Gas Safety, Inc.
Newton Massachusetts
Natural Gas Leak Tree Survey
2009-2010

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Executive Summary

During 2009 - 2010, pursuant to a contract with the City of Newton, Gas Safety Inc. for the Massachusetts Public Shade Tree Trust conducted a survey of the City of Newton's public ways to determine and document natural gas leaks that have damaged or threaten to damage the Municipality's public shade trees (**GSI Report**).

Trees along public ways were tested with a portable flame ionization detector for the presence of hydrocarbons that may be venting from subsurface natural gas distribution lines and affecting the health of the municipalities' public shade trees. Lists of trees removed were also obtained from the tree warden for the years 2008, 2009, 2010 (see appendix) and each location was tested for the presence of hydrocarbons.

Each positive reading was identified using a portable flame ionization detector and suspected leak locations were reported to National Grid, the local gas company, in accordance with industry and governmental standards. Identified leaks in the presence of a public shade tree were recorded on a leak survey report (**GSI ID Report**). All locations were reported to Dig Safe for subsurface utility line mark outs to facilitate bar hole air sampling tests in the vicinity of the gas leak. The gas leak cloud was further delineated using a Bascom-Turner Sentry gas/oxygen detector and bar hole readings conducted at 18" depth where feasible. The oxygen and gas readings were recorded on a leak sketch showing the gas cloud's proximity to public shade trees (**GSI Bar Hole Report**).

All leaks were classified as "Grade 1, 2, or 3" in accordance with industry standards and the United States Department of Transportation leak classification guide. Existing hazards were classified as grade 1 leaks. Leaks that represented a potential future hazard but not hazardous at the time of detection were classified as grade 2 leaks. Leaks that were non hazardous at the time of detection and expected to remain non hazardous were classified as grade three leaks. All leaks were retested in the fall of 2010 to ascertain the status of each leak and to determine if repairs were conducted and the status recorded (**GSI Recheck Report**). A summary of leak audits, repair attempts, and repairs determined to have been successful was also compiled and reported (**GSI Tables 1 and 2**).

Each public shade tree in the presence of an identified leak was evaluated by a certified tree and landscape appraiser and arborist who reported on their assessment of damage including: appraised value of loss, replacement cost, and other associated costs for each damaged tree in accordance with industry standards. Evaluation was also done regarding the value of past loss of trees due to leakage of natural gas using the best available city records. The survey and assessments were reported by the appraiser and arborist (**Arborist Survey and Report**). The data collected by GSI's audit and the Arborist survey and assessment was provided to a recognized plant pathologist for independent review and analysis. The plant pathologist upon conducting his own field audit of the data made an independent determination regarding whether a particular tree's condition was affected by the history of gas exposure and oxygen deprivation and reported his findings (**Plant Pathologist Report**).

The GSI audit found 378 leaks of which later additional field testing determined 33 were Grade 1, 293 were Grade 2, 35 were Grade 3, and 15 were repaired before GSI could make a determination of Grade (although GSI believes, based on the initial leak investigation, that most of these repaired leaks were likely Grade 1) and 2 had no subsequent readings. Between the Identification date and the Bar Hole date, the leak report resulted in 16 presumed repair patches of which 15 presumed attempted repairs resulted in successful repair as determined by GSI field testing. From the Bar Hole date to the Recheck date it was determined that of 19 Grade 1 leaks, 307 Grade 2 leaks and 24 Grade 3 leaks there were 51 presumed attempted repairs of which 26 were determined by GSI field testing to have been successful. The audit surveyed 603 trees and determined that 123 trees had no ascertainable damage and 480 trees were determined to be damaged by the history of gas exposure. The total appraised value of the damaged trees was $1,887,034.00 and the appraised loss of these damaged trees was $788,723.00 with an additional mitigation cost (pruning, fertilization, removal, and replacement costs) of $253,000.00 for a total damage estimate of $1,041,722.56.

1. Scope:

1. GSI surveyed the Municipality's public property and documented the existence of suspected natural gas leaks that have damaged or threaten to damage the Municipality's public shade trees.

2. GSI documented the damage caused to the Municipality's public shade trees. The report contains:

   a. Evaluation by a certified tree and landscape appraiser and arborist who gave an assessment of damage that includes: appraised value of loss, replacement cost, and other associated costs for each damaged tree; and

   b. Evaluation based on best records available concerning the value of the past loss of trees due to leakage of natural gas.

2. Leak Survey Procedure

Trees along public ways were tested with a portable flame ionization detector for the presence of hydrocarbons that may be venting form subsurface natural gas distribution lines and affecting the health of the municipalities public shade trees.

Lists of trees removed were also obtained from the City for the years 2007, 2008, 2009, 2010 (see appendix) and each location was tested for the presence of hydrocarbons.

Each positive reading was recorded on a leak survey report which included a sketch (not to scale) of the suspected leak plume and descriptions of any affected vegetation. (See appendix for identification sketches / reports)

Suspected leak locations were reported immediately to the local gas company (National Grid) with the time recorded on the report.

All leaks reported were reported to Dig Safe for subsurface utility line mark outs to facilitate bar hole air sampling tests in the vicinity of the reported leaks. State law requires three business days for utilities to mark out any underground facilities.

The testing was conducted utilizing a plunger bar and a combustible gas indicator / oxygen detector. Bascom-Turner Sentry gas detectors were utilized for both natural gas and oxygen readings at each leak location. The instruments are calibrated on the first day of each month per manufacturer's specifications to insure accuracy of the readings.

The optimum bar hole readings were conducted at 18" depth wherever possible. After the utilities were marked, a bar hole survey was conducted at each location that gas was suspected. Gas and oxygen readings were recorded (oxygen top / gas bottom) on a leak sketch (see leak appendices bar hole sketches / reports).

All leaks were classified as follows per United States Department of Transportation Table 3a:

3. Leak Classification

TABLE 3A-LEAK CLASSIFICATION AND ACTION CRITERIA-GRADE 1

GRADE	DEFINITION	ACTION CRITERIA	EXAMPLES
1	A leak that represents an existing or probable hazard to persons or property, and requires immediate repair or continuous action until the conditions are no longer hazardous.	Requires *prompt action** to protect life and property, and con-tinuous action until the condi-tions are no longer hazardous. *The prompt action in some in-stances may require one or more of the following: a. Implementation of company emergency plan (§192.615). b. Evacuating premises. c. Blocking off an area. d. Rerouting traffic. e. Eliminating sources of ignition. f. Venting the area. g. Stopping the flow of gas by closing valves or other means. h. Notifying police and fire de- partments.	1. Any leak which, in the judg-ment of operating personnel at the scene, is regarded as an immediate hazard. 2. Escaping gas that has ignited. 3. Any indication of gas which has migrated into or under a building, or into a tunnel. 4. Any reading at the outside wall of a building, or where gas would likely migrate to an out-side wall of a building. 5. Any reading of 80% LEL, or greater, in a confined space. 6. Any reading of 80% LEL, or greater in small substructures (other than gas associated sub structures) from which gas would likely migrate to the outside wall of a building. 7. Any leak that can be seen, heard, or felt, and which is in a location that may endanger the general public or property.

TABLE 3B-LEAK CLASSIFICATION AND ACTION CRITERIA-GRADE 2

GRADE	DEFINITION	ACTION CRITERIA	EXAMPLES
2	A leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based on probable future hazard.	Leaks should be repaired or cleared within one calendar year, but no later than 15 months from the date the leak was reported. In determining the repair priority, criteria such as the following should be considered: a. Amount and migration of gas. b. Proximity of gas to buildings and subsurface structures. c. Extent of pavement. d. Soil type and soil conditions (such as frost cap, moisture and natural venting). Grade 2 leaks should be reevaluated at least once every six months until cleared. The frequency of reevaluation should be determined by the location and magnitude of the leakage condition. Grade 2 leaks may vary greatly in degree of potential hazard. Some Grade 2 leaks, when evaluated by the above criteria, may justify scheduled repair within the next 5 working days. Others will justify repair within 30 days. During the working day on which the leak is discovered, these situations should be brought to the attention of the individual responsible for scheduling leak repair. On the other hand, many Grade 2 leaks, because of their location and magnitude, can be scheduled for repair on a normal routine basis with periodic reinspection as necessary.	A. *Leaks Requiring Action Ahead of Ground Freezing or Other Adverse Changes in Venting Conditions.* Any leak which, under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building. B. *Leaks Requiring Action Within Six Months* 1. Any reading of 40% LEL, or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as a Grade 1 leak. 2. Any reading of 100% LEL, or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Grade 1 leak. 3. Any reading less than 80% LEL in small substructures (other than gas associated substructures) from which gas would likely migrate creating a probable future hazard. 4. Any reading between 20% LEL and 80% LEL in a confined space. 5. Any reading on a pipeline operating at 30 percent SMYS, or greater, in a class 3 or 4 location, which does not qualify as a Grade 1 leak. 6. Any reading of 80% LEL, or greater, in gas associated sub-structures. 7. Any leak which, in the judgment of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.

TABLE 3C-LEAK CLASSIFICATION AND ACTION CRITERIA-GRADE 3

GRADE	DEFINITION	ACTION CRITERIA	EXAMPLES
3	A leak that is non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous.	These leaks should be reevaluated during the next scheduled survey, or within 15 months of the date reported, whichever occurs first, until the leak is regraded or no longer results in a reading.	*Leaks Requiring Reevaluation at Periodic Intervals* 1. Any reading of less than 80% LEL in small gas associated substructures. 2. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the out-side wall of a building. 3. Any reading of less than 20% LEL in a confined space.

FOLLOW-UP INSPECTION

The adequacy of leak repairs should be checked before backfilling. The perimeter of the leak area should be checked with a CGI. Where there is residual gas in the ground after the repair of a Class 1 leak, a follow-up inspection should be made as soon as practical after allowing the soil atmosphere to vent and stabilize. OPS suggests follow-up inspection within 24 to 48 hours, but in no case later than 1 month following the repair. In the case of other leak repairs, qualified personnel should determine the need for a follow-up inspection.

Follow up inspection

All leaks were retested in fall of 2010 to ascertain the status of each leak and to determine if repairs were conducted. A portable flame ionization unit was utilized to detect any gas readings. Positive readings on the portable flame ionization unit were investigated with a combustible gas indicator. Test holes were made at 8" depth levels to confirm the presence of natural gas. Any gas readings deemed to be hazardous were immediately reported to National Grid. Reports were made of each location and the suspected gas plume (if any) and resulting combustible gas indicator readings were recorded on a leak sketch / report (see leak appendices recheck reports).

Leak Grading indicates that any leak that represents an existing hazard to persons or ***property*** should be classified as a Grade 1 leak that requires immediate repair or continuous action until the conditions are no longer hazardous.

The fact that trees are property has been ignored.

Any existing hazards were classified as Grade 1 leaks.

Leaks that represented a potential future hazard but not hazardous at the time of detection were classified as Grade 2 leaks.

Leaks that were non hazardous at the time of detection and expected to remain non hazardous were classified as Grade 3 leaks.

Locations that had no patch on the bar hole date and no gas readings were classified as neg (negative). Locations that had an obvious recent repair patch and no gas readings were found were classified as rep (repaired).

4. Survey Results

Table 1 consists of nine columns with data as follows:

Column 1 - Building number
Column 2 - Street
Column 3 - Leak identification date
Column 4 - Notes ie: grade 1 leak or new repair patches since leak was reported
Column 5 - Barhole testing date
Column 6 - Leak grade at barhole date
Column 7 - Recheck date
Column 8 - Leak grade at recheck date
Column 9 – Notes - new repair patch present at recheck date

Table 1 Leak Grades

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
192	Adams Ave	4/28/2010	Patch	7/15/2010	Rep	7/15/2010	Rep	Patch
152	Adams Street	5/4/2010		7/10/2010	2	11/23/2010	Rep	Patch
158	Adams Street	5/3/2010		7/10/2010	Rep	7/10/2010	Rep	Patch
107	Adeline Road	4/15/2010		6/4/2010	2	11/4/2010	Rep	Patch
250	Albemarle Road	5/1/2010		8/18/2010	2	11/26/2010	2	
95	Allen Ave	9/18/2010		10/22/2010	2	11/7/2010	2	
7	Amherst Road	11/10/2009		6/24/2010	2	11/7/2010	2	
15	Angier Circle	11/5/2009		7/8/2010	2	11/11/2010	2	
7	Arapahoe Road	11/6/2009		7/26/2010	3	11/22/2010	2	
12	Ardmore Road	11/5/2009		7/26/2010	2	11/22/2010	2	
71	Arlington Street	10/17/2010		12/12/2010	2	12/12/2010	2	
31	Asheville Road	11/9/2009	Patch	7/8/2010	Rep	7/8/2010	Rep	Patch
16	Ashton Ave	11/18/2009		7/7/2010	3	11/12/2010	3	Patch
78	Auburn Street	11/6/2009		7/26/2010	2	11/22/2010	2	
84	Auburn Street	11/6/2009		7/13/2010	2	11/22/2010	2	Patch
18	Auburndale Ave	10/16/2010	1	10/28/2010	1	11/30/2010	Rep	Patch
42	Auburndale Ave	4/26/2010		7/12/2010	Rep	7/12/2010	Rep	Patch
120	Auburndale Ave	4/26/2010		7/12/2010	2	11/30/2010	2	
192	Auburndale Ave	4/26/2010		7/12/2010	2	11/30/2010	2	
38	Barnstable Road	12/1/2010		7/26/2010	2	11/17/2010	2	
997	Beacon Street	10/17/2010		10/26/2010	2	12/12/2010	2	
1370	Beacon Street	11/11/2009		6/30/2010	2	11/10/2010	2	
1697	Beacon Street	8/30/2010		10/24/2010	2	11/7/2010	2	
1711	Beacon Street	11/3/2009		12/5/2009	2	11/7/2010	2	
1717	Beacon Street	11/3/2009		12/5/2009	2	11/7/2010	2	
1743	Beacon Street	11/3/2009		12/5/2009	2	11/7/2010	2	
1756	Beacon Street	8/30/2010		10/22/2010	2	11/7/2010	2	Patch
1775	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1791	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1800	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1818	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1840	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1845	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1880	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1881	Beacon Street	11/3/2009		11/21/2009	2	11/7/2010	2	
1923	Beacon Street	11/4/2009		11/21/2009	2	11/7/2010	2	
1929	Beacon Street	11/4/2009		11/21/2009	2	11/7/2010	2	
1977	Beacon Street	11/4/2009		11/21/2009	3	11/7/2010	2	
114	Beaumont Ave	12/7/2009		7/24/2010	2	11/17/2010	2	
182	Beethoven Ave	6/29/2010		10/22/2010	2	11/7/2010	2	
132	Bellevue Street	5/11/2010		8/5/2010	2	11/21/2010	2	
18	Bemuth road	11/19/2009		6/24/2010	2	11/5/2010	2	
41	Berkeley Street	12/4/2009		7/16/2010	2	11/21/2010	2	
35	Bernard Street	4/9/2010		6/3/2010	2	11/1/2010	2	
8	Birch Hill Road	12/2/2009		7/30/2010	2	11/21/2010	2	
87	Bowdoin Street	4/12/2010		6/24/2010	2	11/5/2010	2	
38	Burr Road	11/18/2009		7/7/2010	2	11/12/2010	2	
28	Byfield Road	11/12/2009		7/26/2010	1	11/6/2010	2	
308	California Street	5/10/2010		5/20/2010	2	11/24/2010	1	Paved
318	California Street	5/10/2010		5/20/2010	2	11/24/2010	2	Paved
340	California Street	5/10/2010		7/12/2010	2	11/24/2010	2	Paved
346	California Street	5/10/2010		7/12/2010	2	11/24/2010	2	Paved
362	California Street	5/27/2010		7/12/2010	3	11/24/2010	3	Paved
404	California Street	5/4/2010		7/12/2010	2	11/24/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
5	Carlton Road	11/3/2009		11/21/2009	2	11/7/2010	2	
9	Carter Street	5/12/2010		8/5/2010	2	11/24/2010	2	
122	Carver Road	11/19/2009		7/30/2010	2	11/5/2010	2	
26	Cedar Street	12/8/2009		7/9/2010	2	11/17/2010	2	
101	Cedar Street	11/17/2009		7/9/2010	2	11/12/2010	2	
138	Cedar Street	7/9/2010		10/25/2010	2	11/12/2010	2	
106	Cedric Road	11/25/2009		7/10/2010	3	11/4/2010	3	
14	Central Ave	5/3/2010		7/12/2010	2	11/23/2010	3	
22	Central Ave	5/3/2010		7/12/2010	2	11/23/2010	2	
88	Central Ave	5/3/2010		7/12/2010	Rep	7/12/2010	Rep	
641	Centre Street	5/12/2010		7/17/2010	2	11/21/2010	3	
665	Centre Street	5/12/2010		7/17/2010	2	11/21/2010	2	
904	Centre Street	7/17/2010		8/13/2010	2	11/21/2010	3	
963	Centre Street	5/12/2010		7/17/2010	2	11/21/2010	2	
983	Centre Street	5/12/2010		7/17/2010	2	11/21/2010	2	
1005	Centre Street	5/12/2010		7/17/2010	2	11/13/2010	2	
1074	Centre Street	5/12/2010		7/17/2010	1	11/12/2010	2	
1091	Centre Street	5/12/2010		7/17/2010	1	11/12/2010	3	
1199	Centre Street	4/10/2010	1	7/17/2010	1	11/12/2010	2	
1457	Centre Street	4/17/2010		7/17/2010	3	12/12/2010	Rep	Patch
33	Chapin Road	11/17/2009		7/7/2010	2	11/12/2010	2	
37	Chapin Road	11/17/2009		7/7/2010	2	11/12/2010	2	Patch
45	Chapin Road	11/17/2009		7/7/2010	2	11/12/2010	2	Patch
37	Chase Street	4/10/2010		6/22/2010	2	11/4/2010	2	
87	Cherry Street	4/29/2010		7/15/2010	3	11/13/2010	2	
208	Cherry Street	4/23/2010		7/15/2010	2	11/30/2010	2	
243	Cherry Street	4/29/2010		7/15/2010	2	11/30/2010	2	
327	Cherry Street	9/9/2010		10/23/2010	2	11/30/2010	2	
120	Chestnut Street	12/4/2009		7/15/2010	2	11/21/2010	2	
404	Chestnut Street	11/16/2009		7/24/2010	2	11/6/2010	2	
422	Chestnut Street	11/13/2009		7/24/2010	2	11/6/2010	2	
470	Chestnut Street	11/12/2009		12/5/2009	2	11/6/2010	1	
587	Chestnut Street	5/22/2010		7/16/2010	3	11/6/2010	3	
829	Chestnut Street	4/12/2010		7/24/2010	Rep	7/24/2010	Rep	Patch
897	Chestnut Street	7/24/2010		7/30/2010	2	11/7/2010	2	
907	Chestnut Street	7/24/2010		7/30/2010	2	11/6/2010	2	
132	Christina Street	4/9/2010		6/3/2010	2	11/1/2010	2	
137	Christina Street	4/9/2010		6/2/2010	2	11/1/2010	2	
32	Circuit Ave	4/7/2010		6/1/2010	3	10/30/2010	Rep	Patch
4	Colbert Road	12/1/2009	Patch	7/29/2010	Rep	7/29/2010	Rep	Patch
30	Colella Road	4/13/2010		6/14/2010	2	11/3/2010	2	
19	Columbus Street	11/19/2009		6/24/2010	2	11/5/2010	2	
266	Commonwealth Ave	9/7/2010		10/24/2010	2	11/13/2010	2	
1087	Commonwealth Ave	11/2/2009		12/5/2009	2	11/17/2010	2	
1125	Commonwealth Ave	11/2/2009		7/27/2010	3	11/17/2010	2	
1817	Commonwealth Ave	11/2/2009		7/28/2010	2	11/22/2010	2	
1921	Commonwealth Ave	11/2/2009		7/28/2010	2	11/22/2010	2	
2143	Commonwealth Ave	11/2/2009		8/5/2010	2	11/22/2010	2	
	Commonwealth Ave @ Homer St	5/14/2010		8/4/2010	3	11/13/2010	3	
	Commonwealth Ave @ Manet Road	9/7/2010	1	10/24/2010	1	11/13/2010	2	Patch
66	Commonwealth Park West	12/8/2009		7/29/2010	3	11/17/2010	2	
14	Cook Street	10/14/2010		12/12/2010	2	11/23/2010	2	
8	Coyne Road	11/16/2009		7/6/2010	2	11/6/2010	2	
12	Coyne Road	11/16/2009		7/6/2010	2	11/6/2010	2	
315	Crafts Street	5/1/2010		7/24/2010	2	11/24/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
	Crafts Street @ Waltham Street	4/24/2010		8/2/2010	2	11/27/2010	2	
16	Cragmore Road	10/21/2010		10/27/2010	2	10/27/2010	2	
85	Cragmore Road	10/21/2010		10/27/2010	2	10/27/2010	2	
57	Crehore Drive	11/9/2009		7/8/2010	2	12/1/2010	2	
100	Crescent Street	11/6/2009		7/26/2010	3	11/22/2010	2	
4	Crown Street	4/27/2010		7/19/2010	2	12/1/2010	2	
63	Dartmouth Street	11/2/2009		7/27/2010	3	11/11/2010	2	
44	Davis Ave	3/25/2010		7/19/2010	2	11/26/2010	2	
62	Day Street	11/5/2009		7/8/2010	2	11/11/2010	2	
704	Dedham Street	6/15/2010		7/29/2010	2	11/3/2010	2	
765	Dedham Street	4/9/2010		6/15/2010	1	11/3/2010	2	
859	Dedham Street	4/9/2010		6/15/2010	3	11/3/2010	2	
867	Dedham Street	4/9/2010		6/15/2010	2	11/3/2010	2	
881	Dedham Street	9/1/2010		10/25/2010	2	11/3/2010	2	
240	Derby Street	9/10/2010		10/23/2010	2	11/30/2010	2	
254	Derby Street	4/28/2010		7/15/2010	2	11/30/2010	2	
148	Dickerman Road	11/19/2009		6/15/2010	2	11/5/2010	2	
161	Dickerman Road	11/19/2009		6/15/2010	2	11/5/2010	2	
7	Dorset Road	11/2/2009		12/5/2009	2	11/7/2010	2	
67	Dorset Road	11/4/2009		12/5/2009	2	11/10/2010	2	
80	Dorset Road	11/4/2009		8/17/2010	2	11/10/2010	2	
89	Dorset Road	7/13/2010		7/30/2010	2	11/10/2010	2	
268	Dorset Road	8/27/2010		10/22/2010	2	11/10/2010	2	
25	E Roadway	4/14/2010		6/15/2010	2	11/3/2010	2	
136	Eastbourne Road	4/21/2010	Patch	7/27/2010	Rep	7/27/2010	Rep	
23	Eden Ave	4/24/2010		7/19/2010	2	11/26/2010	2	
65	Elinor Road	10/9/2010		10/26/2010	2	11/3/2010	2	
42	Eliot Ave	3/25/2010		7/19/2010	2	11/23/2010	2	
52	Eliot Ave	3/25/2010		7/19/2010	2	11/23/2010	2	
19	Elliot Street	4/8/2010		6/2/2010	2	10/30/2010	1	
74	Elliot Street	6/2/2010		10/25/2010	2	12/10/2010	2	
354	Elliot Street	4/8/2010	Patch	6/1/2010	2	10/30/2010	2	
30	Ellis Road	10/13/2010		10/26/2010	2	11/15/2010	2	
84	Erie Ave	10/21/2010		10/27/2010	2	11/5/2010	2	
11	Evelyn Road	11/12/2009		6/29/2010	2	11/10/2010	2	
19	Evelyn Road	11/12/2009		6/29/2010	2	11/11/2010	2	Patch
27	Evelyn Road	11/12/2009		6/29/2010	2	11/11/2010	2	
69	Evelyn Road	11/12/2009		6/29/2010	2	11/11/2010	2	
55	Farina Road	4/14/2010		8/10/2010	2	11/4/2010	2	
7	Fredette Road	4/14/2010		6/14/2010	2	11/3/2010	2	
64	Freeman Street	4/29/2010	1	7/21/2010	Rep	7/21/2010	Rep	Patch
116	Fuller Street	11/13/2009		7/6/2010	2	11/6/2010	2	
250	Fuller Street	11/13/2009		7/9/2010	3	11/11/2010	2	
111	Garland Road	11/16/2009		7/7/2010	2	11/12/2010	2	
56	Gay Street	5/11/2010		8/9/2010	2	11/21/2010	2	
150	Gordon Road	11/12/2009		6/30/2010	2	11/10/2010	2	
20	Grant Ave	4/21/2010		7/27/2010	2	11/13/2010	2	
191	Grant Ave	9/3/2010		10/24/2010	2	11/13/2010	2	
212	Grant Ave	9/3/2010		10/24/2010	2	11/13/2010	2	
4	Green Street	5/4/2010		8/13/2010	2	11/23/2010	2	
20	Greenlawn Ave	11/17/2009		8/3/2010	3	11/12/2010	3	
45	Greenlawn Ave	11/16/2009		7/6/2010	Neg	7/6/2010	Neg	
53	Greenlawn Ave	11/16/2009		7/6/2010	2	11/11/2010	2	
5	Halcyon Road	10/2/2010		10/26/2010	2	11/4/2010	2	
8	Hammond Street	4/21/2010		8/10/2010	2	11/13/2010	2	
292	Hammond Street	5/13/2010		8/10/2010	1	11/13/2010	3	Patch
10	Harding Street	10/14/2010		10/28/2010	2	11/27/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
54	Harding Street	4/24/2010		7/28/2010	2	11/27/2010	Rep	Patch
45	Harrington Street	5/10/2010		8/7/2010	2	11/23/2010	2	
15	Hartman Road	4/16/2010		7/10/2010	2	11/4/2010	2	
10	Higgins Street	11/2/2009		8/5/2010	2	11/22/2010	2	
103	High Street	4/7/2010		6/1/2010	2	10/30/2010	2	Patch
109	High Street	4/7/2010		6/1/2010	2	10/30/2010	2	
371	Highland Street	12/2/2009		7/16/2010	2	11/21/2010	2	
8	Holly Lane	8/19/2010		10/23/2010	2	11/10/2010	2	
39	Holman Road	11/5/2009		8/12/2010	2	11/11/2010	2	
	Homer Street by City Hall	5/14/2010		7/14/2010	2	11/11/2010	2	
248	Homer Street	11/16/2009		7/14/2010	2	11/11/2010	2	
400	Homer Street	5/14/2010		7/14/2010	2	11/11/2010	2	
410	Homer Street	5/14/2010		8/4/2010	2	11/11/2010	2	
424	Homer Street	5/14/2010		7/24/2010	2	11/11/2010	2	
40	Homestead Street	11/10/2009		6/23/2010	1	11/7/2010	2	
46	Homestead Street	11/10/2009		6/23/2010	1	11/7/2010	2	
35	Howard Street	5/12/2010		8/5/2010	3	11/21/2010	3	
27	Howland Road	10/13/2010		10/26/2010	2	11/17/2010	2	
40	Kelveden Road	6/23/2010		10/22/2010	2	11/10/2010	2	
26	Kensington Ave	4/24/2010		7/23/2010	2	11/27/2010	2	
21	King Street	4/27/2010		7/20/2010	3	12/1/2010	3	
219	Lake Ave	11/11/2009		8/3/2010	3	11/8/2010	2	
33	Larchmont Ave	7/30/2010		10/22/2010	2	11/7/2010	2	
64	Larchmont Ave	11/10/2009		7/30/2010	2	11/7/2010	2	
116	Lexington Street	4/27/2010		7/20/2010	2	12/1/2010	2	
124	Lexington Street	4/27/2010		7/20/2010	2	12/1/2010	2	
134	Lexington Street	4/27/2010		7/20/2010	2	12/1/2010	2	
138	Lexington Street	4/27/2010		7/20/2010	2	12/1/2010	2	
158	Lexington Street	4/27/2010		5/21/2010	2	12/1/2010	2	
198	Lexington Street	4/27/2010		7/20/2010	2	12/1/2010	2	
288	Lexington Street	7/20/2010		8/6/2010	1	12/1/2010	2	
10	Lindbergh Ave	4/28/2010		7/19/2010	Neg	7/19/2010	Neg	
16	Lindbergh Ave	4/28/2010		7/19/2010	2	11/30/2010	2	
26	Linden Street	4/6/2010		8/10/2010	2	10/30/2010	2	
218	Linwood Ave	5/1/2010		7/28/2010	2	11/24/2010	2	
258	Linwood Ave	9/11/2010	Patch	10/23/2010	Rep	10/23/2010	Rep	Patch
10	Locke Road	8/27/2010		10/22/2010	2	11/10/2010	2	
37	Locksley Road	10/21/2010		10/27/2010	2	10/27/2010	2	
264	Lowell Ave	12/4/2009		7/16/2010	2	11/21/2010	Rep	Patch
283	Lowell Ave	12/4/2009		7/16/2010	1	11/21/2010	1	Patch
392	Lowell Ave	12/4/2009		7/16/2010	2	11/22/2010	2	
541	Lowell Street	5/14/2010		7/16/2010	2	11/17/2010	2	
20	Manchester Road	11/23/2009		6/24/2010	2	11/5/2010	2	
102	Manchester Road	11/23/2009		6/24/2010	Rep	11/5/2010	Rep	Patch
32	Manor House Road	11/18/2009		7/7/2010	2	11/12/2010	2	
79	Maplewood Drive	4/20/2010		7/29/2010	2	11/4/2010	2	
54	McCarthy Road	4/13/2010		6/14/2010	2	11/3/2010	2	
102	McCarthy Road	4/13/2010		6/14/2010	2	11/3/2010	2	
38	Mechanic Street	4/6/2010		6/1/2010	2	10/30/2010	2	Patch
132	Melrose Street	10/16/2010		10/28/2010	2	11/22/2010	2	
24	Melville Ave	5/1/2010		5/27/2010	2	11/24/2010	2	
27	Metacomet Road	8/27/2010		10/22/2010	2	11/10/2010	2	
4	Monadnock Road	9/27/2010		10/24/2010	2	11/13/2010	2	
25	Morse Road	12/8/2009		8/5/2010	2	11/21/2010	2	
40	Morton Road	12/8/2009		8/9/2010	2	11/17/2010	2	
178	Morton Street	11/18/2009		7/27/2010	2	11/12/2010	2	
159	Mount Vernon Street	12/4/2009		7/30/2010	2	11/22/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
63	Nathan Road	7/17/2010		8/13/2010	2	11/13/2010	2	
168	Nevada Street	5/10/2010		7/28/2010	2	11/24/2010	Rep	Patch
358	Newtonville Ave	5/12/2010		8/5/2010	2	11/21/2010	2	
29	Niles Road	11/19/2009		6/24/2010	2	11/5/2010	2	
26	Noble Street	10/16/2010		10/26/2010	2	11/30/2010	2	
47	Nobscot Road	4/21/2010		7/27/2010	2	11/13/2010	2	
	Nonantum Road @ Charlesbank Road	5/8/2010		8/7/2010	2	11/16/2010	2	
37	North Gate Park	4/23/2010		7/22/2010	2	11/27/2010	2	
187	North Street	5/10/2010		5/20/2010	1	5/25/2010	1	
70	Oakdale Road	5/17/2010		6/4/2010	2	11/1/2010	2	
76	Oakdale Road	5/17/2010		6/4/2010	2	11/1/2010	2	
36	Oakwood Road	11/6/2009		7/8/2010	3	11/11/2010	2	
68	Olde Field Road	4/15/2010		6/4/2010	2	11/4/2010	2	
70	Orchard Ave	3/25/2010		8/2/2010	2	11/26/2010	2	
44	Park Lane	11/17/2009		7/6/2010	1	11/12/2010	2	Patch
50	Park Lane	11/17/2009		8/4/2010	2	5/14/2010	1	
74	Park Lane	11/17/2009		7/6/2010	2	11/11/2010	1	
47	Parker Ave	5/17/2010		6/4/2010	2	11/1/2010	2	
121	Parmenter Road	10/16/2010		10/26/2010	2	11/30/2010	2	
146	Parmenter Road	4/12/2010		7/23/2010	2	11/30/2010	2	
158	Parmenter Road	4/12/2010		7/23/2010	2	11/30/2010	2	
40	Philbrick Road	4/15/2010		6/4/2010	2	11/4/2010	2	
16	Pine Street	4/26/2010		8/6/2010	2	11/30/2010	1	
24	Pine Street	4/26/2010		8/6/2010	2	11/30/2010	2	Patch
	Pine Grove Ave @ Crehore Drive	11/9/2009		7/8/2010	2	12/1/2010	2	
12	Pleasant Street	4/23/2010		7/23/2010	2	11/27/2010	2	
246	Plymouth Road	11/30/2009		6/29/2010	Rep	11/5/2010	Rep	Patch
59	Pontiac Road	11/23/2009		6/23/2010	2	11/10/2010	2	
556	Quinobequin Road	10/8/2010		10/26/2010	2	11/10/2010	2	
4	Randolph Street	6/17/2010		7/30/2010	2	11/5/2010	2	
20	Randolph Street	11/19/2009		6/15/2010	2	11/5/2010	2	
19	Rangeley Road	4/23/2010		7/22/2010	2	11/27/2010	2	
50	Rangeley Road	7/22/2010		8/12/2010	2	11/27/2010	2	
62	Rangeley Road	4/23/2010		7/22/2010	2	11/27/2010	2	
143	River Street	4/28/2010		7/21/2010	2	11/30/2010	2	
156	River Street	4/27/2010	Patch	7/21/2010	2	11/30/2010	2	
262	River Street	4/27/2010		7/21/2010	Rep	7/21/2010	Rep	Patch
275	River Street	7/21/2010		8/6/2010	3	11/30/2010	3	
330	River Street	4/27/2010		7/21/2010	2	11/30/2010	2	
6	Roland Street	4/8/2010		6/2/1010	2	11/1/2010	2	
30	Roland Street	4/8/2010		6/2/2010	2	11/1/2010	2	
36	Roslyn Road	11/12/2009		12/5/2009	2	11/6/2010	2	
12	Rotherwood Road	11/25/2009		7/10/2010	3	11/5/2010	2	
122	Roundwood Road	4/7/2010		6/1/2010	2	10/30/2010	2	
62	Rowe Street	10/18/2010		10/28/2010	3	12/1/2010	3	
54	Rowena Road	11/11/2009		7/10/2010	2	11/4/2010	2	
60	Rowena Road	11/11/2009		7/10/2010	2	11/4/2010	2	
64	Rowena Road	11/11/2009		7/10/2010	2	11/4/2010	2	
68	Rowena Road	11/11/2009		7/10/2010	2	11/4/2010	2	
74	Rowena Road	11/11/2009		7/10/2010	2	11/4/2010	2	
80	Rowena Road	11/11/2009		7/10/2010	2	11/5/2010	2	
90	Rowena Road	7/10/2010		10/25/2010	2	11/5/2010	2	
24	Shady Hill Road	3/22/2010	1	6/4/2010	2	11/1/2010	2	
69	South Gate Park	4/28/2010		7/23/2010	2	11/30/2010	2	
10	Southwick Road	11/20/2009		6/23/2010	2	11/10/2010	Rep	Patch
15	Southwick Road	11/20/2009		6/23/2010	2	11/10/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
14	Summer Street	4/7/2010		6/1/2010	3	10/30/2010	3	
6	Sumner Street	4/21/2010		7/27/2010	3	11/13/2010	3	
6	Sunhill Lane	10/21/2010		10/27/2010	2	11/4/2010	2	
44	Taft Ave	4/24/2010		7/22/2010	2	11/27/2010	2	
56	Taft Ave	4/24/2010		7/23/2010	3	11/27/2010	3	
137	Temple Street	12/4/2009		7/26/2010	2	11/22/2010	2	
6	Truman Road	5/17/2010		12/10/2010	2	11/3/2010	2	
128	Upland Ave	3/22/2010		6/8/2010	1	10/30/2010	2	Patch
129	Upland Ave	3/22/2010		6/8/2010	1	10/30/2010	2	Patch
134	Upland Ave	3/22/2010		6/8/2010	2	10/30/2010	3	Patch
135	Upland Ave	3/22/2010		6/8/2010	2	10/30/2010	Rep	Patch
150	Upland Ave	3/22/2010		8/3/2010	2	10/30/2010	2	
158	Upland Road	11/10/2009		8/17/2010	2	11/7/2010	2	
39	Valentine Park	12/1/2009		7/26/2010	2	11/17/2010	2	
185	Valentine Street	12/1/2009		7/20/2010	2	11/17/2010	2	
240	Valentine Street	12/2/2009		8/12/2010	2	11/17/2010	2	
18	Van Roosen Road	4/13/2010		6/14/2010	2	11/3/2010	2	
176	Waban Ave	11/23/2009		8/17/2010	2	11/10/2010	2	
20	Waban Street	5/8/2010		7/28/2010	2	11/23/2010	2	
76	Walden Street	12/2/2009		7/31/2010	2	11/21/2010	2	
53	Wallace Street	4/9/2010		6/3/2010	2	11/1/2010	2	
25	Walnut Hill Road	5/17/2010		6/4/2010	2	11/1/2010	2	
61	Walnut Hill Road	5/17/2010		6/4/2010	1	11/3/2010	2	Patch
15	Walnut Street	5/1/2010		7/24/2010	2	11/24/2010	2	
27	Walnut Street	5/1/2010		7/24/2010	3	11/24/2010	3	
100	Walnut Street	5/1/2010		7/24/2010	3	11/27/2010	2	
762	Walnut Street	8/3/2010		10/24/2010	2	11/22/2010	2	
810	Walnut Street	5/11/2010		10/24/2010	2	11/21/2010	2	
1203	Walnut Street	11/11/2009		8/4/2010	Rep	11/21/2010	Rep	Patch
105	Waltham Street	5/1/2010		8/2/2010	3	11/27/2010	3	
195	Waltham Street	4/24/2010		8/2/2010	2	11/27/2010	2	Patch
384	Waltham Street	7/23/2010		8/2/2010	2	11/27/2010	2	
6	Wamesit Road	7/13/2010		7/30/2010	2	11/10/2010	2	
32	Ware Road	4/29/2010		8/2/2010	2	11/22/2010	2	
66	Warren Street	4/20/2010		7/9/2010	2	11/4/2010	1	Patch
128	Warren Street	4/20/2010		7/9/2010	2	11/4/2010	2	
131	Warwick Road	4/24/2010		8/12/2010	2	11/27/2010	2	
16	Washburn Ave	4/27/2010		8/6/2010	3	11/30/2010	3	
431	Washington Street	5/8/2010		8/7/2010	1	11/26/2010	1	Paved
449	Washington Street	7/28/2010	1	10/23/2010	1	11/26/2010	1	Paved
471	Washington Street	11/6/2009		8/7/2010	1	11/26/2010	1	Patch
475	Washington Street	11/6/2009		8/7/2010	1	11/26/2010	2	
515	Washington Street	11/6/2009		8/7/2010	1	11/26/2010	1	Patch
515	Washington Street	5/10/2010		8/7/2010	1	11/26/2010	1	
580	Washington Street	5/10/2010		5/20/2010	1	5/21/2010	2	Patch
599	Washington Street	8/18/2010	1 Patch	10/23/2010	2	10/23/2010	2	
697	Washington Street	5/3/2010	1 Patch	8/7/2010	2	11/23/2010	1	
721	Washington Street	5/3/2010		5/20/2010	1	11/23/2010	1	Patch
1205	Washington Street	4/23/2010	Patch	8/7/2010	2	11/23/2010	2	Patch
1220	Washington Street	4/23/2010		8/7/2010	3	11/23/2010	3	
1279	Washington Street	4/23/2010	1 Patch	5/20/2010	1	7/5/2010	1	Patch
1650	Washington Street	11/5/2009		10/28/2010	2	12/12/2010	2	
1744	Washington Street	11/5/2009	Patch	7/5/2010	2	11/11/2010	2	Patch
1766	Washington Street	7/5/2010		10/23/2010	2	11/13/2010	2	
1784	Washington Street	11/5/2009		10/23/2010	2	11/13/2010	2	
1844	Washington Street	11/5/2009	1	7/5/2010	1	11/13/2010	1	
1874	Washington Street	7/5/2010		10/23/2010	2	11/13/2010	2	
1890	Washington Street	7/5/2010		10/23/2010	2	11/13/2010	2	

#	STREET	ID DATE	NOTES	BH DATE	GRADE	RC DATE	GRADE	NOTES
308	Watertown Street	5/4/2010	1	7/31/2010	1	11/24/2010	1	
351	Watertown Street	5/4/2010		7/31/2010	2	11/24/2010	2	
376	Watertown Street	5/4/2010		7/31/2010	2	11/24/2010	2	
398	Watertown Street	5/4/2010		7/31/2010	2	11/24/2010	2	
417	Watertown Street	5/4/2010		7/31/2010	2	11/24/2010	2	
421	Watertown Street	5/4/2010		7/31/2010	2	11/24/2010	2	
454	Watertown Street	7/31/2010		10/23/2010	2	11/24/2010	2	
616	Watertown Street	4/30/2010	Patch	7/31/2010	Rep	7/31/2010	Rep	
640	Watertown Street	4/30/2010		7/31/2010	3	11/24/2010	2	
687	Watertown Street	4/30/2010		7/31/2010	2	11/26/2010	2	
687	Watertown Street	4/30/2010		8/17/2010	2	11/26/2010	2	
802	Watertown Street	4/30/2010		7/31/2010	2	11/23/2010	2	
888	Watertown Street	5/3/2010		7/31/2010	2	11/23/2010	2	
991	Watertown Street	4/23/2010		5/20/2010	2	2/12/2010	2	Patch
87	Webster Park	4/26/2010		8/6/2010	2	12/1/2010	2	
257	Webster Street	4/26/2010	1 Patch	8/6/2010	1	12/1/2010	Rep	Patch
9	West Pine Street	4/29/2010		7/21/2010	2	11/22/2010	2	
96	Westland Ave	4/28/2010		8/6/2010	2	11/30/2010	2	
118	Westland Ave	4/28/2010		8/6/2010	2	11/30/2010	2	
60	White Oak Road	11/20/2009		6/23/2010	2	11/7/2010	2	
34	White Pine Road	4/7/2010		6/1/2010	1	10/30/2010	2	
56	White Pine Road	4/7/2010		6/1/2010	2	10/30/2010	2	
19	Whittier Road	12/1/2009		8/12/2010	2	11/17/2010	2	
15	Wiltshire Road	5/3/2010		8/9/2010	2	11/23/2010	2	
120	Winchester Street	4/8/2010		6/2/1010	2	10/30/2010	2	
124	Winchester Street	4/8/2010		6/2/2010	2	10/30/2010	2	
89	Windsor Road	11/23/2009		6/30/2010	2	12/12/2010	2	Paved
216	Winslow Road	11/30/2009		6/29/2010	2	11/5/2010	2	
157	Wiswall Road	6/14/2010		8/10/2010	2	11/3/2010	2	
341	Wolcott Street	4/26/2010		8/12/2010	3	12/1/2010	2	
75	Woodchester Drive	4/21/2010		8/10/2010	2	11/13/2010	2	
104	Woodchester Drive	4/21/2010		8/10/2010	2	11/13/2010	2	
185	Woodcliff Road	5/17/2010		8/17/2010	1	11/1/2010	2	
3	Woodman Road	5/13/2010		8/10/2010	1	11/13/2010	3	Patch
155	Woodward Street	11/30/2009		6/17/2010	3	11/7/2010	2	
186	Woodward Street	6/17/2010	Patch	10/24/2010	2	11/7/2010	2	
192	Woodward Street	11/4/2009		6/15/2010	2	11/7/2010	2	
198	Woodward Street	11/4/2009		6/17/2010	1	11/7/2010	2	
220	Woodward Street	11/4/2009		6/17/2010	2	11/7/2010	2	
250	Woodward Street	11/4/2009		6/17/2010	2	11/7/2010	2	
336	Woodward Street	11/4/2009		6/23/2010	2	11/7/2010	2	

Leak Statistics

The leak statistics (Table 2) illustrate the number of grade one, grade two and grade three leaks reported, the number of leaks repaired, the number of negative readings and the number of locations with new repair patches. The information was recorded at the barhole date and the recheck date.

Table 2 Newton leak Statistics

	Barhole	Rechecks
Leaks	378	378
Grade 1	33	19
Grade 2	293	307
Grade 3	35	24
Repaired	15	26
Negative	2	2
Patch	16	51
No Patch	362	327

5. Affected Trees

Testing at each leak location for escaping gas and resulting oxygen levels were conducted at all suspected trees within a leak plume. The testing was done throughout the canopy of each tree until a negative gas reading (0%) and normal oxygen reading (18% - 21%) were obtained (if possible). Trees were identified by street and house number with each tree assigned a decimal number, going from left to right along a street facing property line. The first tree in a sequence would be identified as tree 1.01 (assuming the house was number 1) then 1.02, 1.03, 1.04 etc. Removed trees were identified by house number only with no decimal points.

There are seventeen locations where there exists evidence of gas leak repairs and tree damage that were also included in the damage report (see appendix for reports).

Photographs were taken of the trees and locations of removed trees. The photographs are used as proof that the tree exists and not to illustrate actual decline due to gas damage (see appendix photographs).

Trees regardless of condition were then evaluated by a certified arborist and landscape appraiser to determine the extent of decline of each tree.

Depending on the volume of the leak, the duration of the leak, the proximity of the leak within the root structure, tree damage varied from 0 % -100%

For damages per each tree see:
Consulting Arborist Report (appendix)

Appendix

1. Tree removal list
2. Identification reports
3. Barhole testing reports
4. Recheck testing reports
5. Negative reports – gas repairs
6. Photographs
8. Consulting Arborist report
8. Pathologist report

A Plant Health Care Consultant

50 years experience. MA. Certified Arborist # 1114 ISA Certified Arborist # 716A

Appraisal of Damage to Trees Exposed to Gas Leaks in the City of Newton, Massachusetts

Prepared for

Massachusetts Public Shade Tree Trust
And
Bob Ackley of Gas Safety Inc.
19 Brooks Road
Fayville, Massachusetts 01745

Prepared by

Carl A. Cathcart, David Hawkins, George Ackerson
Massachusetts & ISA Certified Consulting Arborists

January 26, 2011

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A Plant Health Care Consultant

50 years experience. MA. Certified Arborist # 1114 ISA Certified Arborist # 716A

Bob Ackerly - Gas Safety Inc.
19 Brooks Road
Fayville, Massachusetts 01745

1-26-2011

Re: Appraisal of Damage to Trees Exposed to Gas Leaks in the City of Newton MA.

Dear Mr. Ackley,

As agreed, David Hawkins, George Ackerson and I, Carl Cathcart inspected live trees and tree stumps in August, September and October that were in the vicinity of natural gas leaks in the right of way owned by the City of Newton Massachusetts. We are all Certified Arborist under the Massachusetts Arborist Association certification program and also certified by the International Society of Arboriculture. Each of us is also members in good standing of the American Society of Consulting Arborists.

The purpose of our involvement in this project was to determine the damage of the gas leaks identified by Gas Safety Inc. where the tree's soil had high levels of natural gas exposure and low levels of oxygen. Depending on the volume of the leak, the duration of the leak, and the proximity of the leak within the root zone, tree damage rating ranged from 0% to 100 %.

The trees we inspected were clearly documented in a three-ring binder supplied by Gas Safety Inc., with field sketches that located each tree on each street.
We assigned the tree numbers so they would correspond to the house number they were located in front of. For instance house number 30 that had a tree in front of it started with 30.01 and if more than one tree had damage the next tree would be 30.02 and so on. If the tree was removed, just the actual house number was recorded. All numbers started from the left front of the house to the right front facing the house from the street.

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MAINTENANCE PROGRAMS ■ APPRAISALS ■ SITE ANALYSIS ■ TREE RISK ASSESSMENT

Each tree was recorded and photographed with the information put on a spreadsheet with data necessary to calculate the value of the tree. The photographs only represent the existences of the tree.

When symptoms of gas exposure were identified, the tree and the extent of the damage were evaluated using appraisal methods accepted by the horticultural industry. Our appraisals also included mitigation recommendations.

Trees with gas symptoms exhibit small leaves, chlorotic leaves, leaf burning around the leaf margins, leaf wilting, twig dieback and thinning of the crown, and, depending on the site these trees were growing in, reflected our final condition rating. We also considered other causes of decline such as girdling roots, wounds and decay associated with snow plows or other vehicle damage, insects and diseases as well available root area to grow in.

Appraisal Methods

A number of methods can be used to calculate damage in cases where trees and other woody plant materials have been destroyed. These "Appraisal Methods"[1]include, but are not limited to: (1) the "Replacement Cost Method"; (2) The value of trees as determined by the "Trunk Formula Method"; (3) damaged assessed by "The Cost of Cure"; and (4) "Cost of Repair Method". Based on the factors involved in this case, we used the Trunk Formula Method, Replacement Cost Method and the Cost of Repair. These are explained in the following pages.

The Trunk Formula Method was used to assign a value to trees generally considered too large to be replaced with nursery or field grown stock in normal landscape operations. Determination of the trees' value is based on the installed cost of a nursery-grown tree and then increased in proportion to the original tree's size. The formula places a dollar amount on each square inch

[1] Appraisal Methods have been prepared by the Council of Tree and Landscape Appraisers and have been adopted and published by the International Society of Arboriculture 9th Edition 2000. It is also represented and used by members of the American Association of Nurseryman's, American Society of Consulting Arborist, Associated Landscape Contractors of America and the Tree Care Industry Association.

of trunk area and then adjusts (depreciates) the amount according to the tree's *species, condition* and *location.* A 2.5 to 3 inch caliper replacement tree was used as a base in this formula.

The Species Rating is derived from the Species Rating Guide for New England States 2nd Edition[2].

The Condition Factor is based on a normal street trees health prior to symptoms due to contamination by natural gas in the soil. The portion of the trees that exhibited systems of gas exposure were expressed as a percent of damage in the calculation sheets. If a tree had a damage rating of 50% or more, it was recommended for removal.

The Location Factor considers the site, contribution of the tree to the site, and placement of the tree in the landscape. The site, contribution and placement each account for one third of the Location Factor. The *site rating* is based on the relative value of the property in the area, its appearance and how well it has been maintained. The *contribution rating* considers the functional and aesthetic aspects of the tree – screening, shade, foliage, uniqueness, energy saving qualities etc. The *placement rating* determines how effective the tree is in providing the functional and aesthetic contributions and it's interaction with other landscape functions and structures.

The Cost of Repair Method was used to prune out affected branches and apply nutrients to help revitalize trees that have less than fifty percent damage. Mitigation cost on the calculation sheets reflect the cost of repair in terms of pruning, removal, stump grinding fertilization and the replacement cost of a selected tree. Mitigation recommendations and associated costs

consisted of Tree Removal, Tree Pruning, Tree Fertilization and Tree Replacement. The pruning and removal costs were figured using hourly rates common to municipal tree contracts. The Fertilization (micro-injection technology) costs were calculated according to the number of injectable capsules required for the tree's size. This method was chosen over liquid or granular

[2] 2003. Official publication of the New England Chapter of the International Society of Arboriculture.

soil injection because the limited municipally owned soil space typically found in street tree sites.

The **Replacement Cost Method** was used for trees less than 4 inches diameter with more than 50% damage. The cost of repair (replacement) is based on replanting a 2.5 to 3. 0 tree of the same species.

We also appraised trees previously removed by locating and measuring the existing stump, or, in the event the stump was removed, using the information (size and species), supplied by the City of Newton's Municipality or Gas Safety Inc.
It is assumed that these trees were exposed to a natural gas leak and either died or declined enough to justify removal.
The DBH of the removed trees was estimated by using nearby trees as a guide, forestry publications on DBH outside bark inches in relation to stump diameters, experience and knowledge of municipal street trees. or a combination of one or more of these factors. In the event the stump was removed, the DBH was estimated from a stump 6 inches in height that is the normal height of stumps cut during municipal tree removal operations.
A condition rating of 65% and a location rating of 75% were assigned for all removed trees and stumps. These ratings fall within the average of the trees still standing that we previously appraised.

We were hired solely to appraise trees identified by Gas Safety as either exposed or damaged by natural gas leaks. It is our professional opinion the calculations from these methods reflect

the losses sustained by the City of Newton Massachusetts. We used Gas Safety Inc. information to locate the trees, document the damage and appraise the value of the damage for that tree. Mitigation of damage depends on the condition and needs of the tree. These recommendations are intended to help lessen the affects of gas exposure and improve the trees' health.

Our professional opinions are that this is a fair and reasonable appraisal because of the methods and experience employed in the calculations of this damage. Our appraised value from the damaged incurred in the City of Newton Massachusetts as a result of the natural gas leaking into the area of the root zone of the trees calculated out to: **$1,041,722.56**

Certification

I certify the statements in this report are true and accurate to the best of my knowledge and represent my professional opinions.

Carl A Cathcart

Carl A Cathcart

Consulting Arborist
Massachusetts Arborist Association Certification # 1114
International Society of Arboricultural Certification #WE 716 A
Member of the American Society of Consulting Arborists

Assumptions and Limiting Conditions

The months of our field examinations were August, September and October 2010 and our observations and conclusions are of that time period.

The objective for this project was to determine the value of damage identified and tested by Gas Safety INC. where the tree soils had high levels of natural gas exposure and low levels of oxygen in the City of Newton Massachusetts

It is our intentions to provide a vehicle to mitigate a fair judgment of value for the City of Newton Massachusetts and the Gas Company responsible for the value loss.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultants / appraisers can neither guarantee nor be responsible for the accuracy of information provided by others.

This report expressed herein represent the opinion of the consultants, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

Expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring unless otherwise specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.

The content of this report is for the use of the client as named and shall not be copied, used for public advertisement, newspaper or other media purpose without the prior expressed written consent of the entire consultant or the named above client.

The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

Loss or alteration of any part of this report invalidates the entire report.

References

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Newton MA. Tree Appraisal Data Sheets 2010

NEWTON APPRAISALS 2010																			
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Adams Ave	193.02	acpl	21		346	341	$13,757	65%	75%	65%	$4,359	0%	$0						$0.00	$0.00
Adams Street	152.01	gltr	15		177	172	$7,263	65%	60%	65%	$1,841	10%	$184	1			$110		$220.00	$404.12
Adams Street	152.02	acru	17		227	222	$9,187	85%	60%	65%	$3,046	10%	$305	1			$110		$220.00	$524.56
Adams Street	152.03	acru	20		314	309	$12,525	85%	60%	65%	$4,152	10%	$415	1			$110		$220.00	$635.19
Adams Street	158.01	acru	10		79	74	$3,505	85%	60%	65%	$1,162	20%	$232	1			$110		$220.00	$452.38
Adeline Road	107.01	osui	1.5		intalled cost		$500	65%	90%	75%	$219	100%	$219		1			$690	$800.00	$1,019.38
Adeline Road	115.00	acpl	11		95	90	$4,136	65%	65%	75%	$1,311	100%	$1,311		1	1		$690	$895.00	$2,205.73
Albemarle Road	250.01	gltr	2		intalled cost		$690	65%	60%	65%	$175	30%	$52				$110		$110.00	$162.47
Albemarle Road	250.02	gltr	2		intalled cost		$690	65%	60%	65%	$175	20%	$35				$110		$110.00	$144.98
Albemarle Road	252.01	mkam	2		intalled cost		$690	75%	60%	65%	$202	100%	$202		1			$690	$800.00	$1,001.83
Albemarle Road	252.02	acru	2		intalled cost		$690	85%	60%	65%	$229	100%	$229		1			$690	$800.00	$1,028.74
Albemarle Road	252.03	mkam	2		intalled cost		$690	75%	60%	65%	$202	90%	$182		1			$690	$800.00	$981.64
Albemarle Road	252.04	prtc	5		20	15	$1,250	60%	60%	65%	$293	20%	$59				$110		$110.00	$168.51
Albemarle Road	252.05	prtc	4		13	8	$980	60%	60%	65%	$229	20%	$46				$110		$110.00	$155.84
Allen Ave	95.00	acpl	18		254	249	$10,240	65%	65%	65%	$2,812	100%	$2,812		2	1		$690	$1,005.00	$3,817.08
Amherst Road	7.01	fxpe	6		28	23	$1,581	75%	90%	75%	$800	0%	$0						$0.00	$0.00
Amherst Road	7.01 op	acpl	16		201	196	$8,195	65%	70%	75%	$2,797	30%	$839	1			$110		$220.00	$1,058.99
Angier Circle	15.01	acpl	17		227	222	$9,187	65%	65%	65%	$2,523	10%	$252	1			$110		$220.00	$472.31
Angier Circle	19.01	acpl	17		227	222	$9,187	65%	75%	65%	$2,911	10%	$291				$110		$110.00	$401.13
Arapahoe Street	7.03	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	10%	$427	1			$110		$220.00	$647.41
Ardmore Road	12.00	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		1	1		$690	$895.00	$4,139.71
Arlington Street	71.00	acpl	17		227	222	$9,187	65%	65%	65%	$2,523	100%	$2,523		2	1		$690	$1,005.00	$3,528.10
Asheville Road	30.01	acpl	21		346	341	$13,757	65%	70%	75%	$4,695	25%	$1,174	1			$110		$220.00	$1,393.68
Asheville Road	30.02	acpl	16		201	196	$8,195	65%	60%	75%	$2,397	30%	$719	1			$110		$220.00	$939.13
Asheville Road	31.02	acpl	24		452	447	$17,816	65%	80%	75%	$6,948	0%	$0						$0.00	$0.00
Asheville Road	31.03	acpl	22		380	375	$15,050	65%	70%	75%	$5,136	30%	$1,541	1			$110		$220.00	$1,760.76
Ashton Ave	16.02	pybr	10		79	74	$3,505	75%	80%	75%	$1,577	0%	$0						$0.00	$0.00
Auburn Street	18.00	acpl	13		133	128	$5,580	65%	65%	65%	$1,532	100%	$1,532		1	1		$690	$895.00	$2,427.29
Auburn Street	21.00	acpl	7		38	33	$1,972	65%	65%	65%	$541	100%	$541		1	1		$690	$895.00	$1,436.48
Auburn Street	75.01	acpl	9		64	59	$2,934	65%	60%	75%	$858	10%	$86	1			$110		$220.00	$305.81
Auburn Street	78.01	gltr	15		177	172	$7,263	65%	60%	75%	$2,124	20%	$425	1			$110		$220.00	$644.90
Auburn Street	85.02	acpl	7	x	38	33	$1,972	65%	65%	75%	$625	100%	$625		1	1		$690	$895.00	$1,519.79
Auburn Street	85.03	acpl	7		38	33	$1,972	65%	65%	75%	$625	40%	$250	1			$110		$220.00	$469.91
Auburndale Ave	18.00	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		1	1		$690	$895.00	$2,650.22
Auburndale Ave	42.01	acpl	11		95	90	$4,136	65%	50%	65%	$874	80%	$699		1	1		$690	$895.00	$1,594.06
Auburndale Ave	120.01	fxpe	14		154	149	$6,391	75%	75%	65%	$2,337	0%	$0						$0.00	$0.00
Auburndale Ave	192.01	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	100%	$1,995		1	1		$690	$895.00	$2,889.67
Barnstable Road	38.01	acpl	25		491	486	$19,289	65%	50%	75%	$4,702	10%	$470	1			$110		$220.00	$690.18
Beacon Street	970.00	acpl	24		452	447	$17,816	65%	65%	65%	$4,893	100%	$4,893		2	1		$690	$1,005.00	$5,897.78
Beacon Street	997.00	acpl	13		133	128	$5,580	65%	65%	65%	$1,532	100%	$1,532		1	1		$690	$895.00	$2,427.29
Beacon Street	1367.02	acpl	14		154	149	$6,391	65%	75%	75%	$2,337	10%	$234	1			$110		$220.00	$453.68
Beacon Street	1370.01	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		2	1		$690	$1,005.00	$4,249.71
Beacon Street	1403.04	acpl	29		660	655	$25,784	65%	70%	75%	$8,799	0%	$0						$0.00	$0.00
Beacon Street	1697.02	acpl	8		50	45	$2,423	65%	60%	65%	$614	100%	$614		1	1		$690	$895.00	$1,509.15
Beacon Street	1697.04	cofl	3		intalled cost		$690	45%	75%	80%	$186	100%	$186		1			$690	$800.00	$986.30
Beacon Street	1711.01	acpl	10		79	74	$3,505	65%	70%	75%	$1,196	25%	$299	1			$110		$220.00	$519.02
Beacon Street	1717.00	acpl	26		531	526	$20,873	65%	65%	75%	$6,598	100%	$6,598		2	1		$690	$1,005.00	$7,603.22
Beacon Street	1717.01	gltr	7		38	33	$1,972	65%	65%	75%	$625	100%	$625		1	1		$690	$895.00	$1,519.79
Beacon Street	1717.02	tico	13		133	128	$5,580	75%	65%	75%	$2,040	100%	$2,040		1	1		$690	$895.00	$2,935.03
Beacon Street	1743.01	acru	22		380	375	$15,050	85%	50%	75%	$4,797	0%	$0						$0.00	$0.00
Beacon Street	1775.00	quru	17		227	222	$9,187	75%	65%	75%	$3,359	100%	$3,359		1	1		$690	$895.00	$4,254.15
Beacon Street	1775.00	quru	16		201	196	$8,195	75%	65%	75%	$2,996	100%	$2,996		1	1		$690	$895.00	$3,891.39
Beacon Street	1775.00	quru	36		1017	1012	$39,463	75%	65%	75%	$14,429	100%	$14,429		2	1		$690	$1,005.00	$15,433.80
Beacon Street	1791.02	tila	8		50	45	$2,423	75%	75%	75%	$1,022	20%	$204	1			$110		$220.00	$424.41
Beacon Street	1791.03	quru	36		1017	1012	$39,463	95%	75%	75%	$21,088	30%	$6,326	2			$110		$330.00	$6,656.47
Beacon Street	1800.01	fxpe	34		907	902	$35,254	75%	20%	75%	$3,966	10%	$397	1			$110		$220.00	$616.61
Beacon Street	1818.01	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	30%	$973	1			$110		$220.00	$1,193.41
Beacon Street	1840.00	acpl	12		113	108	$4,828	75%	65%	75%	$1,765	100%	$1,765		1	1		$690	$895.00	$2,660.21
Beacon Street	1840.01	acpl	10		79	74	$3,505	65%	75%	75%	$1,282	0%	$0						$0.00	$0.00
Beacon Street	1840.02	acsc	24		452	447	$17,816	85%	80%	75%	$9,086	0%	$0						$0.00	$0.00
Beacon Street	1845.04	plac	22		380	375	$15,050	75%	80%	75%	$6,773	20%	$1,355	1			$110		$220.00	$1,574.52
Beacon Street	1880.01	cu	5		20	15	$1,250	70%	80%	75%	$525	0%	$0						$0.00	$0.00
Beacon Street	1881.01	acpl	19		283	278	$11,352	65%	75%	75%	$4,151	30%	$1,245	1			$110		$220.00	$1,465.19
Beacon Street	1923.01	acru	14		154	149	$6,391	85%	90%	75%	$3,667	0%	$0						$0.00	$0.00
Beacon Street	1929.01	pybr	5		20	15	$1,250	45%	90%	75%	$380	0%	$0						$0.00	$0.00
Beacon Street	1977.02	acpl	14		154	149	$6,391	65%	75%	75%	$2,337	10%	$234	1			$110		$220.00	$453.68
Beacon Street	1977.03	acpl	14		154	149	$6,391	65%	50%	75%	$1,558	100%	$1,558		1	1		$690	$895.00	$2,452.89
Beacon Street	1979.01	acpl	10		79	74	$3,505	65%	60%	75%	$1,025	20%	$205	1			$110		$220.00	$425.05
Beaconwood Road	52.03	acpl	9		64	59	$2,934	65%	55%	65%	$682	30%	$205	1			$110		$220.00	$424.52
Beaumont Ave	113.02	acpl	23		415	410	$16,403	65%	65%	75%	$5,198	10%	$520	1			$110		$220.00	$739.77
Beaumont Ave	114.01	acpl	20		314	309	$12,525	65%	80%	80%	$5,210	0%	$0						$0.00	$0.00
Beaumont Ave	114.02	acpl	15		177	172	$7,263	65%	25%	80%	$944	10%	$94				$110		$110.00	$204.42
Beethoven Ave	182.00	fxpe	5		20	15	$1,250	75%	65%	65%	$396	100%	$396		1	1		$690	$895.00	$1,291.14
Bellevue Street	132.01	acpl	14		154	149	$6,391	65%	60%	65%	$1,620	10%	$162	1			$110		$220.00	$382.02
Bemuth Road	18.01	acpl	8		50	45	$2,423	65%	30%	75%	$354	0%	$0						$0.00	$0.00
Berkeley Street	41.01	plac	16		201	196	$8,195	75%	70%	80%	$3,442	10%	$344				$110		$110.00	$454.20
Berkeley Street	41.02	acpl	16		201	196	$8,195	65%	60%	80%	$2,557	20%	$511				$110		$110.00	$621.38
Berkeley Street	41.03	acpl	16		201	196	$8,195	65%	60%	80%	$2,557	0%	$0						$0.00	$0.00
Bernard Street	30.01	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	25%	$874	1			$110		$220.00	$1,093.58
Bernard Street	35.01	acpl	16		201	196	$8,195	65%	60%	75%	$2,397	20%	$479	1			$110		$220.00	$699.42
Bernard Street	35.02	acpl	18		254	249	$10,240	65%	50%	75%	$2,496	0%	$0						$0.00	$0.00
Berwick Road	17.00	acpl	9		64	59	$2,934	65%	65%	65%	$806	100%	$806		1	1		$690	$895.00	$1,700.70

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Birch Hill Road	8.00	plac	12		113	108	$4,828	75%	65%	75%	$1,765	100%	$1,765		1	1		$690	$895.00	$2,660.21
Birch Hill Road	8.01	plac	11		95	90	$4,136	75%	75%	65%	$1,512	30%	$454	1			$110		$220.00	$673.71
Bishopgate Road	45.00	acpl	24		452	447	$17,816	65%	65%	65%	$4,893	100%	$4,893		2	1		$690	$1,005.00	$5,897.78
Burr Road	38.01	tico	17		227	222	$9,187	75%	75%	75%	$3,876	0%	$0						$0.00	$0.00
Burr Road	38.02	tico	21		346	341	$13,757	75%	75%	75%	$5,804	20%	$1,161	1			$110		$220.00	$1,380.78
Byfield Road	28.01	acpl	5		20	15	$1,250	65%	80%	75%	$488	0%	$0						$0.00	$0.00
California Street	308.00	acpl	11		95	90	$4,136	65%	60%	65%	$1,049	100%	$1,049					$690	$690.00	$1,738.58
California Street	308.01	acpl	18		254	249	$10,240	65%	60%	65%	$2,596	20%	$519	1			$110		$220.00	$739.15
California Street	308.02	acpl	18		254	249	$10,240	65%	60%	65%	$2,596	100%	$2,596		1	1		$690	$895.00	$3,490.77
California Street	318.01	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	20%	$351	1			$110		$220.00	$571.04
California Street	340.02	quru	34		907	902	$35,254	95%	65%	65%	$14,150	10%	$1,415	1			$110		$220.00	$1,635.02
California Street	362.00	acpl	20		314	309	$12,525	75%	65%	65%	$3,969	100%	$3,969					$690	$690.00	$4,658.76
California Street	362.02	plac	2		intalled cost		$690	75%	60%	65%	$202	10%	$20				$110		$110.00	$130.18
California Street	362.03	plac	2		intalled cost		$690	75%	60%	65%	$202	10%	$20				$110		$110.00	$130.18
California Street	366.01	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	60%	$1,747		1	1		$690	$895.00	$2,641.76
California Street	404.01	acpl	26		531	526	$20,823	65%	70%	75%	$7,106	10%	$711				$110		$110.00	$820.58
Carlton Road	5.00	acpl	20		314	309	$12,525	65%	65%	75%	$3,969	100%	$3,969		2	1		$690	$1,005.00	$4,973.76
Carter Street	9.00	acpl	12		113	108	$4,828	75%	60%	65%	$1,412	100%	$1,412		1	1		$690	$895.00	$2,307.17
Carter Street	12.01	acpl	13		133	128	$5,580	65%	60%	65%	$1,414	20%	$283	1			$110		$220.00	$502.88
Carver Road	121.02	acpl	31		754	749	$29,391	65%	70%	75%	$10,030	0%	$0						$0.00	$0.00
Cedar Street	26.01	tico	13		133	128	$5,580	75%	50%	65%	$1,360	10%	$136				$110		$110.00	$246.00
Cedar Street	101.01	plac	30		707	702	$27,557	75%	70%	75%	$10,851	0%	$0						$0.00	$0.00
Cedric Road	106.01	tico	11		95	90	$4,136	75%	80%	75%	$1,861	0%	$0						$0.00	$0.00
Central Ave	11.01	am	2		intalled cost		$690	75%	65%	75%	$252	100%	$252		1			$690	$800.00	$1,052.28
Central Ave	14.01	am	2		intalled cost		$690	75%	65%	75%	$252	100%	$252		1			$690	$800.00	$1,052.28
Central Ave	22.01	am	3		intalled cost		$690	75%	60%	75%	$233	10%	$23				$110		$110.00	$133.29
Centre Street	641.01	tito	5		20	15	$1,250	75%	80%	75%	$563	10%	$56				$110		$110.00	$166.26
Centre Street	641.02	tito	5		20	15	$1,250	75%	80%	75%	$563	10%	$56				$110		$110.00	$166.26
Centre Street	665.01	tito	4		13	8	$980	75%	80%	75%	$441	100%	$441					$690	$690.00	$1,130.80
Centre Street	665.02	tito	7		38	33	$1,972	75%	80%	75%	$887	25%	$222				$110		$110.00	$331.82
Centre Street	904.01	gltr	4		13	8	$980	65%	70%	80%	$357	25%	$89				$110		$110.00	$199.14
Centre Street	963.00	acpl	17		227	222	$9,187	75%	65%	75%	$3,359	100%	$3,359		1	1		$690	$895.00	$4,254.15
Centre Street	983.01	acpl	17		227	222	$9,187	65%	75%	75%	$3,359	90%	$3,023		1	1		$690	$895.00	$3,918.24
Centre Street	1005.03	fxpe	9		64	59	$2,934	75%	80%	75%	$1,320	0%	$0						$0.00	$0.00
Centre Street	1074.01	acpl	10		79	74	$3,505	65%	50%	75%	$854	10%	$85						$0.00	$85.44
Centre Street	1074.02	tico	3		intalled cost		$690	75%	75%	75%	$291	20%	$58				$110		$110.00	$168.22
Centre Street	1091.01	syja	2		intalled cost		$690	85%	80%	75%	$352	50%	$176		1			$690	$800.00	$975.95
Centre Street	1199.01	pbyr	7		38	33	$1,972	75%	70%	75%	$776	10%	$78						$0.00	$77.64
Centre Street	1199.02	pbyr	7		38	33	$1,972	75%	50%	75%	$555	10%	$55						$0.00	$55.45
Centre Street	1457.02	acru	20		314	309	$12,525	85%	75%	75%	$5,988	0%	$0						$0.00	$0.00
Centre Street	904b	gltr	3		intalled cost		$690	65%	70%	80%	$251	10%	$25				$110		$110.00	$135.12
Chamberlain Raod	6.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136		1	1		$690	$895.00	$2,030.97
Chapin Road	33.01	acpl	5		20	15	$1,250	65%	60%	75%	$366	50%	$183		1	1		$690	$895.00	$1,077.63
Chapin Road	33.02	acpl	13		133	128	$5,580	65%	70%	75%	$1,904	20%	$381	1			$110		$220.00	$600.81
Chapin Road	37.00	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		1	1		$690	$895.00	$4,139.71
Chapin Road	37.01	gltr	12		113	108	$4,828	65%	70%	75%	$1,648	100%	$1,648		1	1		$690	$895.00	$2,542.53
Chapin Road	44.02	acpl	21		346	341	$13,757	65%	60%	75%	$4,024	35%	$1,408	1			$110		$220.00	$1,628.41
Chapin Road	45.00	acpl	22		380	375	$15,050	65%	65%	75%	$4,769	100%	$4,769		2	1		$690	$1,005.00	$5,774.03
Chapin Road	45.01	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	40%	$1,398	1			$110		$220.00	$1,617.72
Charlemont Street	85.01	acpl	14		154	149	$6,391	65%	40%	75%	$1,246	10%	$125				$110		$110.00	$234.63
Chase Street	30.02	sbau	2		intalled cost		$690	25%	90%	75%	$116	0%	$0						$0.00	$0.00
Chase Street	37.01	acpl	2		intalled cost		$690	65%	90%	75%	$303	10%	$30						$0.00	$30.27
Cherry Street	87.01	acpl	19		283	278	$11,352	65%	60%	65%	$2,878	25%	$719	1			$110		$220.00	$939.44
Cherry Street	208.01	acpl	19		283	278	$11,352	65%	65%	65%	$3,118	70%	$2,182		1	1		$690	$895.00	$3,077.31
Cherry Street	243.01	py	10		79	74	$3,505	45%	80%	65%	$820	0%	$0						$0.00	$0.00
Cherry Street	323.00	acpl	23		415	410	$16,403	65%	65%	65%	$4,505	100%	$4,505		3	1		$690	$1,115.00	$5,619.71
Cherry Street	327.01	acpl	20		314	309	$12,525	65%	65%	65%	$3,440	100%	$3,440		2	1		$690	$1,005.00	$4,444.60
Chestnut Street	120.01	tico	37		1075	1070	$41,658	75%	60%	70%	$13,122	20%	$2,624				$110		$110.00	$2,734.46
Chestnut Street	404.01	acpl	14		154	149	$6,391	65%	65%	75%	$2,025	100%	$2,025		1	1		$690	$895.00	$2,920.26
Chestnut Street	422.01	acsc	32		804	799	$31,286	75%	25%	75%	$4,400	0%	$0						$0.00	$0.00
Chestnut Street	470.01	quru	55		2375	2370	$91,447	95%	70%	75%	$45,609	20%	$9,122	4			$110		$550.00	$9,671.80
Chestnut Street	587.00	quru	30		707	702	$27,557	95%	70%	75%	$13,744	0%	$0						$0.00	$0.00
Chestnut Street	750.00	acpl	28		615	610	$24,070	65%	65%	65%	$6,610	100%	$6,610		2	1		$690	$1,005.00	$7,615.18
Chestnut Street	829.01	tico	17		227	222	$9,187	75%	90%	75%	$4,651	0%	$0						$0.00	$0.00
Chestnut Street	832.01	acpl	19		283	278	$11,352	65%	90%	75%	$4,981	0%	$0						$0.00	$0.00
Chestnut Street	832.02	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	30%	$1,048	1			$110		$220.00	$1,268.29
Chestnut Street	897.01	acpl	18		254	249	$10,240	65%	60%	75%	$2,995	25%	$749	1			$110		$220.00	$968.78
Chestnut Street	897.02	acpl	15		177	172	$7,263	65%	75%	75%	$2,656	20%	$531	1			$110		$220.00	$751.12
Chestnut Street	907.00	acpl	19		283	278	$11,352	65%	65%	75%	$3,597	100%	$3,597		2	1		$690	$1,005.00	$4,602.21
Christinia Street	132.02	quru	29		660	655	$25,784	95%	60%	75%	$11,022	30%	$3,307	2			$110		$330.00	$3,636.74
Christinia Street	136.02	acpl	27		572	567	$22,416	65%	70%	75%	$7,650	30%	$2,295	2			$110		$330.00	$2,624.86
Christinia Street	137.02	acpl	19		283	278	$11,352	65%	60%	75%	$3,321	100%	$3,321		2	1		$690	$1,005.00	$4,325.50
Christinia Street	137.03	acpl	16		201	196	$8,195	65%	60%	75%	$2,397	30%	$719	1			$110		$220.00	$939.13
Circuit Street	32.01	acpl	13		133	128	$5,580	65%	50%	75%	$1,360	40%	$544	1			$110		$220.00	$764.01
Colbert Road	4.00	acpl	24		452	447	$17,816	65%	65%	75%	$5,646	100%	$5,646		2	1		$690	$1,005.00	$6,650.52
Colbert Road	4.03	prtr	3		intalled cost		$690	60%	80%	90%	$298	0%	$0						$0.00	$0.00
Colbert Road	4.04	prtr	3		intalled cost		$690	60%	80%	90%	$298	0%	$0						$0.00	$0.00
Colbert Road	4.05	acpl	23		415	410	$16,403	65%	40%	90%	$3,838	0%	$0						$0.00	$0.00
Collela Road	30.00	acpl	9		64	59	$2,934	65%	75%	75%	$1,073	100%	$1,073			1		$690	$785.00	$1,857.67
Collela Road	30.01	acpl	10		79	74	$3,505	65%	50%	75%	$854	50%	$427		1			$690	$800.00	$1,227.18
Columbus Ave	19.01	cpja	8		50	45	$2,423	85%	80%	75%	$1,236	0%	$0						$0.00	$0.00
Commonwealth Ave	266.00	acpl	19		283	278	$11,352	65%	65%	65%	$3,118	100%	$3,118		2	1		$690	$1,005.00	$4,122.58
Commonwealth Ave	1087.00	acpl	31	x	754	749	$29,391	65%	80%	90%	$13,755	100%	$13,755		2	2		$690	$1,100.00	$14,855.20
Commonwealth Ave	1087.01	acpl	28		615	610	$24,070	65%	80%	90%	$11,265	25%	$2,816	1			$110		$220.00	$3,036.17

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Commonwealth Ave	1087.02	acpl	25		491	486	$19,289	65%	80%	90%	$9,027	100%	$9,027		2	2		$690	$1,100.00	$10,127.46
Commonwealth Ave	1103.01	fxpe	8		50	45	$2,423	75%	75%	75%	$1,022	0%	$0						$0.00	$0.00
Commonwealth Ave	1103.02	quru	8		50	45	$2,423	95%	75%	65%	$1,122	25%	$281	1			$110		$220.00	$500.50
Commonwealth Ave	1103.03	acpl	9		64	59	$2,934	65%	75%	75%	$1,073	0%	$0						$0.00	$0.00
Commonwealth Ave	1125.01	tico	10		79	74	$3,505	75%	75%	80%	$1,577	0%	$0						$0.00	$0.00
Commonwealth Ave	1125.02	acpl	16		201	196	$8,195	65%	70%	65%	$2,424	0%	$0						$0.00	$0.00
Commonwealth Ave	1817.01	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	0%	$0						$0.00	$0.00
Commonwealth Ave	1921.01	acpl	27		572	567	$22,416	65%	50%	65%	$4,735	30%	$1,421	2			$110		$330.00	$1,750.63
Commonwealth Ave	2143.02	acpl	13		133	128	$5,580	65%	65%	65%	$1,532	0%	$0						$0.00	$0.00
Commonwealth Park West	66.01	acpl	9		64	59	$2,934	65%	60%	65%	$744	25%	$186	1			$110		$220.00	$405.93
Cook Street	14.00	acpl	20		314	309	$12,525	65%	65%	65%	$3,440	100%	$3,440		2	1		$690	$1,005.00	$4,444.60
Cook Street	22.00	acpl	20		314	309	$12,525	65%	65%	65%	$3,440	100%	$3,440		3	1		$690	$1,115.00	$4,554.60
Coyne Road	8.01	acpl	13		133	128	$5,580	65%	70%	75%	$1,904	20%	$381	1			$110		$220.00	$600.81
Coyne Road	12.00	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		1	1		$690	$895.00	$4,139.71
Crafts Street	315.01	gltr	7		38	33	$1,972	65%	60%	65%	$500	20%	$100				$110		$110.00	$209.97
Crafts Street	549 .01	cyto	21		346	341	$13,757	75%	50%	65%	$3,353	20%	$671	1			$110		$220.00	$890.67
Crafts Street	549 .02	acpl	23		415	410	$16,403	65%	70%	75%	$5,598	0%	$0						$0.00	$0.00
Cragmore Road	16.00	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		1	1		$690	$895.00	$2,650.22
Cragmore Road	85.00	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	100%	$1,995		1	1		$690	$895.00	$2,889.67
Crehore Drive	57.03	acpl	17		227	222	$9,187	65%	70%	75%	$3,135	25%	$784	1			$110		$220.00	$1,003.80
Crehore Drive	57.04	acpl	21		346	341	$13,757	65%	60%	75%	$4,024	30%	$1,207	1			$110		$220.00	$1,427.21
Crescent Street	100.00	gltr	7		38	33	$1,972	65%	70%	65%	$583	10%	$58				$110		$110.00	$168.31
Crown Street	4.01	acpl	21		346	341	$13,757	65%	50%	50%	$2,236	25%	$559	1			$110		$220.00	$778.89
Dana Road	36.00	acpl	19		283	278	$11,352	65%	65%	65%	$3,118	100%	$3,118		2	1		$690	$1,005.00	$4,122.58
Dartmouth Street	63.03	acpl	16		201	196	$8,195	65%	60%	65%	$2,078	80%	$1,662		1	1		$690	$895.00	$2,557.00
Dartmouth Street	63.04	acpl	13		133	128	$5,580	65%	60%	65%	$1,414	100%	$1,414		1	1		$690	$895.00	$2,309.42
Davis Ave	44.02	acpl	24		452	447	$17,816	65%	50%	75%	$4,343	25%	$1,086	1			$110		$220.00	$1,305.68
Day Street	62.02	amca	4		13	8	$980	75%	75%	75%	$413	10%	$41				$110		$110.00	$151.32
Dedham Street	704.01	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	100%	$3,494		2	1		$690	$1,005.00	$4,499.31
Dedham Street	704.02	acpl	12		113	108	$4,828	65%	50%	75%	$1,177	30%	$353	1			$110		$220.00	$573.04
Dedham Street	704.03	acpl	14		154	149	$6,391	65%	50%	75%	$1,558	50%	$779		1	1		$690	$895.00	$1,673.94
Dedham Street	765.01	gltr	2		intalled cost		$690	65%	80%	75%	$269	40%	$108	1			$110		$220.00	$327.64
Dedham Street	765.02	mkam	2		intalled cost		$690	75%	100%	75%	$388	100%	$388		1			$690	$800.00	$1,188.13
Dedham Street	770.01	fxpe	8		50	45	$2,423	75%	80%	75%	$1,090	30%	$327	1			$110		$220.00	$547.06
Dedham Street	778.01	acpl	13		133	128	$5,580	65%	60%	75%	$1,632	100%	$1,632		1	1		$690	$895.00	$2,527.02
Dedham Street	859.00	acpl	15		177	172	$7,263	65%	75%	75%	$2,656	100%	$2,656		2	1		$690	$1,005.00	$3,660.62
Dedham Street	859.01	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		2	1		$690	$1,005.00	$4,249.71
Dedham Street	867.02	pybf	2		intalled cost		$690	45%	100%	75%	$233	100%	$233		1			$690	$800.00	$1,032.88
Dedham Street	881.01	syrt	2		intalled cost		$690	85%	65%	65%	$248	100%	$248		1			$690	$800.00	$1,047.80
Derby Street	240.00	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	100%	$1,326		1	1		$690	$895.00	$2,220.87
Derby Street	254.02	acpl	19		283	278	$11,352	65%	60%	65%	$2,878	20%	$576	1			$110		$220.00	$795.55
Dickerman Road	148.01	tico	7		38	33	$1,972	75%	70%	75%	$776	0%	$0						$0.00	$0.00
Dickerman Road	161.01	acpl	13		133	128	$5,580	65%	65%	75%	$1,768	100%	$1,768		1	1		$690	$895.00	$2,663.03
Dickerman Road	161.02	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	100%	$2,911		1	1		$690	$895.00	$3,806.27
Dorset Road	7.00	acpl	14		154	149	$6,391	65%	75%	75%	$2,337	100%	$2,337		1	1		$690	$895.00	$3,231.83
Dorset Road	67.01	quru	27		572	567	$22,416	95%	65%	75%	$10,382	100%	$10,382		2	1		$690	$1,005.00	$11,386.53
Dorset Road	80.02	acpl	15		177	172	$7,263	65%	75%	65%	$2,302	0%	$0						$0.00	$0.00
Dorset Road	80.03	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	0%	$0						$0.00	$0.00
Dorset Road	89.01	acpl	13		133	128	$5,580	65%	50%	75%	$1,360	10%	$136	1			$110		$220.00	$356.00
Dorset Road	89.02	acpl	10		79	74	$3,505	65%	25%	75%	$427	0%	$0						$0.00	$0.00
Dorset Road	268.01	acpl	12		113	108	$4,828	65%	75%	65%	$1,530	0%	$0						$0.00	$0.00
E Roadway	25.01	acpl	10		79	74	$3,505	65%	70%	75%	$1,196	0%	$0						$0.00	$0.00
Eastbourne Road	136.01	acpl	19		283	278	$11,352	65%	60%	75%	$3,321	20%	$664	1			$110		$220.00	$884.10
Eden Ave	23.01	acpl	19		283	278	$11,352	65%	65%	65%	$3,118	0%	$0						$0.00	$0.00
Elinor Road	65.00	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	100%	$2,251		2	1		$690	$1,005.00	$3,255.63
Elinor Road	65.00	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	100%	$2,251		2	1		$690	$1,005.00	$3,255.63
Eliot Ave	42.01	acpl	26		531	526	$20,823	65%	65%	75%	$6,598	25%	$1,650				$110		$110.00	$1,759.55
Eliot Ave	48.01	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	10%	$225				$110		$110.00	$335.06
Eliot Ave	56.02	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	10%	$199				$110		$110.00	$309.47
Elliot Street	19.01	fxpe	3		intalled cost		$690	75%	100%	65%	$336	75%	$252		1			$690	$800.00	$1,052.28
Elliot Street	354.06	tiol	4	x	13	8	$980	75%	65%	65%	$310	100%	$310		1	1		$690	$895.00	$1,205.39
Ellis Road	30.00	acpl	16		201	196	$8,195	65%	65%	60%	$2,078	100%	$2,078		1	1		$690	$895.00	$2,972.50
Erie Ave	84.00	acpl	8		50	45	$2,423	65%	65%	65%	$665	100%	$665		1	1		$690	$895.00	$1,560.33
Evelyn Road	11.00	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	100%	$2,911		1	1		$690	$895.00	$3,806.27
Evelyn Road	11.00	acpl	11		95	90	$4,136	65%	65%	75%	$1,311	100%	$1,311		1	1		$690	$895.00	$2,205.73
Evelyn Road	19.01	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	10%	$349	1			$110		$220.00	$569.43
Evelyn Road	19.02	acpl	25		491	486	$19,289	65%	60%	75%	$5,642	30%	$1,693	1			$110		$220.00	$1,912.65
Evelyn Road	20.01	acpl	19		283	278	$11,352	65%	70%	75%	$3,874	10%	$387	1			$110		$220.00	$607.39
Evelyn Road	27.01	acpl	15		177	172	$7,263	65%	65%	75%	$2,302	100%	$2,302		1	1		$690	$895.00	$3,196.54
Evelyn Road	28.01	acpl	22		380	375	$15,050	65%	55%	75%	$4,035	0%	$0						$0.00	$0.00
Evelyn Road	28.02	acpl	22		380	375	$15,050	65%	55%	75%	$4,035	0%	$0						$0.00	$0.00
Evelyn Road	69.01	acpl	24		452	447	$17,816	65%	65%	75%	$5,646	100%	$5,646		2	1		$690	$1,005.00	$6,650.52
Evelyn Road	69.02	acpl	21		346	341	$13,757	65%	65%	75%	$4,359	100%	$4,359		2	1		$690	$1,005.00	$5,364.37
Farina Road	55.02	acpl	17		227	222	$9,187	65%	80%	75%	$3,583	0%	$0						$0.00	$0.00
Farina Road	60.02	acpl	16		201	196	$8,195	65%	60%	75%	$2,397	100%	$2,397		2	1		$690	$1,005.00	$3,402.12
Fredette Road	7.03	acpl	15		177	172	$7,263	65%	50%	75%	$1,770	0%	$0						$0.00	$0.00
Freeman Street	64.01	acpl	23		415	410	$16,403	65%	65%	65%	$4,505	0%	$0						$0.00	$0.00
Fuller Street	116.01	acru	13		133	128	$5,580	85%	80%	75%	$2,846	0%	$0						$0.00	$0.00
Fuller Street	116.02	acru	16		201	196	$8,195	85%	80%	75%	$4,180	0%	$0						$0.00	$0.00
Fuller Street	117.01	acpl	17		227	222	$9,187	65%	80%	75%	$3,583	0%	$0						$0.00	$0.00
Fuller Street	250.01	acpl	13		133	128	$5,580	65%	90%	75%	$2,448	0%	$0						$0.00	$0.00
Fuller Street	250.02	acpl	10		79	74	$3,505	65%	80%	75%	$1,367	0%	$0						$0.00	$0.00
Garland Street	110.01	acpl	5.5		24	19	$1,408	65%	60%	75%	$412	100%	$412		1	1		$690	$895.00	$1,306.83
Gay Street	56.01	acpl	24		452	447	$17,816	65%	65%	65%	$4,893	10%	$489	1			$110		$220.00	$709.28

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Gordon Road	150.01	acpl	16		201	196	$8,195	65%	60%	75%	$2,397	0%	$0						$0.00	$0.00
Grant Ave	20.01	acpl	14		154	149	$6,391	65%	90%	75%	$2,804	0%	$0						$0.00	$0.00
Grant Ave	191.00	acpl	17		227	222	$9,187	65%	65%	65%	$2,523	100%	$2,523		2	1		$690	$1,005.00	$3,528.10
Grant Ave	212.01	acpl	23		415	410	$16,403	65%	65%	65%	$4,505	100%	$4,505		3	1		$690	$1,115.00	$5,619.71
Green Street	4.02	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	30%	$398	1			$110		$220.00	$617.76
Greenlawn Ave	20.01	acpl	18		254	249	$10,240	65%	50%	75%	$2,496	100%	$2,496		1	1		$690	$895.00	$3,390.93
Greenlawn Ave	20.02	acpl	18		254	249	$10,240	65%	70%	75%	$3,494	30%	$1,048	1			$110		$220.00	$1,268.29
Greenlawn Ave	53.01	plac	20		314	309	$12,525	75%	70%	75%	$4,932	20%	$986	1			$110		$220.00	$1,206.32
Hagen Road	77.01	acpl	22		380	375	$15,050	65%	75%	75%	$5,503	15%	$825	1			$110		$220.00	$1,045.41
Hammond Street	8.01	acpl	21		346	341	$13,757	65%	50%	75%	$3,353	5%	$168	1			$110		$220.00	$387.67
Harding Street	10.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136		1	1		$690	$895.00	$2,030.97
Harrington Street	45.01	acpl	20		314	309	$12,525	65%	80%	75%	$4,885	100%	$4,885		1	1		$690	$895.00	$5,779.63
Hartman Road	15.02	acpl	24		452	447	$17,816	65%	80%	75%	$6,948	30%	$2,084	1			$110		$220.00	$2,304.50
Hemlock Road	23.01	quru	27		572	567	$22,416	95%	40%	75%	$6,389	100%	$6,389		6	2		$690	$1,540.00	$7,928.63
Higgins Street	10.01	acpl	23		415	410	$16,403	65%	60%	65%	$4,158	10%	$416	1			$110		$220.00	$635.82
High Street	99.00	acpl	9		64	59	$2,934	65%	65%	65%	$806	100%	$806		1	1		$690	$895.00	$1,700.70
High Street	99.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136		1	1		$690	$895.00	$2,030.97
High Street	103.01	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	100%	$1,326		1	1		$690	$895.00	$2,220.87
High Street	109.01	acpl	15		177	172	$7,263	65%	80%	65%	$2,455	5%	$123						$0.00	$122.75
High Street	109.02	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		2	1		$690	$1,005.00	$2,760.22
Highland Street	371.03	acpl	16		201	196	$8,195	65%	50%	65%	$1,731	20%	$346	1			$110		$220.00	$566.25
Highland Street	371.04	acpl	16		201	196	$8,195	65%	50%	65%	$1,731	10%	$173	1			$110		$220.00	$393.13
Holly road	8.03	acpl	27		572	567	$22,416	65%	75%	70%	$7,650	0%	$0						$0.00	$0.00
Holman Road	39.00	acpl	9		64	59	$2,934	65%	65%	75%	$930	100%	$930		1	1		$690	$895.00	$1,824.65
Homer Street	248.03	tico	4		13	8	$980	75%	90%	75%	$496	0%	$0						$0.00	$0.00
Homer Street	400.01	acpl	26		531	526	$20,823	65%	50%	75%	$5,076	15%	$761	1			$110		$220.00	$981.33
Homer Street	400.02	acpl	23		415	410	$16,403	65%	70%	75%	$5,598	30%	$1,679	1			$110		$220.00	$1,899.27
Homer Street	424.01	fxpe	8		50	45	$2,423	75%	75%	65%	$886	0%	$0						$0.00	$0.00
Homer Street	426.01	fxpe	8		50	45	$2,423	75%	75%	65%	$886	25%	$221	1			$110		$220.00	$441.45
Homer Street	ch1	tico	15		177	172	$7,263	75%	80%	75%	$3,268	30%	$981				$110		$110.00	$1,090.54
Homer Street	ch2	acpl	22		380	375	$15,050	65%	60%	75%	$4,402	15%	$660	1			$110		$220.00	$880.33
Homer Street	ch3	acpl	19		283	278	$11,352	65%	70%	75%	$3,874	0%	$0						$0.00	$0.00
Homestead Street	40.01	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	100%	$2,911		1	1		$690	$895.00	$3,806.27
Homestead Street	46.01	acpl	21		346	341	$13,757	65%	65%	75%	$4,359	100%	$4,359		2	1		$690	$1,005.00	$5,364.37
Howard Street	35.01	acpl	15		177	172	$7,263	65%	50%	50%	$1,180	10%	$118	1			$110		$220.00	$338.03
Howland Road	15.00	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	100%	$1,995		1	1		$690	$895.00	$2,889.67
Howland Road	27.01	acpl	17		227	222	$9,187	65%	65%	60%	$2,329	40%	$932	1			$110		$220.00	$1,151.61
Howland Road	35.01	acpl	18		254	249	$10,240	65%	60%	90%	$3,594	0%	$0						$0.00	$0.00
Hull Street	110.01	syja	2		intalled cost		$690	85%	80%	75%	$352	100%	$352		1			$690	$800.00	$1,151.90
Hull Street	110.02	syja	2		intalled cost		$690	85%	80%	75%	$352	80%	$282		1			$690	$800.00	$1,081.52
Irving Street	14.00	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	100%	$2,251		1	1		$690	$895.00	$3,145.63
Jackson Street	216.00	acpl	18		254	249	$10,240	65%	65%	65%	$2,812	100%	$2,812		2	1		$690	$1,005.00	$3,817.08
Jackson Street	220.00	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		2	1		$690	$1,005.00	$2,760.22
Jackson Street	224.00	acpl	17		227	222	$9,187	65%	65%	65%	$2,523	100%	$2,523		2	1		$690	$1,005.00	$3,528.10
James Street	6.01	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	100%	$2,251		1	1		$690	$895.00	$3,145.63
Kelveden Road	40.00	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	100%	$1,995		1	1		$690	$895.00	$2,889.67
Kensington Ave	25.01	acpl	6		28	23	$1,581	65%	60%	65%	$401	10%	$40				$110		$110.00	$150.07
Kilburn Road	23.01	acpl	18		254	249	$10,240	65%	50%	50%	$1,664	20%	$333	1			$110		$220.00	$552.79
King Street	21.01	acpl	19		283	278	$11,352	65%	40%	65%	$1,919	10%	$192	1			$110		$220.00	$411.85
King Street	21.02	acpl	13		133	128	$5,580	85%	60%	65%	$1,850	10%	$185	1			$110		$220.00	$404.96
Lake Street	219.02	acpl	15		177	172	$7,263	65%	80%	75%	$2,833	0%	$0						$0.00	$0.00
Lantern Lane	21.00	acpl	18		254	249	$10,240	65%	65%	65%	$2,812	100%	$2,812		2	1		$690	$1,005.00	$3,817.08
Lantern Lane	24.00	acpl	25		491	486	$19,289	65%	65%	65%	$5,297	100%	$5,297		2	1		$690	$1,005.00	$6,302.36
Larchmont Ave	33.00	acpl	20		314	309	$12,525	65%	65%	75%	$3,969	100%	$3,969		2	1		$690	$1,005.00	$4,973.76
Larchmont Ave	64.01	acpl	14		154	149	$6,391	65%	65%	70%	$1,890	20%	$378	1			$110		$220.00	$598.05
Larchmont Ave	77.03	acpl	21		346	341	$13,757	65%	60%	75%	$4,024	20%	$805	1			$110		$220.00	$1,024.81
Lexington Street	116.00	tico	2		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	124.00	acpl	15		177	172	$7,263	75%	65%	65%	$2,302	100%	$2,302		1	1		$690	$895.00	$3,196.54
Lexington Street	134.01	tico	3		intalled cost		$690	75%	75%	65%	$252	80%	$202		1			$690	$800.00	$1,001.83
Lexington Street	138.01	acpl	8		50	45	$2,423	65%	65%	65%	$665	90%	$599		1			$690	$800.00	$1,398.80
Lexington Street	138.02	acpl	14		154	149	$6,391	65%	65%	50%	$1,350	70%	$945		1	1		$690	$895.00	$1,840.12
Lexington Street	160.00	tico	2		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	160.00	tico	2		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	192.01	tico	3		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	198.00	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	100%	$1,326		1	1		$690	$895.00	$2,220.87
Lexington Street	288.00	acru	2		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	288.00	acru	2		intalled cost		$690	75%	65%	65%	$219	100%	$219		1			$690	$800.00	$1,018.64
Lexington Street	288.01	acru	2		intalled cost		$690	85%	70%	65%	$267	10%	$27				$110		$110.00	$136.69
Lindbergh Ave	16.01	acpl	24		452	447	$17,816	65%	50%	65%	$3,764	10%	$376				$110		$110.00	$486.37
Linden Street	26.01	tico	8		50	45	$2,423	75%	90%	75%	$1,226	0%	$0						$0.00	$0.00
Linwood Ave	218.01	gltr	20		314	309	$12,525	65%	60%	65%	$3,175	10%	$318	1			$110		$220.00	$537.50
Linwood Ave	218.02	qupa	21		346	341	$13,757	85%	60%	65%	$4,561	0%	$0						$0.00	$0.00
Linwood Street	258.00	acpl	16		201	196	$8,195	65%	65%	65%	$2,251	100%	$2,251		2	1		$690	$1,005.00	$3,255.63
Llewellyn Road	35.02	acpl	17		227	222	$9,187	65%	40%	65%	$1,553	25%	$388				$110		$110.00	$498.17
Llewellyn Road	35.03	acpl	22		380	375	$15,050	65%	60%	65%	$3,815	10%	$382				$110		$110.00	$491.52
Llewellyn Road	38.03	acpl	16		201	196	$8,195	65%	60%	65%	$2,078	10%	$208				$110		$110.00	$317.75
Locke Road	10.00	acpl	14		154	149	$6,391	75%	65%	75%	$2,337	100%	$2,337		1	1		$690	$895.00	$3,231.83
Locksley Road	37.00	acpl	28		615	610	$24,070	65%	65%	65%	$6,610	100%	$6,610		4	1		$690	$1,225.00	$7,835.18
Locksley Road	38.00	acpl	18		254	249	$10,240	65%	65%	60%	$2,596	100%	$2,596		2	1		$690	$1,005.00	$3,600.77
Lowell Ave	264.01	py	6		28	23	$1,581	45%	80%	65%	$370	80%	$296		1	1		$690	$895.00	$1,190.94
Lowell Ave	283.01	acpl	22		380	375	$15,050	65%	60%	65%	$3,815	20%	$763	1			$110		$220.00	$983.05
Lowell Ave	283.02	gltr	18		254	249	$10,240	65%	60%	65%	$2,596	10%	$260	1			$110		$220.00	$479.58
Lowell Ave	392.01	acpl	16		201	196	$8,195	65%	50%	65%	$1,731	10%	$173	1			$110		$220.00	$393.13
Lowell Street	541.01	acpl	13		133	128	$5,580	65%	70%	75%	$1,904	100%	$1,904		1	1		$690	$895.00	$2,799.03
Lowell Street	541.02	acpl	16		201	196	$8,195	65%	70%	75%	$2,797	80%	$2,237		2	1		$690	$1,005.00	$3,242.31

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Lowell Street	541.03	acpl	16		201	196	$8,195	65%	70%	75%	$2,797	25%	$699	1			$110		$220.00	$919.16
Manchester Road	20.01	acpl	11		95	90	$4,136	65%	75%	75%	$1,512	10%	$151	1			$110		$220.00	$371.24
Manchester Road	102.01	acpl	15		177	172	$7,263	65%	25%	75%	$885	0%	$0						$0.00	$0.00
Manchester Road	102.02	acpl	12		113	108	$4,828	65%	60%	75%	$1,412	30%	$424	1			$110		$220.00	$643.65
Manchester Road	102.03	pybr	5		20	15	$1,250	45%	80%	75%	$338	0%	$0						$0.00	$0.00
Mandalay Road	63.02	acpl	22		380	375	$15,050	65%	70%	75%	$5,136	30%	$1,541	2			$110		$330.00	$1,870.76
Manor House Road	32.02	tico	8		50	45	$2,423	75%	70%	75%	$954	20%	$191	1			$110		$220.00	$410.79
Manor House Road	33.03	acpl	15	x	177	172	$7,263	65%	65%	75%	$2,302	100%	$2,302		1	1		$690	$895.00	$3,196.54
Maplewood Ave	79.01	acpl	21		346	341	$13,757	65%	60%	75%	$4,024	10%	$402	1			$110		$220.00	$622.40
Maplewood Ave	79.01	acpl	21		346	341	$13,757	65%	50%	75%	$3,353	20%	$671	2			$110		$330.00	$1,000.67
Margaret Road	82.30	quco	22		380	375	$15,050	85%	85%	75%	$8,155	15%	$1,223	1			$110		$220.00	$1,443.30
McCarthy Road	53.01	acpl	15		177	172	$7,263	65%	70%	75%	$2,479	30%	$744	1			$110		$220.00	$963.57
McCarthy Road	102.01	acru	6		28	23	$1,581	85%	100%	75%	$1,008	100%	$1,008		1	1		$690	$895.00	$1,902.80
Mechanic Street	38.01	acpl	18		254	249	$10,240	65%	60%	65%	$2,596	25%	$649	1			$110		$220.00	$868.94
Melrose Street	132.00	acpl	6		28	23	$1,581	65%	65%	65%	$434	100%	$434		1	1		$690	$895.00	$1,329.14
Melville Ave	25.01	syja	2		Insalled Cost		$690	85%	60%	75%	$264	100%	$264					$690	$690.00	$953.93
Metacomet Road	27.03	acpl	9		64	59	$2,934	65%	50%	65%	$620	50%	$310		1	1		$690	$895.00	$1,204.88
Morse Road	25.02	quru	39		1194	1189	$46,228	95%	75%	80%	$26,350	30%	$7,905				$110		$110.00	$8,015.01
Morton Road	40.02	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	45%	$511	1			$110		$220.00	$731.18
Morton Road	178.01	pbyr	4		13	8	$980	75%	90%	75%	$496	0%	$0						$0.00	$0.00
Mt Vernon Street	159.01	acpl	21		346	341	$13,757	65%	50%	65%	$2,906	0%	$0						$0.00	$0.00
Nathan Road	63.02	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	25%	$1,069	1			$110		$220.00	$1,288.51
Nevada Street	168.01	acpl	10		79	74	$3,505	65%	60%	65%	$889	10%	$89	1			$110		$220.00	$308.85
Newtonville Ave	304.01	acpl	9		64	59	$2,934	65%	60%	65%	$744	10%	$74	1			$110		$220.00	$294.37
Newtonville Ave	358.01	acpl	18		254	249	$10,240	65%	60%	50%	$1,997	20%	$399	1			$110		$220.00	$619.35
Newtonville Ave	358.02	acpl	14		154	149	$6,391	65%	60%	50%	$1,246	20%	$249	1			$110		$220.00	$469.26
Niles Road	29.00	fxpe	13		133	128	$5,580	75%	65%	65%	$1,768	100%	$1,768		1	1		$690	$895.00	$2,663.03
Niles Road	29.02	tico	2		intalled cost		$690	75%	80%	65%	$269	0%	$0						$0.00	$0.00
Noble Street	26.00	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	100%	$1,995		2	1		$690	$1,005.00	$2,999.67
Nobscot Road	47.02	acpl	37		1075	1070	$41,658	65%	60%	75%	$12,185	30%	$3,656	2			$110		$330.00	$3,985.50
Nonantum Road @ Charlesbank Road		qu	23	x	415	410	$16,403	85%	65%	80%	$7,250	100%	$7,250		1	1		$690	$895.00	$8,145.19
North Gate Park	37.01	acpl	23		415	410	$16,403	65%	50%	60%	$3,199	10%	$320				$110		$110.00	$429.86
Oakdale Road	70.01	fxpe	15		177	172	$7,263	75%	75%	75%	$3,064	0%	$0						$0.00	$0.00
Oakdale Road	76.01	acpl	22		380	375	$15,050	65%	75%	75%	$5,503	30%	$1,651	2			$110		$330.00	$1,980.82
Oakdale Road	77.02	acpl	19		283	278	$11,352	65%	65%	75%	$3,597	10%	$360				$110		$110.00	$469.72
Oakdale Road	99.10	acpl	23		415	410	$16,403	65%	65%	65%	$4,505	100%	$4,505		2	1		$690	$1,005.00	$5,509.71
Oakwood Road	36.01	acpl	13		133	128	$5,580	65%	65%	75%	$1,768	40%	$707	1			$110		$220.00	$927.21
Olde Field Road	68.01	acpl	5		20	15	$1,250	65%	70%	75%	$427	10%	$43				$110		$110.00	$152.66
Olde Field Road	69.04	acpl	20		314	309	$12,525	65%	50%	75%	$3,053	5%	$153	1			$110		$220.00	$372.64
Orchard Ave	69.01	acpl	23		415	410	$16,403	65%	65%	65%	$4,505	10%	$450	1			$110		$220.00	$670.47
Orchard Ave	70.01	acpl	24		452	447	$17,816	65%	65%	75%	$5,646	25%	$1,411	1			$110		$220.00	$1,631.38
Otis Street	85.01	gltr	12		113	108	$4,828	65%	60%	65%	$1,224	10%	$122	1			$110		$220.00	$342.39
Otis Street	85.02	gltr	12		113	108	$4,828	65%	50%	65%	$1,020	10%	$102	1			$110		$220.00	$321.99
Park lane	44.02	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		1	1		$690	$895.00	$4,139.71
Park lane	45.01	acpl	19		283	278	$11,352	65%	65%	75%	$3,597	100%	$3,597		1	1		$690	$895.00	$4,492.21
Park lane	50.01	acpl	22		380	375	$15,050	65%	65%	75%	$4,769	100%	$4,769		2	1		$690	$1,005.00	$5,774.03
Park lane	50.02	acpl	25		491	486	$19,289	65%	65%	75%	$6,112	100%	$6,112		2	1		$690	$1,005.00	$7,117.34
Park lane	74.00	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	100%	$2,911		1	1		$690	$895.00	$3,806.27
Parker Ave	47.01	acpl	11		95	90	$4,136	65%	75%	75%	$1,512	30%	$454	1			$110		$220.00	$673.71
Parker Ave	47.02	qupa	22		380	375	$15,050	85%	75%	75%	$7,196	40%	$2,878	2			$110		$330.00	$3,208.35
Parker Street	167.02	acpl	13		133	128	$5,580	65%	65%	65%	$1,532	100%	$1,532		2	1		$690	$1,005.00	$2,537.29
Parmenter Road	121.02	acpl	25		491	486	$19,289	65%	60%	65%	$4,890	20%	$978	1			$110		$220.00	$1,197.97
Parmenter Road	141.01	acpl	24		452	447	$17,816	65%	60%	65%	$4,516	30%	$1,355	1			$110		$220.00	$1,574.92
Parmenter Road	142.00	acpl	20		314	309	$12,525	65%	60%	65%	$3,175	100%	$3,175					$690	$690.00	$3,865.01
Parmenter Terrace	3.03	acpl	29		660	655	$25,784	65%	40%	50%	$3,352	0%	$0						$0.00	$0.00
Philbrick Road	40.01	acpl	15		177	172	$7,263	65%	70%	75%	$2,479	100%	$2,479		1	1		$690	$895.00	$3,373.58
Pine Street	16.01	gltr	14		154	149	$6,391	65%	65%	60%	$1,620	10%	$162				$110		$110.00	$272.02
Pine Street	27.01	acpl	18		254	249	$10,240	65%	50%	65%	$2,163	25%	$541	1			$110		$220.00	$760.79
Pleasant Street	12.01	acpl	15		177	172	$7,263	65%	60%	60%	$1,700	20%	$340	1			$110		$220.00	$559.92
Plymouth Road	246.01	fxpe	9		64	59	$2,934	75%	75%	65%	$1,073	0%	$0						$0.00	$0.00
Pontiac Road	59.01	acpl	18		254	249	$10,240	65%	75%	75%	$3,744	30%	$1,123	1			$110		$220.00	$1,343.17
Prince Street	126.01	acpl	23		415	410	$16,403	65%	60%	75%	$4,798	25%	$1,199	1			$110		$220.00	$1,419.48
Prince Street	126.02	gltr	5		20	15	$1,250	65%	70%	65%	$370	0%	$0						$0.00	$0.00
Prince Street	126.03	tico	7		38	33	$1,972	75%	60%	50%	$444	0%	$0						$0.00	$0.00
Quinobequin Road	556.00	acpl	44		1520	1515	$58,705	65%	65%	65%	$16,122	100%	$16,122		6	1		$690	$1,445.00	$17,566.95
Randolph Street	4.01	acpl	15		177	172	$7,263	65%	65%	75%	$2,302	100%	$2,302		1	1		$690	$895.00	$3,196.54
Randolph Street	4.03	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	100%	$4,274		2	1		$690	$1,005.00	$5,279.05
Randolph Street	20.01	acpl	13		133	128	$5,580	65%	65%	75%	$1,768	100%	$1,768		1	1		$690	$895.00	$2,663.03
Rangeley Road	15.01	acpl	21		346	341	$13,757	65%	60%	60%	$3,219	10%	$322				$110		$110.00	$431.92
Rangeley Road	19.01	acpl	17		227	222	$9,187	65%	60%	65%	$2,329	10%	$233				$110		$110.00	$342.90
Rangeley Road	48.00	acpl	12		113	108	$4,828	65%	60%	65%	$1,224	100%	$1,224					$690	$690.00	$1,913.88
Rangeley Road	61.01	acpl	18		254	249	$10,240	65%	50%	65%	$2,163	0%	$0						$0.00	$0.00
Rangeley Road	62.01	acpl	16		201	196	$8,195	65%	50%	65%	$1,731	30%	$519	1			$110		$220.00	$739.38
Rangeley Road	62.02	acpl	16		201	196	$8,195	65%	50%	65%	$1,731	50%	$866		1	1		$690	$895.00	$1,760.63
River Street	143.01	py	7		38	33	$1,972	45%	60%	65%	$346	0%	$0						$0.00	$0.00
River Street	153.00	acru	4		13	8	$980	75%	65%	65%	$310	100%	$310		1			$690	$800.00	$1,110.39
River Street	153.01	acru	4	x	13	8	$980	75%	65%	65%	$310	100%	$310		1			$690	$800.00	$1,110.39
River Street	156.01	acpl	18		254	249	$10,240	65%	65%	65%	$2,812	80%	$2,250		1	1		$690	$895.00	$3,144.67
River Street	166.01	py	6		28	23	$1,581	45%	65%	65%	$301	25%	$75	1			$110		$220.00	$295.14
River Street	262.02	acpl	16		201	196	$8,195	65%	25%	50%	$666	0%	$0						$0.00	$0.00
River Street	263.01	acpl	12		113	108	$4,828	65%	75%	75%	$1,765	10%	$177	1			$110		$220.00	$396.52
River Street	265.01	py	9		64	59	$2,934	45%	65%	75%	$644	0%	$0						$0.00	$0.00
River Street	275.00	acpl	19		283	278	$11,352	75%	65%	65%	$3,597	100%	$3,597		1	1		$690	$895.00	$4,492.21
River Street	330.01	py	7		38	33	$1,972	45%	70%	65%	$404	0%	$0						$0.00	$0.00

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
River Street	331.02	acpl	15		177	172	$7,263	65%	65%	65%	$1,995	40%	$798	1			$110		$220.00	$1,017.87
River Street	331.03	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	60%	$796		1	1		$690	$895.00	$1,690.52
Roland Street	6.01	acpl	16		201	196	$8,195	65%	75%	75%	$2,996	40%	$1,199	1			$110		$220.00	$1,418.56
Roland Street	30.01	acpl	16		201	196	$8,195	65%	80%	75%	$3,196	25%	$799	1			$110		$220.00	$1,019.04
Roslyn Road	36.01	quru	35		962	957	$37,329	95%	60%	75%	$15,958	100%	$15,958		4	1		$690	$1,225.00	$17,183.04
Roslyn Road	36.02	acpl	19		283	278	$11,352	65%	60%	75%	$3,321	0%	$0						$0.00	$0.00
Rotherwood Road	12.01	gltr	17		227	222	$9,187	65%	80%	75%	$3,583	0%	$0						$0.00	$0.00
Roundwood Road	122.01	acpl	11		95	90	$4,136	65%	60%	75%	$1,210	5%	$60						$0.00	$60.50
Roundwood Road	122.02	acpl	14		154	149	$6,391	65%	40%	75%	$1,246	50%	$623		2	1		$690	$1,005.00	$1,628.16
Rowe Street	64.00	acpl	50		1963	1958	$75,662	65%	65%	65%	$20,779	100%	$20,779		8	1		$690	$1,665.00	$22,443.75
Rowena Road	54.01	acpl	20		314	309	$12,525	65%	65%	75%	$3,969	20%	$794	1			$110		$220.00	$1,013.75
Rowena Road	59.01	acpl	10		79	74	$3,505	65%	80%	75%	$1,367	0%	$0						$0.00	$0.00
Rowena Road	65.01	acpl	20		314	309	$12,525	65%	80%	75%	$4,885	15%	$733	1			$110		$220.00	$952.69
Rowena Road	65.02	acpl	22		380	375	$15,050	65%	80%	75%	$5,870	0%	$0						$0.00	$0.00
Rowena Road	73.02	acpl	9		64	59	$2,934	65%	80%	75%	$1,144	10%	$114				$110		$110.00	$224.42
Rowena Road	74.00	acpl	21		346	341	$13,757	65%	65%	75%	$4,359	100%	$4,359		2	1		$690	$1,005.00	$5,364.37
Rowena Road	74.00	acpl	21		346	341	$13,757	65%	65%	75%	$4,359	100%	$4,359		2	1		$690	$1,005.00	$5,364.37
Rowena Road	80.01	acpl	11		95	90	$4,136	65%	70%	75%	$1,412	20%	$282	1			$110		$220.00	$502.31
Shady Hill Road	21.01	acpl	14	x	154	149	$6,391	65%	65%	75%	$2,025	100%	$2,025		2	1		$690	$1,005.00	$3,030.26
Shady Hill Road	24.00	acpl	26		531	526	$20,823	65%	65%	75%	$6,598	100%	$6,598		2	1		$690	$1,005.00	$7,603.22
South Gate Park	69.02	acpl	31		754	749	$29,391	65%	80%	75%	$11,463	20%	$2,293	1			$110		$220.00	$2,512.53
Southwick Road	10.00	acpl	20		314	309	$12,525	65%	65%	75%	$3,969	100%	$3,969		4	2		$690	$1,320.00	$5,288.76
Southwick Road	10.01	acpl	40		1256	1251	$48,603	65%	60%	75%	$14,216	20%	$2,843	2			$110		$330.00	$3,173.29
Southwick Road	15.01	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	15%	$641	1			$110		$220.00	$861.11
Southwick Road	15.02	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	15%	$641	1			$110		$220.00	$861.11
Southwick Road	15.03	acpl	27		572	567	$22,416	65%	80%	75%	$8,742	10%	$874	1			$110		$220.00	$1,094.23
Southwick Road	16.01	acpl	19		283	278	$11,352	65%	75%	75%	$4,151	10%	$415	1			$110		$220.00	$635.06
Summer Street	5.00	acpl	20		314	309	$12,525	65%	65%	65%	$3,440	100%	$3,440		2	1		$690	$1,005.00	$4,444.60
Summer Street	14.01	moru	16		201	196	$8,195	35%	70%	65%	$1,305	20%	$261				$110		$110.00	$371.02
Sumner Street	6.04	prtr	3		intalled cost		$690	60%	90%	75%	$279	0%	$0						$0.00	$0.00
Sumner Street	6.05	prtr	3		intalled cost		$690	60%	90%	75%	$279	0%	$0						$0.00	$0.00
Sumner Street	6.06	bepe	6		28	23	$1,581	45%	90%	75%	$480	0%	$0						$0.00	$0.00
Sunhill Lane	6.00	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		1	1		$690	$895.00	$2,650.22
Taft Ave	44.01	acpl	33		855	850	$33,240	65%	60%	65%	$8,426	90%	$7,584		2	2		$690	$1,100.00	$8,683.67
Taft Ave	56.03	acpl	16		201	196	$8,195	65%	60%	65%	$2,078	0%	$0						$0.00	$0.00
Temple Street	137.01	acsad	37		1075	1070	$41,658	85%	75%	75%	$19,918	10%	$1,992				$110		$110.00	$2,101.78
Trowbridge Street	26.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136		1	1		$690	$895.00	$2,030.97
Trowbridge Street	26.00	acpl	26		531	526	$20,823	65%	65%	65%	$5,718	100%	$5,718		2	1		$690	$1,005.00	$6,723.46
Trowbridge Street	30.00	acpl	14		154	149	$6,391	65%	65%	65%	$1,755	100%	$1,755		1	1		$690	$895.00	$2,650.22
Truman Road	6.01	acpl	21		346	341	$13,757	65%	50%	75%	$3,353	100%	$3,353		2	1		$690	$1,005.00	$4,358.36
Upland Ave	128.01	acpl	16		201	196	$8,195	65%	80%	75%	$3,196	0%	$0						$0.00	$0.00
Upland Ave	128.02	acpl	17		227	222	$9,187	65%	70%	75%	$3,135	40%	$1,254	2			$110		$330.00	$1,584.08
Upland Ave	129.01	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	100%	$4,274		2	1		$690	$1,005.00	$5,279.05
Upland Ave	129.02	tico	14		154	149	$6,391	75%	65%	75%	$2,337	0%	$0						$0.00	$0.00
Upland Ave	134.01	acpl	12		113	108	$4,828	65%	70%	75%	$1,648	25%	$412	1			$110		$220.00	$631.88
Upland Ave	135.01	acpl	17		227	222	$9,187	65%	65%	75%	$2,911	35%	$1,019	2			$110		$330.00	$1,348.94
Upland Ave	135.02	acpl	17		227	222	$9,187	65%	70%	75%	$3,135	40%	$1,254	2			$110		$330.00	$1,584.08
Upland Ave	150.01	acpl	16		201	196	$8,195	65%	70%	75%	$2,797	0%	$0						$0.00	$0.00
Upland Road	158.01	quru	40		1256	1251	$48,603	95%	70%	75%	$24,241	30%	$7,272	4			$110		$550.00	$7,822.27
Valentine Park	39.01	acpl	27		572	567	$22,416	65%	50%	75%	$5,464	25%	$1,366	1			$110		$220.00	$1,585.99
Valentine Street	185.01	acpl	13		133	128	$5,580	65%	60%	65%	$1,414	0%	$0						$0.00	$0.00
Valentine Street	240.01	acpl	25		491	486	$19,289	65%	65%	75%	$6,112	15%	$917	1			$110		$220.00	$1,136.85
Van Roosen Road	18.02	acpl	24		452	447	$17,816	65%	70%	75%	$6,080	20%	$1,216	1			$110		$220.00	$1,435.96
Van Roosen Road	21.02	acpl	21		346	341	$13,757	65%	60%	75%	$4,024	40%	$1,610	1			$110		$220.00	$1,829.61
Waban Ave	176.01	acpl	5		20	15	$1,250	65%	80%	75%	$488	0%	$0						$0.00	$0.00
Waban Street	20.05	qupa	38		1134	1129	$43,913	85%	65%	65%	$15,770	25%	$3,943	1			$110		$220.00	$4,162.57
Walden Street	76.01	acpl	13		133	128	$5,580	65%	40%	65%	$943	40%	$377	1			$110		$220.00	$597.18
Wallace Street	53.01	acpl	17		227	222	$9,187	65%	75%	75%	$3,359	5%	$168				$110		$110.00	$277.96
Walnut Hill Road	25.02	acpl	20		314	309	$12,525	65%	50%	75%	$3,053	100%	$3,053		2	1		$690	$1,005.00	$4,057.90
Walnut Hill Road	25.03	gltr	10		79	74	$3,505	65%	80%	75%	$1,367	15%	$205	1			$110		$220.00	$425.05
Walnut Hill Road	61.02	acru	17		227	222	$9,187	85%	80%	75%	$4,686	20%	$937	1			$110		$220.00	$1,157.12
Walnut Street	15.00	acpl	6		28	23	$1,581	65%	65%	65%	$434	100%	$434					$690	$690.00	$1,124.14
Walnut Street	15.00	acpl	9		64	59	$2,934	65%	65%	65%	$806	100%	$806					$690	$690.00	$1,495.70
Walnut Street	15.01	qupa	21		346	341	$13,757	85%	80%	80%	$7,484	10%	$748	1			$110		$220.00	$968.40
Walnut Street	27.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136					$690	$690.00	$1,825.97
Walnut Street	27.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136					$690	$690.00	$1,825.97
Walnut Street	100.01	qupa	27		572	567	$22,416	85%	65%	65%	$8,050	20%	$1,610	1			$110		$220.00	$1,830.05
Walnut Street	100.02	qupa	25		491	486	$19,289	85%	65%	65%	$6,927	10%	$693	1			$110		$220.00	$912.73
Walnut Street	100.04	qupa	25		491	486	$19,289	85%	65%	65%	$6,927	20%	$1,385				$110		$110.00	$1,495.46
Walnut Street	100.05	qupa	26		531	526	$20,823	85%	65%	65%	$7,478	40%	$2,991	1			$110		$220.00	$3,211.19
Walnut Street	762.03	py	3		intalled cost		$690	45%	90%	65%	$182	0%	$0						$0.00	$0.00
Walnut Street	762.04	py	3		intalled cost		$690	45%	90%	65%	$182	0%	$0						$0.00	$0.00
Walnut Street	810.01	fxpe	16		201	196	$8,195	75%	80%	65%	$3,196	20%	$639	1			$110		$220.00	$859.23
Walnut Street	1201.01	gltr	10		79	74	$3,505	65%	65%	75%	$1,111	10%	$111	1			$110		$220.00	$331.07
Walnut Street	1203.01	gltr	7		38	33	$1,972	65%	65%	75%	$625	0%	$0						$0.00	$0.00
Walsh Road	16.00	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	100%	$1,136		1	1		$690	$895.00	$2,030.97
Waltham Street	105.01	fxpe	12		113	108	$4,828	75%	60%	65%	$1,412	0%	$0						$0.00	$0.00
Waltham Street	195.01	prkw	12		113	108	$4,828	75%	60%	65%	$1,412	20%	$282	1			$110		$220.00	$502.43
Waltham Street	195.02	prkw	12		113	108	$4,828	75%	60%	65%	$1,412	100%	$1,412		1	1		$690	$895.00	$2,307.17
Waltham Street	384.01	acpl	9		64	59	$2,934	65%	65%	65%	$806	100%	$806		1	1		$690	$895.00	$1,700.70
Wamesit Road	6.01	acpl	21	x	346	341	$13,757	65%	65%	75%	$4,359	100%	$4,359		2	1		$690	$1,005.00	$5,364.37
Wamesit Road	6.02	acpl	16		201	196	$8,195	65%	65%	75%	$2,597	100%	$2,597		1	1		$690	$895.00	$3,491.88
Ware Road	32.01	acru	15		177	172	$7,263	85%	60%	65%	$2,408	25%	$602	1			$110		$220.00	$821.94
Warren Street	65.01	acpl	20		314	309	$12,525	65%	70%	75%	$4,274	25%	$1,069	1			$110		$220.00	$1,288.51
Warren Street	66.01	syja	3		intalled cost		$690	85%	90%	75%	$396	0%	$0						$0.00	$0.00

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert inj	Rpl cost	Total Mit costs	Total Loss
Warren Street	128.01	gltr	6		28	23	$1,581	65%	80%	75%	$617	0%	$0						$0.00	$0.00
Warwick Road	126.02	acpl	15		177	172	$7,263	65%	60%	60%	$1,700	10%	$170	1			$110		$220.00	$389.96
Warwick Road	131.00	acpl	19		283	278	$11,352	65%	60%	50%	$2,214	100%	$2,214					$690	$690.00	$2,903.67
Washburn Ave	16.04	acpl	12		113	108	$4,828	65%	65%	65%	$1,326	10%	$133				$110		$110.00	$242.59
Washington Street	431.02	py	7		38	33	$1,972	45%	65%	75%	$433	100%	$433		1			$690	$800.00	$1,232.54
Washington Street	431.03	py	6		28	23	$1,581	45%	65%	75%	$347	100%	$347		1			$690	$800.00	$1,146.80
Washington Street	449.01	plac	33		855	850	$33,240	75%	65%	65%	$10,533	10%	$1,053				$110		$110.00	$1,163.29
Washington Street	471.01	plac	37		1075	1070	$41,658	75%	65%	75%	$15,231	25%	$3,808	1			$110		$220.00	$4,027.82
Washington Street	475.01	plac	30	x	707	702	$27,557	75%	65%	75%	$10,076	100%	$10,076						$0.00	$10,075.69
Washington Street	475.02	gltr	3		intalled cost		$690	65%	100%	75%	$336	0%	$0						$0.00	$0.00
Washington Street	515.01	plac	27		572	567	$22,416	75%	65%	75%	$8,196	25%	$2,049				$110		$110.00	$2,158.99
Washington Street	515.01	ulam	21		346	341	$13,757	25%	60%	75%	$1,548	100%	$1,548		2	1		$690	$1,005.00	$2,552.71
Washington Street	515.02	plac	26		531	526	$20,823	75%	50%	75%	$5,856	25%	$1,464				$110		$110.00	$1,574.10
Washington Street	515.03	acru	6		28	23	$1,581	85%	65%	75%	$655	100%	$655		1			$690	$800.00	$1,455.07
Washington Street	515.04	acru	4		13	8	$980	85%	65%	75%	$406	100%	$406		1			$690	$800.00	$1,205.90
Washington Street	580.04	tico	7		38	33	$1,972	75%	70%	65%	$673	20%	$135				$110		$110.00	$244.57
Washington Street	580.05	tico	10		79	74	$3,505	75%	80%	65%	$1,367	10%	$137				$110		$110.00	$246.70
Washington Street	580.06	tico	10		79	74	$3,505	75%	60%	65%	$1,025	20%	$205				$110		$110.00	$315.05
Washington Street	580.07	tico	11		95	90	$4,136	75%	80%	65%	$1,613	10%	$161				$110		$110.00	$271.32
Washington Street	597.01	plac	36		1017	1012	$39,463	75%	50%	75%	$11,099	25%	$2,775	1			$110		$220.00	$2,994.77
Washington Street	599.01	plac	21	x	346	341	$13,757	75%	65%	75%	$5,030	100%	$5,030		2	1		$690	$1,005.00	$6,035.04
Washington Street	697.01	acru	6		28	23	$1,581	85%	75%	65%	$655	10%	$66				$110		$110.00	$175.51
Washington Street	721.07	list	10		79	74	$3,505	75%	80%	65%	$1,367	0%	$0						$0.00	$0.00
Washington Street	1205.01	tico	13		133	128	$5,580	75%	80%	65%	$2,176	0%	$0						$0.00	$0.00
Washington Street	1220.05	fxpe	5		20	15	$1,250	75%	75%	65%	$457	100%	$457		1			$690	$800.00	$1,257.08
Washington Street	1220.06	fxpe	4		13	8	$980	75%	75%	65%	$358	100%	$358		1			$690	$800.00	$1,158.15
Washington Street	1279.07	ze	13		133	128	$5,580	75%	65%	75%	$2,040	100%	$2,040		1	1		$690	$895.00	$2,935.03
Washington Street	1650.01	acpl	11		95	90	$4,136	65%	65%	65%	$1,136	0%	$0						$0.00	$0.00
Washington Street	1744.01	acpl	13		133	128	$5,580	65%	70%	65%	$1,650	20%	$330	1			$110		$220.00	$550.03
Washington Street	1766.03	syja	3		intalled cost		$690	85%	70%	65%	$267	100%	$267		1			$690	$800.00	$1,066.86
Washington Street	1784.02	fxam	42		1385	1380	$53,534	55%	60%	75%	$13,250	100%	$13,250		6	2		$690	$1,540.00	$14,789.68
Washington Street	1844.01	ml	3		intalled cost		$690	65%	60%	75%	$202	25%	$50	1			$110		$220.00	$270.46
Washington Street	1844.02	ml	3		intalled cost		$690	65%	65%	75%	$219	100%	$219		1			$690	$800.00	$1,018.64
Washington Street	1874.02	ma	3		intalled cost		$690	65%	85%	85%	$324	100%	$324		1			$690	$800.00	$1,124.04
Washington Street	1890.01	ml	4		13	8	$980	65%	70%	75%	$334	10%	$33				$110		$110.00	$143.43
Washington Street	1890.02	ml	4		13	8	$980	65%	65%	75%	$310	100%	$310		1			$690	$800.00	$1,110.39
Watertown Street	302.01	tico	7		38	33	$1,972	75%	60%	65%	$577	30%	$173				$110		$110.00	$283.02
Watertown Street	308.01	acru	4		13	8	$980	85%	60%	65%	$325	20%	$65	1			$110		$220.00	$284.94
Watertown Street	351.02	py	9		64	59	$2,934	45%	60%	65%	$515	45%	$232	1			$110		$220.00	$451.70
Watertown Street	376.01	py	8		50	45	$2,423	45%	60%	65%	$425	10%	$43	1			$110		$220.00	$262.52
Watertown Street	398.01	tico	17		227	222	$9,187	75%	80%	75%	$4,134	20%	$827				$110		$110.00	$936.87
Watertown Street	417.01	gltr	20		314	309	$12,525	65%	60%	65%	$3,175	40%	$1,270	2			$110		$330.00	$1,600.00
Watertown Street	417.02	gltr	7		38	33	$1,972	65%	60%	65%	$500	10%	$50	1			$110		$220.00	$269.98
Watertown Street	421.01	py	7		38	33	$1,972	45%	60%	65%	$346	10%	$35				$110		$110.00	$144.60
Watertown Street	421.02	gltr	12		113	108	$4,828	65%	60%	65%	$1,224	30%	$367	1			$110		$220.00	$587.16
Watertown Street	455.01	gltr	12		113	108	$4,828	65%	60%	65%	$1,224	45%	$551	2			$110		$330.00	$880.75
Watertown Street	616.00	acpl	21		346	341	$13,757	75%	60%	65%	$4,024	100%	$4,024					$690	$690.00	$4,714.04
Watertown Street	640.01	qupa	24		452	447	$17,816	85%	60%	65%	$5,906	0%	$0						$0.00	$0.00
Watertown Street	687.01	quma	3		intalled cost		$690	85%	75%	80%	$352	0%	$0						$0.00	$0.00
Watertown Street	687.01	acru	12		113	108	$4,828	85%	75%	80%	$2,462	10%	$246				$110		$110.00	$356.22
Watertown Street	687.02	acpl	29		660	655	$25,784	65%	75%	80%	$10,056	25%	$2,514				$110		$110.00	$2,623.90
Watertown Street	687.03	acpl	35		962	957	$37,329	65%	75%	80%	$14,558	25%	$3,640				$110		$110.00	$3,749.55
Watertown Street	687.04	ul	3		intalled cost		$690	25%	75%	80%	$104	10%	$10				$110		$110.00	$120.35
Watertown Street	802.01	acpl	15		177	172	$7,263	65%	60%	65%	$1,841	0%	$0						$0.00	$0.00
Watertown Street	888.01	acpl	12	x	113	108	$4,828	65%	60%	65%	$1,224	100%	$1,224			1		$690	$785.00	$2,008.88
Watertown Street	888.02	syja	2		intalled cost		$690	85%	80%	80%	$375	0%	$0						$0.00	$0.00
Watertown Street	888.03	syja	2		intalled cost		$690	85%	80%	80%	$375	0%	$0						$0.00	$0.00
Watertown Street	991.02	tico	7		38	33	$1,972	75%	65%	65%	$625	100%	$625		1	1		$690	$895.00	$1,519.79
Watertown Street	991.03	tico	6		28	23	$1,581	75%	65%	65%	$501	90%	$451		1	1		$690	$895.00	$1,345.84
Watertown Street	991.04	tico	5	x	20	15	$1,250	75%	65%	65%	$396	100%	$396		1	1		$690	$895.00	$1,291.14
Webster Park	87.01	qual	26		531	526	$20,823	95%	60%	70%	$8,308	45%	$3,739	1			$110		$220.00	$3,958.73
Webster Park	87.02	qual	27		572	567	$22,416	95%	65%	70%	$9,689	25%	$2,422	1			$110		$220.00	$2,642.36
Webster Street	257.01	acpl	14		154	149	$6,391	65%	60%	65%	$1,620	10%	$162				$110		$110.00	$272.02
West Pine Street	9.01	acru	2		intalled cost		$690	85%	80%	65%	$305	25%	$76				$110		$110.00	$186.25
Westland Ave	96.01	fxam	16		201	196	$8,195	55%	75%	65%	$2,197	0%	$0						$0.00	$0.00
Westland Ave	118.01	acpl	20		314	309	$12,525	65%	65%	65%	$3,440	100%	$3,440		1	1		$690	$895.00	$4,334.60
Westminster Raod	67.00	acpl	22		380	375	$15,050	65%	65%	65%	$4,133	100%	$4,133		2	1		$690	$1,005.00	$5,138.16
White Oak Road	60.01	quru	33		855	850	$33,240	95%	70%	75%	$16,578	20%	$3,316	1			$110		$220.00	$3,535.67
White Pine Road	34.02	acpl	13		133	128	$5,580	65%	80%	75%	$2,176	15%	$326	1			$110		$220.00	$546.40
White Pine Road	56.04	quru	27		572	567	$22,416	95%	75%	75%	$11,979	25%	$2,995	2			$110		$330.00	$3,324.67
Whittier Road	19.02	acpl	15		177	172	$7,263	65%	65%	60%	$1,841	10%	$184	1			$110		$220.00	$404.12
Wiltshire Road	15.01	acpl	19		283	278	$11,352	65%	65%	65%	$3,118	20%	$624	1			$110		$220.00	$843.52
Winchester Street	115.01	tico	3		intalled cost		$690	75%	100%	75%	$388	0%	$0						$0.00	$0.00
Winchester Street	120.01	syja	3		intalled cost		$690	85%	100%	75%	$440	100%	$440		1			$690	$800.00	$1,239.88
Winchester Street	124.01	ml	2		intalled cost		$690	65%	100%	75%	$336	0%	$0						$0.00	$0.00
Winchester Street	124.02	gltr	18		254	249	$10,240	65%	75%	75%	$3,744	20%	$749	1			$110		$220.00	$968.78
Winchester Street	125.01	tipl	4		13	8	$980	75%	90%	75%	$496	0%	$0						$0.00	$0.00
Winchester Street	125.02	tipl	4		13	8	$980	75%	90%	75%	$496	0%	$0						$0.00	$0.00
Windsor Road	89.01	acsc	28		615	610	$24,070	85%	60%	75%	$9,207	0%	$0						$0.00	$0.00
Winslow Road	216.00	fxpe	9		64	59	$2,934	75%	65%	65%	$930	100%	$930		1	1		$690	$895.00	$1,824.65
Wiswall Road	157.01	co	2		intalled cost		$690	70%	100%	75%	$362	100%	$362		1			$690	$800.00	$1,162.25
Wolcott Street	341.02	plac	18		254	249	$10,240	75%	60%	65%	$2,995	25%	$749				$110		$110.00	$858.78
Woodchester Drive	75.01	acpl	22		380	375	$15,050	65%	70%	75%	$5,136	30%	$1,541	2			$110		$330.00	$1,870.76
Woodchester Drive	104.02	acpl	23		415	410	$16,403	65%	60%	75%	$4,798	20%	$960	1			$110		$220.00	$1,179.58
Woodcliff Road	185.00	acpl	18		254	249	$10,240	65%	65%	75%	$3,245	100%	$3,245		2	1		$690	$1,005.00	$4,249.71

NEWTON APPRAISALS 2010																				
Street	House & Tree #	Species	DBH Cal	Stump	ATA	ATA Adj.	Basic Price	Species	Condition	Location	Appr. Value	% Dam	Appr. Loss	Pr. Hrs	Rm Hrs	Stp grd	Fert Inj	Rpl cost	Total Mit costs	Total Loss
Woodcliffe Road	185.01	acpl	14		154	149	$6,391	65%	50%	75%	$1,558	25%	$389	1			$110		$220.00	$609.47
Woodman Road	3.02	piac	36		1017	1012	$39,463	75%	75%	75%	$16,649	0%	$0						$0.00	$0.00
Woodward Street	155.02	acpl	6		28	23	$1,581	65%	60%	75%	$462	5%	$23				$110		$110.00	$133.12
Woodward Street	186.03	py	3		intalled cost		$690	45%	80%	75%	$186	0%	$0						$0.00	$0.00
Woodward Street	186.04	py	3		intalled cost		$690	45%	80%	75%	$186	0%	$0						$0.00	$0.00
Woodward Street	192.01	fxpe	14		154	149	$6,391	75%	90%	75%	$3,236	0%	$0						$0.00	$0.00
Woodward Street	198.01	acpl	7		38	33	$1,972	65%	40%	75%	$384	10%	$38	1			$110		$220.00	$258.45
Woodward Street	217.01	acpl	17		227	222	$9,187	65%	70%	75%	$3,135	0%	$0						$0.00	$0.00
Woodward Street	220.01	acpl	7		38	33	$1,972	65%	60%	75%	$577	20%	$115	1			$110		$220.00	$335.35
Woodward Street	250.00	acpl	23		415	410	$16,403	65%	65%	75%	$5,198	100%	$5,198		2	1		$690	$1,005.00	$6,202.75
Woodward Street	250.00	acru	3		Intalled cost		$690	75%	65%	75%	$252	100%	$252		1			$690	$800.00	$1,052.28
Woodward Street	250.05	acpl	17		227	222	$9,187	65%	70%	75%	$3,135	20%	$627	1			$110		$220.00	$847.04
Woodward Street	322.01	acpl	20		314	309	$12,525	65%	65%	75%	$3,969	0%	$0						$0.00	$0.00
Woodward Street	336.01	acpl	26		531	526	$20,823	65%	50%	75%	$5,076	0%	$0						$0.00	$0.00
											Appr. Value All Trees		Appr. Loss						Total Mit costs	Total Loss
											$1,887,034		$788,723						$253,000.00	$1,041,722.56

Report on the relationship of natural gas leaks and tree decline and mortality along streets in towns in MA.
January 2, 2009

Prepared for Mr. Robert Ackley and Associates of Southboro MA

These analyses and assessments of data on the association of gas leaks with decline and mortality of street trees in summer and autumn of 2008 were conducted by Dr. Philip M. Wargo.

Dr. Philip M. Wargo is a retired USDA Forest Service Forest Pathologist who worked on diseases of trees from 1968 to 2002.
His area of specialization was decline diseases of trees related to the effects of stress such as defoliation, drought, air pollution and other tree weakening environmental factors on tree health and subsequent mortality. During his career, he was considered a world expert on the relationship of stress and fungal diseases of trees. He has published over 100 papers on these subjects.

Report on the relationship of natural gas leaks and tree decline and mortality along streets in towns in MA. January 2, 2008

Background: Damage to vegetation caused by natural gas has been controversial. When manufactured gas was used for heating etc in homes and businesses, leaks could result in sudden death of nearby trees and other vegetation. And \the cause was acknowledged to be the direct effects of toxic components of the gas, such as cyanogen , which could form toxic compounds in the soil that directly killed roots of trees and other vegetation (Davis 1977)

However, natural gas (major component methane) on the other hand, is not directly toxic to roots. Its effects on roots are indirect through the depletion of oxygen (O2), directly by displacing it in the soil, or indirectly by reducing O2 through its stimulation of methane consuming bacteria. These microbes utilize the O2 in the soil to metabolize the methane thus depleting the O2 (Hoeks, 1972). The gas also has a drying effect on the soil and reduces the moisture about the fine roots resulting in the dehydration and death of the moisture and nutrient absorbing fine roots. The combination of these effects results in reduced O2 and moisture for healthy root growth and metabolism. The subsequent and progressive death of root systems causes a progressive decline and eventually mortality of mature trees.

In spite of this information, acceptance of natural gas as a "killer" of street/shade trees has not been universal. These studies were conducted to show the relationship of tree decline and mortality with natural gas in the soil about the tree's root system. This is a report of my analyses and assessments of the data on natural gas in the rooting zone of shade trees collected by Robert Ackley and associates for trees growing along streets of several towns in the vicinity of Boston MA.

Table 1. Milton MA Tree Assessment--Blind Study—August 08 207 trees

This assessment of tree health and gas presence in the rooting zone of trees was done as a blind study, i.e. all trees on randomly selected streets in Milton were assessed for their crown damage, rated from 0 to 100% based

on percentage of living and dead crown. Trees were considered damaged if crown loss/death was 15% or higher. The level of gas in the rooting zone of these trees was measured by drilling bar holes at 3 points, one at the base of the tree and one on each side of the tree within a meter of the outer edge of the crown (drip line) and measuring (with a gas meter) methane and O2 content in the soil gas mixture in the bar hole.

A total of 59 trees (28% all trees) were rated as damaged. Of these 59 trees, 25 trees (42% damaged trees) had no measurable gas associated with their root zone but many had other serious rooting issues caused by sidewalks, driveways, or paving repairs for sewage, gas and water problems. Seven of these trees were located near areas where gas repairs were evident in the street. Three of the streets used in the study have been recently repaved and evidence of gas repairs was not visible. Thirty-four trees (58% of damaged trees) had measurable gas and/or low O2 (<10%) in their root zone. Of the 148 trees rated as healthy (72% all trees), only 8 trees (4% all trees) had gas in their rooting area; 3 of these trees were recently replaced; 18 trees (9% all trees) had low O2 in their rooting area, and 122 (59% all trees, 82% undamaged) had no gas in their rooting zone.

There was no linear or curvilinear relationship of damage with gas level in the rooting zone, but the data show that the majority (58%) of the damaged trees had gas and or low O2—an indicator of methane related metabolism and O2 consumption by bacteria in the soil—in the their rooting zone.

Milton, Brookline and Quincy MA Tree Assessments

In these studies, gas leaks in the streets were detected by flame ionization tests in a moving vehicle. Where there was evidence of gas leakage, trees in the vicinity of the leak were "bar holed" and gas was measured about trees as described for the Milton "blind" study. Gas was measured in 3-10 places within the estimated root zone of the trees. Tree damage was rated by trained arborists and related to actual gas measurements. If a tree's crown was 50% or more damaged, the tree was considered a total loss and in need of replacement.

Milton MA Table 2. 163 trees

Most trees, 123 (75%) were damaged, and most of the damaged trees, 118 (96%) had gas in their root zones. Of the 32 trees with gas in their root zones that were not damaged, 13 (41%) were newly replaced trees.

Hingham, MA Table 3. 74 trees

There were 44 trees with crown damage and 39 (89%) had gas measured in their root zones. Twenty-eight trees that had no damage also had gas in their root zones and only 1 of the trees was a newly replaced tree.

Brookline MA Table 4. 368 trees.

Most trees, 243 (66% all trees) had 15% or more of their crowns showing damage while 125 trees had healthy crowns. Of the 243 trees with damaged crowns, 223 trees (92% of damaged trees) had measurable gas in their root zones. Of the 20 damaged trees that had no measurable gas in their root zone, 17 trees were associated with gas repairs nearby. There were 113 healthy trees that also had gas in their rooting areas, but 44 (39% of healthy trees) of these trees were recently replaced trees suggesting that trees died in these areas, probably from gas related damage to the root systems. The actual number of mature healthy trees with gas about their roots was 69, or 20% of trees with gas.

In Brookline, 85 trees had 50% or greater crown damage (Table 6) and were classified as total losses in arborist terms. Of these 85 trees, 76 or 89% had

gas in their rooting zones. No gas was detected in the rooting zones of 9 of these trees, but 7 of the 9 trees were near gas repairs in the streets.

Quincy MA Table 5. 404 trees

The number of trees with damage vs. healthy trees in Quincy was similar to that in Brookline, 238 (59% total trees) for damaged trees, and 166 (41%) for healthy trees. Of the 238 damaged trees, 223 trees (94%) had gas in their root zones; of the 13 damaged trees with no measurable gas in their root zone, all of the trees has gas repairs nearby. Of the 166 healthy rated trees, 123 (35% of trees with gas) had gas in their root zones. However, 46 of these trees were recently replaced trees, suggesting that mature trees died in these areas, probably from gas related damage to the root systems. So the actual number of healthy mature trees with gas in their root zones was 77, or about 22% of trees with gas.

In Quincy, 110 trees had 50% or more crown damage (Table 6) and as in Brookline, were classified as total losses. Of these trees, 102 (93%) had gas in their root zones while 8 trees had no measurable gas about them; 4 of these 8 trees had gas repairs near them.

In both Brookline and Quincy, the majority of damaged trees had gas leaks associated with them, representing 62% of total trees and 95% of damaged trees in Brookline, and 55% of total trees and 93% of damaged trees in Quincy. In both towns, significant damage to trees, i.e. crown death/loss >50%, resulting in total losses in arborist tree value ratings, were associated with gas leaks about the root system; 89% of the damaged trees in Brookline were classified as total losses and 93% of the damaged trees in Quincy were classified likewise .

Conclusions:

There was no linear or curvilinear relationship of crown damage with gas concentration in the soil in either town. This lack of relationship results from several factors: 1). replaced trees are rated healthy in areas where there are gas leaks but the length time they are exposed to the gas is insufficient to cause damage; 2) gas leaks are "new" and therefore have not

affected the root system long enough for damage to occur; 3) gas leaks have been repaired resulting in no gas readings in rooting zones of previously gas damaged trees; 4) other factors affecting the health of the trees such as root damage from excavation for gas, water and sewer repairs, competition with sidewalks and driveways, and mature trees having too little space for adequate root growth, can cause crown decline in the absence of gas or in many cases exacerbates the effects of the gas damage; 5) the amount of gas necessary for causing damage to the root system can fluctuate depending on soil structure, moisture and temperature conditions; and 6) a large variety of trees is present on the streets of these 3 towns and each species may have different levels of resistance or susceptibility to the effects of gas; some may be affected by low levels of gas while others may tolerate low levels and succumb when they reach a higher level or the exposure time is longer .

The results of these assessments shows a strong relationship of tree damage to gas leaks and gas presence in the rooting zone of urban trees growing along streets in these Massachusetts towns. These data strongly support the results of previous studies that show that natural gas leaks cause significant root damage in shade/street trees, and are a major factor in the loss of these trees.

/s/Dr. Philip M. Wargo, Consulting Tree Pathologist. January 2, 2009. Formerly Research Forest Pathologist, USDA Forest Service. 1968-2002, specializing in research on stress related diseases of trees.

References

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Table 1. Damage status of street trees with and without gas in Milton Mass (blind study set—178 trees) --all tree assessment and statistics.

	No Damage	Damage	Significance--Chi Sq Test
No Gas	122	25 (7rpr*)	1.2399 x 10 -15****
W Gas	8	20	0.0233 x 10-0*

Significantly (highly) more healthy trees had no gas.
Significantly more trees with gas had damage.
The number of damaged trees with gas was not significantly higher than the number of trees without gas, however, *7 of the damaged trees without gas were associated with gas repairs.

Table 2. Damage status of street trees with and without gas in Milton Mass (2nd small data set--163 trees)—selected tree assessments and statistics.

	No Damage	Damage	Significance--Chi Sq Test
No Gas	8	5	0.4053
W Gas	32 (13rpl*)	118	2.1891 x 10-12****

No significant difference occurred between damaged and undamaged trees with no gas.
Significantly (highly) more trees with gas had damage.
*13 of the undamaged trees with gas were newly replaced trees.

Table 3. Damage status of street trees with and without gas in Hingham Mass (small data set--74 trees)—selected tree assessments and statistics.

	No Damage	Damage	Significance--Chi Sq Test
No Gas	2	5	0.2568 ns
W Gas	28(1rpl*)	39	0.1789 ns

No significant differences between undamaged and damaged trees in trees with or without gas, but significantly more damaged trees had gas associated with their roots.
*1 of the undamaged trees with gas was a recently replaced tree

Table 4. Damage status of street trees with and without gas in Brookline Mass (large data set--368 trees)—selected tree assessments and statistics.

	No Damage	Damage	Significance--Chi Sq Test
No Gas	12	20 (17 rpr*)	0.0834 ns
W Gas	113 (44rpl**)	223	1.9621 x 10 -9****

No difference between undamaged or damaged trees with no gas.
Significantly (highly) more trees with gas had damage.
*17 damaged trees with no gas were associated with nearby gas repairs
**44 of the undamaged trees with gas were recently replaced.