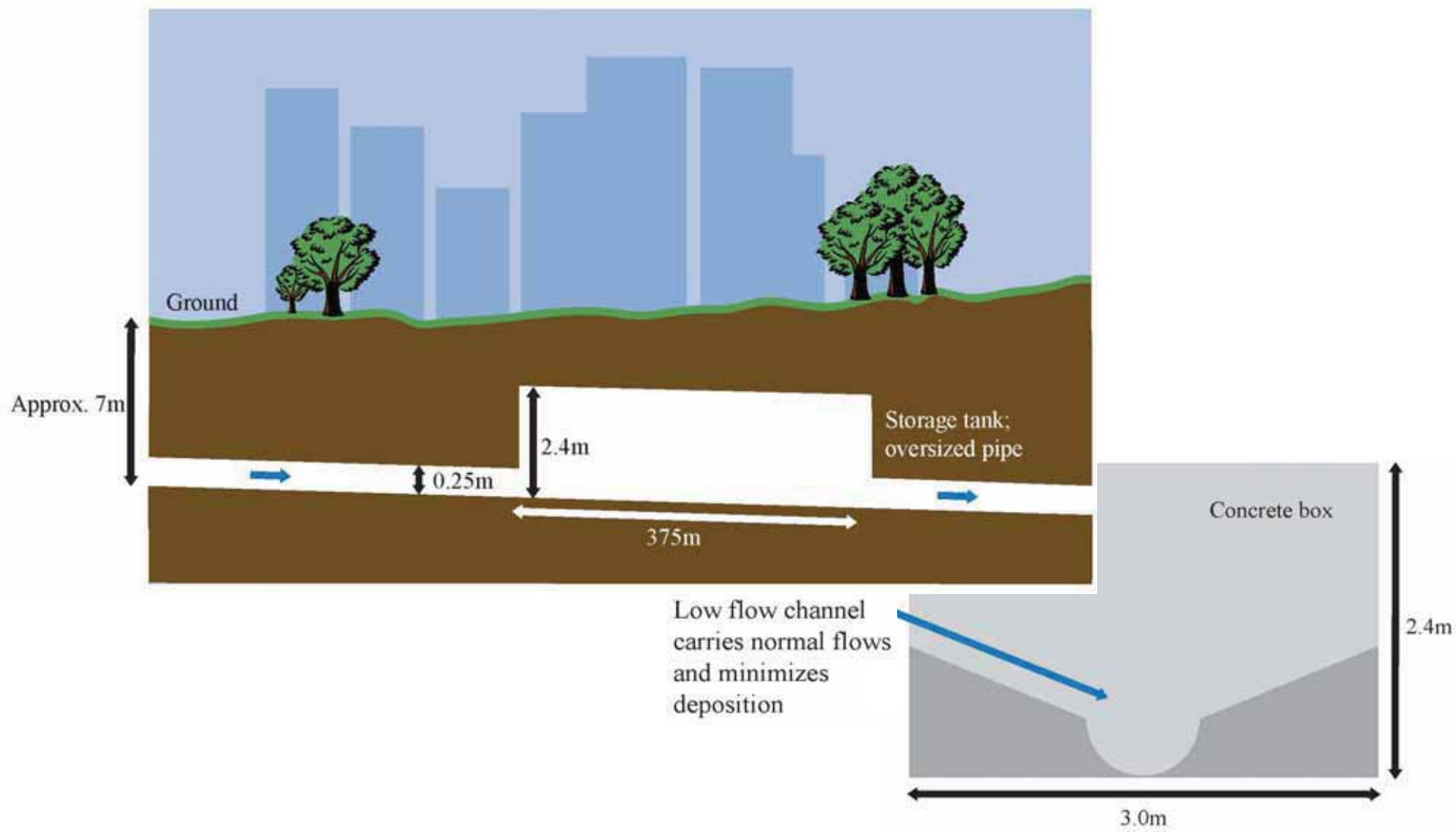
Legend

- | | | | | | |
|--|------------------------|---|-----------------|---|---------------------|
|  | Main Sanitary Trunk |  | Low Areas |  | New Sanitary System |
|  | Neighbourhood Boundary |  | Intercept Sewer | | |

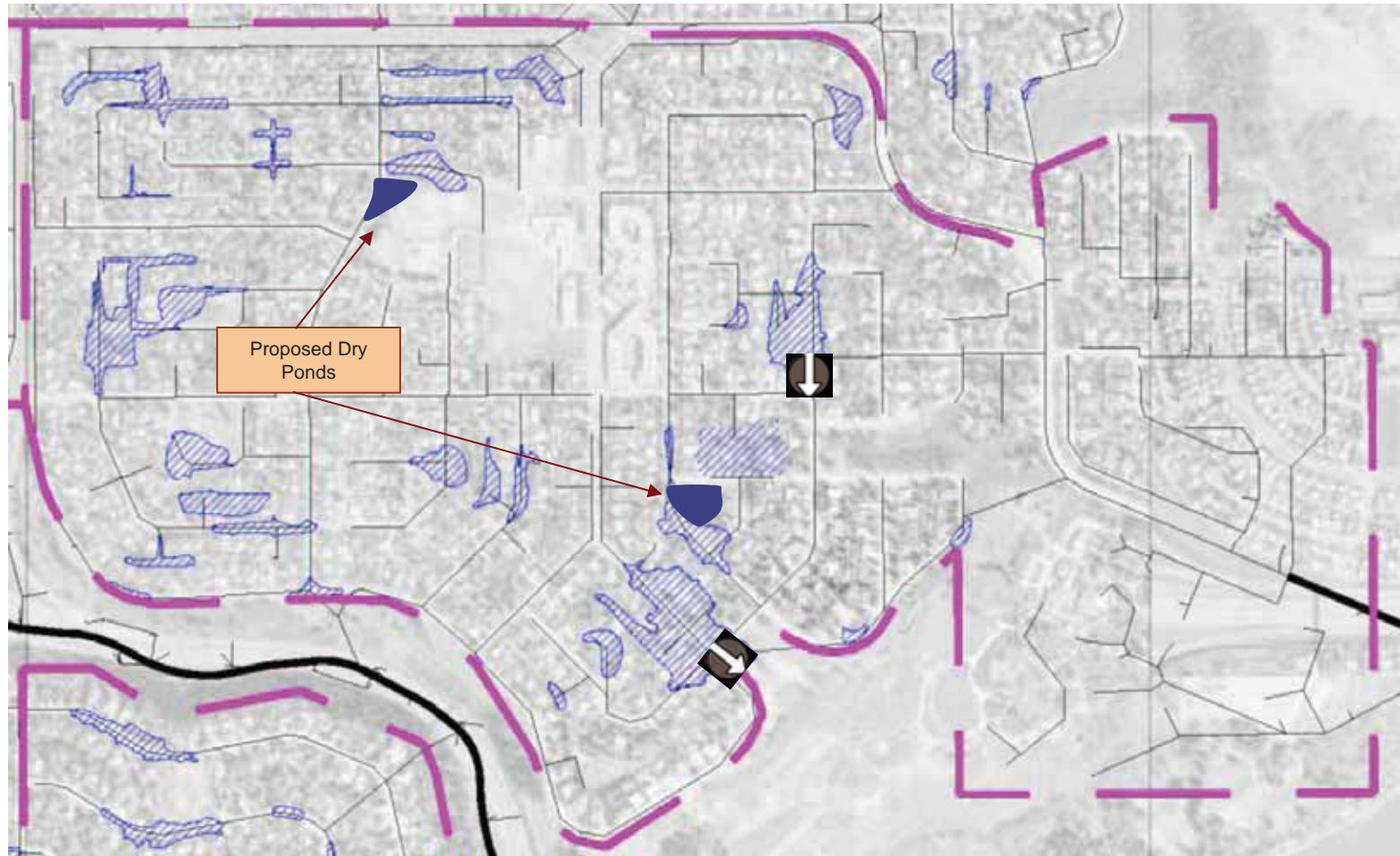
Rio Terrace/Quesnell Heights Sanitary Upgrades








Rio Terrace/Quesnell Heights “Super Pipe”



Laurier Heights Storm Upgrades



Legend

- | | | | | | |
|---|------------------------|---|-----------------|---|----------------------------|
|  | Main Storm Trunk |  | Surface Storage |  | Proposed Street Re-grading |
|  | Neighbourhood Boundary |  | Low Areas | | |

What Do Dry Ponds Look Like?

City of Edmonton



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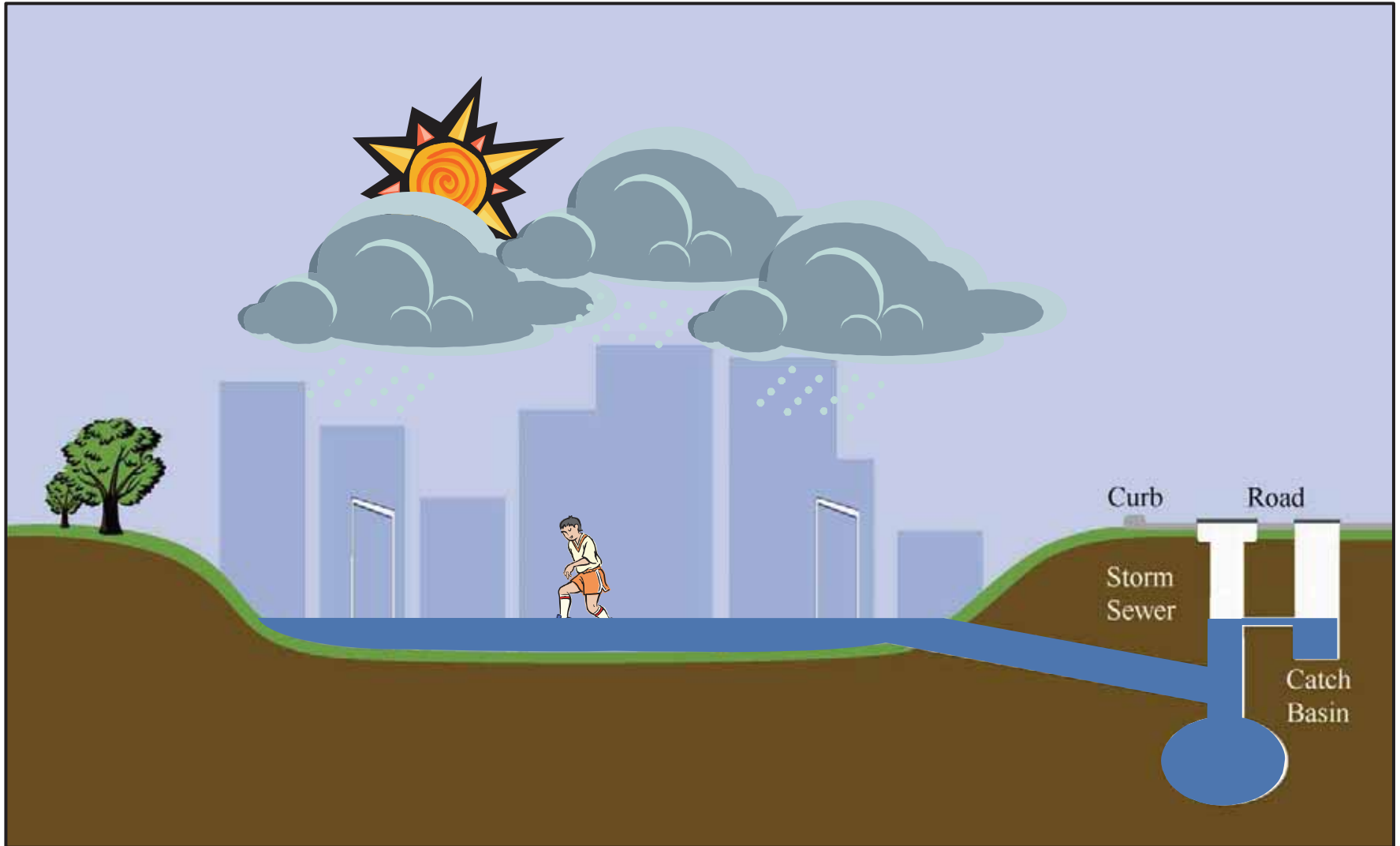
What is a Dry Pond?

- **Low Area - collects storm water runoff**
- **Receives storm water from:**
 - Surface drainage
 - Overloaded storm sewer backup
- **Usually takes 4 to 6 hrs to drain**
- **Normally 1 to 2 metres deep**
- **Landscaped to blend in**
- **Can be used for recreation when dry**
- **Common in many cities; some on school sites (incl. Regina, Red Deer & Calgary)**
- **60 in Edmonton, mostly along roadways**

Dry Pond Safety

- **Built to minimize safety risk**
- **Sides gently sloped**
- **Bottom relatively shallow**
- **Sides and corners pool first**
- **Warning signs**
- **Gradual filling and draining**
- **SCADA remote monitoring system**
 - Alarm will sound when water filling
 - Operations staff will respond
- **Cleanup after each event**

How Do Dry Ponds Work?



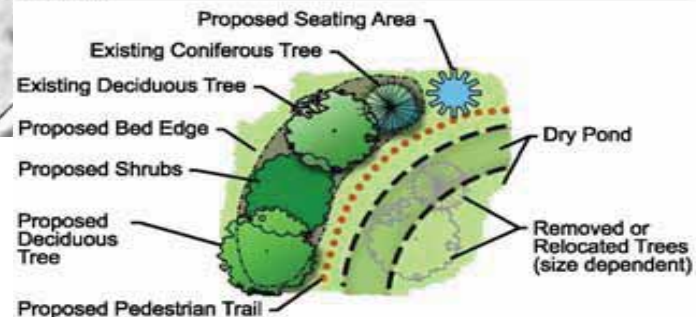
Dry Pond SE of 85 Ave. & 145 St.



Dry Pond SW of 78 Ave. & 140 St.



LEGEND

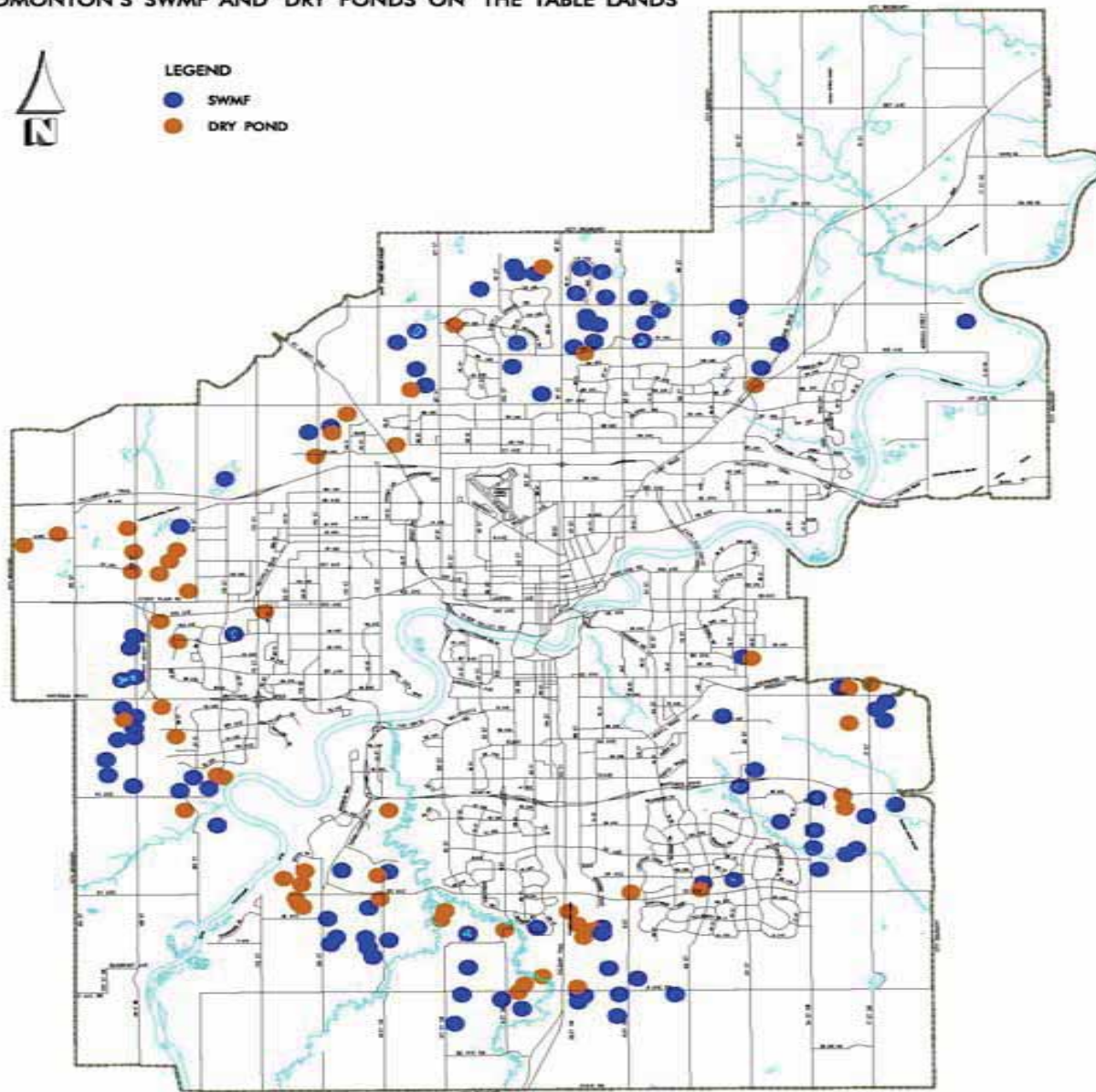


EDMONTON'S SWMF AND DRY PONDS ON THE TABLE LANDS



LEGEND

- SWMF
- DRY POND



Improvement Options

Local re-grading to drain flows to river valley.	\$229,000
2 dry ponds	\$658,000
In-line storage plus trunk replacement through Quesnell Heights.	\$4,338,000
Sanitary sewer upgrades through Rio Terrace.	\$3,711,000
Add extra catch basins at outfall.	\$20,000
Total	\$8,956,000*

*** Note: pending Council approval**



City Wide Implementation Plan

- **Overall, ten year timeframe investing more than \$100 million in 43 communities**
- **Focus on most critical needs first**
- **Consult/inform community and others on design and construction, especially surface components like dry ponds**



Laurier Heights, Rio Terrace, Quesnell Heights Implementation Plan

Manhole Sealing	Complete
Proactive Backflow Valve Program	Ongoing
Flood Prevention Home Checkup Program	Ongoing
Top priority upgrade projects	Near Term * (2 – 3 years)
Next batch of priority projects	Mid Term * (3 – 6 years)

*** Note: pending Council approval**

The image features a vertical banner on the left side with the text "City of Edmonton" in a stylized font. The background of the banner shows a modern building with a glass facade and a triangular roof, situated behind a body of water.

What's Next

- **Continue design work in 2006**
- **Repeat successful homeowner support programs in 2006**
- **Complete studies for 28 remaining at-risk communities by Jan/06**
- **Incorporate all needs into a Flood Prevention Program Implementation Plan**
- **Present complete package to City Council for approval in spring 2006**



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**



Discussion and Feedback

Clarifying Questions?



Issues, comments, concerns?



Additional information needs?