

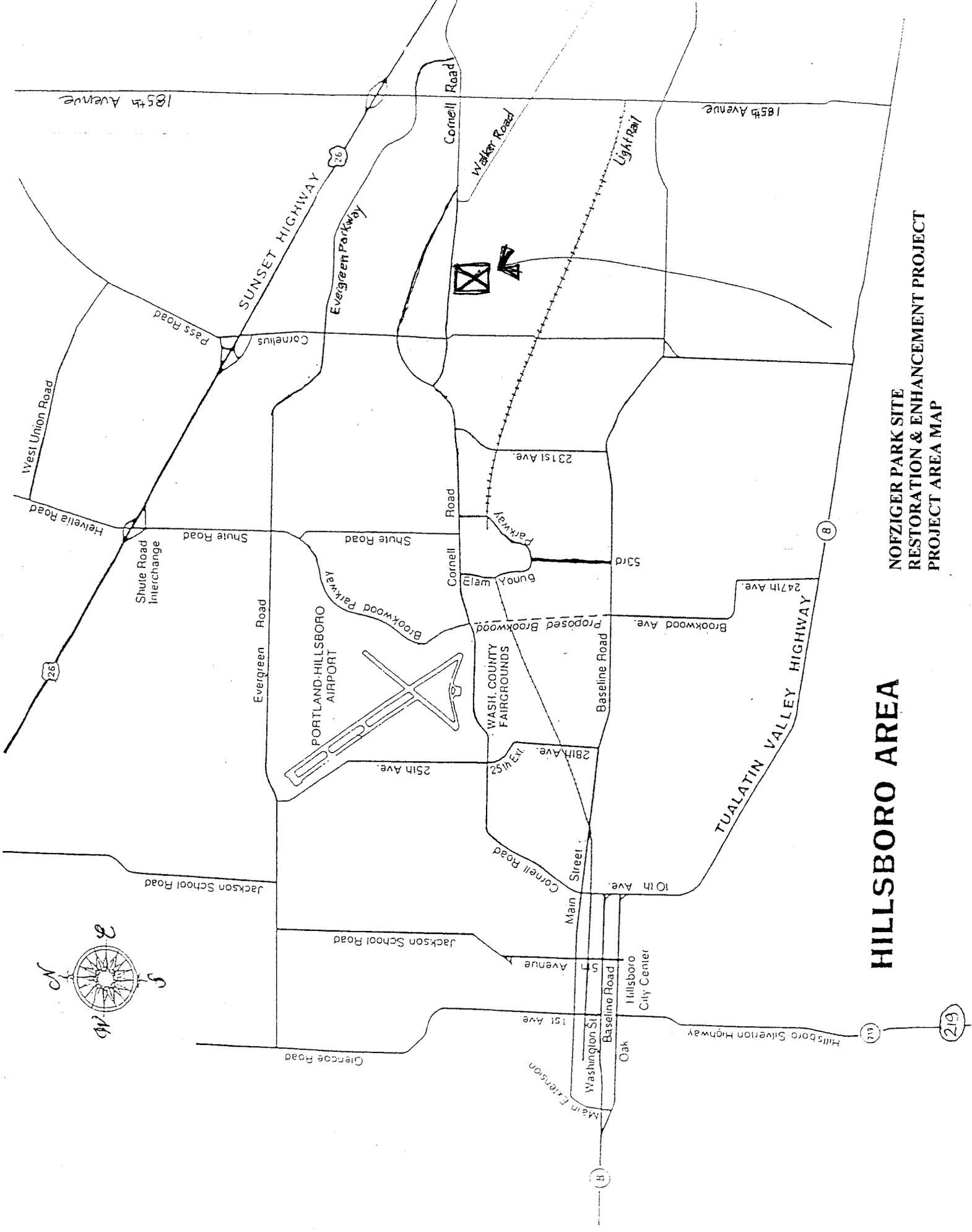
6505.9808
6505.9704

FINAL REPORT

Nofziger 1 Restoration & Enhancement and Nofziger 2 Restoration & Enhancement

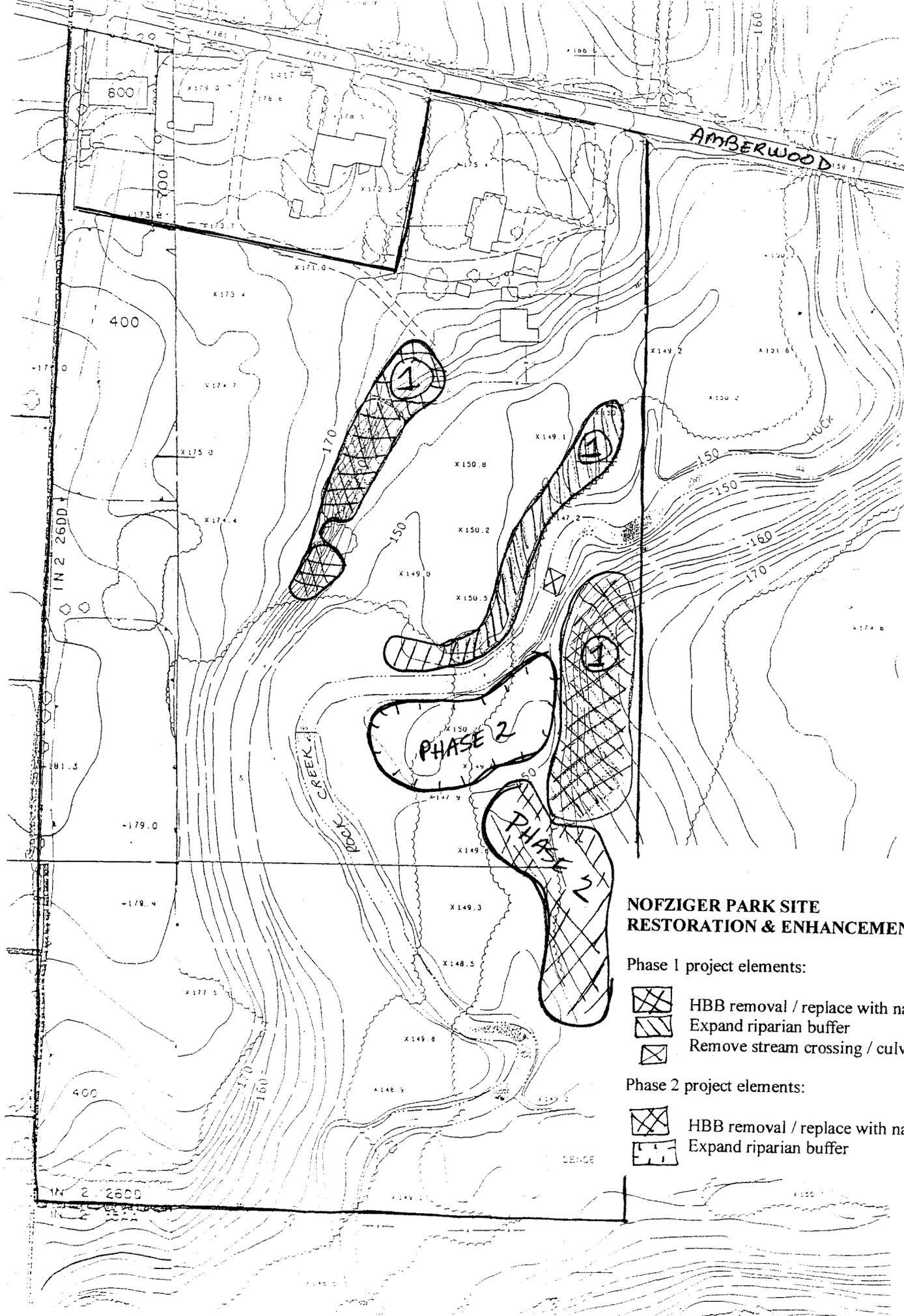
December 2000

Hillsboro Parks & Recreation
City of Hillsboro
626 SE Ninth Ave.
Hillsboro, OR 97123



HILLSBORO AREA

NOZIGER PARK SITE
 RESTORATION & ENHANCEMENT PROJECT
 PROJECT AREA MAP



NOZIGER PARK SITE RESTORATION & ENHANCEMENT PROJECT

Phase 1 project elements:

-  HBB removal / replace with native plants
-  Expand riparian buffer
-  Remove stream crossing / culvert

Phase 2 project elements:

-  HBB removal / replace with native plants
-  Expand riparian buffer

NOFZIGER PARK SITE RESTORATION PROJECTS I & II: FINAL REPORT

Project area and pre-project conditions:

The Nofziger park site is a 21 acre site located on Amberwood Drive in Hillsboro. (The park is not yet officially named; it is referred to as the Nofziger park site for convenience, in reference to the previous owner.) Purchased with Metro Greenspace Funds, the site encompasses about 9 acres of floodplain, and 12 acres of upland area. The site includes frontage on Rock Creek, a portion of which was formerly grazed and had little native riparian vegetation. Several areas were overgrown with blackberry thickets.

Although the master plan for the park has not yet been developed, plans were made for restoration on portions of the site that needed enhancement and would not be disturbed by subsequent park development including:

- A steep embankment dividing upland from floodplain areas
- Areas along Rock Creek
- Blackberry infested uplands on the east side of the creek

As the elements of Nofziger 1 were implemented, planning began on continuing the work on the east side of the creek with a Phase 2 project, referred to here as Nofziger 2.

Project Description as it actually happened

The key elements of the project involved

- Removal of invasive vegetation and replacement with native trees and shrubs
- Broadening the riparian vegetative buffer along Rock Creek by planting native trees and shrubs
- Removal of a stream crossing/culvert to restore free flowing conditions to Rock Creek

The stream crossing/culvert removal was the last project element completed, because it provided the only access to the east side of Rock Creek, where the Nofziger II project sites were located. It was delayed for 2 years to allow time to complete all other aspects of the project.

The first phase of the project was removal of blackberries to prepare areas for planting. There were two areas covered with blackberries: an embankment separating the floodplain from upland areas, and an open woodland (scattered tree canopy) on the east side of Rock Creek.

The embankment:

Work began on the embankment in June 1998. City crews utilized a tractor with a boom arm mower attachment to partially mow at least 15 feet of thicket – the top tier that could be reached from the level upland area. This exposed the degree of slope on the embankment so that the student work crews could more safely work on the slope to remove vines beyond the reach of the boom arm, and to dig out blackberry root crowns. The Miller Education Center student work crew provided manual labor and worked for several weeks at this task. The Washington County WILOJ Crew (Work In Lieu Of Jail) also came and helped on weekends. By late July, 1998, the slope was generally clear. There was virtually no understory vegetation; the blackberries had been so thick that they shaded out other types of vegetation. It proved a daunting task to remove all the root crowns and many were missed despite careful efforts to dig them. As blackberries

began to resprout in August and Sept 1998, park maintenance staff (licensed applicators) would spray the resprouts to help keep them in check. The blackberries are determined, and resprouts continue to need spot spraying and manual removal to keep them from taking over through 1999 and 2000. There was a lot of HBB regrowth in 2000, and it took a considerable amount of time to reclaim the slope, manually removing blackberries from between plantings. (HBB regrowth was too abundant to use sprays, so had to be done manually.)

The Washington County WILOJ installed jute / coir erosion control fabric on the steepest sections of slope prior to planting. The embankment was planted by volunteers in October 1998 as the first phase. A second wave of planting took place in 1999. Plants were mulched with wood chip mulch after planting; later, non-woven weed block fabric squares were installed around plants to repress growth of competing grasses and weeds around the plants. Plants were tagged with flagging annually to help identify the desired plants, particularly shrubs and shorter plants that haven't yet grown taller than annual weeds and grasses. When working with an assortment of volunteer groups, the flagging is a necessity; it helps in their education process and avoids mistakes.

Irrigation was used on the site in the summer months of 1999 and 2000. Some plants suffered deer browse; big leaf maple, vine maple, elderberry, and other deciduous plantings were most prone to deer browse. This stunted plants, although it did kill a few. Some plants did releaf later in the summer of 1999; others sent up new shoots from the roots in spring 2000. A neighbor reported 4-8 deer in the area in 1999. By summer 2000, only 1-2 deer were seen in the area, and the extent of damage by deer was considerably less. Overall plant survival has been very good.

The stream corridor:

The existing condition of the riparian corridor was an extremely limited band of vegetation along the creek - a single layer of canopy trees along the stream with some sections having no trees at all. Formerly grazed, the rest of the corridor was an assortment of grasses, including pasture grasses as well as reed canary grass. Fortunately, there were no blackberries to contend with.

To prepare this site for a fall planting, city crews mowed the former pasture area in early fall. A floodplain, this site was still moist earlier in the summer and couldn't be mowed until then. The mowing removed the thick bulk of tall grasses (grass was more than 5' tall in June!) so that the planting plan could be laid out and the planting crew could easily work in the area.

Boy scout volunteers were responsible for this planting, and assisted with the planning and layout as well as the actual planting. The first phase of planting occurred in October 1998, and a second phase took place in fall 1999 to provide a more dense level of planting. Weed block fabric was installed around the base of most plantings to reduce future competition from the thick grasses. Mesh seedling tubes were also placed around plants; short sections of drain pipe tubing was also installed around the base of plants, to protect against damage by string trimmers which we hoped to use in the future to cut back competing grasses.

These plants have thrived, suffering much less deer predation than the embankment plantings. Student and WILOJ work crews have helped with annual maintenance of this area including trimming back grasses that have overgrown the plantings, reinstalling weed block fabric as needed, and reflagging plants so that they can be seen and identified amidst the thick grasses. Manual removal of grasses was a challenging task, as the grasses are 5'-6' tall by summer when the student work crew was on site to help out. City park staff helped to some degree with string trimmers, to clear a swath around plants without getting too close; it was felt using string trimmers wasn't something that could be done by WILOJ crew because corrections personnel

weren't careful enough and could damage the desired plants. The limited availability of city staff meant that most of the work was done manually by student workers.

The plants were irrigated in the hottest months of summer 1999 and 2000 to help them get established. Plant survival has been excellent, especially the alder trees which have had significant growth. Most trees are already taller than the surrounding grasses, and are giving a favorable indication of what this area will look like in a few more years.

In the Nofziger 2 portion of the site, riparian plants were added to broaden the riparian corridor along the east and south side of the stream. The primary invasive plant in the floodplain was reed canary grass; it is estimated that an ash forest canopy was removed many years ago for the trunk sewer line installation. Plants were scattered throughout this grassy area and especially along the stream bank in efforts to recolonize a floodplain forest in this area. Weedblock fabric was used as a mulch.

Open woodland / east side of Rock Creek

Prior to the project, this area had a scattered canopy, with a narrow fringe of vegetation along the stream, a row of douglas fir trees along the eastern property line, and a scattering of other trees including big leaf maple, cedar and ash. The canopy was not dense enough to shade out blackberries, and all of the open areas were heavily covered with blackberry thickets. Where there was enough shade, some intact native understory vegetation existed. The focus of this project component was to remove the blackberry thickets, and plant trees to eventually recreate native canopy vegetation. Some shrubs were also planted to create a start on understory vegetation, but it was hoped that there would be some a seedbank of native plants that could emerge if given the opportunity. This project was initiated as Nofziger Phase I, and was expanded with Nofziger Phase II.

While the informal stream crossing existed, it didn't reach all the way across the creek. A temporary plywood foot bridge was built to extend the crossing to the opposite stream bank during low flow conditions. This was needed so that the student work crew could reach the other side, and transport tools and later plant materials across the creek. Because of the limited access, all blackberry removal had to be manual; there was no means to get any mechanical equipment across the bridge. This limitation also applied to plant materials and supplies; everything had to be transported by wheelbarrow or by hand to the project area. The limited access also meant this area relied on Mother Nature for irrigation; there was no easy way to provide supplemental irrigation to this side of the creek.

The removal of blackberries started in 1998. The blackberry thicket was daunting; before reaching the thicket, one had to pass through a tall stand of stinging nettles along the creek. A WILOJ work crew cleared an initial swath through the nettles and blackberries to create a safe starting point from which the student work crew could expand the clearing. The students spent several weeks at this task. Students were directed to be cautious in the blackberry removal, to look for and protect any intact native vegetation that might exist under the blackberries. This became a bit of a treasure hunt, and students did "liberate" some alder, big leaf maple seedlings, snowberry and ferns from amidst the thicket. This encouraged us that the potential for native understory did exist.

During Phase I, most of the blackberry canes removed were hauled back across the creek to an open field where they could be ground up by a brush mower. During Phase II, the trimmings were not hauled back across the creek; it was simply too far to move piles of trimmings. These

were left as piles amidst the subsequent plantings, inconvenient to walk around, but at least they would be serve as a bit of mulch.

Phase 1 plants were planted in October 1998, and Phase II plants were installed during October 1999 by various volunteers. The intent was to have planting late enough in the season that there was a good likelihood of rain to help settle the plants in, but not so much rain that the informal crossing would be impassable. This was a gamble, but proved successsful. Cooler nights helped offset the stress of some warm fall days. Some of the Phase 1 plantings, primarily conifer trees, were mulched with wood chips. The Phase II plants were mulched with a weedblock fabric as it was too challenging to haul wood chips to the far corners of the project. The plantings were given a minimal amount of hand watering the summer after they were planted. Plant protection tubes were installed on as many plants as possible, to help with future location as well as some protection from deer.

Overall, plant survival has been excellent. Some trees and shrubs (elderberry, maple) suffered deer browse but did survive. A few trees were destroyed by beaver. Despite the lack of irrigation, the plants have survived; the modest amount of shade and lack of competition from reed canary grass has enabled them to subsist on only rainfall. The growth rate of these plants is more modest than those with irrigation, as would be expected, but at least they have survived. Nearby canopy trees offer some protection from full day sun. with the new plantings getting a lot of mid-day sun but some protection from late afternoon sun.

Aside from emergency handwatering, the major problem in this area has been competition from blackberry resprouts. The regrowth of blackberries has been savage, and required considerable effort in maintenance. One dilemma was that limited access (the crossing was under water) prevented maintenance work until midsummer, when the stream crossing could be utilized. By this time, the blackberries had regrown to such a level that only labor intensive manual removal could be used. After the main regrowth was removed, park maintenance crews did some follow-up spot spraying where it could be safely applied without damaging desired plants. The blackberry regrowth will be an on-going problem until the native plants provide enough shade to control future growth.

Weeblock fabric was installed around most plants to give them a bit of protection against competing growth of blackberries and weeds; it made it easier to find the desired plants amidst the blackberries. It also seemed to help as a moisture preserving mulch.

Removal of the stream crossing / culvert:

While the removal of the stream crossing and culvert was a key element of the project, it was also apparent that this had to be the last activity; once the crossing was removed, there would be no easy way to cross the stream to maintain the east side plantings. For this reason, the crossing removal was delayed two seasons.

The crossing was finally removed in September 2000. Under an intergovernmental agreement, an experienced heavy equipment crew from Unified Sewerage Agency carried out the culvert and crossing removal. The crew also made some suggestions for bank stabilization and enhancement, including installation of a fir tree revetment on the east side of the stream and placement of fascine bundles on both sides of the stream. Much of this work was done as an in-kind match to the project, as it provided some training opportunities for some of the work crew. Students from the Miller Education Center assisted with building and placing the fascine bundles, making this component an educational component for the biology class. Some of the willow cuttings were collected off-site downstream from the project. Heavy equipment was used to create a stream

bank terrace for the fir trees, and to recontour a steep erosion prone slope. This was reinforced with coir erosion control fabric and willow live stakes before the fir trees were cabled into place. Root wads were placed along the river bank to provide additional reinforcement and instream structure. Fascine bundles were placed between the fir trees.

After the east bank stabilization was completed, silt barrier fabric and straw bales were placed downstream of the culvert to trap any silt from the culvert removal. The trackhoe removed the crossing items beginning at the east side and gradually working to the west side. Several large boulders and rootwads were placed along the west stream bank to protect the toe of the stream bank. Again, coir erosion control fabric was used along the project area, and fascine bundles, live stakes and a coir "burrito." When the crew removed the stream crossing culvert and rubble, they did not excavate into the stream bed to recontour it, seeking to have minimal disturbance and siltation. After the crossing removal, there was still somewhat of a bench in the stream bed, a firm layer of clay where the crossing had been; it will remain to be seen if high flows this winter recontour the stream bed in this area or if this shallow area persists. It could be the bed had always been shallow there, and that is why it had been selected as a crossing location.

Students placed leftover willow live stakes in various locations along the creek bed upstream and downstream of the crossing removal to supplement existing vegetation.

Goals and Benefits of the Project:

The primary goals of the project included:

1. Create expanded habitat for fish and wildlife in a urban area by
 - removing invasive vegetation and replacing with native plant materials,
 - expanding band of riparian vegetation along Rock Creek
2. Restore free flowing conditions in the stream by removing a culvert / crossing

Although not initially recognized as project goals, two important associate goals for the project were to:

3. Provide opportunities for public participation in habitat restoration projects
4. Provide opportunities for service learning, for high school students to participate with hands-on aspects of restoration and enhancement

The primary benefit of the project is the enhancement of portions of a Metro Greenspaces park site for fish and wildlife before the rest of the site was developed, allowing time for the plant materials to grow to significant size before the site is open for public use. This will allow time for fish and wildlife populations to benefit from the enhancement before the added pressures of public access to the site.

The involvement of students and community members in the project gave people the opportunity to learn more about the concepts and methods of restoration and enhancement, as well as learn about this future park site specifically and the Metro Greenspaces program. This public involvement helps with longterm stewardship of this site and other natural area sites in the community as people have a greater understanding and appreciation of habitat enhancement issues.

For the students of Miller Education Center, the projects afforded a multi-year opportunity for students and staff to participate in restoration efforts and community service. They incorporated

restoration and enhancement learning throughout the school year, and included field trips to other project sites, and guest speakers from other agencies. They also included enhancement topics in language and arts curricula.

Work tasks and timelines as it actually happened

Nofziger 1:

Site Prep

Blackberry removal June – July - August 1998

Mow reed canary grass August 1998

Plantings September – October 1998

February 2000

Permits secured May - June 1998

Culvert Removal September 2000

Irrigation July – Sept 1999 and July – Oct. 2000

Maintenance: November 1998; June 1999 – July 2000; on-going

Monitoring: on-going

Nofziger Phase 2:

Site Prep: June/July 1999

Planting October - November 1999

Maintenance June 2000 – August 2000;

limited opportunities for on-going maintenance due to lack of access after culvert is removed

Monitoring June – August 2000

limited opportunities for monitoring due to lack of access after culvert is removed

Project Budget – Nofziger 1

PROJECT EXPENSES

Plant materials	\$ 3,911.55
Planting supplies	\$ 1,260.87
Personnel services (site prep & install)	\$ 3,600.00
Culvert removal	\$ 1,243.78
Rentals (trencher & portapotty)	\$ 600.11
Irrigation supplies	\$ 392.37
Maintenance services	\$ 1,900.00
TOTAL EXPENSES	\$12,908.68 (amount over grant: \$68.86)
Metro Grant funding	\$12,840.00
Requested reimbursement:	\$12,840.00

MATCHING FUNDS SUMMARY

USA – culvert removal / streambank enhancement (in-kind services)	\$ 1,827.84
MEC – summer crew '98 in-kind match	\$ 7,668.00
MEC – other assistance in-kind	\$ 495.00
MEC – summer maintenance 2000 in-kind	\$ 4,531.75
Jail crew – in-kind	\$ 3,058.00
Other community volunteers – in-kind	\$ 1,435.50
Donated wood chips for mulch	\$ 100.00
Water for irrigation (2 seasons)	\$ 630.48
Park maintenance staff in-kind	\$ 2,924.95
Project admin & coordination in-kind	\$ 3,517.00
Surplus expenses (over grant amount)	\$ 68.86 (from table above)
TOTAL	\$26,256.88

TOTAL PROJECT VALUE: \$ 39,096.88

27,430.13
66,527.01

PROJECT BUDGET – NOFZIGER 2

Plant materials	\$ 1,149.00
Planting supplies	\$ 127.00
Personnel services (site prep & install)	\$ 4,500.00
Rentals (1999 portapotty)	\$ 393.63
Maintenance services	\$ 1,900.00
TOTAL EXPENSES	\$ 8,069.63 (<i>amount under grant: \$1,930.37</i>)
Metro Grant funding	\$10,000.00
Requested reimbursement:	\$ 8,069.63

MATCHING FUNDS SUMMARY

MEC – summer crew '99 in-kind match	\$ 7,662.50
MEC – other assistance in-kind match '99	\$ 495.00
MEC – maintenance summer 2000 in-kind	\$ 4,531.75
Other community volunteers – in-kind	\$ 3,135.00
Portapotty rental – summer 2000	\$ 495.00
Tools & supplies purchased	\$ 205.15
Park maintenance staff in-kind	\$ 725.90
Project admin & coordination in-kind	\$ 2,110.20
TOTAL	\$19,360.50

TOTAL PROJECT VALUE: \$27,430.13

Nofziger 1 & 2

Project manager:	Mary Ordal, Hillsboro Parks and Recreation
Site prep / parks staff:	Dave White, Trina Elias, Julie Larkin, Jesus Gonzales, Adrian Alvarez, Dale Virden, John Eastburn, Kristi Senecaut, Owen Melley, Ryan Flett, Jose Ebuen; also, help from Dave Lupro and Hillsboro Public Works staff
Miller Education Center faculty:	Pete Daggett, Ike Maness, Roger Will, Greg Olson
Miller Education Center students:	summer school students 1998, 1999 and 2000 and regular school term students 1998, 1999 and 2000
Other Volunteers:	Rand Fisher and members of LDS church (1998 and 1999) Blake Tufts and boyscouts (Nofziger 1 project) Washington County WILOJ crew Washington County Juvenile Dept. crew Mike Crass and boy scouts (Nofziger 1 project)
Unifed Sewerage Agency Operations	Mike Young and crew (Nofziger 1 project)
Metro Greenspaces:	Lynn Wilson
USFWS	Jennifer Thompson
Other advisory:	Bob App, USDA Natural Resources Conservation service Tuck Clinehens, Friends of Trees. Jim Weitman, Coffman Excavating Dick Caldwell, OFWS Jan Stuart and Jim Anderson, Corps of Engineers

The Miller Education Center was paid on a lump sum contractual basis to provide site preparation, planting and maintenance services to the project during the summer school session. The school's summer program provides both work experience and academic credits to income-qualified students, utilizing the contract with Hillsboro Parks and Recreation as "match" for other grant programs that pay the majority of student and teacher program costs. This has enabled us to get labor at a greatly reduced cost to the project, while allowing a much needed summer curriculum to expand the number of students served. The teachers incorporate habitat biodiversity, enhancement and restoration themes into the academic coursework for the students so that the work and classroom experiences are meaningful and related. It is successful for all parties.

How the projects relate to the greenspaces program:

The projects relate to the Greenspaces program in many ways:

- The park site is a Metro Greenspace acquisition
- The site is along Rock Creek, one of the major riparian corridors and Greenspace target areas, and adjoins other publicly owned land along Rock Creek
- The project involves the community, providing opportunities for involvement and education in restoration and enhancement issues
- As a future park site, the project areas will be available and open to the public for on-going benefits and enjoyment.
- The site is in a densely populated urban area, and will provide close-to home opportunities for the public to enjoy natural areas

Numbers and species of items planted:

ITEM	Nofziger 1 sites	Nofziger 2 sites
Trees:		
<i>Abies grandis</i> (grand fir)	10	5
<i>Thuja plicata</i> (western red cedar)	45	20
<i>Salix sitchensis</i> (Sitka willow)	45	30
<i>Salix lasiandra</i> (pacific willow)	18	
<i>Salix scouleriana</i> (scouler's willow)	35	
<i>Acer macrophyllum</i> (bigleaf maple)	11	15
<i>Acer circinatum</i> (vine maple)	18	5
<i>Cercis occidentalis</i> (western redbud)	2	
<i>Alnus rubra</i> (red alder)	86	50
<i>Pseudotsuga menziesii</i> (douglas fir)	105	15
<i>Cornus nuttallii</i> (western flowering dogwood)	7	
<i>Picea sitchensis</i> (sitka spruce)	20	3
<i>Rhamnus purshiana</i> (cascara)	10	
<i>Populus balsamifera</i> (black cottonwood)	5	10
<i>Tsuga heterophylla</i> (western hemlock)		10
<i>Fraxinus latifolia</i> (oregon ash)	50	40
<i>Malus fusca</i> (crabapple)	2	10
<i>Quercus garryana</i> (garry oak)		3
<i>Prunus virginiana</i> (chokecherry)		15
Total trees	464	231

Monitoring and Maintenance Plan

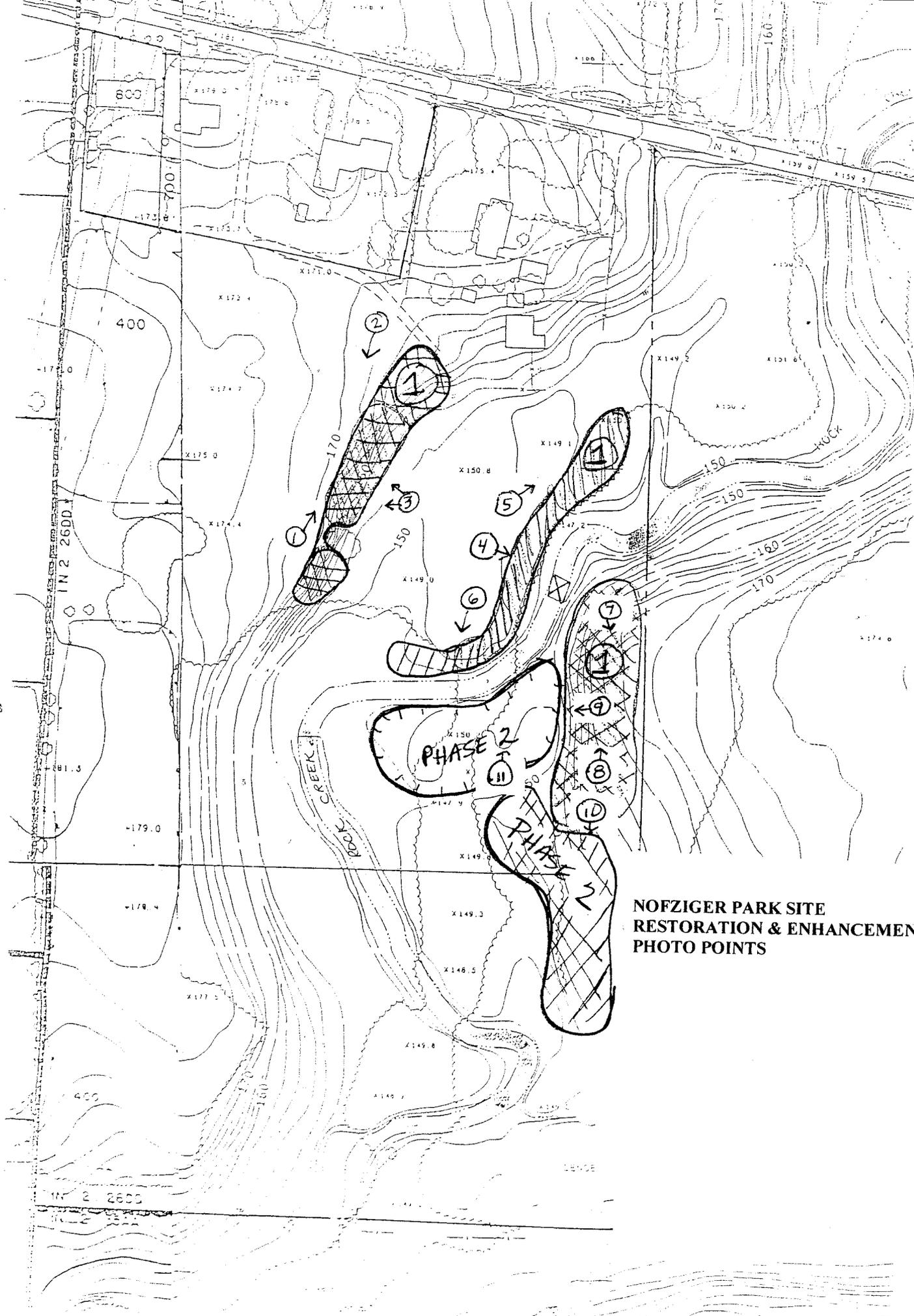
Annual inspection: plantings will be inspected at least once annually during May or June to assess growth and viability of plant materials for the next 4 years. Problems needing attention will be addressed, ie follow-up removal of blackberry regrowth, restaking, etc. The areas of Nofziger 1 and 2 that are on the east side of Rock creek will be monitored when low flow conditions of the creek allow safe crossing. (During higher flow conditions, it may be possible to view these areas via binoculars to assess growth.)

Maintenance: Where accessible, blackberry regrowth will be removed via manual removal. We will send either adult or juvenile corrections crews to the site at least once annually, more often as needed. It is unlikely we will be able to send work crews over to the Nofziger 2 area for maintenance unless alternative access opportunities can be arranged. Nofziger 1 areas are unlikely to need irrigation in coming seasons, although the irrigation system will be left in place for the near future in the event it is needed. Stakes will be removed in the next 2 years. Weedblock fabric will eventually decompose or will be removed if the plant no longer needs it as a mulch.

What worked / what didn't / helpful hints and Tips for other Project Managers

1. Controlling blackberry regrowth in full sun areas is a daunting task and requires diligence and persistence. Allow lots of follow-up maintenance efforts, more than you think you will need. Some say it needs to be attacked 12 times before it gives up
2. Typar fabric weedblock anchored with long staples was very effective as a mulch, particularly at controlling reed canary grass competing with new plantings. The gray color blends with the environment better than black fabric. Although it does not "cook" competing growth the way the black weedblock fabric does, it may be more appropriate for non-irrigated settings as it does not "cook" the roots of young plants either. The lighter color may help to preserve needed soil moisture.
3. Fabric weedblock helps control HBB to a more limited degree – at least it makes it easier to find the new planting amidst regrowth. It does not totally inhibit regrowth – the vines grow out from under it.
4. Mark all new plantings with survey ribbon, to help you find them the next growing season and prevent accidental mowing or damage.
5. Staking new trees is helpful as an identification tool, as well as a support structure, particularly when plants are smaller than other plants.
6. I like planting 1 gal to 2 gal size plants: they are small enough to handle for easy planting, yet big enough that they can grow into easily identifiable specimens. They are fairly inexpensive, so if some are lost to drought or predation, one doesn't mourn the loss too terribly. Larger plants seem to suffer from stress to a greater degree.
7. Every group or individual helping at your site needs a good orientation and clear instructions explained verbally on site and in writing. Try to give the whole picture, not just their little portion of it. Good ideas may emerge from unlikely places.
8. Connecting with the USA operations crew for the culvert removal and stream enhancement was a stroke of luck. Their experience with similar projects and permit regulations gave me peace of mind that I might not have had with other heavy equipment operators. They were accommodating in sharing their skills with students.
9. Remember stinging insects are at their worst in August and September, key times for site maintenance. Their nests can be well hidden, and unsuspecting volunteers can be wounded in action from nearly unseen foes.
10. Always be open to new ideas; sometimes the best ideas come when you least expect them. I had never heard of a boom arm mower, but it came in very handy for mowing the embankment. It couldn't remove everything, but made an impressive reduction in the volume of blackberries we had to deal with. The public works employee operating the mower appreciated the chance to spend the day in a quiet field rather than on a busy street.
11. Don't be afraid to change your plans if you need to; go with the flow to what makes sense for the project. If we had removed the culvert/crossing when planned, we would not have had opportunities for a second phase and subsequent maintenance of both phases.
12. We planted fairly sparingly in the Nofziger 2 planting sites for 3 reasons: some plant items were not available or quantities were limited when we ordered them and we wanted to plant a reasonable amount initially, then evaluate how many more items would be needed for subsequent plantings. After the first session, rains raised the creek water level covering the access and there weren't more opportunities for follow-up planting sessions. Third, there was good indication of native plant seedbank that we wanted to give a chance to emerge on its own with the blackberries gone.

Shrubs		
Cornus stolonifera (red twig dogwood)	65	40
Symphocarpus albus (snowberry)	60	25
Rosa nutkana (nootka rose)	5	
Amelanchier alnifolia (service berry)	15	5
Sambucus racemosa (red elderberry)	40	20
Mahonia aquafolium (oregon grape)	87	20
Polystichum munitum (sword fern)	15	
Ribes sanguineum (red flowering currant)	5	5
Sambucus caerulea (blue elderberry)	7	
Vaccinium parviflorum (red huckleberry)	3	20
Oemleria cerasiformis (indian plum or osoberry)	5	
Physocarpus capitatus (pacific ninebark)	25	30
Spirea douglasii (Douglas spirea)	65	
Rosa pisocarpa (clustered rose)		10
Rubus parviflorus (thimbleberry)		5
Lonicera involutara (twinberry)		10
Philadelphica lewisii (mock orange)		5
Holodiscus discolor (oceanspray)	8	15
Total shrubs / understory	405	210



**NOZIGER PARK SITE
RESTORATION & ENHANCEMENT PROJEC
PHOTO POINTS**

1-15-98

► COMING UP THIS WEEK: SUNDAY: Public Life MONDAY: Commuting TUESDAY: Schools WEDNESDAY: ...

Grants help volunteers save parks, wetlands

By BRENT HUNSBERGER
of The Oregonian staff

While their friends cruised the mall this summer, Sarah Reyna and Alej Lopez came face to face with blackberry brambles and, to the delight of local parks officials, ripped them to shreds.

The girls, students at a Hillsboro alternative high school, spent their summer days with a dozen other students on the banks of Rock Creek, tearing out a half-acre of 8-foot-tall Himalayan blackberries. This week, they returned to the future park site with their Miller Education Center biology class and discovered what their work had inspired: a berm of newly planted trees, a spate of deer and beaver tracks and a visit from a great blue heron.

"It looks way better," Reyna, 17, said of the flood plain she helped restore.

So do dozens of riverbanks, streambanks and wetlands throughout the Portland-Vancouver area, officials say, thanks to a growing supply of public environmental grants and volunteer labor.

Metro, the regional government, handed out \$157,000 in federal environmental grants this week designed to get schools, nonprofit groups and concerned residents cleaning up degraded wetlands, stream banks and wildlife areas.

Now, Portland's Bureau of Environmental Services, which has a similar program, is taking applications for \$35,000 in environmental stewardship grants. That strategy seems to be gaining popularity as the public becomes aware of the threats facing Oregon's salmon.

"People like the old adage, 'Think globally, act locally,'" said Mary Ordal, parks project coordinator for Hillsboro Parks and Recreation, who directed church and Boy Scout groups in restoring Rock Creek's flood plain with alders, ash and wild roses. "Folks come out. They have a stake in it."

Metro has awarded 190 grants, totaling \$1.2 million, since 1991, and the city of Portland has awarded about 40 grants in four years, prompting schoolkids and environmentalists alike to get their shoes dirty in the name of nature. Metro says the grants have attracted more than \$4 million in private matching money and thousands of volunteer hours.

On the ground, the grants inspired Deer Creek Elementary School in Tigard to adopt a five-acre wooded wetland. Happy Valley Elementary School students now routinely conduct bird surveys and monitor ground-water wells in a nature park. And Lake Oswego Junior High School converted its courtyard into a wetland lab, attracting new bird species.

At the 21-acre Rock Creek natural area, purchased by Metro's Regional Parks and Green-spaces program in 1997, Reyna and Lopez seem



BRENT WOJAHN/The Oregonian

Ike Maness, a Miller Education Center teacher, points out animal tracks to students Hector Ford, 17, (left) and Seth Perciano, 16, at a Hillsboro park site where students have done restoration work.

unaware of the office parks and apartment buildings along nearby Cornell Road — until their classmates find clues within the wetland.

One student picks a can off a newly planted tree. Another notes how recent floodwaters nearly engulfed a waist-high Douglas spirea. Their teacher, Ike Maness, points out how the creek has cut a new path through the trees because of recent heavy rains and, they speculate, upstream urban development.

Not all who get the grants have schools or bureaucracies to help them.

Luci Wells, 71, a riverside condo owner, rounded up \$10,000 in private donations and \$5,000 from the city's grant program to rehabilitate a wetland along the Willamette Greenway, near a heron rookery and an eagle's nest.

Two years ago, Wells and her husband, Stuart, persuaded association members at Heron Pointe condominiums in John's Landing to rip up their back lawn and replant the down-slope wetlands with fowl-friendly plants. Wells put up \$2,000 of her own money and hired Mark G. Wilson, a noted Portland restoration ecologist, to develop a landscaping plan.

She and volunteers already have rid the site of blackberry stubble. Eventually, she wants to improve fish habitat and stem bankside erosion caused by the condominiums' downspouts. But first, she plans to replant the bank with snowberry and more than 1,000 Nootka roses, a wild species with thick roots that help curb soil erosion and small buds that provide winter food for songbirds.

Wells hopes people will pay \$10 to plant a rose in memory of a loved one. "You can't pick it," Wells said of her future rose garden. "You have to leave it for the birds."

Restoring the environment

GRANT RECIPIENTS

Metro approved 28 environmental grants this week totaling \$157,000, including nine aimed at enhancing salmon habitat. Among the largest:

- \$15,820 to help Friends of Trees restore 13 acres of blackberry-infested Sandy River delta with native trees.
- \$10,000 to help the Camas-Washougal Fish Habitat League erect fish-habitat signs at stream crossings.
- \$10,000 to help Gresham restore a pond along Kelly Creek on the Mt. Hood Community College campus.
- \$10,000 to replant an 8.5-acre natural area adjacent to Brown's Ferry Park in Tualatin.
- \$10,000 to help Portland Parks and Recreation restore native vegetation along a pond in East D Park.
- \$10,000 to enhance a half-acre wetland along Rock Creek in Hillsboro's Amberwood Park.

GOT A PLAN?

Portland's Bureau of Environmental Services is taking applications for \$35,000 in Community Watershed Stewardship Grants. The city plans a grant writing workshop March 11. For information or application, call Lynn Vanderkamp at 823-5281 or leave a message at 823-7740.



pt. 11

NOFZIGER 2 – floodplain south of creek

- A. July 2000; students maintaining plantings via removal of competing grasses, reinstall weedblock as needed. It is easier to combat reed canary grass than blackberries. Plant survival excellent.
- B. Students mapping location of items planted





pt 2

**NOFZIGER 1 -
Embankment / hillside - looking south - 1999 & 2000**

- A. Summer 1999; competing weeds and blackberries are removed. First year growth looks good.
- B. Summer 2000; plants show good growth; area needs maintenance with removal of competing growth.





Pt 1

**NOFZIGER 1 –
Embankment/ hillside area**
Before conditions and site prep
Summer 1998

A, B. The hillside was a solid thicket of blackberries.

C. A boom arm mower helps to trim back some of berries so that student workers can complete the task manually in safer conditions – where they can see the slope they're working on.

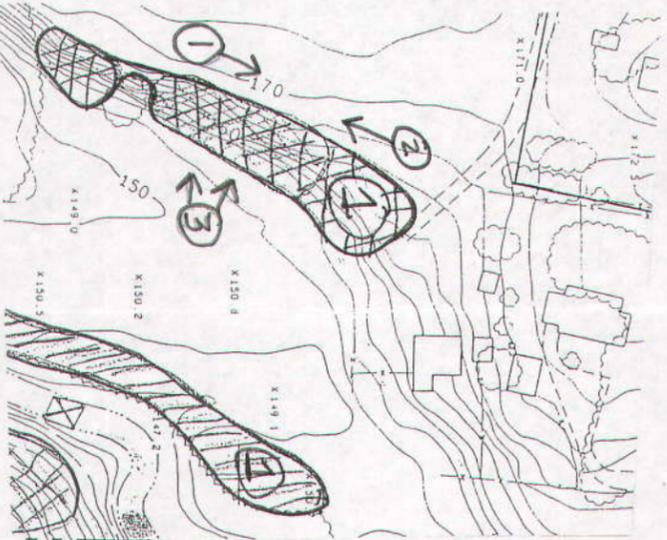


Pt 2

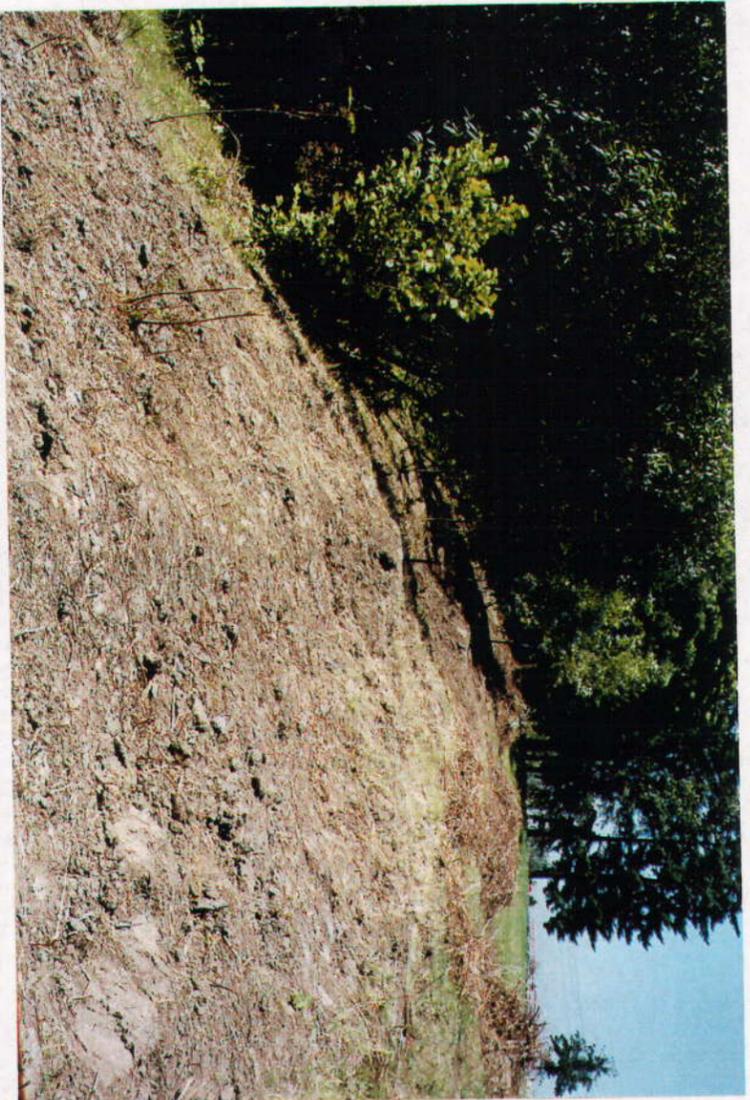


Pt 3

D. By the end of the July 1998, the students have completely cleared the hillside of blackberries in preparation for fall planting.



Pt 3



A. View of embankment with blackberries removed. All surface canes have been removed, and many, but not all, of the root crowns. July 1998

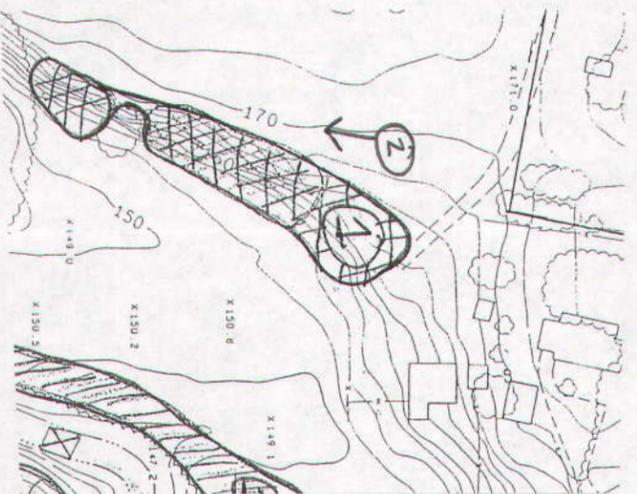
**NOFZIGER 1 -
Embankment / hillside area**
View looking south 1998

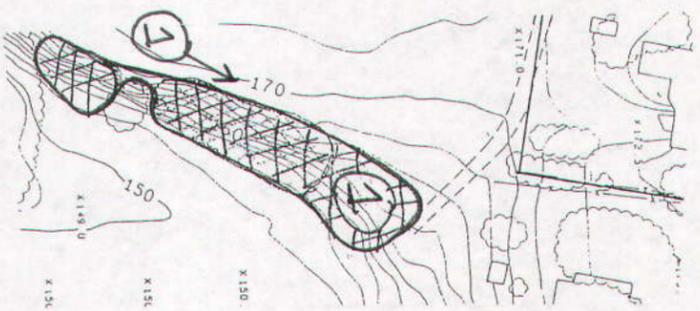
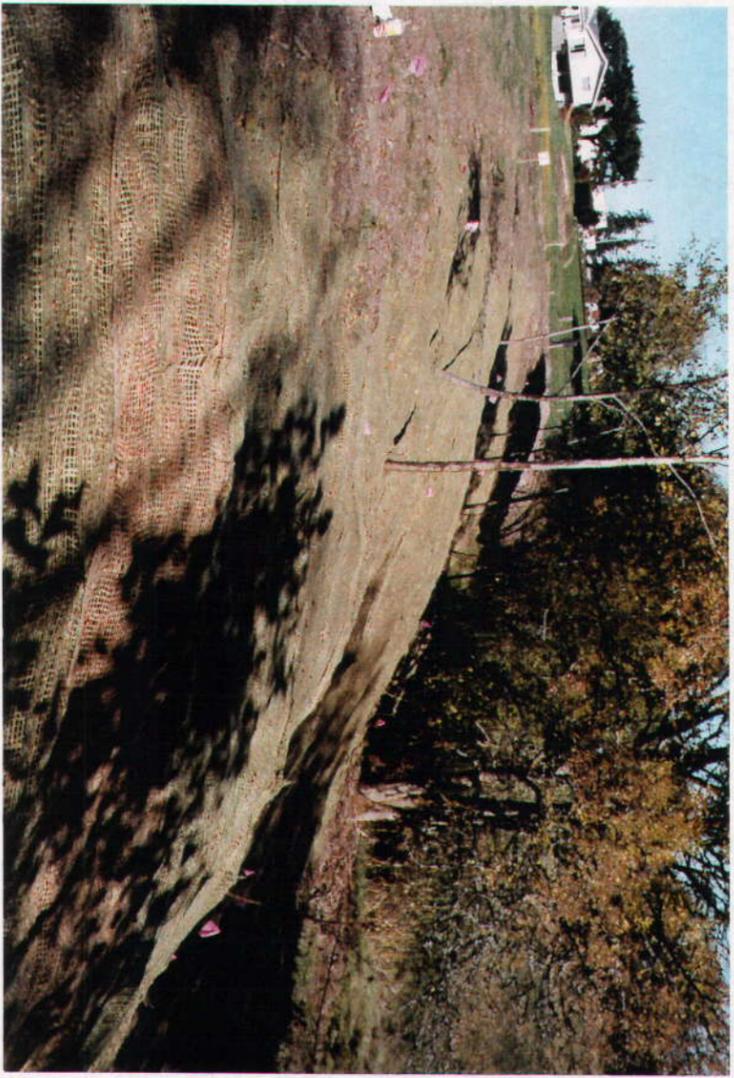
pt 2

B. Steepest portion of slope is prepared with erosion control fabric.

C. The site is flagged for planting.

D. Volunteers plant the hillside.





**NOFZIGER 1 -
embankment / hillside
looking north 1998 - 1999**

pt. 1

- A. Close up of area protected with erosion control fabric. (9/98)
- B. After planting (9/98)
- C. Summer 1999 – after battling weeds and blackberry resprouts, the previous year’s plantings are given additional protection with weedblock fabric.



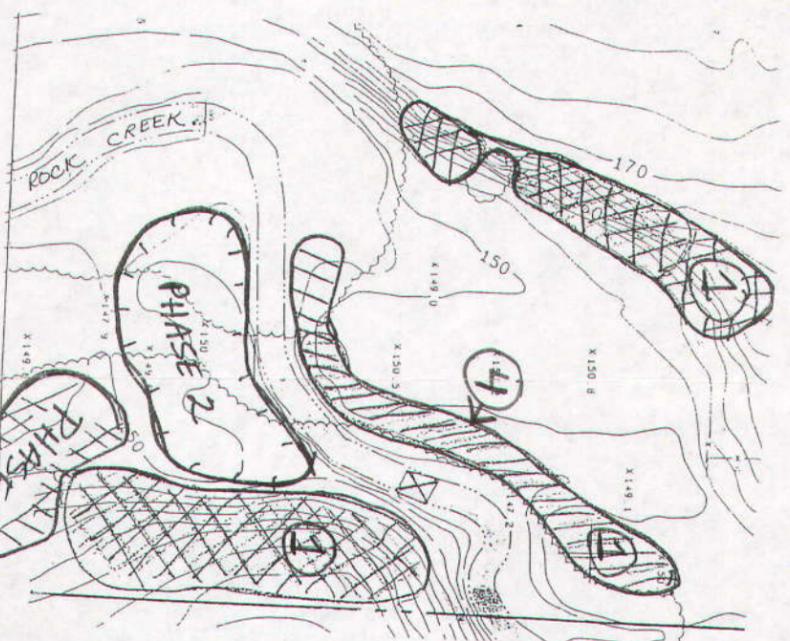
NOFIGER 1 – Stream culvert/crossing
June 1998

pt. 4

A. Existing conditions show an informal stream crossing made of rubble and rock atop a large culvert. On the east side of the creek is a nearly impenetrable thicket of blackberries and stinging nettles. The stream has carved a small channel on the east side of the crossing, making it incomplete.

C. Jail crew has made a plywood bridge to cross the gap between the rubble crossing and the east bank of the stream, and has cleared enough of the blackberries to cross the creek.

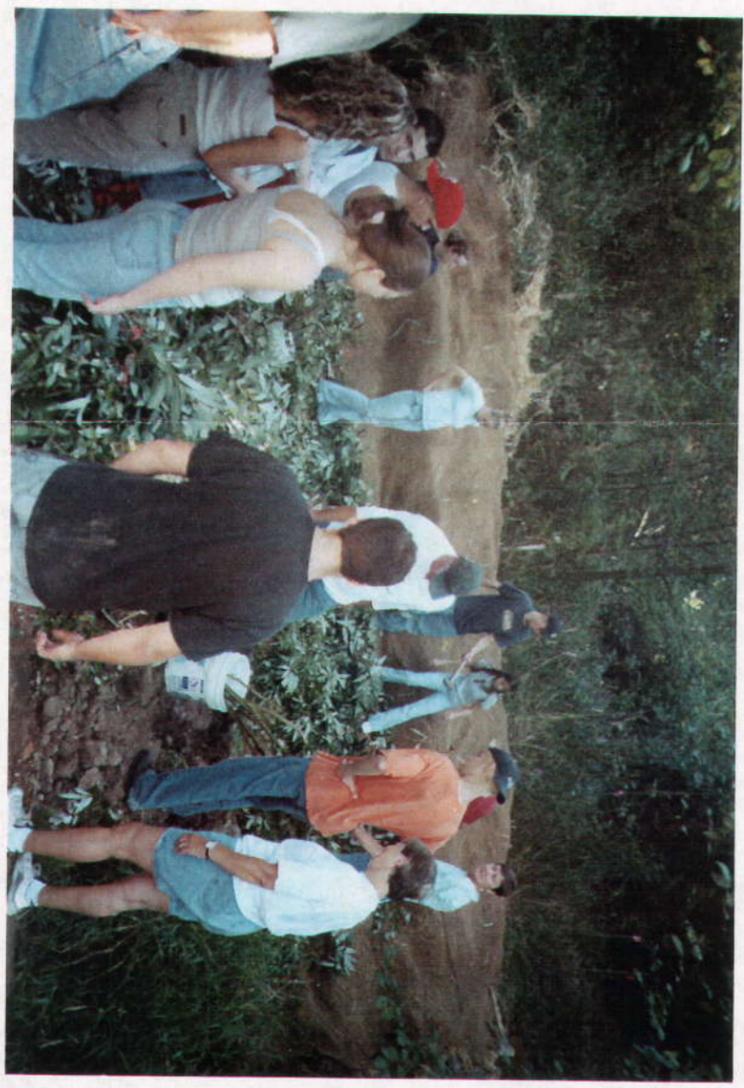
The decision is made to delay permanent removal of the culvert/crossing until all work is completed on the east side of the stream. (summer 2000) to permit easy access. There is no other direct access to the property east of the creek..





NOFZIGER 1 - Pt 4
Stream culvert / crossing
 Summer 2000
 Culvert removal and streambank protection
 Bank stabilization efforts are made before
 the crossing is removed.

A. The USA crew has prepared the east
 stream bank with some recontouring,
 and have secured the bank with coir
 fabric and some demonstration fascine
 bundles. Willow live stakes secure the
 fabric in place.

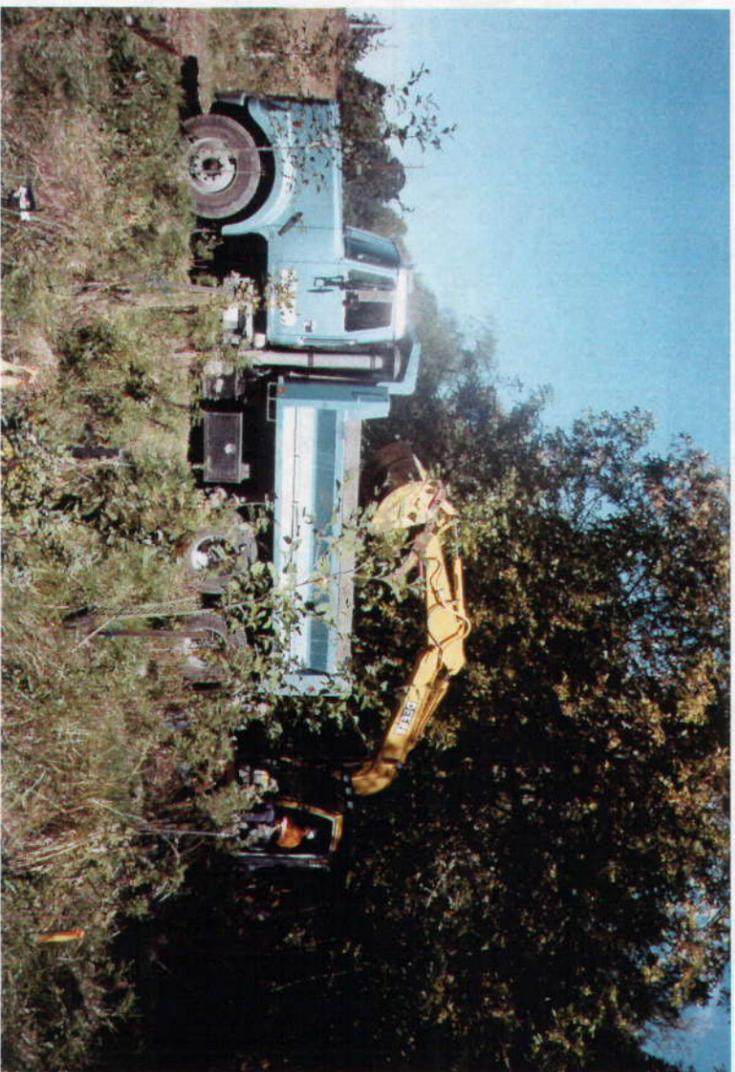


B. & C. Students learn to make and install
 the fascine bundles under direction of
 the crew.



D. Placement of the fir tree revetment atop
 the fascine bundles. The fir trees will
 encourage the entrapment of sediment
 along the bank, helping to build up this
 formerly erosion prone area.





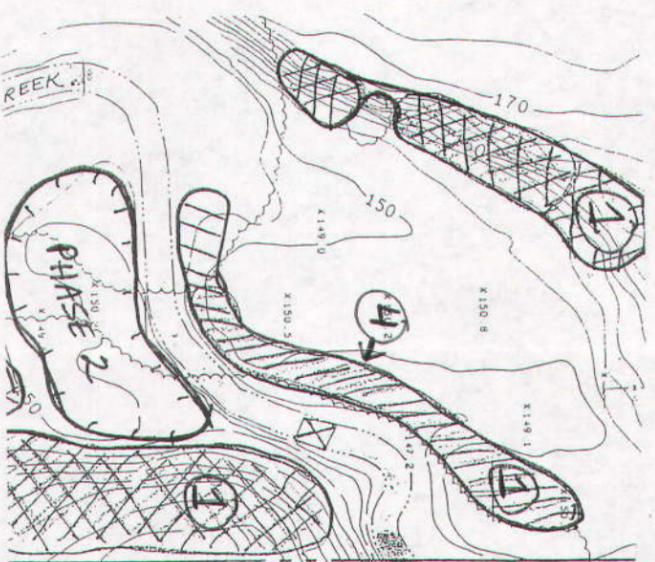
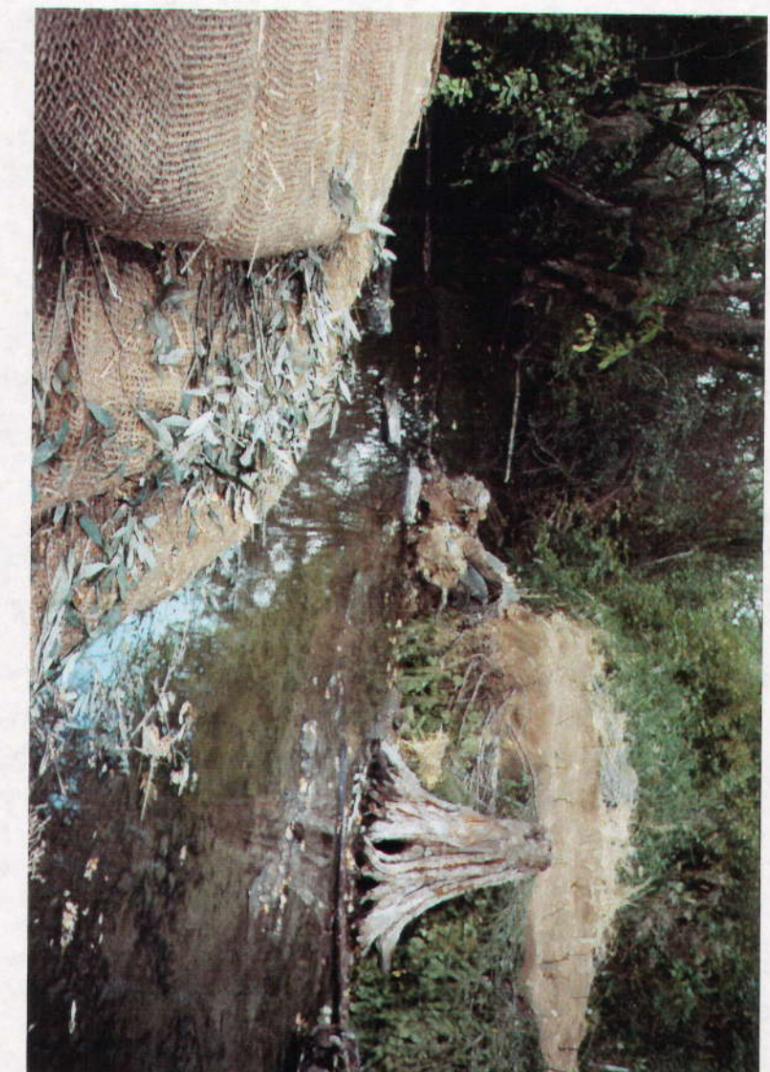
**NOFZIGER 1 –
Stream Crossing / culvert removal
September 2000**

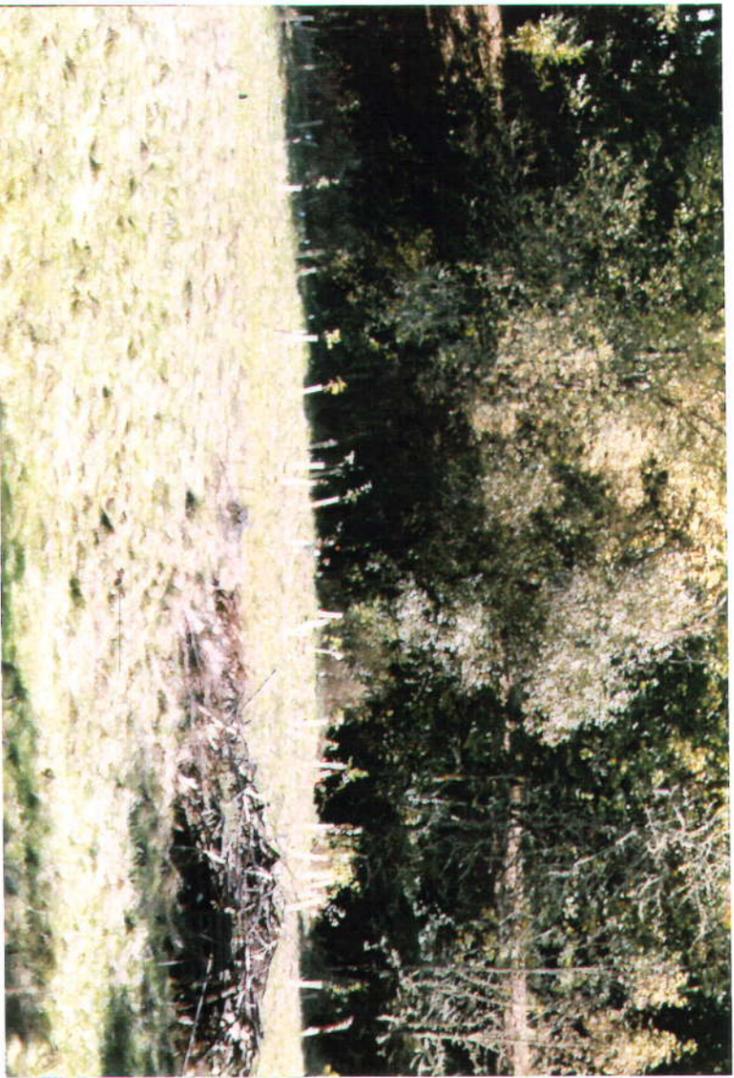
pt 4

- A. After the east side bank project is completed and silt traps in place, the culvert and crossing material is removed.
- B. The west bank is also stabilized and protected with coir fabric, fascine bundles, live stakes and seeding. Several root wads and some boulders are placed at the toe of the banks as extra protection and to provide some in-stream structure..
- C. Looking downstream – close up of live stakes on west bank.



- D. Irrigation is set in place to help with germination of erosion control seeding and stakes for a few weeks. Within 2 weeks the grass seed germinates; within 4 weeks, the willow stakes have begun to sprout leaves.





**NOFZIGER 1 -
Riparian Corridor
September 1998 & June 1999**

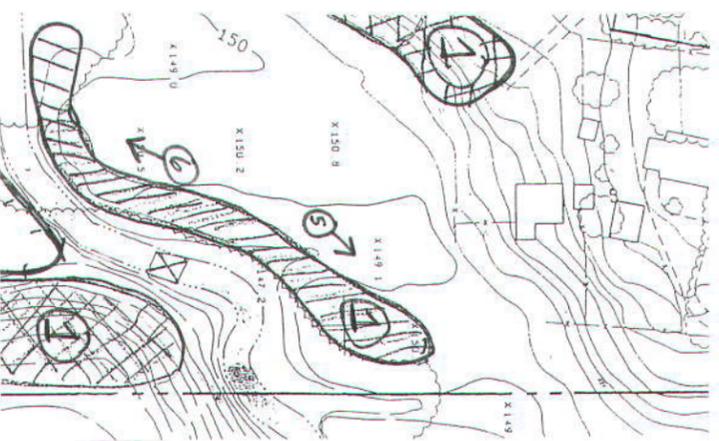
A, B, C. September 1998. After mowing the reed canary grass, a stream corridor buffer plantings are installed. They are irrigated in the summer of 1999 and 2000.

D. June 1999. Flagging helps to identify the trees and shrubs above the tall grasses. Cutting back grass and installing weedblock fabric will help to reduce competition and help give plantings a good start.

Pt 5



Pt 6

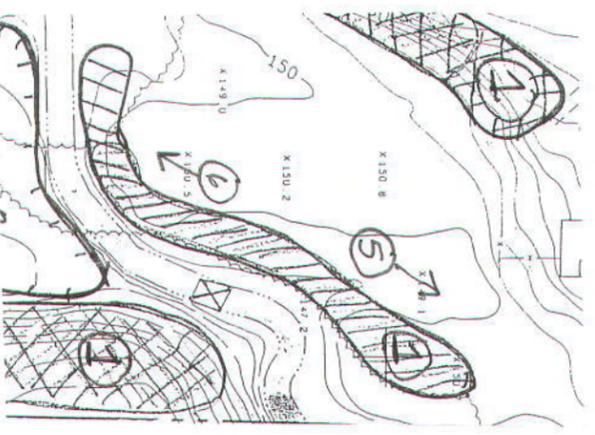




pt 6

**NOFZIGER 1 – Riparian Corridor
1999 & 2000**

- A. June 1999; grasses have been cut back to reveal plants
- B. Students installing weedblock around each plant
- C. July 1999; after weed block installed
- D. July 2000; plants show good growth; maintenance includes manual cutting of competing grasses.



pt 5.



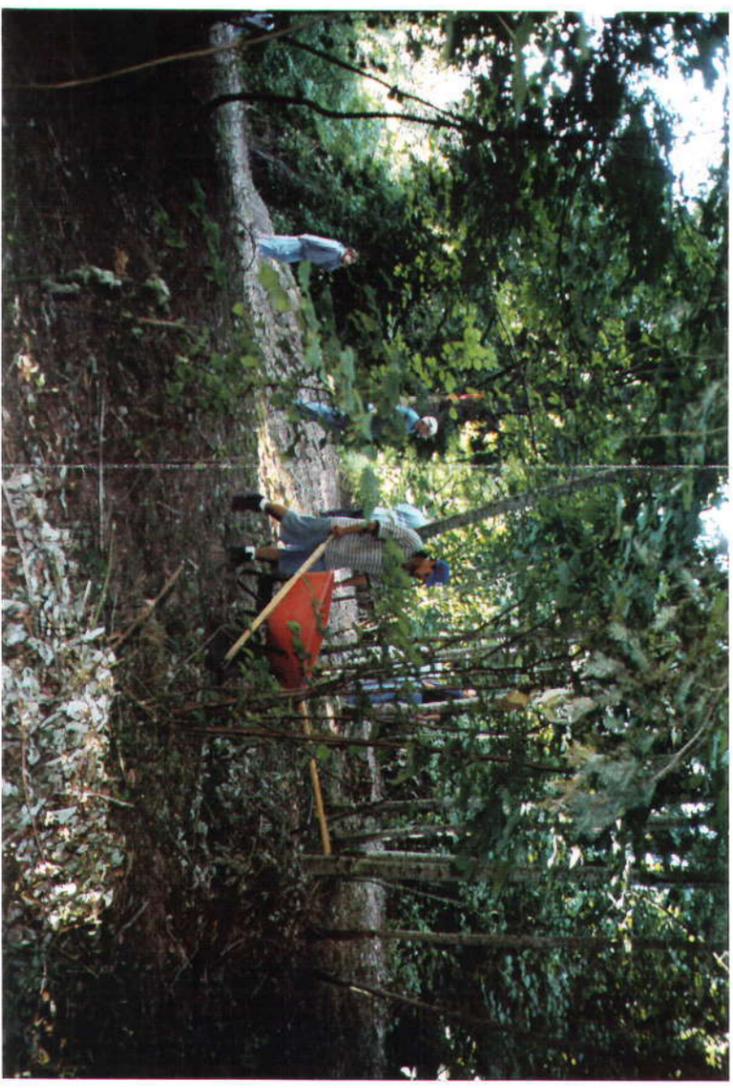
pt. 6



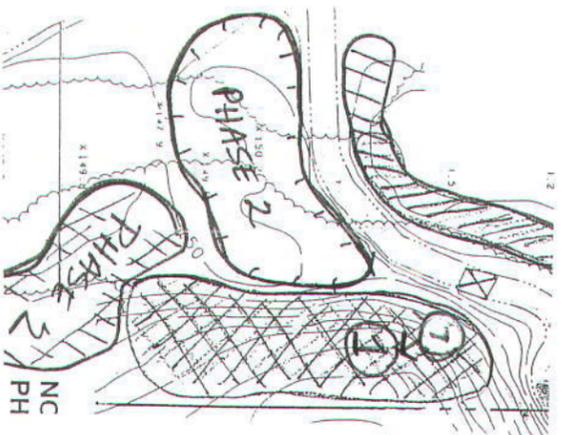
Pt. 7

**NOFZIGER 1 -
Open woodland / east side of stream
Summer 1998**

- A. Students have cleared away blackberries; there is little native understory vegetation evident.
- B. Students remove blackberries while preserving existing young trees.
- C. Blackberry trimmings are hauled back to the meadow to be mulched.



- D. October 1998; variety of native trees and shrubs planted. There is no irrigation system on this side of the creek. We plant late in the season and hope for rain.



Pt. 7.



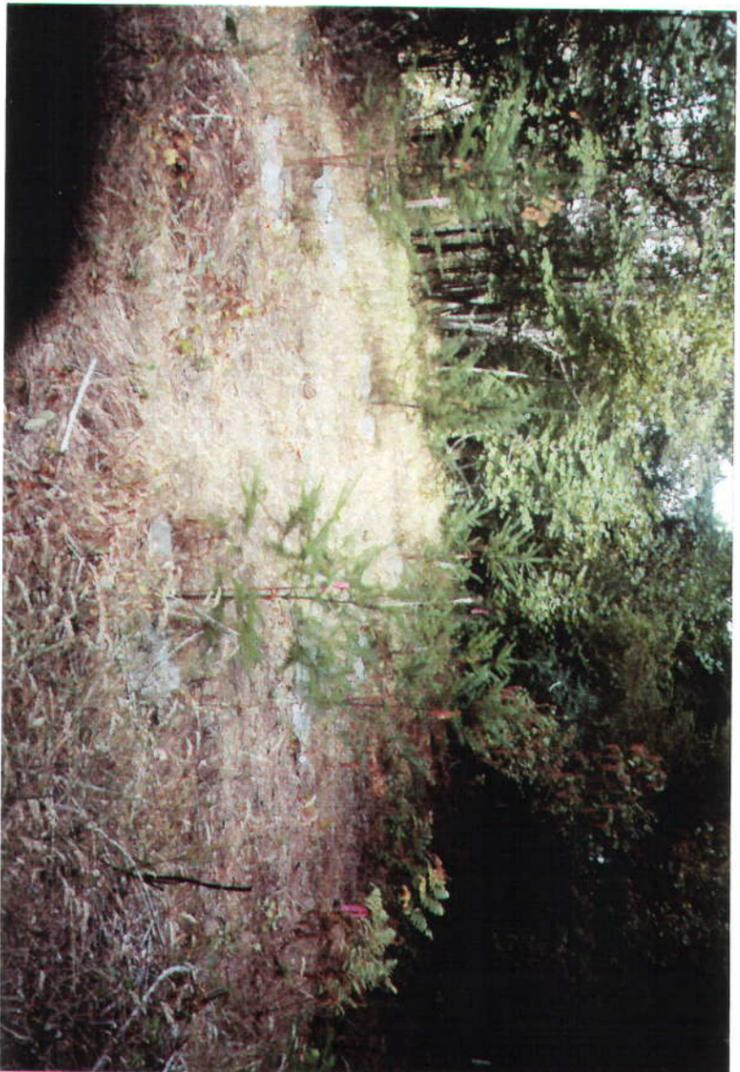
Pt. 8

**NOFZIGER 1 & 2 -
Open woodland / east side of stream
Summer 1999 and 2000**

- A. Summer 1999. Work begins on clearing new portions of the site, extending what was started in Phase 1. Plantings from 1998 visible in background.
- B. Close up view - Summer 1999. View of Phase 1 plantings; blackberry resprouts have been removed, additional weedblock fabric installed. Plants surviving their first summer.
- C. Summer 2000. Phase 1 plantings show excellent growth; teacher Roger Will looks on.

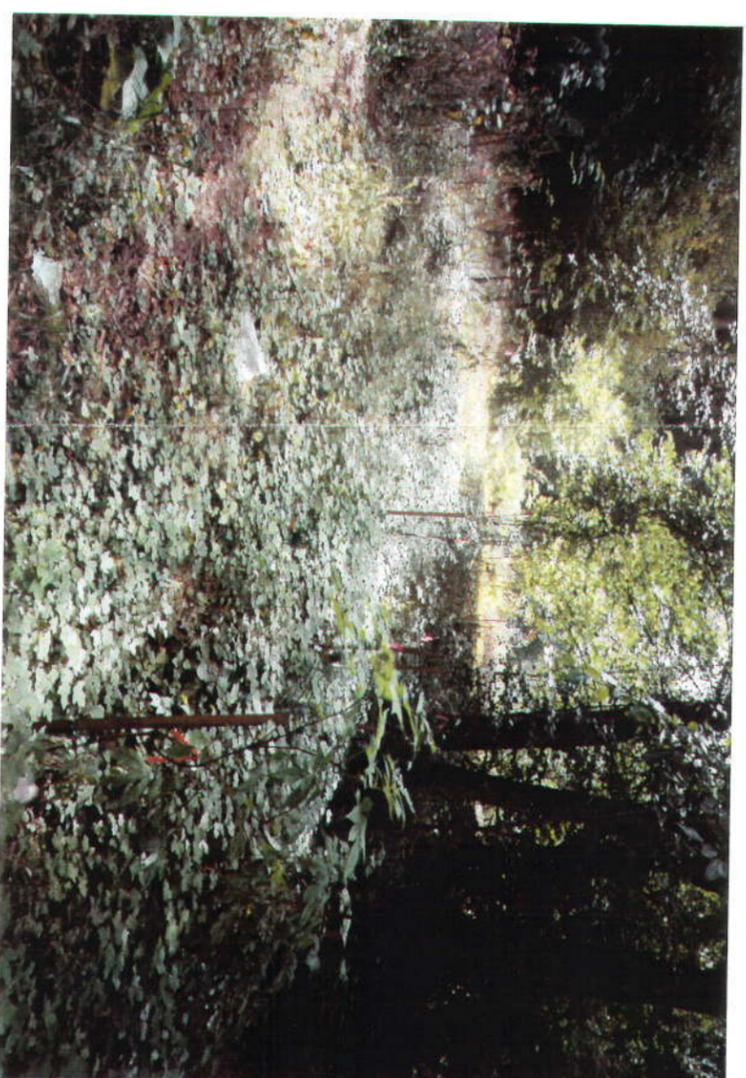
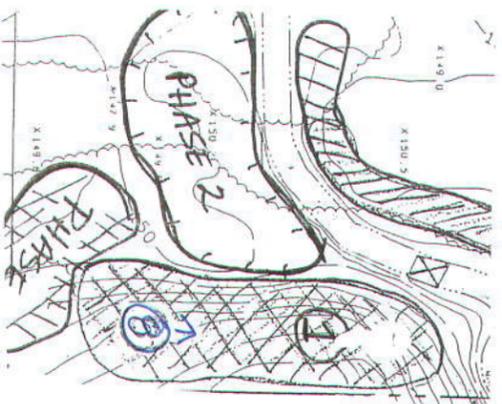


Pt. 8



Pt. 8

- D. Summer 2000. Phase 1 plantings looking good; new native understory coming up, and lots of big leaf maple seedlings as well as blackberry resprouts. The recurring blackberry problem is very challenging in sunny areas, less of a problem in somewhat shaded areas.



Pt. 7



**Nofziger 1 & 2 -
open woodland east side of stream
Summer 1998, 1999 and 2000** p1.9

A. Summer 1998; As part of Phase 1, this gentle slope was cleared of blackberries; it had been a dense thicket.

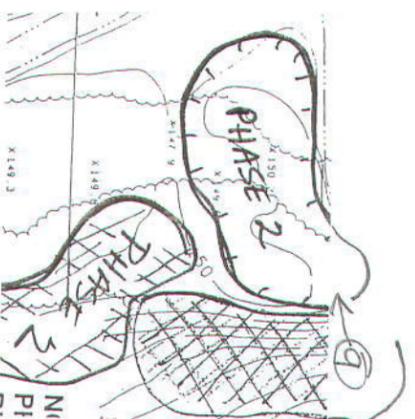
B. September 1999; Shows fresh plantings on this slope and portion of floodplain. (Phase 2 project)



C. June 2000; plantings show good growth, and some native understory plants filling in, but also competing growth from blackberries and weeds.



D. July 2000; annual maintenance; HBB has been removed, tall grasses trimmed back.





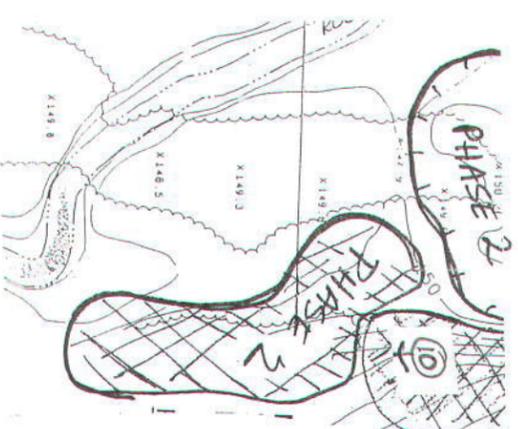
NOFZIGER 2 -
pt. 1b
open woodland, east side of stream
1999 and 2000

A. June 1999; student crews battle HBB thickets to prep for planting.

B. October 1999; same area after planting; HBB resprouts are evident amid stubble.

C. June 2000; students maintain plantings, having cut back competing growth and reapplied weedblock where needed. The blackberries are persistent.

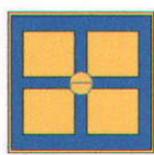
D. September 2000; after annual maintenance. Plants have been in ground 1 year; show survival and growth.



pt. 1d



Nofziger Property Vicinity Map



SOURCE:
 City of Hillsboro GIS
 - Current as of March, 2000
 Washington County GIS
 - Current as of March, 2000
 Metro
 - Current as of February, 2000

DISCLAIMER:
 This map is derived from various digital database sources. While care has been taken to ensure the accuracy of the information shown on this page, the City of Hillsboro assumes no responsibility or liability for any errors or omissions in this information. All data presented on this map is continually updated and is current as of the dates listed above. This map is provided "as is".

December 12, 2000

