FLAGG ROAD TREE EVALUATION REPORT

For

TOWN OF SOUTHBOROUGH, MA

Karen Galligan, Superintendent

Department of Public Works

Prepared by

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September 2020

OBJECTIVE

To assess the mechanical stability of public trees located on Flagg Road in the Town of Southborough, Massachusetts. More specifically, this consultant was engaged by Public Works Department Superintendent, Karen Galligan to determine if the structural integrity of any tree growing in the public right of way along Flagg Road was compromised to the point that they were potentially hazardous and, therefore, posing a risk to humans and property. Every tree along Flagg Road was to be evaluated for structural defects, assigned a stability rating and recommended for future mitigation or other actions.

METHODOLOGY

The majority of the conclusions in this report are based on: (1) the consultant's inspection of Flagg Road trees and their surroundings conducted on Wednesday, August 26 and Friday, August 29, 2020, and (2) the consultant's personal discussions with Superintendent Galligan for evaluating tree performance. The tree inspections were limited to an external review of major plant parts. A rubber mallet and knife were also used to determine the possible existence of wood decay under the bark of accessible plant parts of each tree.

FINDINGS

Important findings on the Flagg Road Tree Community are presented in the following Tables 1-7. They include essential information on the species composition, size dimensions, and condition of the tree population. The tables were created from comprehensive survey results published as – Flagg Roadside Tree Evaluation - Appendix A found at the end of this report. Vital statistics on each member of the tree population is recorded in this Appendix. The most important of these is the GPS coordinates for the accurate location of each tree. Other Appendix features include gathered data on structural defects, potential strike targets and actionable recommendations that should be considered by Town officials for each tree. Appendix B: Legend provides a full description of each value and should be used as a companion document to Appendix A. Finally, besides Table 1- 7 Table results, the remainder of this report examines the worse trees uncovered by the survey. They are mechanically unstable. This consultant recommends they should be removed from the tree community.

Species - Survey results indicate there are a total of 59 public right of way trees growing along Flagg Road. Most of them are oaks (75%) with Red oak, at 51%, the dominant species. The species composition and number of trees found in each species is itemized in Table 1 below:

TABLE 1: Species

Common Name	Latin name	# of Trees	% of Total
Sugar maple	Acer saccharum	02	03%
White ash	Fraxinus Americana	02	03%
Red maple	A. rubrum	03	03%
Pignut hickory	Carya glabra	08	13%
White pine	Pinus stobis	01	01.5%
Cedar	Thuja occidentalis	01 (grove of 12)	01.5%
White oak	Quercus alba	15	24%
Red oak	Q. rubra	31	51%

Tree Size - Tree stature or size measurements (i.e., trunk circumference, height and canopy spread) findings also indicate the tree stock is populated with few young trees and that the general population is best characterized as mature, tall and large in girth. Data supporting these results are found in Tables 2, 3, and 4 below:

TABLE 2: Tree Trunk Circumference

Size Class In Inches	# of Trees	% of Total	Age Class
≤20"	04	07%	Juvenile
20 – 60"	12	20%	Juvenile
61 – 100"	16	27%	Mature
101 – 140"	19	32%	Mature
≥141"	08	14%	Post-Mature

TABLE 3: Tree Height

Height Class In Feet	# of Trees	% of Total
≤30'	09	15%
31 – 50'	29	49%
51 – 70'	14	24%
>70'	07	12%

TABLE 4: Average Crown Spread

Canopy Spread in Feet	# of Trees	% of Total
≤40'	33	56%
41 – 60'	19	32%
61 – 80'	07	12%

Survey results (Table 2) indicate that there are 27 trees with trunk circumference greater than 8 feet (96"). These are very large and old trees.

Table 3 figures reveal the majority of the tree population, at 64%, is under 50 feet in height. The rest are taller, with at least seven trees over 71 feet tall.

Tree crown spread is the maximum width of the tree canopy as measured from branch end to branch end. It is calculated by recording the average of two measurements taken perpendicular to each other through the center of the tree. According to survey findings (Table 4), a little more than half the tree population (33 trees; 56%) has a crown spread less than or equal to forty feet. However, at least 7 trees have wide spreading crowns greater than 61 feet. In general, these results were definitely influenced by overhead sunlight and tree placement. For example, trees spaced closer together competed with other specimens for light; they tended to have smaller crown spreads than those arranged further apart.

Tree Fall Zone - The potential area in square feet that could be impacted should the tree fail or topple from the base is defined as the Tree Fall Zone (TFZ). It is used to help evaluate targets at risk of injury or damage near the tree. The TFZ is calculated by multiplying the tree height by tree average crown spread (TH x SPR = TFZ).

TABLE 5: Tree Fall Zone

TFZ in Square Feet	# of Trees	% of Total
≤1,000	18	30%
1,001 – 2,500	23	39%
2,501 – 4,000	10	17%
>4,001	08	14%

The findings indicate that 70% of the trees (41 trees) register tree fall zones greater than 1,000 square feet (Table 5). The 1000+ TFZ places them within striking distance of multiple targets should they fail at the base of the trunk. These targets include public and private property. The major public targets are roads, utilities, traffic signs and vehicles and citizens using the roads and public right of way. The major private targets are driveways, landscaping, vehicle and equipment storage facilities and mail-boxes. Residents using areas of the home grounds within the confines of the TFZ will also be vulnerable to personal injury.

Structural Defects – Only major structural defects affecting the mechanical integrity of the tree were recorded during the survey. They were classified by their location on major tree part- root, trunk, and crown. Six structural defects were encountered and recorded. They include: deadwood (DW), missing crown branches (MC), trunk injuries, cavities, lean, decay (TR), root injury or decay (RD), broken branches (Brb), dead (DEAD) and no defects detected (NONE). Finally, ten trees had two or more structural defects (see APPENDIX B).

TABLE 6: Structural Defects

Description	# of Trees	% of Total
DW	15	24%
MC	03	02%
TR	17	26%
RD	01	01%
Brb	02	01%
DEAD	13	22%
NONE	16	25%

Tree Condition Rating - The Tree Condition Rating (CR) is used to evaluate the mechanical stability of the entire tree at the time of inspection. The CR is based on the extent and severity of tree structural defects and how they affect the mechanical stability of the tree. There are four possible tree ratings. They are Good, Fair, Poor and Dead. They are described below:

Good = no major structural defects; tree is mechanically stable.
Fair = one or more structural defects, mostly minor, which are hazardous but with proper treatment can be mitigated; tree is mechanically stable.
Poor = one of more structural defects, mostly major, which are hazardous and beyond mitigation by treatment; tree is mechanically unstable.
Dead = tree is non-living and demonstrates evidence of major structural failure; tree is hazardous and mechanically unstable.

TABLE 6: Tree Condition Rating

Description	# of Trees	% of Population
Good	18	30%
Fair	16	27%
Poor	13	22%
Dead	12	21%

According to survey results 57% of the total tree population (33 trees) was assigned a Fair or better Condition Rating; some have minor structural defects but all are mechanically stable. Findings also indicate the presence of 26 trees assigned a Poor or worse Condition Rating; all have serious structural defects and are mechanically unstable.

Recommendations – Five actions are proposed for the Flagg Road tree population. They include: Sanitation Pruning, Monitoring, Removal, No Action and Sanitation Pruning/Monitoring. They are described below:

No Action = no action needed at this time.
Monitoring = inspect tree annually (August-September) to assess change in tree's mechanical stability.
Sanitation Pruning = eliminate deadwood, broken branches and stubs by pruning.
Sanitation Pruning/Monitoring = conduct annual tree inspection after sanitation pruning has been completed.
Removal = remove tree.

TABLE 7: Recommendations

Description	# of Trees	% of Total
No Action	14	23%
Monitor	07	14%
Sanitation Pruning (PR)	12	19%
PR/Monitor	01	01%
Removal	25	43%

Findings show (Table 7) there are 25 mechanically unstable trees which cannot be mitigated by arboricultural treatment. It's recommended they be removed by felling. There are also 12 trees with minor structural defects, mostly deadwood, making them unsafe. The action calls for eliminating their hazardous nature by sanitation pruning. The rest of the tree population 37% (21 trees) calls for either no action or an annual inspection to monitor any change in their Condition Rating.

Finally, all the trees recommended for removal are presented with pictures in the following section of this report.

APPENDIX A. Flagg Roadside Tree Evaluation September 2020

	Type	Location	TRC	HT	SPR	CR	TFZ	TARGETS	DEFECTS	REC
1Flagg	1SugMap	42.298289 x -71.545133	60"	40	45	Good	1800		None	No Action
	2WhtOak	42.298164 x -71.545332	51"	40	35	Fair	1400	W-R-SP#1	DW10%	Pr
3Flagg	3WhtOak	42.298111 x -71.545436	92"	50	40	Fair	2000	W-R-SP#1	DW10%	Pr
	4WhtOak	42.298066 x -71.545494	96"	60	45	Good	2700	W-R	None	No Action
	5WhtOak	42.297959 x -71.545752	108"	50	60	Good	3000	W-SP#4	None	No Action
	6WhtOak	42.297901 x -71.545689	80"	50	40	Fair	2000	W-SP#3	DW10%	Pr
	7WhtOak	42.297909 x -71.545853	106"	55	55	Fair	3025	W-R	DW10%	Pr
5Flagg	8WhtAsh	42.297907 x -71.545856	108"	45	50	Poor	2250	W	MC20%	REM
	9WhtOak	42.297859 x -71.546961	118"	80	65	Good	5200	W-SP#4	TrInj	Monitor
	10Ash	42.297801 x - 71.546837	65"	25	5	Dead	125	W	Dead	REM
	11WhtOak	42.297713 x -71.546362	156"	80	65	Good	5200	W-R	TrCOD	Monitor
Strawberry	Hill to	Red Gate Lane							None	No Action
17SHL	12RdOak	42.297462 x -71.546896	132"	55	45	Poor	2475	W-R-SMS	DW20; RDe	REM
	13RdOak	42.297316 x -71.547211	33"	25	25	Fair	625	W-R	TrL	Monitor
	14WhtAsh	42.297205 x -71.547541	18" + 16"	35	20	Poor	700	W-R-SP#9	MC50%	REM
	15RdMaple	42.297178 x -71.547588	14" + 14"	25	20	Poor	500	W	TrCOD	REM
23Flagg	16RdOak	42.296856 x -71.548713	136"	86	70	Good	6020	W-R-SP#12	None	No Action
27Flagg	17WhtOak	42.296695 x -71.549437	78"	70	60	Good	4200	W-R-SP#14	None	No Action
27-31Flagg	18WhtOak	42.296524 x -71.550035	96"	66	35	Fair	2310	W-R-SP#16	DW10%	Pr
27-31Flagg	19WhtOak	42.296542 x -71.550035	104"	35	35	Poor	1225	W	TrCav;TrDe	REM
opp22Flagg	20WhtOak	42.296542 x -71.550096	84"	50	40	Dead	2000	W-R	Dead	REM
	21WhtOak	42.296515 x -71.550158	89"	50	40	Dead	2000	W-R	Dead	REM
12-10Flagg	22Cedars	42.297462 x -71.548896	48"-72"	20	10	Poor	200	W-R (11 trees)	BrB	Pr
28-30Flagg	23RdOak	42.296187 x -71.551601	80"	30	20	Poor	600	W-R	Dead	REM
30Flagg	24PigHick	42.296250 x -71.553109	90"	40	40	Poor	1600	W-R	TrCav;TrDe	REM
	25PigHick	42.296233 x -71.552094	90"	50	50	Good	2500	W-R	None	No Action
	26PigHick	42.296218 x -71.552056	58"	40	25	Good	2000	W-R	None	No Action
32-30Flagg	27RdOak	42.296261 x -71.553128	106"	55	46	Good	2530	W-R	None	No Action
14Flagg	28PigHick	42.296631 x -71.549674	80"	65	45	Good	2925	W-R	None	No Action
28-30Flagg	29PigHick	42.296263 x -71.550209	48"	40	30	Fair	1200	W-R	TrInj	Monitor
	30PigHick	42.296458 x -71.550405	54"	45	30	Fair	1350	W-R	DW10%	Pr
opp32Flagg	31RdMaple	42.296252 x -71.553016	95"	30	25	Poor	750	W-R	TrCav:DW20%	REM

	Type	Location	TRC	HT	SPR	CR	TFZ	TARGETS	DEFECTS	REC
opp48Flagg	32SugMap	42.294215 x -71.556596	20"	25	20	Fair	500	W-R-SP#31	DW10%	Pr
RGL-31F	33WhtOak	42.296435 x -71.550653	78"	40	30	Fair	1200	W-R	DW10%	Pr
	34RdOak	42.296398 x -71.550877	118"	55	50	Fair	2750	W-R	DW10%	Pr
	35RdOak	42.296356 x -71.550916	116"	55	40	Poor	2200	W-R	TrCav;TrDe	REM
	36WhtPine	42.296301 x -71.551137	54"	40	25	Fair	1000	W	BrB	Pr
24Flagg	37WhtOak	42.296186 x -71.551632	112"	45	60	Fair	2700	W-R	TrL;MC20%	Pr;Monitor
	38RdOak	42.296174 x -71.551622	62"	35	5	Dead	175	W-R	Dead	REM
31Flagg	39RdOak	42.296261 x -71.553128	106"	55	46	Good	2530	W-R	None	No Action
24Flagg	40WhtOak	42.296197 x -71.552253	150"	72	80	Good	5760	W-P-SPM	None	No Action
33Flagg	41RdOak	42.296186 x -71.551132	116"	90	80	Poor	7200	W-R-SP#21	TrDe;DW20%	REM
	42PigHick	42.296218 x -71.552056	58"	40	25	Good	2000	W-R	None	No Action
37-67Flagg	43RdOak	42.296083 x -71.555577	80"	50	50	Fair	2500	W-R	TrInj	Monitor
	44RdOak	42.296071 x -71.555599	116"	45	45	Good	2025		None	No Action
59-61Flagg	45RdMaple	42.294036 x -71.556655	20"	25	20	Fair	500	W-R	TrL;DW10%	REM
67Flagg	46RdOak	42.292613 x -71.557422	72"	45	45	Good	2025	W-R	None	No Action
	47RdOak	42.292613 x -71.557473	156"	75	80	Fair	6000	W-R	DW10%	Pr
71Flagg	48RdOak	42.291975 x -71.557606	156"	35	20	Dead	700	W-R	Dead	REM
	49RdOak	42.291845 x -71.557655	144"	40	20	Dead	800	W-R-SP#40	Dead	REM
	50RdOak	42.291721 x -71.557682	168"	40	20	Dead	800	W-R-SP#40	Dead	REM
	51RdOak	42.291703 x -71.557699	165"	40	20	Dead	800	W-R	Dead	REM
	52RdOak	42.291683 x -71.557728	156"	45	20	Dead	900	W-R	Dead	REM
#73Flagg	53RdOak	42.291613 x -71.557738	116"	48	20	Dead	960	W-R	Dead	REM
	54RdOak	42.291436 x -71.557821	93"	68	54	Good	3672	W-R	None	No Action
	55RdOak	42.291322 x -71.557879	152"	68	74	Good	5032	W-R	TrCOD	Monitor
	56RdOak	42.291263 x -71.557904	115"	68	20	Poor	1360	W-R-SP#41	TrDe;DW20%	REM
	57RdOak	42.291669 x -71.557936	105"	68	35	Dead	2380	W-R	Dead	REM
75Flagg	58RdOak	42.291024 x -71.557998	119"	55	50	Poor	2750	W-R	TrCOD;DW10%	REM
72Flagg	59RdOak	42.290433 x - 71.558467	106"	25	5	Dead	125	W-R	Dead	REM

APPENDIX B. LEGEND FOR USE WITH APPENDIX A

Column 1. Number assigned to each inspected tree with nearest road address or special marker (service pole, etc.,) to numbered tree.

Column 2. Type. Common tree name as follows:
SugM = Sugar maple (Acer saccharum); WhtO = White oak (Quercus alba); RdO = Red oak (Q. rubra);
WhtP = Eastern white pine (Pinus strobis); PigH = Pignut hickory (Carya glabra);
RdM = Red maple (A. rubrum); WhtC = Atlantic white cedar (Thuja occidentalis)

Column 3. Location. GPS coordinates of numbered tree.

Column 4. TRC. Tree trunk circumference in inches as measured at 54" above base of tree.

Column 5. HT. Tree height in feet as measured from bottom to top of tree.

Column 6. SPR. Average crown spread of tree. Calculated by taking the sum of the canopy length in two directions (N-S and E-W) and dividing by 2.

Column 7. TFZ. Tree Fall Zone. The potential area in square feet that could be impacted should the tree fail or topple from the base. The TFZ is calculated by multiplying the tree height by tree average crown spread (TH x SPR = TFZ).

Column 8. CR. Tree Condition Rating. The Tree Condition Rating (CR) is used to evaluate the mechanical stability of the entire tree at the time of inspection. The CR is based on the extent and severity of tree structural defects and how they affect the mechanical stability of the tree. There are four possible tree ratings. They are described below:
Good = no major structural defects; tree is mechanically stable.
Fair = one or more structural defects, mostly minor, which are hazardous but with proper treatment can be mitigated; tree is mechanically stable.
Poor = one of more structural defects, mostly major, which are hazardous and beyond mitigation by treatment; tree is mechanically unstable.
Dead = tree is non-living and demonstrates evidence of major structural failure; tree is hazardous and mechanically unstable.

Column 9. TFZ. The Tree Fall Zone is the area in square feet vulnerable to being impacted by a toppling tree should it fail. The TFZ is calculated by multiplying the tree height by tree average crown spread (TH x SPR = TFZ).

Column 10. TARGETS. Any object within the TFZ vulnerable to damage or injury should a tree part of the entire tree fail. W=wall; R=road right of way; SP=utility service pole; SMS=speed monitor signal.

Column 11. DEFECTS. Finding of the major tree structural defect(s) discovered during survey. See report for full description of each structural defect.

Column 12. Recommendation. REC. Consultant's recommended action for each tree. Four options are proposed based on findings. They are: No action; Pr=prune to mitigate; Monitor= routine tree inspection for checking tree condition; REM=tree removal.

TREE REMOVALS

5 Flagg Road (42.297907 x -71.545856)

ID8 White Ash (TRC 108"; HT 45'; CR 50')

TFZ: 2,250 sf; Targets: Multiple

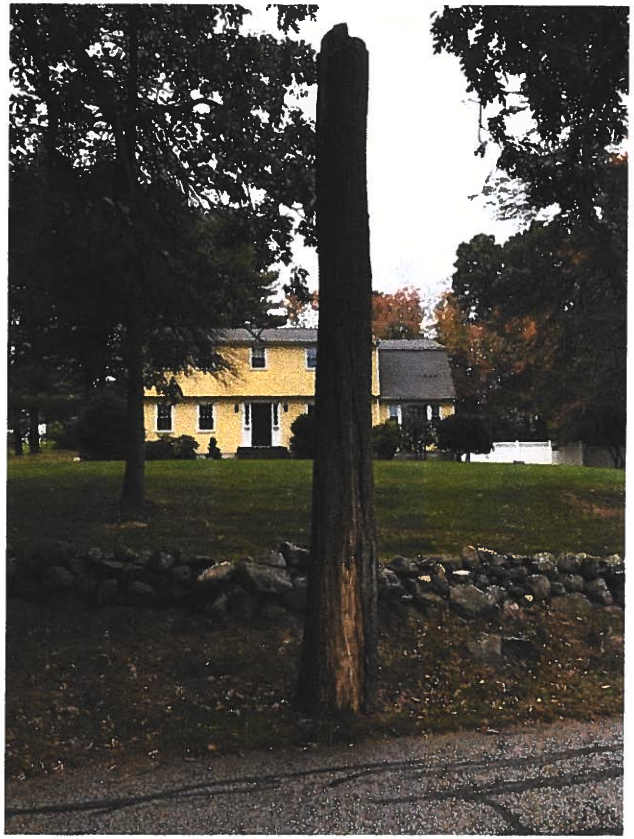
Comments: This White Ash (east side of road in photo) exhibits several major structural defects. The worse is the loss of nearly 20% of the tree's upper crown. Many stubs exist, showing where the missing branches once stood. There are also cavities and wood decay at the top of the trunk where the crown is broken. The Ash is structural unsound and unsafe. Should the tree fail completely (i.e., at the trunk base), the potential tree fall zone is 2,250 feet. Major at risk targets include the roadway, wall, landscaping and utility transmission wires.

5 Flagg Road (42.297801 x -71.546837)

ID10 White Ash (TRC 54"; HT 30'; CR 10')

TFZ:300 sf; Targets: Multiple

Comments: This tree was topped in the recent past. All that remains of the ash is the 30' decaying trunk.



17 SHLane (42.297462 x – 71.546896)

ID12 Red Oak (TRC 132"; HT 55'; CR 50')

TFZ: 2,475 sf; Targets: Multiple

Comments: This Red Oak is showing symptoms of gradual declining health. Most evident is approximately 20% deadwood in the crown. But more troubling is evident of root decay at base of tree trunk. Both are major structural defects associated with mechanically compromised trees. Wall construction in the recent past is probably the cause of this tree's poor health

17 SH Lane (42.297205 x – 71.547541)

ID14 White Ash (TRC 18" + 16"; HT 35'; CR 20')

TFZ:700 sf; Targets: Multiple

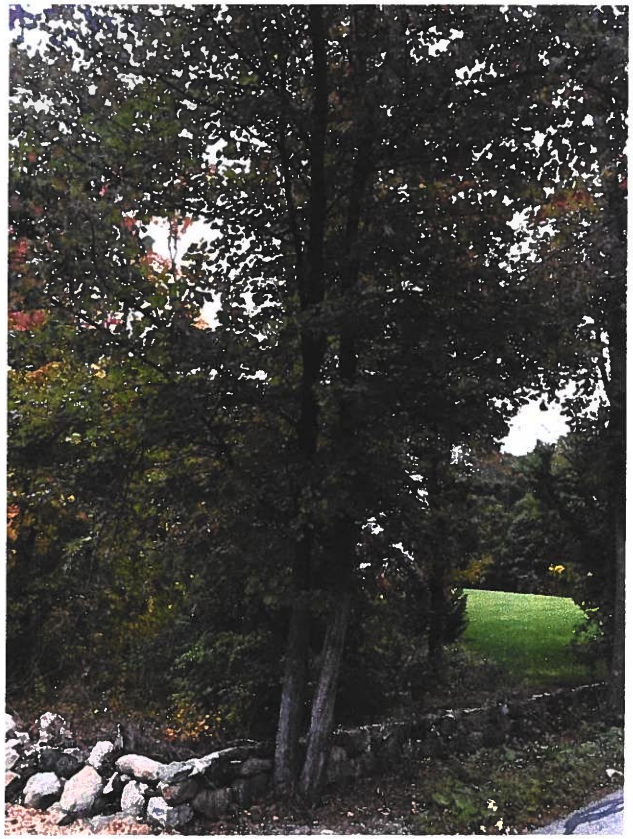
Comments: This multi-stemmed Ash is splitting at the base of the trunk. It should be removed before the split gets worse.

17 SHLane (42.297178 x – 71.547588)

ID15 Red Maple (TRC 14" + 14"; HT 25'; CR 20')

TFZ:500 sf; Targets: Multiple

Comments: This multi-stemmed Red Maple has poor structure which will eventually compromise the tree's mechanical stability. With very little upside, the tree should be removed.



27-31 Flagg Rd (42.296542 x – 71.5550035)

ID19 White Oak (TRC 96"; HT 66'; CR 35')

TFZ:1,225sf; Targets: Multiple

Comments: This Oak is structurally unsound as the trunk has cracks, cavities (photo right) and wood decay. The crown also has numerous dead branches.

opp 22Flagg Rd (42.296542 x – 71.5550096)

ID20 White Oak (TRC 84"; HT 50'; CR 40')

TFZ: 2,000sf; Targets: Multiple

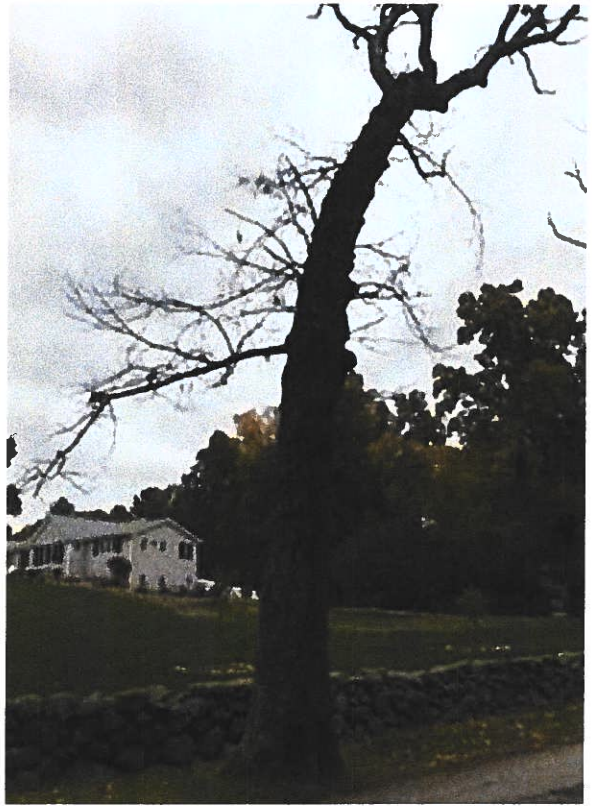
Comments: This is one of two dead Oaks opposite 22 Flagg Road. Both trees may have been compromised by wall construction in past few years; roots may have been damaged by excavation work.

opp21 Flagg Rd (42.296515 x – 71.550158)

ID21 White Oak (TRC 89"; HT 50'; CR 40')

TFZ:2000 sf; Targets: Multiple

Comments: This is one of two dead Oaks opposite 22 Flagg Road. Both trees may have been compromised by wall construction in past few years; roots may have been damaged by excavation work.



30 Flagg Rd (42.296250 x – 71.553109)

ID24 Pignut Hickory (TRC 90"; HT 40'; CR 40')

TFZ: 1,600 sf; Targets: Multiple

Comments: This Hickory is declining rapidly. There is evidence of wood decay behind several cavities on the trunk. The tree is unstable and as several missing branches reveal prone to failing.

opp 32 Flagg Rd (42.296252 x – 71.553016)

ID31 Red Maple (TRC 95"; HT 30'; CR 25')

TFZ: 750 sf; Targets: Multiple

Comments: This Red maple has lost half of the crown, has numerous trunk cavities and cankers. It is unstable.

33 Flagg Rd (42.296187 x – 71.551601)

ID41 Red Oak (TRC 80"; HT 30'; CR 20')

TFZ:600 sf; Targets: Multiple

Comments: Top of tree is 40% dead; Also, severe vertical crack can be found at base of trunk. The latter is extremely serious and definitely compromises the wood strength of the trunk. The tree should be removed.

RGL-31Flagg Rd (42.296356x – 71.550916)

ID35 Red Oak (TRC 116"; HT 55'; CR 40')

TFZ: 2,200 sf; Targets: Multiple

Comments: This Red Oak grows next to White Pine ID36 (photo left). The Oak is seriously flawed structural with missing bark, wood decay and cavities from the base to top of trunk (photo right).

24 Flagg Rd (42.296174 x – 71.551622)

ID38 Red Oak (TRC 62"; HT 35'; CR 5')

TFZ: 175 sf; Targets: Multiple

Comments: This Red Oak was topped in the recent past. The trunk now remains; it's rotted and unsafe.

59-61 Flagg Rd (42.294036 x – 71.556655)

ID45 Red Maple (TRC 20"; HT 25'; CR 20')

TFZ: 500 sf; Targets: Multiple

Comments: The crown of this Red Maple is one-sided from past utility line clearance. The trunk lean is also a structural defect that make the tree vulnerable to breaking in storms.

71 Flagg Rd (42.291975 x – 71.557606)

ID48 Red Oak (TRC 156”; HT 35’; CR 20’)

TFZ: 700 sf; Targets: Multiple

Comment: This Oak is located north of 69-71 Flagg Rd driveway. The tree is rotted and seriously flawed. It is unstable and very hazardous.

71 Flagg Rd (42.291845 x – 71.557655)

ID49 Red Oak (TRC 144"; HT 40'; CR 20')

TFZ: 800 sf; Targets: Multiple

Comments: This Oak ID49 is located on right side of photo. The tree is dead and hazardous.

71 Flagg Rd (42.291721 x – 71.557682

ID50 Red Oak (TRC 168"; HT 40'; CR 20')

TFZ: 800 sf; Targets: Multiple

Comments: This Oak ID50 is located on left side of photo. The tree is dead and hazardous.

71 Flagg Rd (42.291703 x – 71.557699)

ID51 Red Oak (TRC 165"; HT 40'; CR 20')

TFZ: 800 sf; Targets: Multiple

Comments: This Oak ID51 is located on right side of photo. The tree is dead and hazardous.

71 Flagg Rd (42.291683 x – 71.557728)

ID52 Red Oak (TRC 156"; HT 40'; CR 20')

TFZ: 800 sf; Targets: Multiple

Comments: This Oak ID52 is located on left side of photo. The tree is dead and hazardous.

73 Flagg Rd (42.291975 x – 71.557606)

ID53 Red Oak (TRC 116”; HT 48’; CR 20’)

TFZ: 800 sf; Targets: Multiple

Comments: This Oak is dead. The tree has bad cracks at the trunk base and is hazardous.

73 Flagg Rd (42.291263 x – 71.557904)

ID56 Red Oak (TRC 115"; HT 68'; CR 20')

TFZ: 1,360 sf; Targets: Multiple

Comments: This Oak is dying. The trunk is rotted and there is evidence of fungal root decay at the trunk-root interface (see right photo).

75 Flagg Rd (42.291669 x – 71.557936)

ID57 Red Oak (TRC 115"; HT 68'; CR 20')

TFZ: 1,360 sf; Targets: Multiple

Comments: This Oak has numerous dead branches in the crown. But the worse flaw is the presence of deep cavities located at the trunk base. They seriously compromise the stability of this oak. The tree is hazardous and should be removed.

75 Flagg Rd (42.291024 x – 71.557998)

ID58 Red Oak (TRC 119"; HT 55'; CR 50')

TFZ: 2,380 sf; Targets: Multiple

Comments: This Oak is on road betwen 75-77 Flagg Rd. The crown on one-half of the tree is dead. There are several trunk cavities and several places also have missing bark. These flaws are severe and reveal the mechanical stability of the tree has been compromised.

72 Flagg Rd (42.290433 x – 71.558467)

ID59 Red Oak (TRC 106"; HT 25'; CR 05')

TFZ: 125 sf; Targets: Multiple

Comments: This Oak was topped in the recent past. Only the trunk up to 25' in height remains.

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