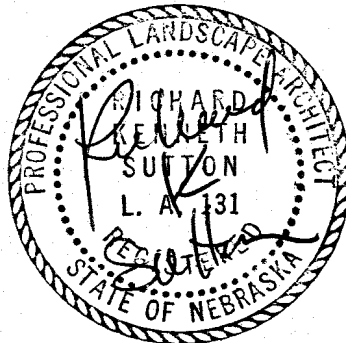


LANDSCAPE RESTORATION
AND
MANAGEMENT MASTERPLAN
FOR
WOODSSHIRE RESIDENTIAL PARK

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LINCOLN, NEBRASKA





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INTRODUCTION/GOALS AND OBJECTIVES

The plan for the restoration and management of Woodsshire Park is based on the analysis of existing site conditions as well as the needs of Woodsshire residents. On March 19, 1987, the Park Committee of Woodsshire Homeowners Association helped to formulate the following goals and objectives for the future care and restoration of the park:

When I look at Woodsshire Park I'm proud that it:

- | | |
|---------------------------------|---|
| 1. is a good play area | 8. represents stewardship |
| 2. is a place of beauty | 9. represents quality |
| 3. is fresh, open and green | 10. displays our past heritage for future residents |
| 4. is established | 11. is a home for wildlife |
| 5. is a commons | 12. is unique |
| 6. allows a view of the capitol | 13. sets an example |
| 7. serves as a community focus | |

When I look at Woodsshire Park I'm sorry that it:

- | | |
|--|--|
| 1. is overgrown | 6. doesn't include circles and entries |
| 2. has shaggy weedy turf | |
| 3. has no plan for the future | |
| 4. has become disorganized | |
| 5. has poor 17th and 18th Street entrances | |

OVERALL GOAL STATEMENT FOR THE FUTURE OF WOODSSHIRE PARK:

To preserve, manage and enhance the park for the future while
1) sustaining its positive, natural image 2) allowing its use by the widest number of Woodsshire residents and 3) requiring the least amount of maintenance consistent with the preceding goals.

Goal and objectives for preservation:

Preserve the historical layout and materials as closely as possible.

Objectives

1. Use new varieties of plants carefully, balancing the need for resistance to insects, disease and damage with the planting palette

of its original designer.

2. Architectural materials and signage if used in the park should be compatible with those evident in other Woodsshire open spaces.
3. Maintain where they exist and replace where gone trees, and shrub masses as close to their original positions as possible.
4. Preserve, protect and enhance the Capitol vista.
5. Seek visual easements outside Woodsshire proper.

Goal and objectives for management:

Create a cost effective management plan, structure and specifications to be evaluated along with the park itself and reported on annually by the Park Committee.

Objectives:

1. The management plan will be a guide and reference for the routine and remedial maintenance of trees, shrubs and turf.
2. Create a Plant Manual which list the potential problems and routine care require of each different species of plant material.
3. Make specifications for routine and remedial maintenance.
4. Create a computerized information record and retrieval system to most efficiently plan, carryout, and record routine and remedial landscape maintenance.
5. Set up and seek donations to an endowment for a perpetual maintenance fund.
6. Identify highly visible remedial maintenance projects for immediate implementation.
7. Continue to seek, and organize volunteer workers for landscape maintenance projects.

Goal and objectives for design enhancement:

Any and all design enhancement shall be in character with the overall natural, informal character of the park.

Objectives:

1. Create several minor color focal points for increased visual interest mainly for pedestrians.
2. Create several textural focal points.
3. Locate appropriate places for park signage.
4. Design prototypical park signage.
5. Identify for immediate implementation a highly visible design enhancement project.
6. Protect at all costs the spatial structure and character of the park.

Goal and objectives for users and activities:

Make the park a continued focus for neighborhood interaction while allowing flexibility for future activities.

Objectives:

1. Enhance and encourage use of park by walkers.
2. Continue to provide a place for active sports such as baseball, sledding, football etc.
3. Encourage unorganized "freeplay" areas.
4. Continue and upgrade the parks use as a green "view filter".
5. Encourage the park as the site for more organized outdoor Neighborhood activities.
6. Promote landscaping for wildlife habitat.

SITE ANALYSIS

The afore-mentioned goals and objectives were considered in the design and masterplanning process, but as well the physical characteristics of the park were examined and documented. Because of the park's size and the long-term nature of landscape management goals, this masterplan serves as a basic inventory of existing conditions. To this end a 50 foot by 50 foot reference grid has been superimposed over the park. (figure 1) It places an east-west (X) and north-south (Y) positive coordinate system over the park to allow exact location of individual trees and shrub masses. All trees and shrub masses were inventoried and assessed as to their species, size and condition. (figures 2 and 3) As well, a rough topographic survey was completed at one-foot contour intervals. While assessing the plants, a general impression of the site's spatial character and possible uses was made. Apparently several shrub masses have been removed or reduced in size thus altering the original enclosure within the park. Several problems regarding drainage were noted such as a spring and seepage just below crabapple circle and the visual intrusion of the concrete drain swale at the northeast side of the park. The turf was also examined in preparation for guidelines for its care.

The park is divided into roughly three areas; 1) the Crabapple or Play Circle 2) the Ravine 3) and a less well-defined upland/buffer at the north end. The Crab circle is a major space, and the most formal of design forms found in the park. The circle fits within the curve on West Pershing Road and repeats the circles found elsewhere in Woodsshire. It is a flattened area used for active recreation and serves as both a terminus and starting point for the elongated north-south ravine. The Ravine's steep slopes are re-enforced spatially by shrub and tree masses. The plant masses' naturalistic forms and their careful placement reduce the "corridor" feeling often associated with a narrow linear space. The north end contains the only place where private lots directly abut the park. It is not heavily used but provides a good contrast to the more open ravine and Crabapple Circle. Several minor "entry" spaces flow from West Pershing Road and Woodsshire Parkway into the ravine, but are situated so as not to allow views completely across the narrow east-west dimension. An off-sight vista to the Nebraska State Capitol tower allows the visitor to orient themselves and the park within the larger context of the city. This vista also counterbalances the tight inward focused spaces within the park. Probably the most difficult physical and visual transition in the park occurs at the north end of Crabapple Circle. Here a steepening slope reduces usefulness as a playfield. As well, seepage at the toe of the slope and drainage leading into the ravine creates a quagmire.

TO: Richard Sutton
FROM: Terry Riordan
DATE: July 14, 1987
SUBJECT: Consulting--Park Turf

I would like to comment on two areas relating to the turf in the park that we observed on Friday, July 10. The first area would relate to the maintenance level of the park, and the second area would relate to conversion to lower maintenance grasses when possible.

A. Maintenance

In general the turf in most areas of the park is not thriving and is being out-competed from grassy and broadleaf weeds. Based on our discussion with Hans, I believe the turf is being maintained at too low of fertility level for it to be competitive in a natural site. Kentucky bluegrass is a grass that requires a medium to high level of maintenance; however, it can perform quite well in low maintenance situations. Low maintenance is different than no maintenance; therefore, I feel it is necessary that some care and fertilization be carried out on the park area.

I will try to relate the minimal maintenance that will be necessary to upgrade the quality of the turf in this park situation.

The first item I will discuss will be fertilization. It is necessary that one application of a nitrogen-based fertilizer be applied each year, preferably in the very late fall. I would recommend that an agricultural grade fertilizer be applied between October 15 and November 10 at a rate of 1 to 1 1/2 lbs. nitrogen per thousand square feet. This would give the most efficient use of the nitrogen, and would aid in the turf competing against weeds the following year. The cost would be reduced by using the agricultural grade fertilizer, and performance of this type fertilizer would not be quite as significant when used in the fall. Ideally, no other fertilizer will be applied during the spring or summer. The next area that needs to be covered would be weed control on the entire property. Presently one of the biggest problems, but easiest to control, would be the broadleaf weed situation. The best time to control these weeds would be from a late September, early October treatment with a Trimec-type herbicide product. These weeds are most easily killed at this time, and with fertilization being done slightly later, the weeds would be dying while the turf was actively growing in the fall. This Trimec treatment can be made at other times during the year, but

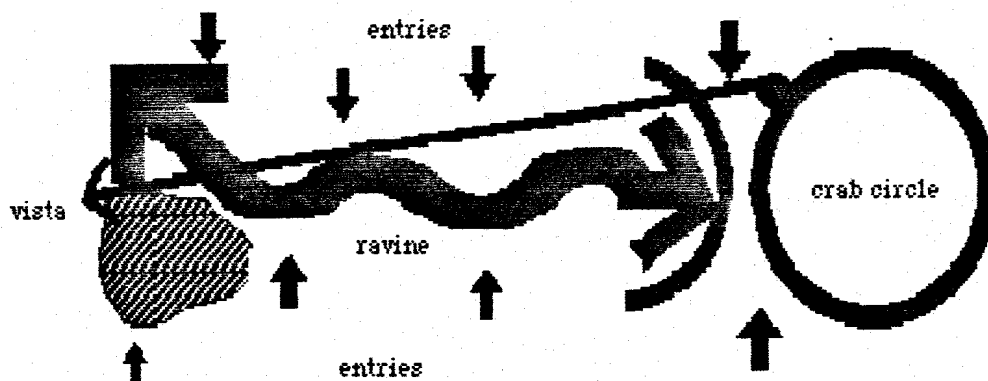
would be most effective during the fall. At this time, I would not recommend any preemergence weed control in the spring. This would be the best way to keep out the annual grasses, but if the grass was growing better, a lot of these weeds would not germinate. If the park association would like to increase the quality of the park, the annual preemergence weed control treatment would be the next step.

B. Turf Renovation

In certain areas of the park, there is very little Kentucky bluegrass left, and areas have completely converted to annual grassy weeds or broadleaf weeds. Ideally it would be nice to renovate the entire park, spray it with Round-Up, and replant using other low maintenance grasses such as Tall Fescue. However, I do not feel this is necessary or would be in the best interest of the park situation. I do think that in areas that are being redesigned or renovated, there should be conversion to tall fescue, preferably using new turf-type tall fescues. If the turf has been removed because of fill or grading, a seedbed should be prepared and these tall fescues planted directly into the area at a seeding rate of approximately 4 lbs/1000. If an area is adjacent to one of these renovation areas and the park association would like to see a conversion to tall fescue, the following would be necessary.

The area should be sprayed with Round-Up, allowed to die for approximately 10 days, and then the area would be mowed very close with a rotary mower at a height of approximately 1 in. Tall fescue seed would then be planted at 4 lbs/1000 sq. ft. and the area would be gone over with a vertical mower that would incorporate the seed into the top surface of the soil. The best time to carry out this renovation process would probably be April 15, when natural rainfall would aid in establishment. We have had excellent results in such a conversion, and even if some weeds or bluegrass is missed with the Round-Up, the tall fescue is better able to compete with the weed situation under the lower maintenance. Also in areas where there is heavy contamination with grasses or weeds, conversion can be made using the same procedure.

Hope this information has been of assistance. Please let me know if there are any questions. I feel that without a major influx of money, the turf in this park situation can be improved and could be held at this level for a long period of time.



Conceptual Diagram for Woodsshire Park

Figure 4.

DESIGN CONCEPT

Because this is essentially a restoration and management plan, new additions to the park were not undertaken lightly. The greatest overall impact is accomplished by thoughtful removal and addition of sympathetic elements which restore the park's integrity but also capture new possibilities. For example, providing for a graceful transition and connection between the Crabapple Circle and the Ravine calls for regrading the slope, more clearly defining the space as a progression, and accomodating both the excess subsurface and surface water. The process of resolving those problems takes place within the context of the overall goals and objectives expressed by the Park Committee. Therefore objectives such as providing focal points, a neighborhood gathering place and ameliorating poor drainage are best accomplished by a coherent design concept and plan.

It is recommended that 1) the Crabapple Circle be regraded on the north to provide a more level play surface 2) a defined transition into the ravine occur as steps 3) drainage problems be accomplished with a combination of regrading and sub-surface drainage 4) this grading and drainage be utilized as a level gathering place with the drainage routed into a wishing well/cistern then to a gravity fed fountain 5) entry signs should be located as indicated on the plan at the High Street entry and the Witham Lane entry and 5) additional tree and shrub masses be added to or created for enclosure and entry definition. (figure 5)

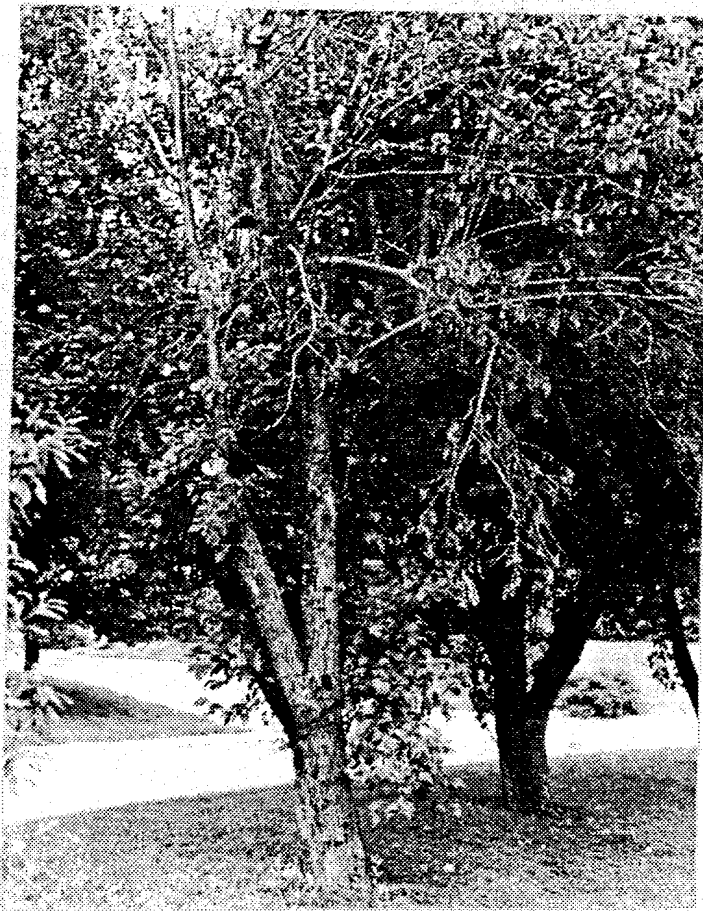


FIGURE 6 Declining Hopa crabs at south end of Crabapple circle.



FIGURE 7. Base of volunteer mulberry with rot.

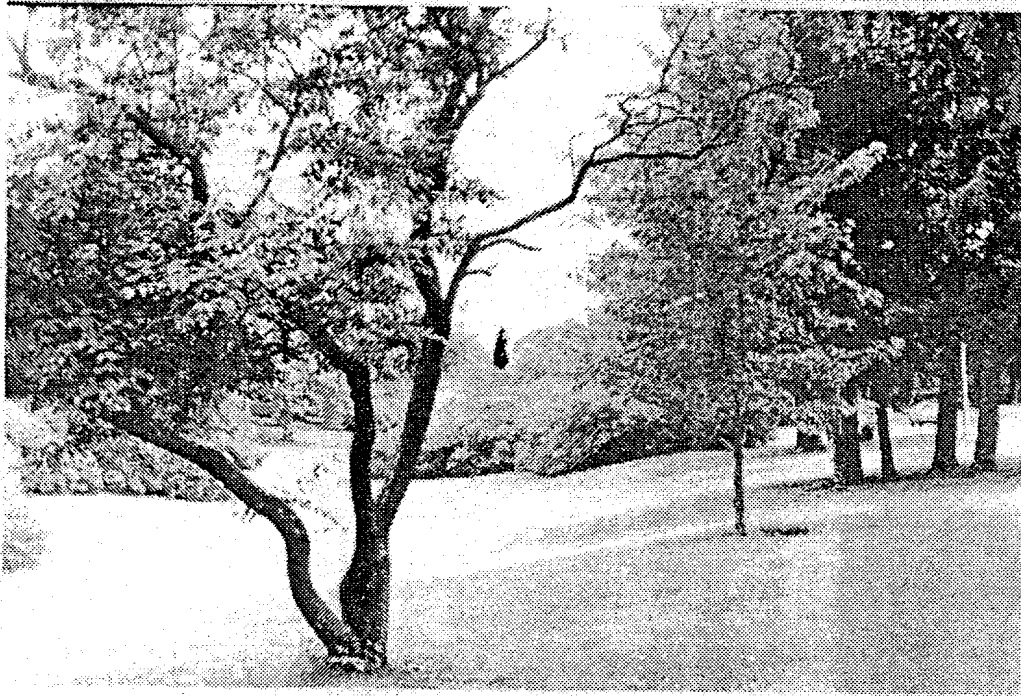


FIGURE 8. Capitol vista enframed by declining Japanese tree lilac and encroached upon by silver maple.

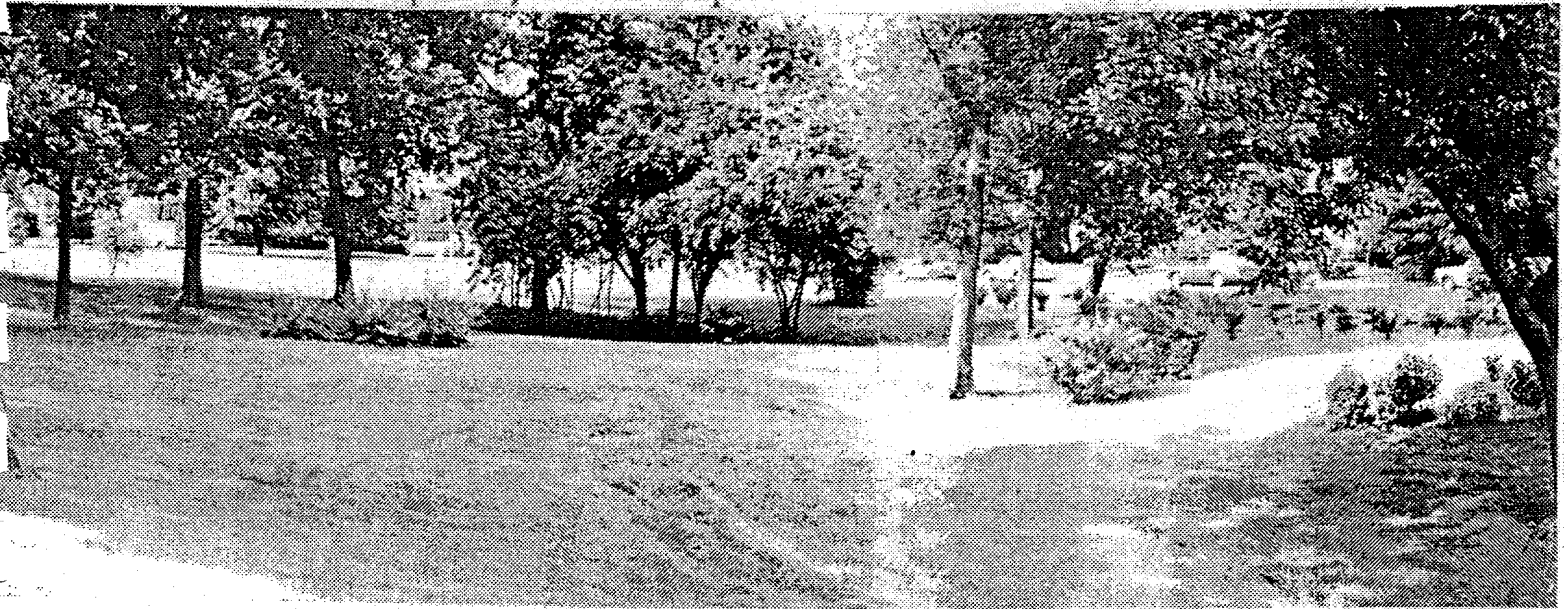
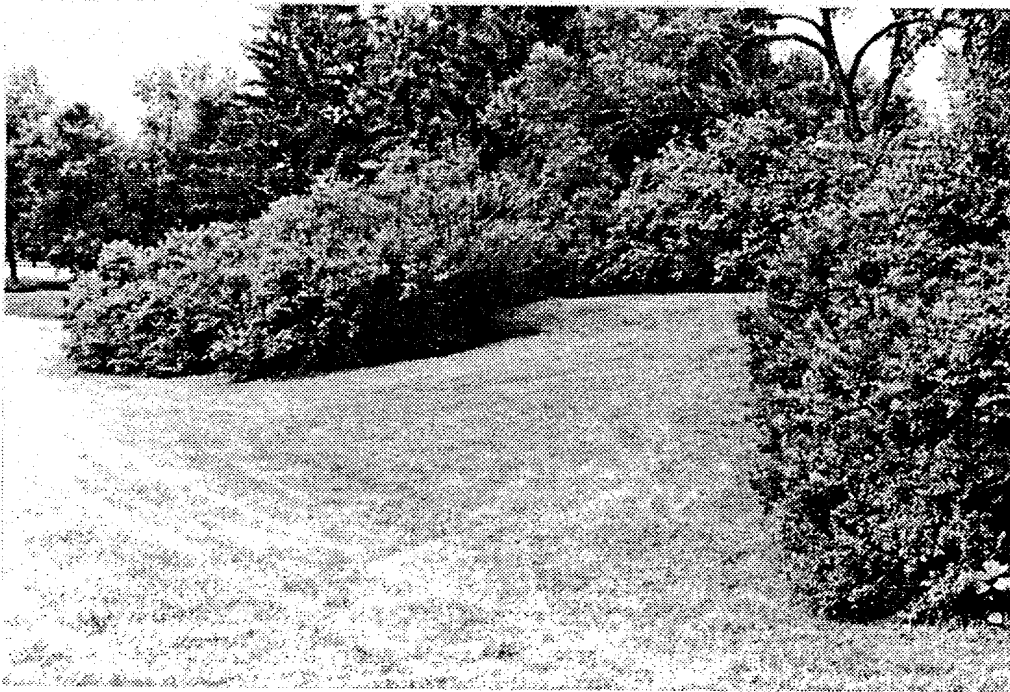
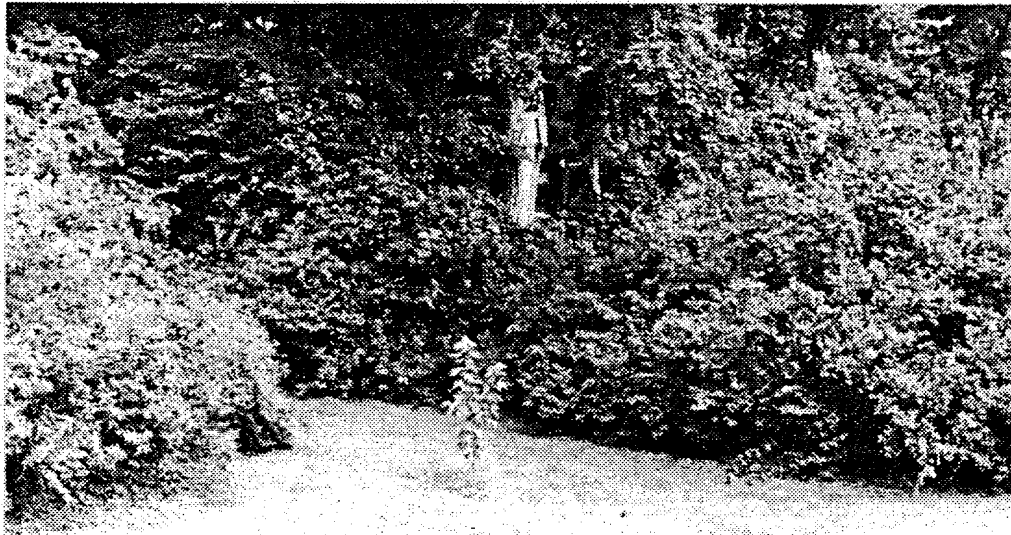


FIGURE 9. Panorama viewing south into the transitional area at head of Ravine.



FIGURES 10 & 11. View of niches within shrub masses for potential as secondary focal points of color and texture.



FIGURE 12. View south up Ravine.

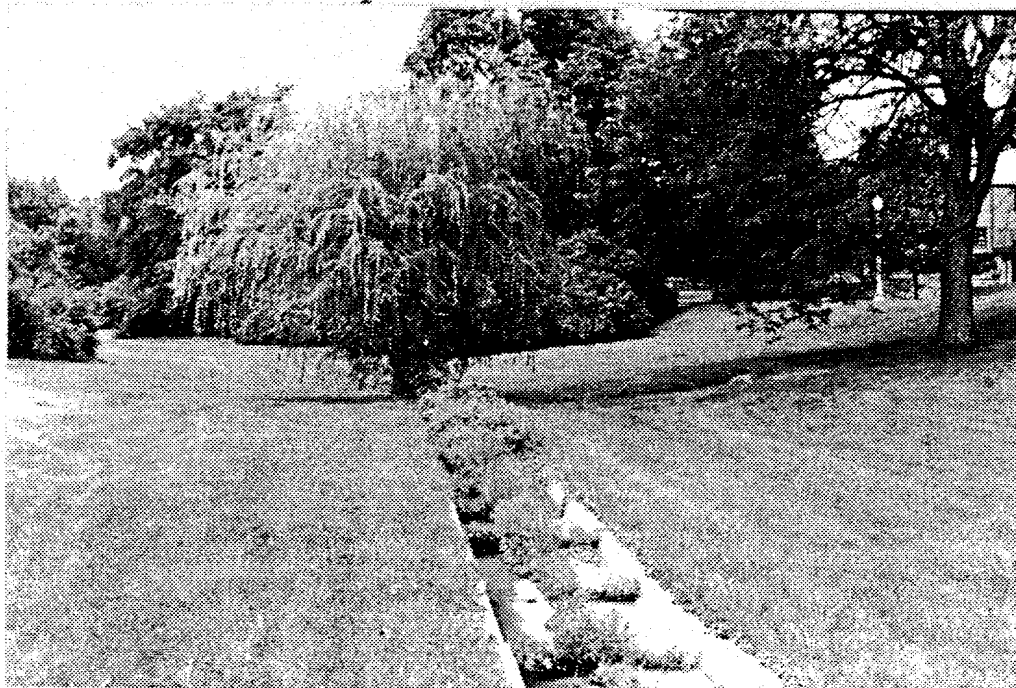


FIGURE 13. Concrete drainage swale.



FIGURE 14. Potential entry sign location along Kings Highway.

Priority Listings for Landscape Projects

Priority 1 1-2 Years

Priority 2 2-5 Years

Priority 3 5-10 years

Priority 4 10+ years (will probably require fund raising)

Priority 1

Replace crabs * 1,2,3, at south end of park, crab 93 at north end

Remove Mulberry * 30

Remove Soft maples * 61, 76, 86, 88

Renovate shrub masses i and j

Remove Weeping willow * 93

Plant Redbuds in shrub mass i

Plant Redbuds in Shrubmass j

Plant white pine east of Shrubmass i

Begin turf maintenance program

Drainage tile

Priority 2

Remove trees *28, 47, * 66 (DEAD),82,84

Renovate Shrub masses g, k, and l (including replanting)

General large tree crown thinning (1/3 Of trees for 3 , years)

Trees *44,46,57,58,60,81,85,87,90,92,

Mulch shrub masses c and d (use chips from thinning project)

Evaluate success of turf program and decide if and where to renovate and
replant turf to turf-type tall fescues

Remove all hackberries in preparation for grading at Crab Circle

Seep interceptor project(note this could be tied in temporarily with
drain tile)

Move Bradford pear

Priority 3

Remove trees *113,107, 106, 102

Replant with 12-15 of white pine

Move white pine *112

Renovate and replant Shrub masses f, h, e

Crab Circle grading, steps,

Finish crab circle

18
Recheck shrubmasses i and j
Sub-surface storm sewer project fund raising and engineering

Priority 4

Remove trees * 117, 108, 104 Plant rest of white pine

Remove Jap tree lilacs *91,82,59

Plant Zelkovas

Remove Siberian elms * 75, 68

Wishing well and fountain

Gathering place grading, gravelling and planting

Entry Signage

Recheck all shrub plantings

APPENDIX I

Plant Schedule (PROPOSED & EXISTING)

Quantity	Botanical Name	Common Name	Size
Shrubs			
40	<i>Amelanchier stolonifera</i>	Running Serviceberry	1 gal
18	<i>Aronia arbutifolia</i>	Red Chokeberry	5 gal
40	<i>Cornus sericea</i> 'Isanti'	Isanti Dogwood	1 gal
70	<i>Cornus pumila</i>	Dwarf Dogwood	1 gal
	<i>Euonymus alata compacta</i>	Compact Burning Bush	Existing
125	<i>Euonymus hamiltoniana yedo.</i>	Yedo Euonymus	5 gal
	<i>Juniperus chinensis pfitzer.</i>	Pfitzer Juniper	Existing
10	<i>Juniperus communis</i>	Common Juniper	12-18"
52	<i>Ligustrum amurense</i>	Amur Privet	5 gal
40	<i>Pyracantha coccinea lalandii</i>	Laland Firethorn	2 gal
41	<i>Rhus aromatica trilobata</i>	Aromatic 3-Leaf Sumac	1 gal
188	<i>Spiraea X Van Houtte</i>	Van Houtte Spirea	2 gal
28	<i>Syringa villosa</i>	Late Lilac	1 gal
26	<i>Syringa velutina</i> 'Miss Kim'	Miss Kim Lilac	12-18"
21	<i>Viburnum carlesii compacta</i>	Comp. Korean Spicebush	5 gal
65	<i>Taxus cuspidata densiformis</i>	Spreading Japanese Yew	12"-18"
52	<i>Viburnum lentago</i>	Nannyberry	1 gal
104	<i>Viburnum plicatum tomentosum</i>	Doublefile Viburnum	2 gal
44	<i>Viburnum trilobum</i> 'Alfredo'	Alfredo Viburnum	1 gal

Trees

2	<i>Acer saccharum</i> 'Green Mtn.'	Green Mtn. Sugar Maple	1-1/2" cal
1	<i>Acer saccharum</i> 'Bonfire'	Bonfire Sugar Maple	1-1/2" cal
9	<i>Amelanchier canadensis</i>	Shadblow	4-5'
	<i>Celtis occidentalis</i>	Hackberry	Existing
13	<i>Cercis canadensis</i>	Redbud	4-5'
6	<i>Crataegus X 'Toba'</i>	Toba Hawthorn	4-5'
5	<i>Crataegus crusgalli inermis</i>	Thornless Cockspur Haw.	4-5'
	<i>Fraxinus pennsylvanica lanceo.</i>	Green Ash	Existing
	<i>Gleditsia triacanthos inermis</i>	Thornless Honey Locust	Existing
1	<i>Ginkgo biloba</i>	Ginkgo	1-1/2" cal
6	<i>Juniperus scop.</i> 'Herminghaus'	Herminghaus Col. Juniper	4-5'
10	<i>Malus X 'Spring Snow'</i>	Spring Snow Crab	4-5'
19	<i>Ostrya virginiana</i>	Eastern Hophornbeam	1-1/2" cal
10	<i>Picea abies</i>	Norway Spruce	4-5'
	<i>Picea pungens</i>	Blue Spruce	Existing
36	<i>Pinus strobus</i>	White Pine	4-5'
	<i>Pyrus calleryana</i> 'Bradford'	Bradford Pear	Existing

Quantity	Botanical Name	Common Name	Size
1	<i>Quercus borealis maxima</i>	Red oak	1-1/2" cal
2	<i>Quercus macrocarpa</i>	Bur Oak	1-1/2" cal
	<i>Quercus palustris</i>	Pin Oak	Existing
	<i>Syringa reticulata</i>	Japanese Tree Lilac	Existing
2	<i>Tilia americana</i>	American Linden	1-1/2" cal
	<i>Ulmus americana</i>	American Elm	Existing
2	<i>Zelkova serrata</i>	Japanese Zelkova	1-1/2" cal

75 Dwarf Yellow Daylily, 90 ea Tete-A-Tete, Hawera, and Philomath Dafodils
 250 Siberian Squill

APPENDIX II

<u>* LOCATION BOTANICAL NAME HEIGHT/DIAM REMARKS</u>				
1	1+87, 0+09	<i>MALUS</i> HOPA	20'; 12"	REMOVE
2	2+02, 0+09	<i>MALUS</i> HOPA	25'; 12"	REMOVE
3	2+18, 0+13	<i>MALUS</i> HOPA	23'; 14"	REMOVE
4	2+27, 0+17	<i>MALUS</i> SPRING SNOW	7';	RUST, SUCKERS
5	2+37, 0+24	<i>MALUS</i> SPRING SNOW	6';	RUST, SUCKERS
6	2+50, 0+32	<i>MALUS</i> X HOPA	25'; 12"	WATER SPROUTS
7	2+59, 0+43	<i>MALUS</i> SPRING SNOW	15'; 5"	SUCKERS, THIN
8	1+70, 0+14	<i>MALUS</i> SPRING SNOW	7'	
9	1+57, 0+17	<i>MALUS</i> SPRING SNOW	15'; 4"	THIN
10	1+47, 0+27	<i>MALUS</i> SPRING SNOW	10'; 3"	THIN, SUCKERS
11	1+36, 0+49	<i>MALUS</i> SPRING SNOW	12'; 3"	THIN
12	1+27, 0+50	<i>MALUS</i> SPRING SNOW	7';	
13	2+67, 0+54	<i>MALUS</i> SPRING SNOW	15'; 5"	THIN, SUCKERS
14	2+73, 0+69	<i>MALUS</i> SPRING SNOW	15'; 5"	THIN SUCKERS
15	1+23, 0+65	<i>MALUS</i> SPRING SNOW	7';	
16	1+20, 0+84	<i>MALUS</i> SPRING SNOW	12'	THIN
17	2+73, 0+87	<i>MALUS</i> SPRING SNOW	12'; 3"	THIN
18	2+73, 0+98	<i>MALUS</i> SPRING SNOW	10'; 2"	BARK INJURY
19	2+72, 1+09	<i>MALUS</i> SPRING SNOW	6'	
20	1+20, 1+03	<i>MALUS</i> SPRING SNOW	12'	THIN
21	1+25, 1+22	<i>MALUS</i> SPRING SNOW	12'	THIN
22	2+67, 1+17	<i>MALUS</i> SPRING SNOW	6'	NEW IN 1987
23	2+62, 1+26	<i>MALUS</i> SPRING SNOW	6'	NEW IN 1987
24	1+35, 1+35	<i>MALUS</i> SPRING SNOW	9'	THIN
25	2+56, 1+37	<i>MALUS</i> SPRING SNOW	6'	NEW IN 1987
26	2+49, 1+42	<i>MALUS</i> SPRING SNOW	8'	

* LOCATION		BOTANICAL NAME	HEIGHT/DIAM	REMARKS
27	2+38,1+52	<i>MALUS</i> SPRING SNOW	6'	
28	1+74,1+57	<i>MALUS</i> X HOPA	30', 14"	REMOVE
29	2+27,1+59	<i>MALUS</i>	6'	REMOVE; SUCKER HAS TAKEN OVER
30	2+56,1+63	<i>MORUS ALBA</i>	20', 7"	REMOVE; BOLE ROT
31	1+78,1+68	<i>CELTIS OCCIDENTALIS</i>	30', 6"	REMOVE; WEAK CROTCH
32	1+90,1+69	<i>CELTIS OCCIDENTALIS</i>	40', 15"	THIN, FUTURE RE- MOVAL
33	2+12,1+78	<i>CELTIS OCCIDENTALIS</i>	45', 18"	REMOVE; WEAK CROTCH
34	2+32,1+74	<i>CELTIS OCCIDENTALIS</i>	35', 8"	
35	1+79,1+75	<i>RHAMNUS CATHARTICA</i>	15', 5"	ROT; REMOVE
36	1+37,1+98	<i>SYRINGA RECTICULATA</i>	33', 14"	SOME DIEBACK
37	1+75,1+95	<i>RHAMNUS CATHARTICA</i>	20', 7"	3 STEMS REMOVE
38	2+22,1+84	<i>CELTIS OCCIDENTALIS</i>	40', 14"	FUTURE REMOVAL
39	1+37,2+19	<i>MALUS</i>	8'	SUCKERS
40	1+59,2+17	<i>CELTIS OCCIDENTALIS</i>	45', 14"	THIN; FUTURE REMOVAL
41	2+30,2+09	<i>CELTIS OCCIDENTALIS</i>	35', 6"	THIN; FUTURE REMOVAL
42	1+38,2+14	<i>MALUS</i>	8'	
43	1+80,2+31	<i>CELTIS OCCIDENTALIS</i>	35', 18"	STUMP ROT; REMOVE
44	2+62,2+19	<i>GLEDITSIA TRIACANTHOS</i>	50', 35"	THIN CROWN, CENTER STRESS CRACK TO GROUND
45	1+40,2+46	<i>MALUS</i> SPRING SNOW	8'	THIN CROWN
46	2+86,2+70	<i>ULMUS AMERICANA</i>	45', 29"	THIN CROWN
47	1+79,2+82	<i>MORUS ALBA</i>	35', 24"	SPLIT CROTCH; REMOVE
48	1+51,2+67	<i>PYRUS CALLERYANA</i>	10'	THIN CROWN, RELOCATE
49	1+42,2+77	<i>PYRUS CALLERYANA</i>	10'	THIN CROWN, RELOCATE
50	1+36,3+07	<i>PICEA ABIES</i>	30', 12"	
51	1+45,3+07	<i>PICEA ABIES</i>	35', 20"	

* LOCATION	BOTANICAL NAME	HEIGHT/DIAM	REMARKS
52 1+34.3+17	<i>PICEA ABIES</i>	35', 20"	
53 1+58.3+16	<i>PICEA ABIES</i>	35', 20"	
54 1+55.3+20	<i>PICEA ABIES</i>	25', 8"	
55 1+40.3+25	<i>PICEA ABIES</i>	30', 12"	
56 2+65.2+35	<i>PICEA PUNGENS</i>	3'	RELOCATE
57 2+49.3+01	<i>QUERCUS BOREALIS</i>	30', 5"	THIN
58 2+70.2+50	<i>LILIA CORDATA</i>	15', 4"	THIN CROWN, MOWER INJURY
59 2+43.3+56	<i>SYRINGA RETICULATA</i>	20', 3"	3 STEM, DECLINING REMOVE
60 2+67.3+62	<i>QUERCUS BOREALIS</i>	60', 40"	THIN WEST SIDE FOR VISTA
61 2+50.3+90	<i>ACER SACCHARINUM</i>	20', 4"	REMOVE
62 1+24.3+85	<i>PICEA ABIES</i>	30', 18"	
63 1+35.3+88	<i>PICEA ABIES</i>	30', 12"	
64 1+33.3+92	<i>PICEA ABIES</i>	30', 18"	
65 1+37.3+95	<i>PICEA ABIES</i>	30', 18"	
66 1+26.3+96	<i>PICEA ABIES</i>	20', 6"	REMOVE
67 1+23.3+98	<i>PICEA ABIES</i>	30', 16"	
68 1+22.4+30	<i>ULMUS PUMILA</i>	40', 29"	REMOVE
69 2+57.4+22	<i>PICEA ABIES</i>	25', 10"	
70 2+68.4+19	<i>PICEA ABIES</i>	30', 14"	
71 2+61.4+29	<i>PICEA ABIES</i>	27', 10"	
72 2+70.4+29	<i>PICEA ABIES</i>	33', 18"	
73 2+61.4+36	<i>PICEA ABIES</i>	30', 18"	
74 2+69.4+37	<i>PICEA ABIES</i>	32', 18"	
75 1+18.4+90	<i>ULMUS PUMILA</i>	45', 36"	REMOVE
76 2+67.4+61	<i>ACER SACCHARINUM</i>	25', 4"	REMOVE
77 2+52.4+92	<i>PICEA ABIES</i>	40', 22"	

* LOCATION	BOTANICAL NAME	HEIGHT/DIAM	REMARKS
78 2+66,5+06	<i>PICEA ABIES</i>	25', 8"	
79 2+62,5+11	<i>PICEA ABIES</i>	30', 16"	
80 2+70,5+15	<i>PICEA ABIES</i>	37', 22"	
81 1+60,5+50	<i>GLEDITSIA TRIACANTHOS</i>	40', 22"	THIN
82 1+21,5+93	<i>SYRINGA RETICULATA</i>	20', 12"	DECLINE; REMOVE
83 2+77,5+94	<i>CATALPA SPECIOSA</i>	30', 12"	REMOVE
84 1+25,6+25	<i>CATALPA SPECIOSA</i>	20', 12"	REMOVE
85 2+73,6+31	<i>QUERCUS PALUSTRIS</i>	55', 40"	THIN
86 1+48,6+31	<i>ACER SACCHARINUM</i>	4'	REMOVE
87 1+20,6+50	<i>ULMUS AMERICANA</i>	40', 32"	THIN
88 2+75,6+75	<i>ACER SACCHARINUM</i>	20', 4"	REMOVE
89 2+70,7+04	<i>FRAXINUS LANCEOLATA</i>	15', 3"	
90 2+57,7+40	<i>QUERCUS BOREALIS</i>	45', 25"	THIN
91 2+77,7+44	<i>SYRINGA RETICULATA</i>	20', 8"	REMOVE
92 1+40,7+75	<i>GLEDITSIA TRIACANTHOS</i>	40', 32"	THIN
93 1+81,7+77	<i>SALIX BABYLONICA</i>	15', 10"	GROUNDED; REMOVE
94 2+44,7+67	<i>SYRINGA RETICULATA</i>	25', 18"	
95 2+65,7+82	<i>MALUS</i>	12', 3"	REMOVE
96 1+20,8+12	<i>TILIA X EUCHLORA</i>	30', 14"	
97 1+58,8+15	<i>CERCIS CANADENSIS</i>	18'	3-STEMS
98 2+57,8+17	<i>PINUS STROBUS</i>	4'	DO NOT SHEAR
99 2+54,8+29	<i>PINUS STROBUS</i>	4'	DO NOT SHEAR
100 2+62,8+34	<i>PINUS STROBUS</i>	4'	DO NOT SHEAR
101 2+54,8+55	<i>PINUS STROBUS</i>	4'	DO NOT SHEAR
102 1+14,8+48	<i>MALUS HOPA</i>	25', 12"	REMOVE
103 1+29,8+86	<i>PINUS STROBUS</i>	40', 14"	

* LOCATION	BOTANICAL NAME	HEIGHT/DIAM	REMARKS
104 1+28,8+85	<i>ACER SACCHARINUM</i>	35', 16"	FUTURE REMOVAL
105 0+91,9+15	<i>GLEDITSIA TRIACANTHOS</i>	40', 18"	REMOVE
106 1+46,9+24	<i>MALUS HOPA</i>	25', 8"	REMOVE
107 127,9+39	<i>MALUS HOPA</i>	30', 12"	REMOVE
108 0+95,9+62	<i>GLEDITSIA TRIACANTHOS</i>	35', 10"	FUTURE REMOVAL
109 0+50,9+82	<i>SYRINGA RETICULATA</i>	25', 10"	2-STEM
110 1+20,9+75	<i>PINUS STROBUS</i>	43', 16"	
111 0+25,10+22	<i>QUERCUS BOREALIS</i>	35', 10"	
112 0+46,10+30	<i>PINUS STROBUS</i>	12'	RELOCATE
113 0+97,10+12	<i>MALUS HOPA</i>	20', 8'	REMOVE
114 0+80,10+45	<i>QUERCUS PALUSTRIS</i>	38', 14"	
115 0+52,10+45	<i>QUERCUS PALUSTRIS</i>	40', 14"	
116 0+60,9+57	<i>SYRINGA RETICULATA</i>	25', 10"	
117 0+80,9+92	<i>ACER SACHARRINUM</i>	35', 28"	REMOVE

SHRUB MASS	MANAGEMENT	REMARKS
a <i>Rhamnus cathartica</i>	Remove; grub roots	12 stems
b <i>Prunus virginiana</i>	Remove; grub roots	12-stems
c <i>Euonymus alata</i>	Mulch	New planting
d <i>Juniperus ch. Pfitzer</i>	Mulch	New Planting
e <i>Spiraea</i> I Van Houtte	Prune, mulch	
f Mix	Prune, remove honeysuckle, replace privet and lilac as indicated	
g Mix	Prune, remove honeysuckle, buckthorn, mulberry replace spirea	
h Mix	Remove all plantings and replace as indicated on Plan	
i Mix	Prune, remove honeysuckle, buckthorn, mulberry replace spirea	
j Mix	Prune, remove honeysuckle, buckthorn, mulberry replace spirea and plantings as indicated on Plan	
k <i>Syringa vulgaris</i>	Prune, mulch replace lilacs as needed.	
l <i>Lonicera tatarica</i>	Remove all honeysuckle; grub roots Replant with <i>Pyracantha</i> . Provide path between Jap. Tree lilac.	
m <i>Spiraea</i>	Prune and mulch	
n <i>Spiraea</i>	Prune and mulch	

O Spiraea

Prune and mulch

APPENDIX III

DISCLAIMER

Some of the fungicides, and insecticides noted in the following information sheets may no longer be used. Currently pesticide usage is undergoing review and relabeling procedures. Please check with your local garden center or county extension agent before using a specific pesticide. ALWAYS READ THE LABEL. FOLLOW DIRECTIONS AND USE ONLY ON APPROVED PLANT MATERIALS.

PLANT MAINTENANCE NOTES

Running Serviceberry *Amelanchier stolonifera*

Bloom date: May
color: White

Leaf color: Green changing to red orange in fall

Diseases and Insect :Witches broom, leaf blight, fireblight, powdery mildew,
Leaf miners, stem borers, pear-leaf blister mite, pear slug sawfly, willow
scuffy scale

Culture: occasional pruning of dead stems

Red Chokeberry *Aronia arbutifolia*

Bloom date: May
color: White to Pink

Leaf: Lustrous, deep, green fall bright red

Fruit: September -November, bright red

Diseases and insects (none serious)Twig and fruit blight, Apple borer, Leaf
spots

Culture: occasional thinning (every 3rd) year of old stems

Dwarf Dogwood *Cornus pumila*

Bloom date: June, white

Leaf color: mottled purple green, gray-red in fall

Fruit: not showy

Disease and insects: None serious

Culture: low and slow -growing occasional thinning and heading back

Compact Burning Bush - *Euonymus alata compacta*

Flower: Ornamentally unimportant

Leaf Color: Dark green, turning to a brilliant red in the fall

Fruit: Red capsule, not showy.

Diseases and Insects: None serious, does not contract scale. However, young plants may need to be protected from rabbits in winter.

Culture: Needs sun to maintain brilliant color. Should not need to be pruned.

Yedo Eounymous *Euonymus hamiltoniana* "Yedoensis"

Flower inconspicuous

Fruit: Pinkish-purple capsule September

Leaf : Dark green turning bright red to yellow to orange in the fall

Diseases and insects: few serious

Culture: cyclic thinning and removal of largest, oldest canes remove 1/5 every 5 years or 1/6 every 6 years.

Compact Pfitzer - Juniperus chinensis 'Pfitzeriana Compacta'

Flowers: yellow when mature; inconspicuous

Fruit: cone, blue turning to dark brown

Leaf Color: blue-green to grayish green

Insect Pests: Bagworm - pick off the bags by hand and burn them; or
spray for caterpillars in late spring with
"Di-pel"

Juniper Midge - spray with malathion in mid- to late April

Scales - spray with lime-sulfur solution; or with wettable
malathion powder in May

Red Spider Mite - spray with lime-sulfur solution or a
miticide such as Aramite, Dimite, or
Kelthane

Fungus Diseases: Twig-Blight - control with Bordeaux mixture or a copper
fungicide

(Cedar-Apple) Rust - control with wettable sulfur,
ferbam, or cycloheximide when the
galls have formed

Cultural Practices: Very hardy plants--can withstand heavy pruning;
prefer open, sunny location

Common Juniper *Juniperus communis*

Flowers: inconspicuous

Fruit Bluish berries in the fall

Foliage: evergreen needlelike

Diseases: Juniper blight

Culture: slow-growing takes shade and likes mulching

Amur Privet *Ligustrum amurense*

Flowers: June, white, fragrant

Leaf: green with yelwish fall color

Fruit: black, September

Diseases and insects; anthracnose, powdery mildew, several insects (none serious)

Culture: Six year large cane thinning and removal similar to *Euonymus*.

Laland firethorn *Pyracantha coccinea lalandii*

Flower: white; June

Leaf: Dark green to plum in fall/winter often retains leaves

Fruit: dark orange-red

Diseases and insects: Fireblight, scab on fruit, aphids lacebug and scale

Culture: can be headed back occasionally to make more dense, thorny barrier

Lilac - Syringa

Bloom Date: early May
Color: Violet-purple

Fruit: capsule

Leaf Color: New leaves rimmed with a purplish margin. No fall color.

Insect Pests: Lilac borer - Spray with _____ or malathion after
flowering. Seal entry holes with putty.

Lilac leaf miner - Remove and destroy infected leaves,
use malathion when eggs are hatching.

Scales - Apply a dormant oil spray in early spring; then
spray with malathion later.

Diseases: Bacterial blight - spray with Bordeaux mixture or
streptomycin

Leaf blights - spray in a copper fungicide

Witches' broom - spray with dormant strength lime-sulfur in
very early spring

Leaf Spots - pick off and destroy diseased leaves, spray with
fungicide

Culture: Flower buds may freeze due to early budding.

Common Lilac - Syringa vulgaris

Flowers: Purple, from early to mid May

Fruit: brown capsule

Leaf Color: gray-green to dark blue-green in summer, no fall color

Insect Pests: Lilac Borer - seal entry holes with putty or gum

Caterpillars - spray with lead arsenate or malathion

Lilac leaf-miner - spray with lindane or malathion

Scales - control with dormant oil sprays

Bacterial and Fungus Diseases: See Bulletin 614; EC81-1868, EC81-1870

Bacterial Blight - prune diseased shoots, spray with Bordeaux mixture

Phytophthora Blight - control same as above

Leaf-Blights and leaf-spots - spray with Bordeaux mixture starting in mid June, repeat a few times at weekly intervals

Powdery Mildew - spray with wettable sulfur or Karathane

Wilt - destroy infected plants

Virus Diseases: Witches' Broom - destroy infected plants

Cultural Practices: mulch with peat or leaf mold; prune old flowers after they have faded; for overgrown plants cut the largest canes (over $\frac{1}{2}$ " diameter) to the ground for complete rejuvenation; thin new sucker growth

Densiformis Yew—Taxus x densiformis
(A dense shrub-form; twice as wide as tall)

Flower: Inconspicuous

Fruit: Fleshy, red aril.

Leaf Color: Lustrous dark green, lighter green beneath

Insect Pests: Taxus and grape mealybug – spray with pyrethrum or rotenone

Scales – spray with lime-sulfur solution

Nematodes –

Strawberry weevil – pyrethrum spray

Diseases: Needle and twig blights – spray with Bordeaux mixture or a copper fungicide

Fungus (especially root rot) – see bulletin 614

Powdery Mildew – spray with Karathane

Twig browning – protect from sweeping winds

Culture: Prepared well--drain soil at most.
Keep moist, water well before winter.
Protect from strong winter winds.
Will need to be sheared or pruned to hold its size down.

Compact Korean Spicebush Vib. – Viburnum carlesii compacta

Bloom Date: late April, early May
Color: Pink bud, opening white

Leaf: Very pubescent upper surface, dull dark green; reddish in fall, but not showy

Fruit and Culture same as Maresii Doublefile Vib.

Disease: Bacterial leaf spot – pick off and destroy infected leaves, spray with copper fungicide

Red bud - Cercis canadensis

Bloom Date: April-May
Color: white

Fruit: True pod, 2-3" in October

Leaf: Heart-shaped, dark green turning hellow-green in fall.

Insects: Scales and caterpillars - spray with malathion for crawling stage

Tree hoppers - spray with pyrethrum or rotenone

Diseases: Canker - prune and destroy infected stems

Leaf-spots - repeated applications of mane**b** or captan

Verticillium wilt - destroy infected areas

Culture: Water, mulch and fertilize regularly, remove small dead branches as needed.

Hawthorn - Crataegus

Bloom date: May-June, white

Fruit: Sept.-Oct., bright glossy red

Leaf color: dark green in summer, orange to purple in fall

Insect Pests: Aphids - spray with malathion

· Borers - spray or paint the trunk with malathion at periodic intervals

Hawthorn leaf-skeletonizer - spray with malathion in spring

Tent caterpillar - spray with malathion in spring

Leaf-Miner - spray with malathion, lindane, in early May and repeat twice at two week intervals

Lace bugs - spray with malathion or lindane

Scales - spray with lime-sulfur or dormant oil in early spring, spray with malathion May-June

Two-Spotted Mite - spray with lime-sulfur in early spring, or with Aramite, Dimite, Kelthane in early June

Bacterial and Fungus Diseases: (See Bulletin 614)

Fire Blight - prune out infected branches, spray with Agri-strep (antibiotic) or zineb

Leaf-Blight - collect and burn fallen leaves, spray with lime-sulfur when dormant, when the leaves unfurl spray with zineb and repeat in two weeks

Rusts - spray with ferdam 4-5 times at one week intervals when orange masses appear on junipers (alternate host)

Leaf-Spots - spray with lime-sulfur or organic mercury solution

Powdery Mildews - spray with wettable sulfur or karathane (Mildex)

Cultural Practices: Remove dead branches as needed. Prune canopy to 7' from ground, protect from winter rabbit damage.

Green ash *Fraxinus pennsylvanica lanceolata*

Flower: inconspicuous

Leaf: dark green; fall yellow

Fruit: winged samara

Diseases and insects: cankers, borers are major problem and should be constantly looked for

Culture: thin crown on older trees watch for borer damage

Honey Locust *Gleditsia triacanthos inermis*

Flowers: Small greenish yellow fragrant ; June

Leaf: green turning to yellow in fall

Fruit: Long narrow pea-like pods

Diseases and insects: Leaf spot, canker, rust, powdery mildew; borers, mimosa webworm

Culture: avoid stem injuries as they lead to canker, thin older tree crowns

Ginkgo *Ginkgo biloba*

Flowers: small inconspicuous

Leaf: Fan shaped green; fall clear yellow

Fruit: Female fruit is fouling-smelling plant only male trees

Diseases and insects: None

Culture: Slow-growing long-lived, mulch roots

Hemiglossa Columnar Juniper - Juniperus scopulorum

s

Flowers: inconspicuous

Fruit: small blue berry turning to dark brown

Leaf Color: blue-green to grayish green

Insect Pests: Bagworm - pick off the bags and destroy them, or spray for caterpillars in late spring with lead arsenate

Juniper Midge - spray with malathion in mid to late April

Scales - spray with lime-sulfur solution, or with wettable malathion powder in May

Red Spider Mites - spray with Aramite, Dimite, or Kelthane (lime-sulfur sprays may also be used)

Diseases: Twig Blight - control with Bordeaux mixture

(Cedar-Apple) Rust - control with wettable sulfur, ferbam, or cycloheximide when the galls have formed

Cultural Practices: Very hardy plants--can withstand heavy pruning; prefer open, sunny locations

Crabapple - Malus sp.

Bloom Date: light pink to reddish in April-May

Fruit: red to yellow, mature in August

Leaf Color: dark green in summer, yellow in fall

Insect Pests: Aphids - spray with malathion ($2\frac{1}{2}$ -4 lbs/100 gal H₂O)

Scales - control with dormant oil spray, or with malathion in late spring

Periodical cicada - spray with Sevin

Leaf-hoppers - spray with pyrethrum or rotenone

Borers - spray trunk and main branches with dieldrin or malathion starting in later June

Diseases: (See NebGuide G76-292) & (EC81-1864) (~~G74-90~~) (~~G73-73~~)

Fireblight - prune out diseased branches, avoid excessive nitrogen fertilization; spray with zineb at mid-blossom time

Rust - control with settable sulfur or ferbam

Apple Scab - apply lime sulfur in late March, or Captan and Cyrex can be used in June

Canker - prune and destroy cankered stems

Cultural Practices: prefer well drained soil, full sun; protect from winter rabbit damage; prune by early June (see WSU Ext. Bulletin 0660)

NORWAY Spruce - Picea abies

Fruit: cones

Leaf: Stiff, needlelike medium green

Insect Pests: Red spider mites - (See Neb Guide G 73-69); spray with
Aramite or Dimite

Spruce gall aphid - spray with lindane or malathion

Budworm - spray with lead arsenate

Borers - spray with malathion, repeat

Culture: Should never need pruning.
Prefers sandy, acid soil.

BLUE Spruce - Picea pungens

Bloom: Staminate orange

Fruit: Short-stalked, oblong cones. Green when young turning yellow-brown.

Leaf: Prickly and green

Insect Pests: Spruce gall aphid - spray with lindane or malathion

Spruce budworm - spray with lead arsenate

Spider mite - spray with lime-sulfur solution

Diseases: Cytospora canker - remove infected area

Culture: (See NebGuide G 74-175)
Prefers rich moist soil in full sunlight.
Root prune to control size.
Prune leaders from creeping specimen.

White Pine *Pinus strobus*

Flowers: not conspicuous

Fruit: long, narrow cone

Leaf: long five-needled, thin

Diseases and insects: White pine blister rust, white pine weevil, leaf scorch

Culture: do not shear; mulch and water in dry periods

Bradford Pear *Pyrus calleryana*

Flower: May, white

Leaf: green, fall yellow-red-orange

Fruit: small (if any at all)

Diseases and insects: none serious

Culture: keep pruned to eliminate crowded weak crotches

Bur Oak *Quercus macrocarpa*

Flower: inconspicuous

Leaf: dark green lighter under

Fruit: large acorn with fringed cup

Diseases and insects: none serious

Culture: slow-growing

Red Oak - Quercus *maxima borealis*

Leaf Color: lustrous dark green in summer, bright red in fall

Flowers: May, inconspicuous

Fruit Date: Oct.-Nov.

Fungus Diseases: Anthracnose - control with application of Benomyl.

Cankers: Prune or cut out infected areas

Leaf-blister: use dormant application of Bordeaux mixture 4-4-50 or captan

Leaf-spots: destroy infected areas, or periodically apply a copper spray

Powdery mildew: control with Karathane or wettable sulfur sprays

Twig-blight: remove infected areas, spray with a copper fungicide

Wilt: destroy infected areas

Insect Pests: Galls: spray with dormant lime-sulfur solution, or dormant oil, or malathion

Scales: spray with dormant oil or lime-sulfur in early spring, malathion in late spring

Datana caterpillar: spray with arsenate of lead or malathion

Pin oak sawfly: control--same as above

Saddleback caterpillar: control--same as above

Skeletonizer: control--same as above

Leaf miners: clean cultivation required, spray with lindane or malathion in spring

Lace bug: spray with malathion or lindane

Oak mite: spray with dormant insecticide in early spring

Cultural Practices: Prune in July or later; or in winter

Pin Oak *Quercus palustris*

Flower: inconspicuous

Leaf glossy green, fall scarlet red

Fruit: acorn

Diseases and insects: None serious

Culture: the most serious problem is chlorosis or lack of iron in high pH soils if leaves yellow in summer treat with a soil injected solution of iron chelate

Japanese Tree Lilac *Syringa reticulata japonica*

Flower: Large clusters of fragrant small white flowers; June

Leaf: Dark green no fall color

Fruit: brown capsule not showy

Diseases and insects: Bacterial blight, *Phytophthora* blight, leaf blight, leaf spots, powdery mildew; lilac borer, twig scale

Culture: all lilacs require ongoing visual inspection and treatment from the above diseases

American Linden *Tilia americana*

Flower: white, fragrant, June

Leaf: Dark green, yellow in fall

Fruit: small round seed attached to a wing

Diseases and insects: leaf canker, leaf spots powdery mildew; borers, leaf miners, scale and mites

Culture: slow growing mulch rots and water in dry periods, thin crown on older trees

American Elm *Ulmus americana*

Flowers: inconspicuous

Leaf: dark green, fall yellow

Fruit: Small winged seed

Diseases and insects: Dutch elm disease, phloem necrosis, bacterial wilt, powdery mildew; bark and leaf beetles, canker worms, mites and scale to name a few

Culture: Isolated elms have survived the deadly Dutch elm disease (DED), keep dead wood removed annually to lessen habitat for bark beetle the DED vector

Japanese Zelkova *Zelkova serrata*

Flowers: inconspicuous

Leaf: dark green ; dusty orange purple in fall

Fruit: Small drupe inconspicuous

Diseases and insects: Leaf miners, bark beetles

Culture : slow growing fall prune only

Eastern Hophornbeam *Ostrya virginiana*

Flowers: inconspicuous

Leaf: thin, light green, clear yellow in fall

Fruit: Papery custer

Disease and Insects: None serious

Culture: Slow-growing, long-lived Prune side branches to 7' as tree grows keep a single leader

Daffodil - Narcissus pseudo-narcissus

Bloom Date: mid-April
Color: yellow to white

Fruit: capsule

Leaf Color: medium green, dies back to the ground in June

Insect Pests: Root Aphid - dust with lindane or spray with malathion

Bulb Mite - treatment with hot water

Bulb Fly - dip bulbs in a heptachlor solution for ten minutes

Millipedes - use poison bait

Bulb Nema - treatment with hot water

Diseases: Blue Mold Rot - dip bulbs in a mercury compound (such as Semesan, or Mersolite 8)

Crown Rot - treat bulbs in hot water--Formalin solution

Dry Scale Rot - treat bulbs in hot water--Formalin solution

Fire Blight - spray with ferbam or zineb in spring

Leaf Spot - remove diseased foliage, spray with Bordeaux mixture early in the season

Smolder - destroy infected plants, spray with Bordeaux mixture (which contains a sticking agent)

White Mold - spray with Bordeaux mixture (which contains a sticking agent)

Virus Diseases - (Yellow Stripe, Mosaic, White-Streak) - rogue out all diseased plants

Cultural Practices: Plant bulbs in October. Apply 1-3 pound of 5-10-5 fertilizer per 100 square feet, water in thoroughly. Don't remove the foliage until it has turned entirely brown and died back. Bulbs do better if separated and replanted every fourth year.