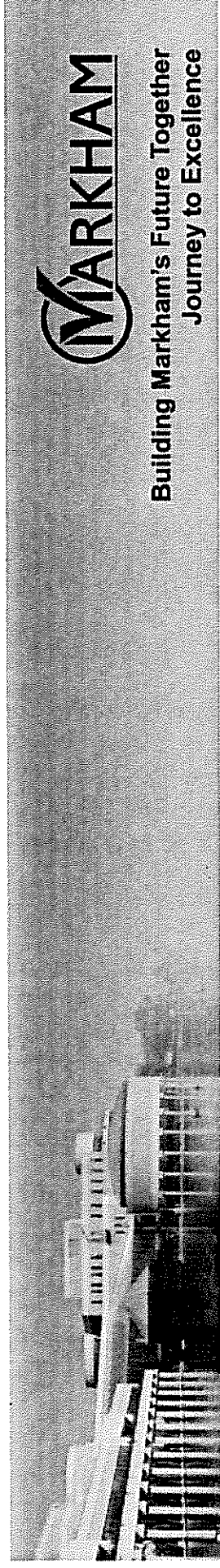


Emerald Ash Borer 2014 Update

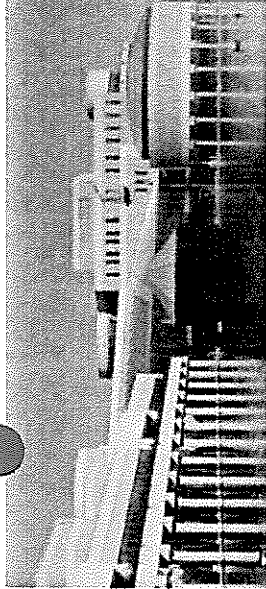
**General Committee
September 15, 2014**

Prepared by Barb Rabicki, Manager – Parks Operations



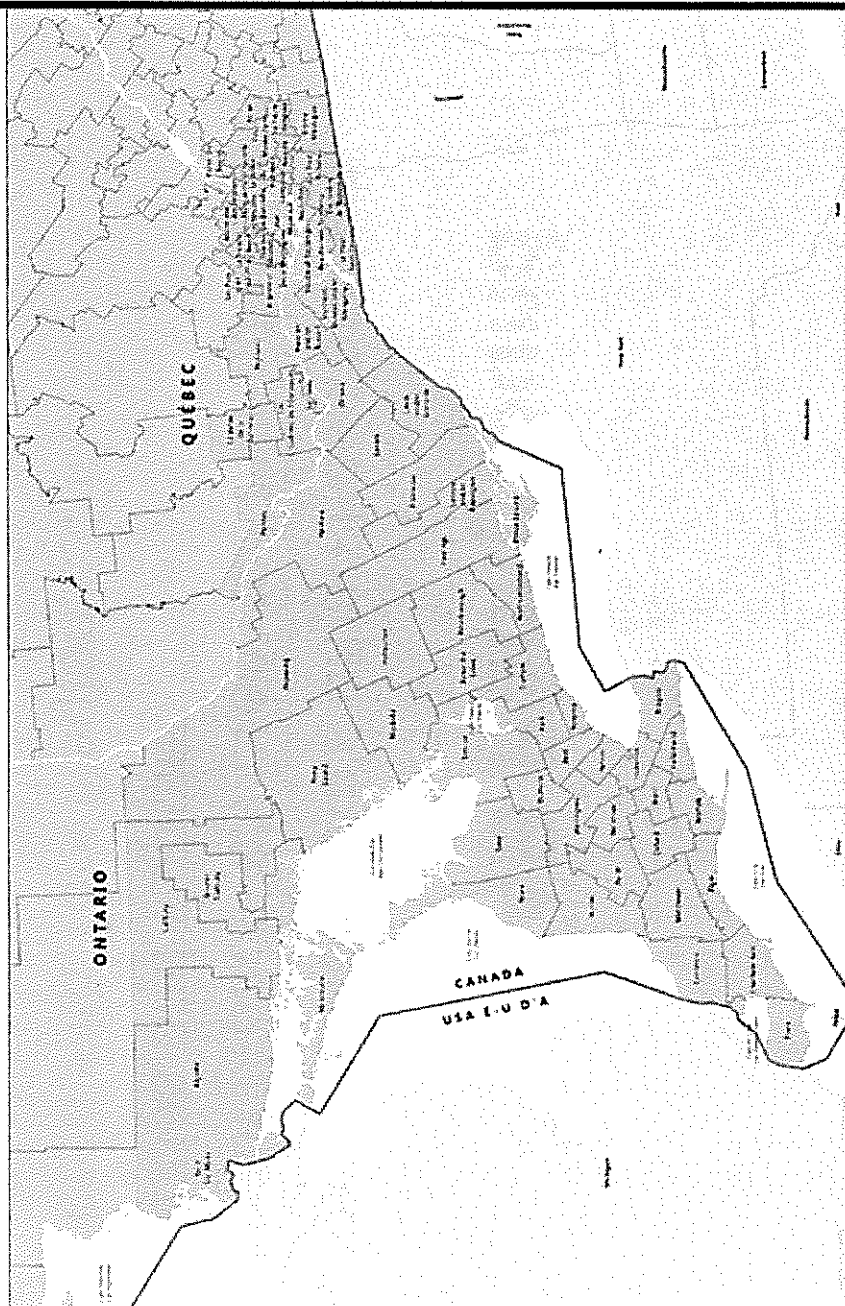
Agenda

- Background
- Progress to date
- 2014 - 2017 Actions Plans
- Financial Impacts

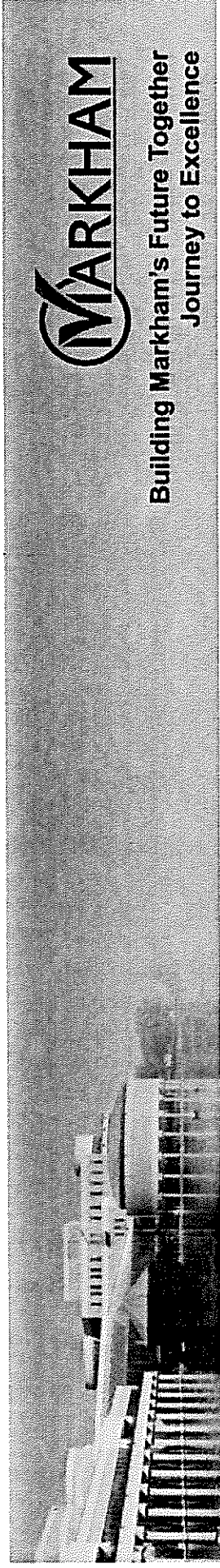


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EMERALD ASH BORER REGULATED AREAS OF CANADA LIEUX RÉGLEMENTÉS POUR L'AGRIE DU FRÊNE AU CANADA



Scale: 1:100,000
Date: 2008
Legend: Areas regulated / Lieux réglementés
Source: Government of Canada, Natural Resources Canada
Map of Canada showing regulated areas for Emerald Ash Borer (EAB) in 2008. The map includes labels for 'ONTARIO', 'QUÉBEC', 'CANADA', and 'USA E.U.D.A.'. It shows various municipalities and their boundaries, with some areas shaded to indicate regulated regions. The map is oriented with North at the top.



EAB Background

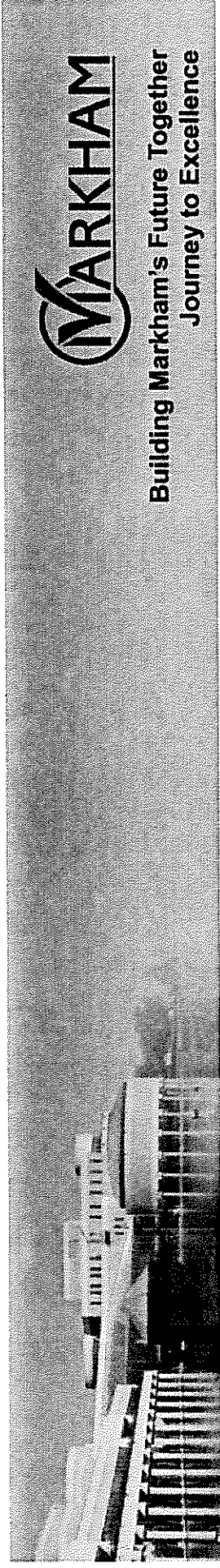
- Approx. 9% Markham's urban trees are ash
- Markham proactively prepared by undertaking inventories and trapping
- Partnered with York Region, CFIA
- July 2011 EAB confirmed in Markham by CFIA



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City Actions to Date

- Preliminary ash inventory undertaken 2012
- Pilot project: Ashton Meadows treatment
- EAB Strategy developed
- Report to Council November 2012
- Council approved a 0.5% tax increase in 2013 to fund the total EAB program cost of \$13.1M for street and park trees
- Communications strategy implemented
- Ash tree re-assessment in 2013



Ice Storm: Lessons Learned



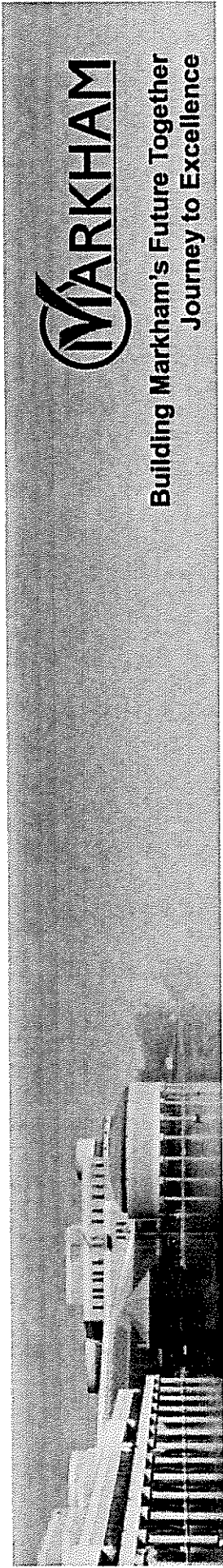
- Expect the unexpected
- Records are essential
- Diversify tree population
- Long term planning critical
- Infested ash trees are structurally weakened
- All municipalities learned from this storm



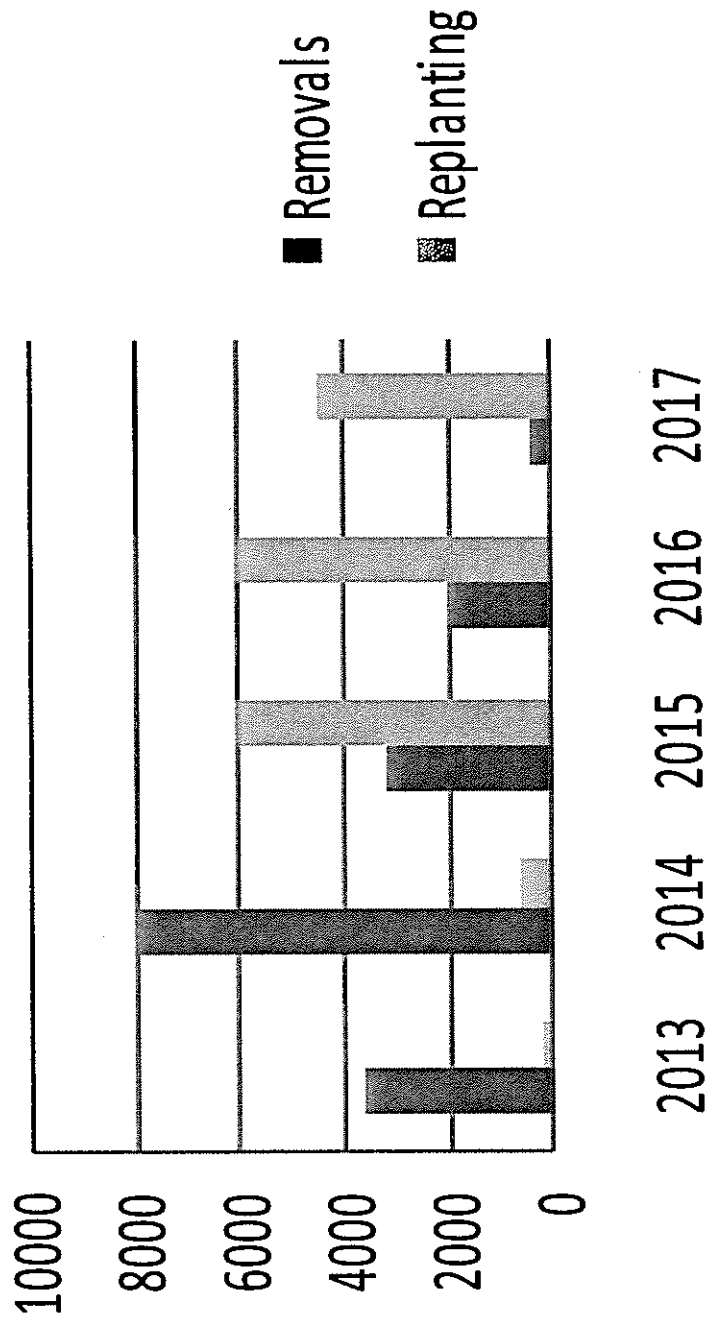
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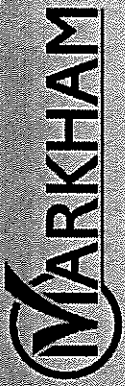
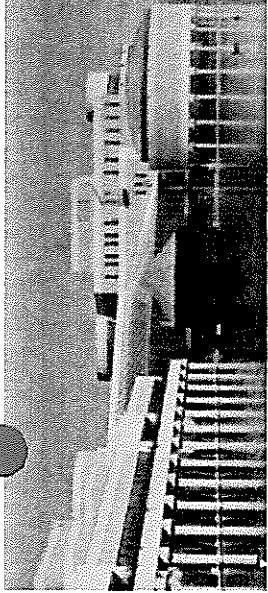
2014 Action Priorities

- Re-assessment of all ash trees as well as all other tree species city-wide
- In-house risk assessment of unprecedented scope – 125,000 trees estimated
- Tree removals for public safety - **8,000 trees!**
- Treatment of 354 trees with TreeAzin™
- Stumping of 4,500 trees to prepare for replanting
- 620 trees planted on boulevards and parks
- “worst first”



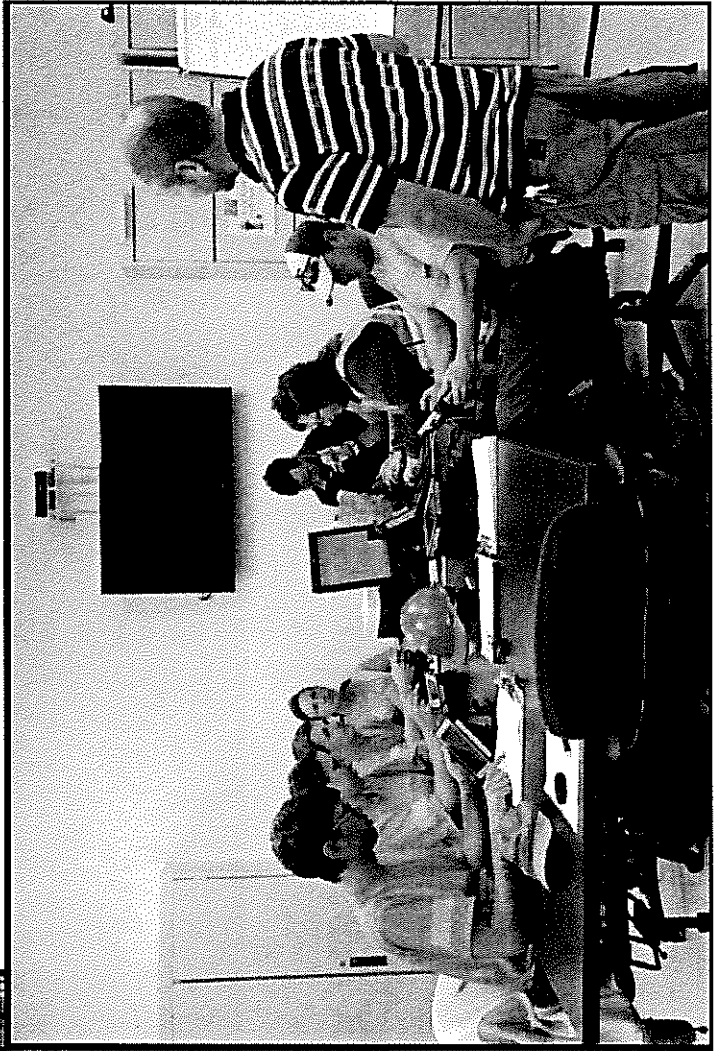
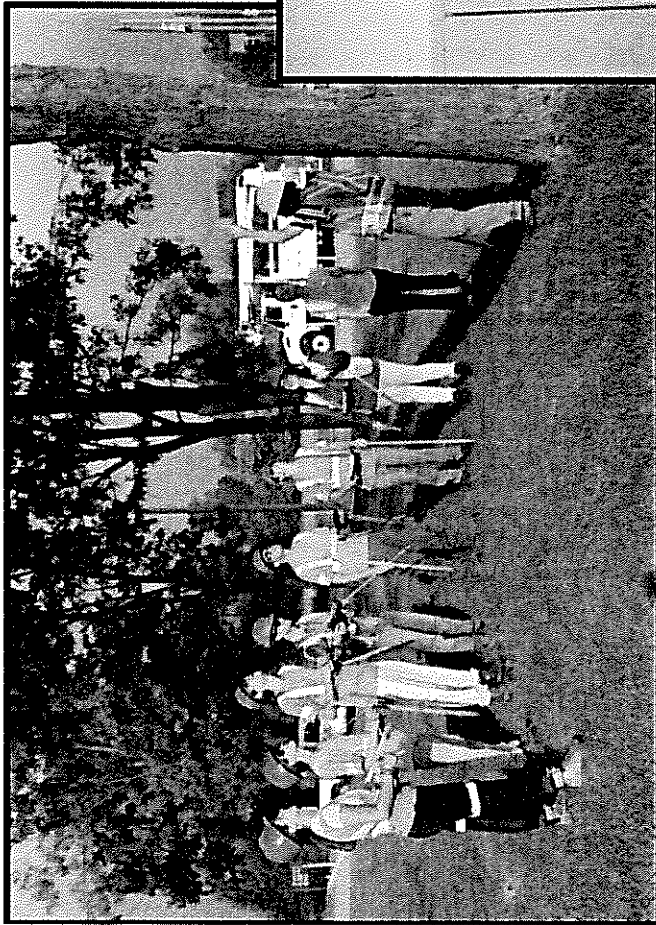
Tree Removals and Replanting Plan

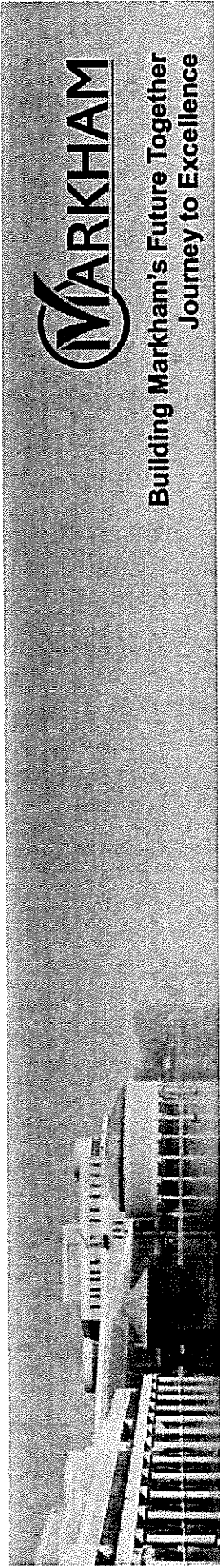




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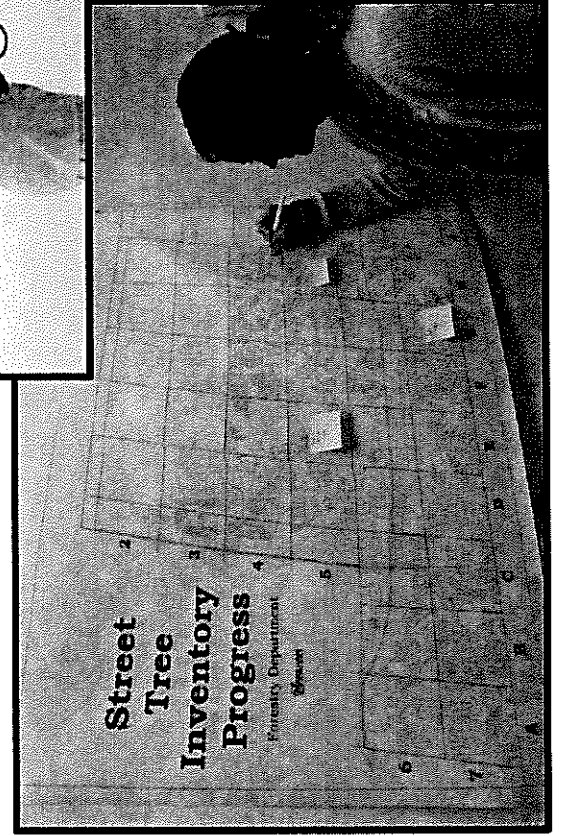
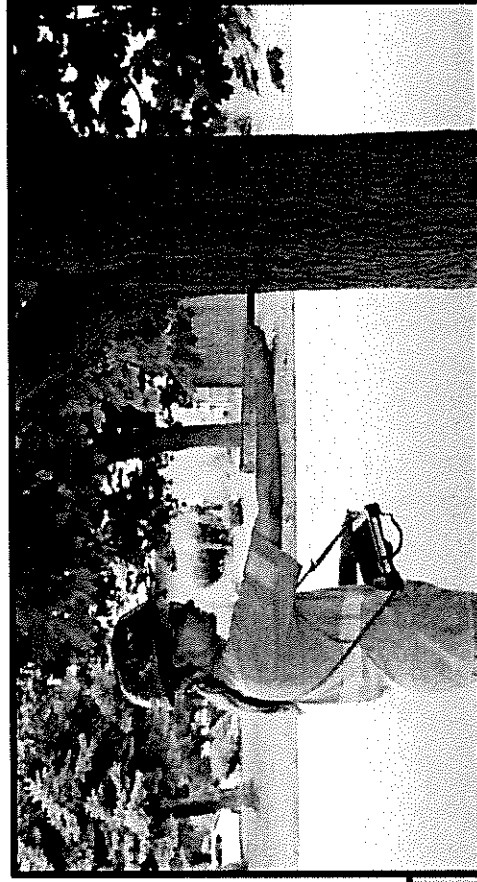
City Wide Tree Inventory & Risk Assessment

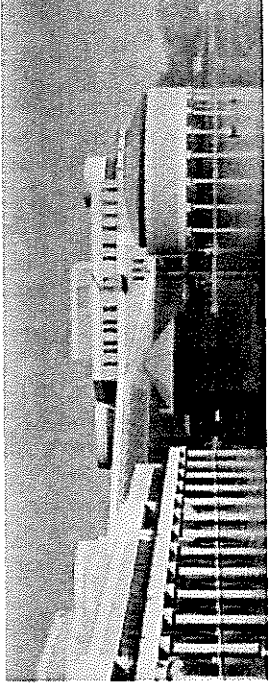




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Tree Inventory & Risk Assessment Process

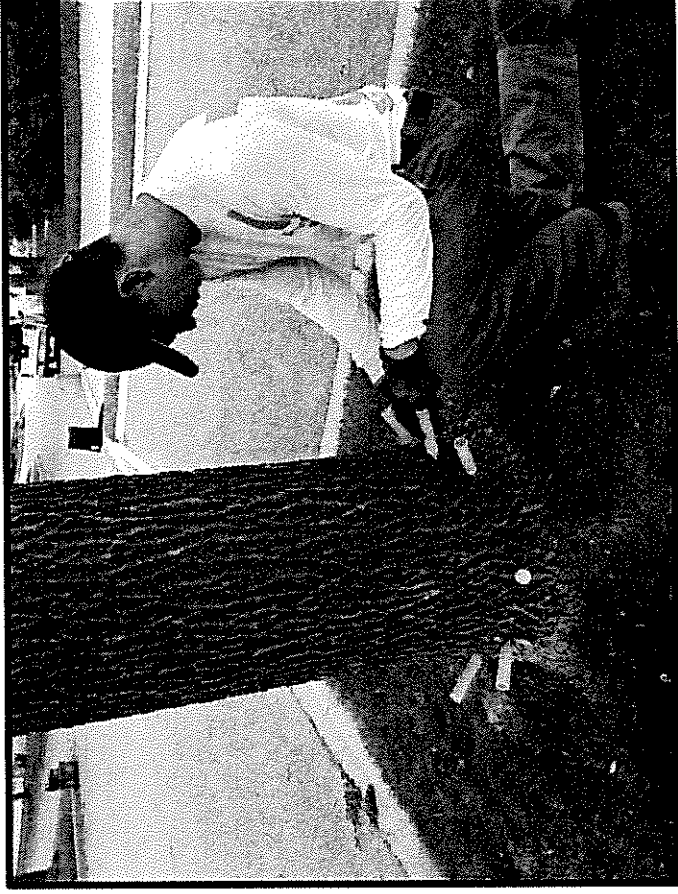


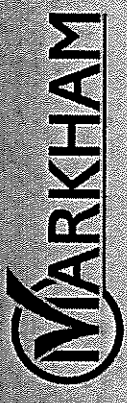
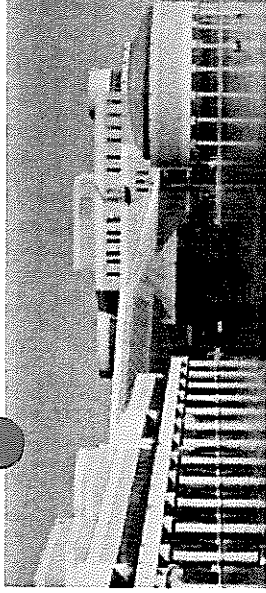


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Treatment Selection Criteria

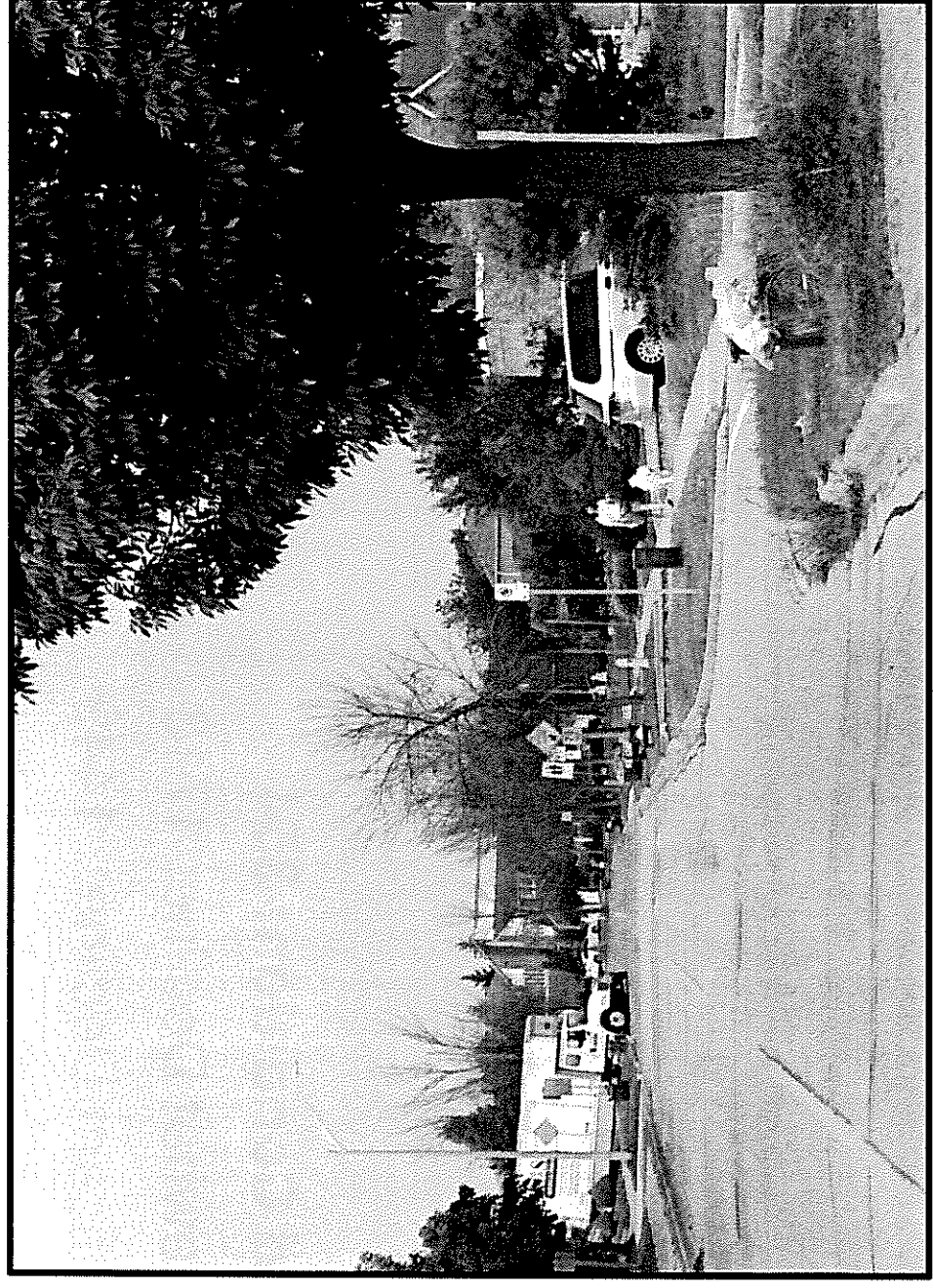
- Tree Health Rating '1'
Good Condition
- Tree Size > 20cm DBH
- Tree Structure - Excellent





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Treated Tree vs Untreated Trees



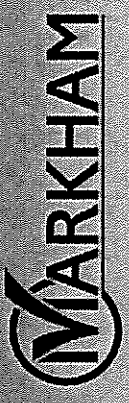
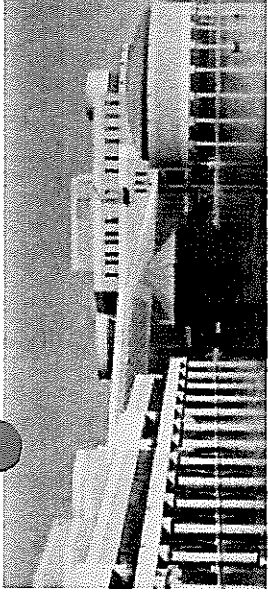


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2014 Ash Tree Assessment Results (Boulevards & Parks >20cm)

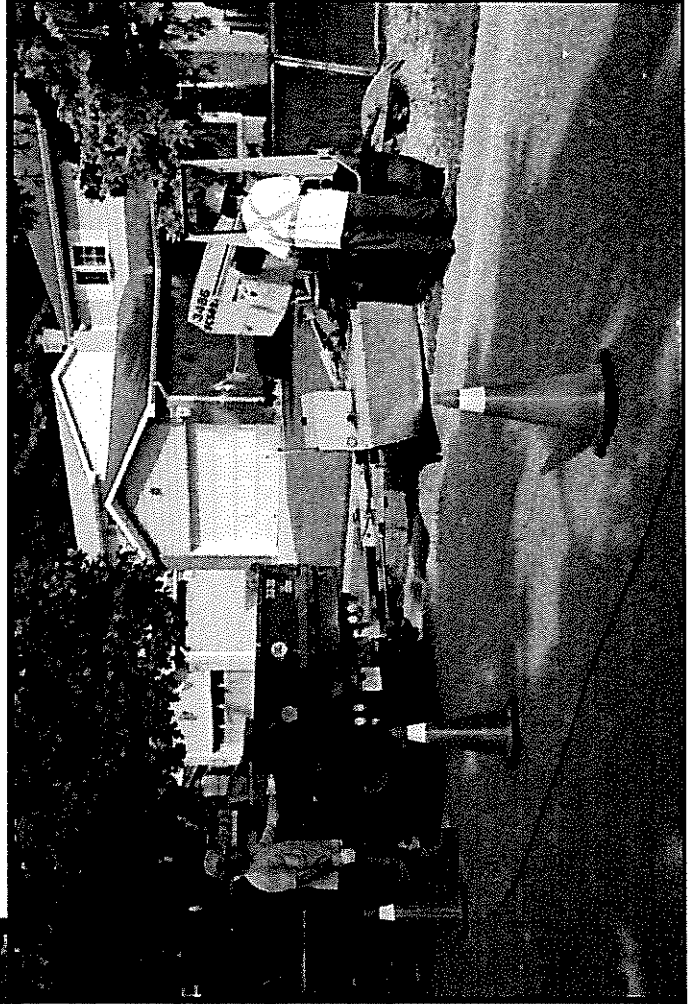
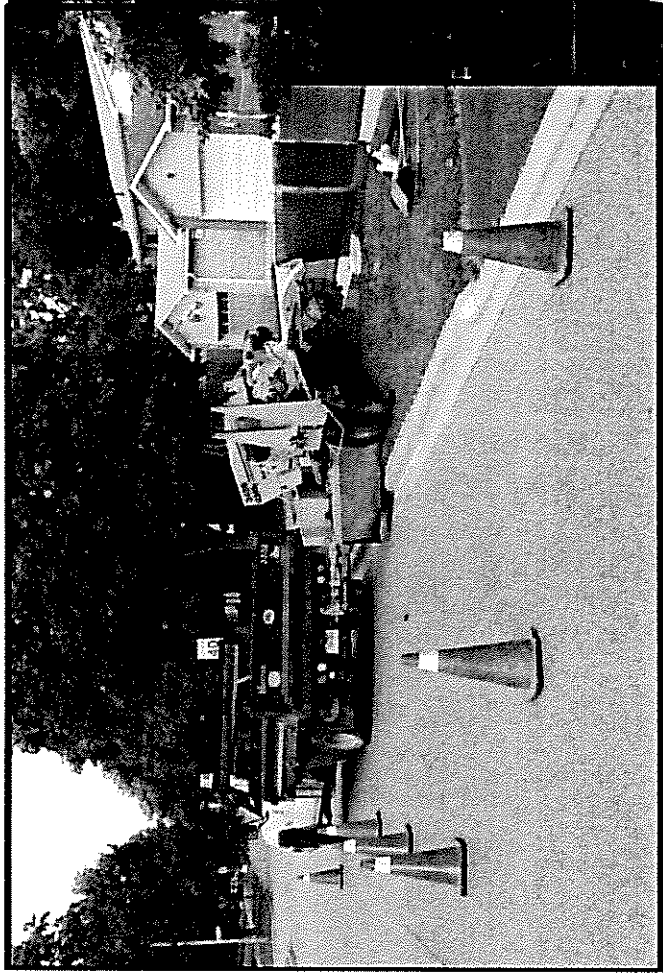
- **Good Condition: 354**
- **Somewhat Decline: 1713**
- **Significant Decline: 1449**
- **Dead: 2770**

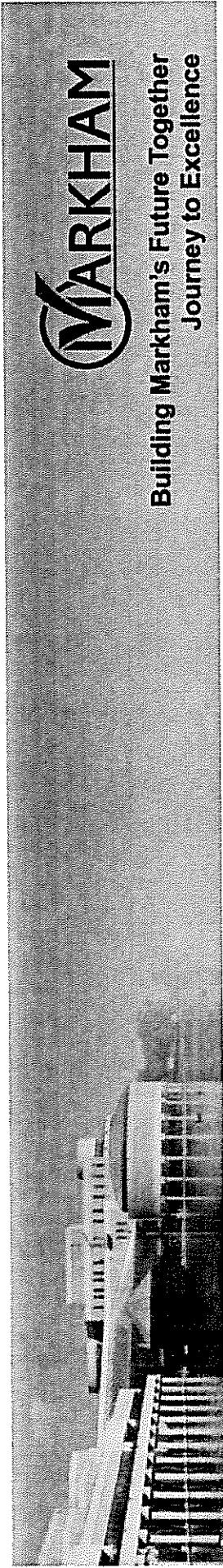
354 trees treated in 2014 with TreeAzin™



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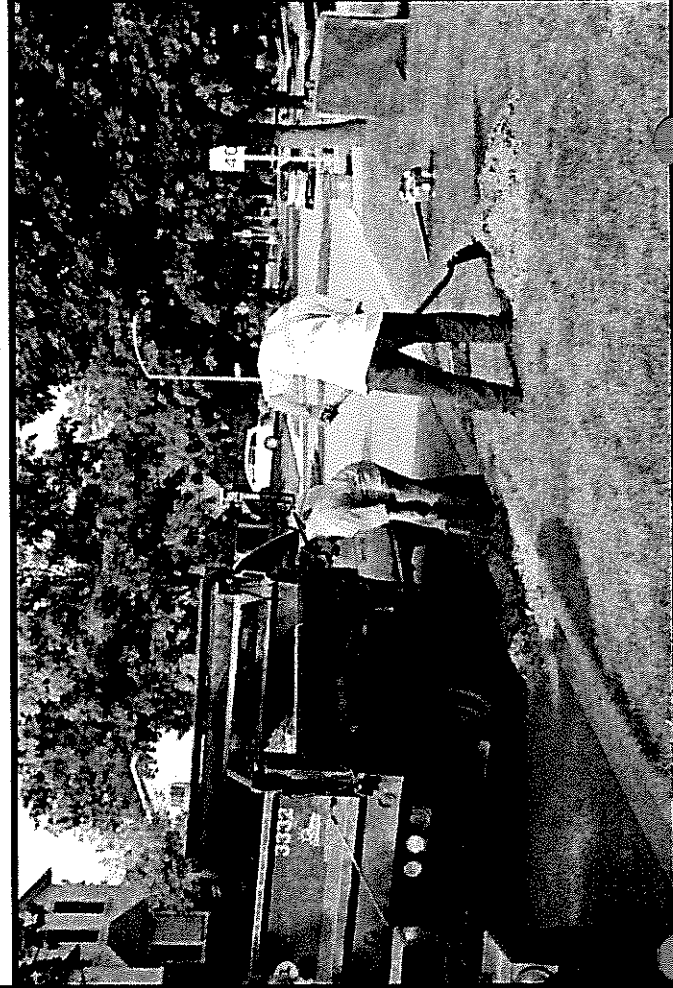
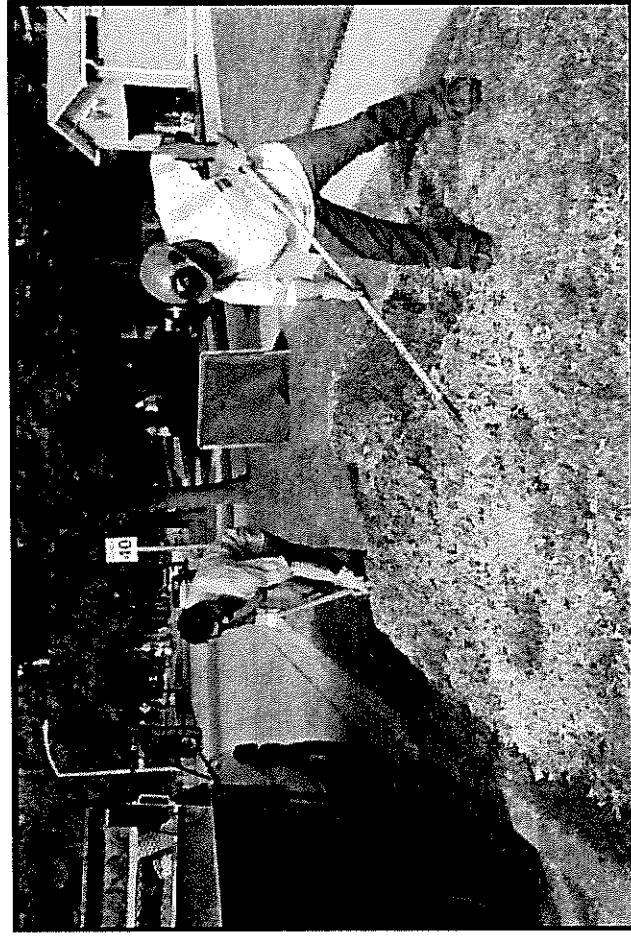
Stumping Process

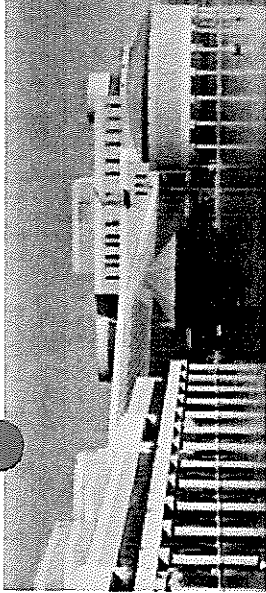




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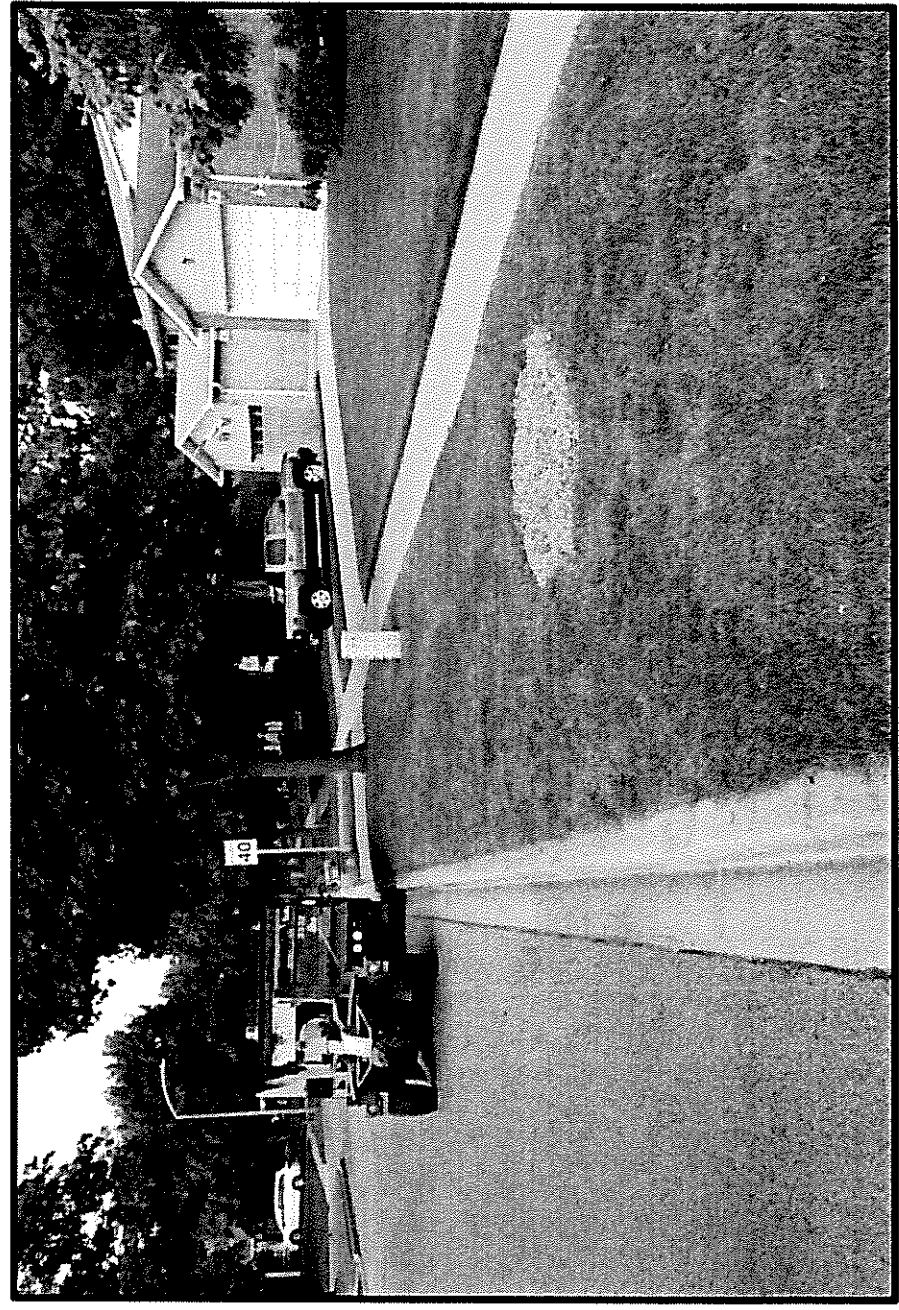
Clean-up of Stumping Debris

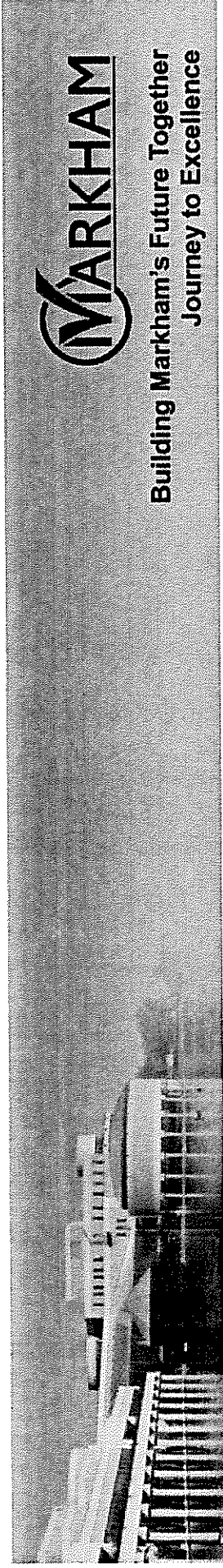




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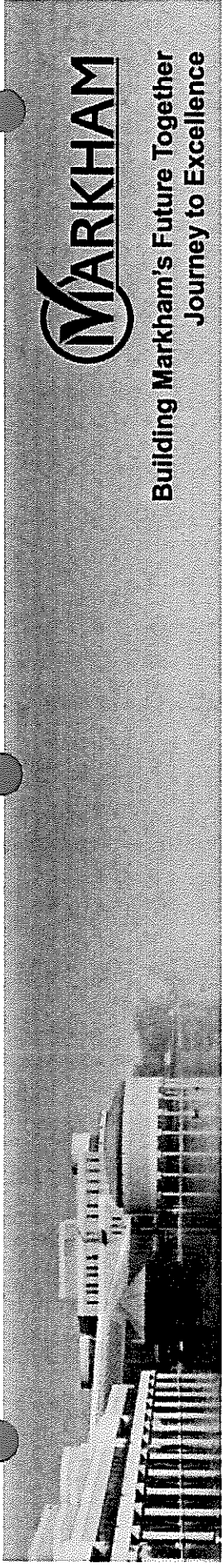
Ready for Replanting





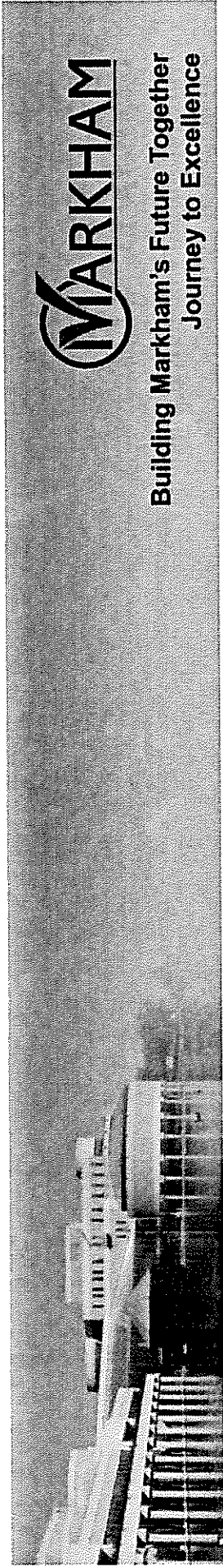
2015 Action Plan

- 3,200 trees to be removed
- Re-assessment of remaining street & park ash trees
- Injections of healthy ash
- 7,000 trees to be stumped
- 6,000 trees to be replanted – unprecedented planting program
- Assessment of woodlot ash / removals initiated



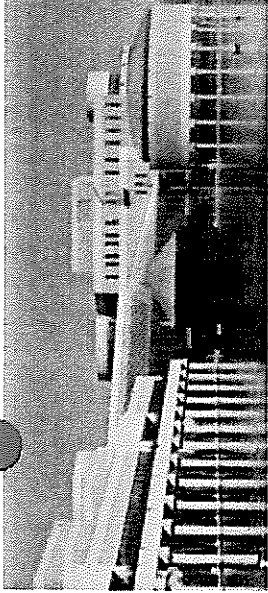
2016-2017 Action Plans

- Re-assessment of remaining street & park ash trees
- Injections of healthy ash
- **2016:** 2,000 trees removed (or treated); 4,000 stumped; 6,000 replanted; woodlot removals
- **2017:** 372 trees removed (or treated); 1,700 stumped; 4,470 replanted; woodlot replanting



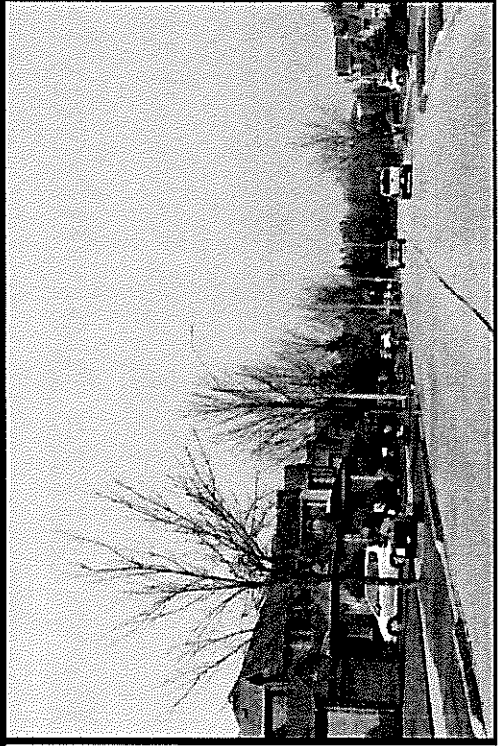
EAB Management Plan Costs

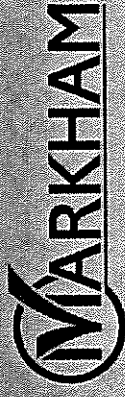
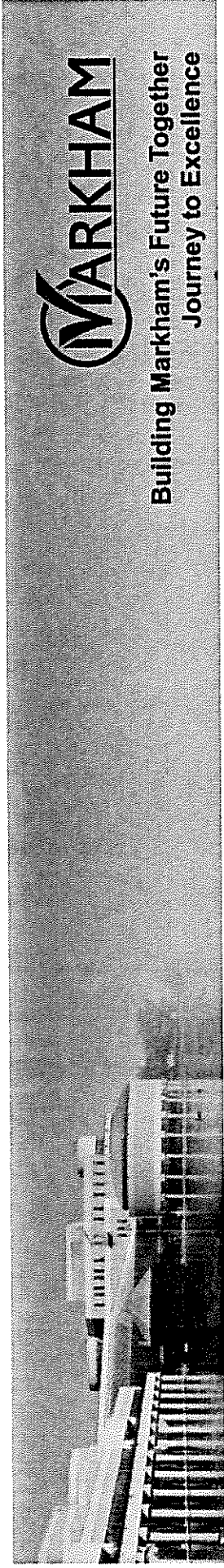
	2013	2014	2015	2016	2017	Total
Removals (# of trees)	3,628	8,000	3,200	2,000	372	17,200
Replanting (# of trees)	130	620	6,000	6,000	4,470	17,200
Costs (\$)	\$0.5M	\$1.4M	\$4.5M	\$4.0M	\$2.7M	\$13.1M



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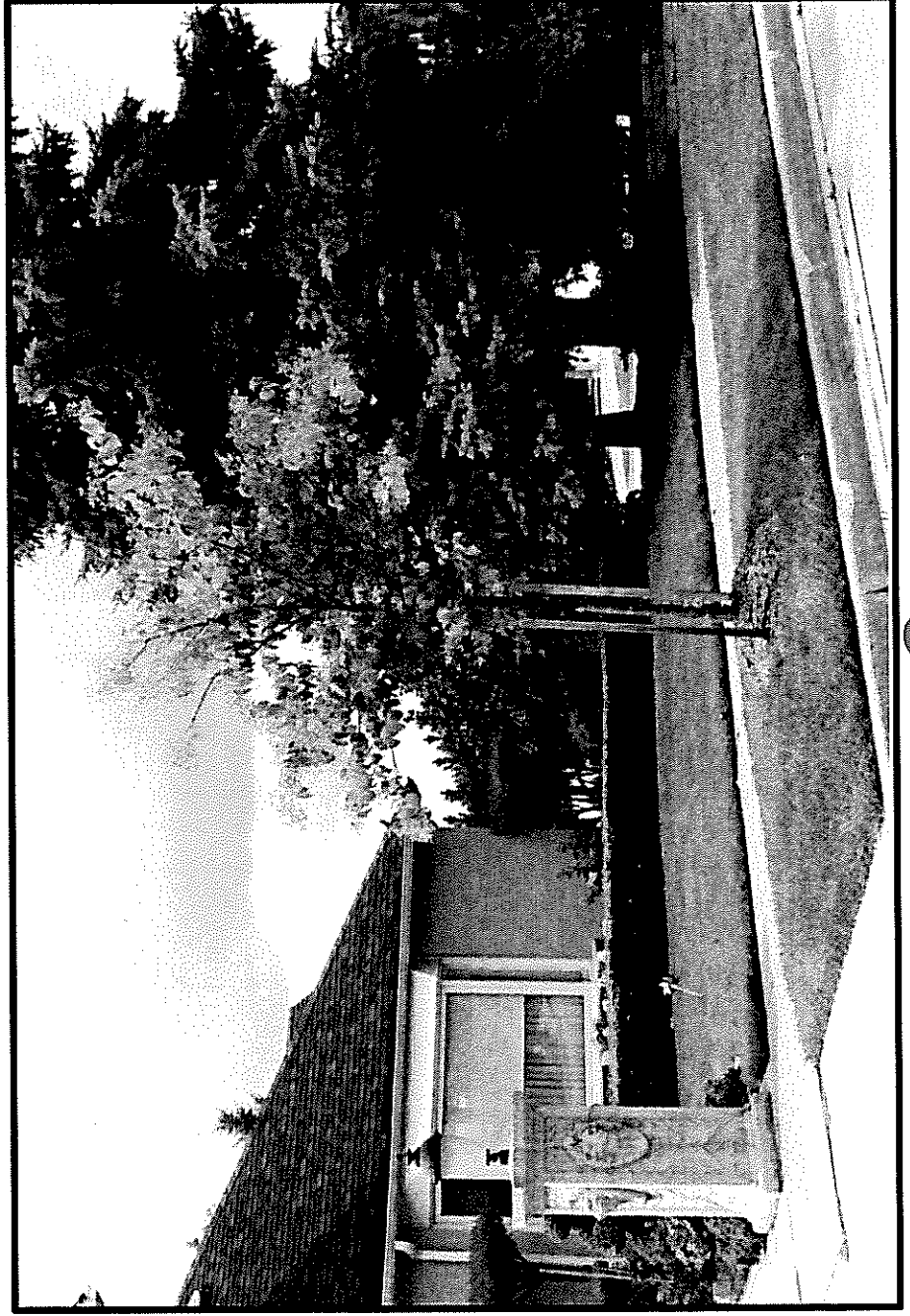
Streetscapes to be Restored

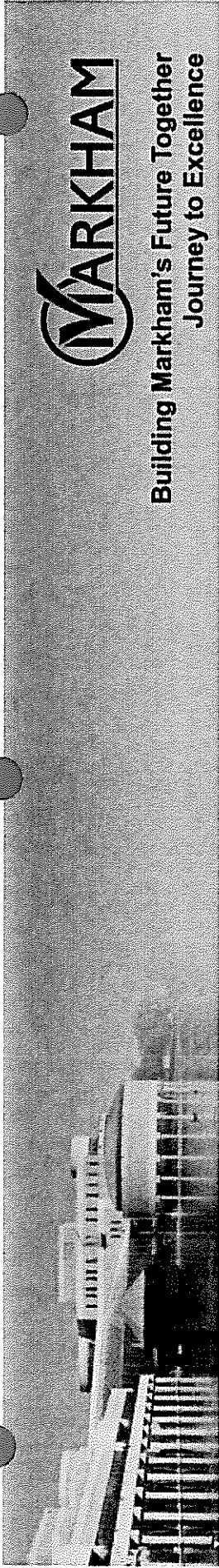




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New Trees Revitalize Neighbourhoods





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