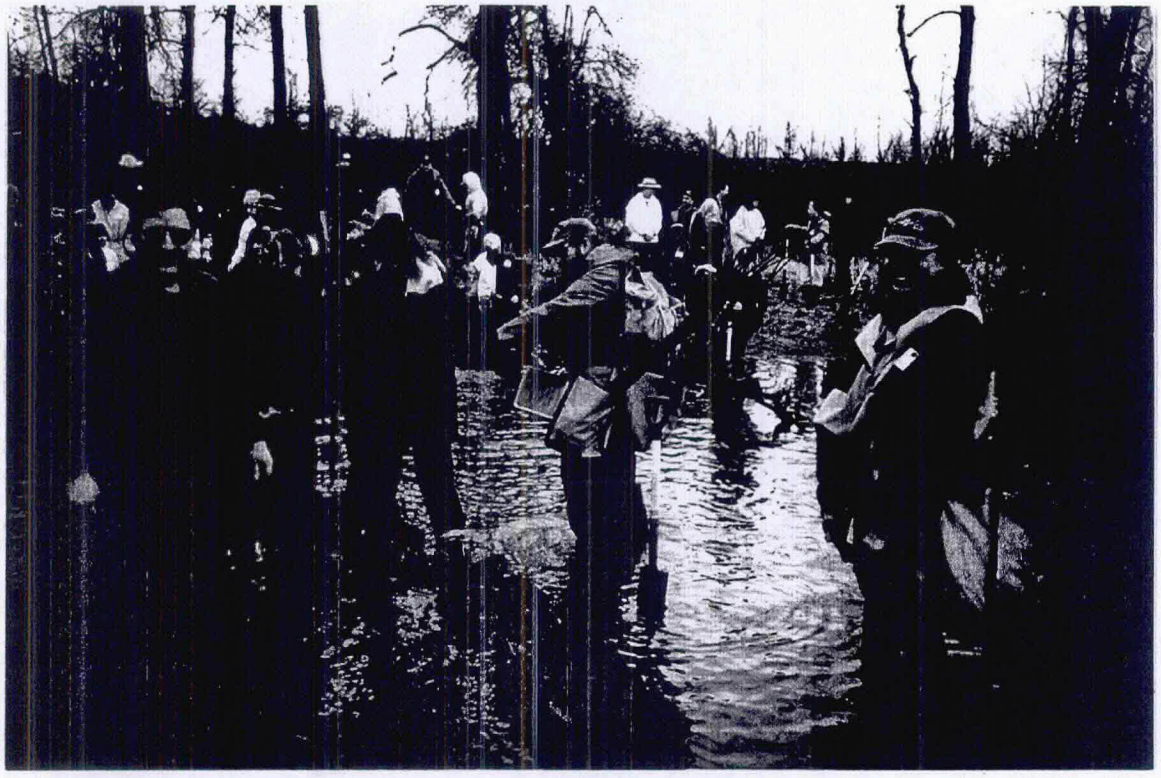


Final Report
Metropolitan Greenspaces Restoration Project
Sandy River Delta

Friends of Trees
January, 1999 – April, 2001

1. PROJECT AREA MAP: See Appendix A

2. PROJECT SITE MAP: See Appendix B

3. PHOTOS: See Appendix C

4. PROJECT DESCRIPTION

This project is a partnership between Friends of Trees (FOT) and the U.S.D.A. Forest Service. The primary goal of this project is to re-establish a gallery riparian forest on Sundial Island in the Sandy River Delta. This project occurred over a three year time period, encompassing three consecutive planting and maintenance seasons. Volunteer groups, EnviroCorps teams and Adult Community Service crews planted portions of the project each year. These plantings were maintained and monitored on an annual basis by volunteers, EnviroCorps teams, the Youth Tree Corps, a partnership between Friends of Trees, House of Umoja and Multnomah County and Adult Community Service crews.

5. GOALS AND BENEFITS OF THE PROJECT

Located at the confluence of the Sandy River and the Columbia River, the main goal of this project is to restore a gallery riparian forest on Sundial Island. Relevant objectives include providing wildlife habitat; suppressing non-native vegetation in favor of a more diverse, native vegetative composition; service as a filtration medium for water reaching the Sandy and Columbia Rivers; and enhancement of recreation and aesthetics.

Benefits of this project include a diversified native plant community. This species richness provides shelter and food for migratory bird species as part of the Pacific flyway as well as other wildlife. Moreover, the vegetation will attract a greater number of wildlife species already present like the great egret, cackling Canada goose, ring-necked duck, bufflehead, greater sandhill crane, bald eagle, pileated woodpecker, northern red-legged frog and painted turtle.

In addition to benefits to wildlife, improved water quality is another project benefit. The diversity of tree and shrub species now present create an excellent filtration system for water flowing ultimately to the Sandy and Columbia Rivers. The vegetation's complex root systems facilitate aggregate formation within the soil, thereby increasing the soil's filtering capacity, as well as its water holding capacity. Finally, this project will increase the recreational value of the area, which is frequently used by hikers, hunters and fishermen, as it matures.

6. WORK TASKS AND TIMELINES

January, 1999	planting with volunteers
February, 1999	planting with EnviroCorps and volunteers
March, 1999	planting with EnviroCorps
April, 1999	no activity
May, 1999	no activity
June, 1999	no activity
July, 1999	maintenance with Adult Community Service (ACS)
August, 1999	maintenance with Youth Tree Corps (YTC) and volunteers
September, 1999	no activity
October, 1999	no activity
November, 1999	no activity
December, 1999	planting with volunteers
January, 2000	planting with volunteers
February, 2000	no activity
March, 2000	no activity
April, 2000	planting with Reynolds High School students
May, 2000	no activity
June, 2000	maintenance with EnviroCorps and ACS
July, 2000	maintenance with EnviroCorps and ACS
August, 2000	maintenance with YTC
September, 2000	no activity
October, 2000	no activity

November, 2000	no activity
December, 2000	completed planting plan, flagged and prepared site, planting with EnviroCorps and Reynolds High School students
January, 2001	planting with volunteers
February, 2001	no activity
March, 2001	no activity
April, 2001	planting with Bonneville Power Administration employees

7. PROJECT BUDGET

	Metro	Match	In-Kind	Actual Metro	Actual Match	Actual In-Kind	Actual Total
Personnel							
EnviroCorps (original request)	1,500.00						
EnviroCorps (approved revision)	4,000.00			3,900.00		2,100.00	6,000.00
Supplies							
Plants (original request)	3,094.00						
Plants (approved request)	9,594.00			9,602.00	3,521.25		13,123.25
Vector Tubes (original request)	3,182.40						
Vector Tubes (approved revision)	1,986.41			1,986.41	1,234.76		3,221.17
Weed Mats (original request)	6,188.00						
Weed Mats (approved revision)	342.00			342.00	834.19		1,176.19
Flagging Tape (original request)	75.00			0.00			
Flagging Tape (approved revison)	0.00			0.00	6.00		6.00
Other	0.00				215.00		215.00
Rental Fees							
FOT tools			500.00		611.95	25.17	637.12
FOT vehicle use			300.00			291.18	291.18
Maintenance Costs							
Youth Tree Corps (original request)	1,800.00	2,100.00	600.00				
Youth Tree Corps (approved request)	0.00			0.00	1,035.00	3,768.00	4,803.00
Professional Services							
contract blackberry cutting		4,800.00			9,899.05		9,899.05
contract herbicidal application		2,000.00			9,000.00		9,000.00
USDAFS			1,600.00			3,765.00	3,765.00
USDAFS			1,280.00			2,420.00	2,420.00
FOT Natural Area program Manager			3,200.00*			4,780.00	4,780.00
FOT Natural Area program Coordinator						1,670.00	1,670.00
FOT Volunteer Coordinator						700.00	700.00

FOCG Volunteer Coordinator			400.00			400.00	400.00
Volunteer Labor			11,000.00			9,196.00	9,196.00
Indirect / Overhead Costs							
Postage and photocopying							
USDAFS		50			Not tracked		
FOCG		50			Not tracked		
FOT		100			Not tracked		
Contingency							
USDAFS maintenance, if necessary		4,000.00			0.00		0.00
TOTALS	**15,839.40**	**13,100.00**	**18,880.00**	**15,830.41**	**26,357.20**	**29,117.35**	**71,302.69**

* Includes amount for FOT Natual Area Manager, Natural Area Coordinator and Volunteer Coordinator.

8. PROJECT STAFF/ WORKERS/ VOLUNTEERS

Friends of Trees staff included James Allison, Natural Area Program Manager, Tuck Clinehens, Natural Area Program Manager, Rebecca Preiser, AmeriCorps Natural Area Program Coordinator, Rosemary Boardman, AmeriCorps Natural Area Program Coordinator, and Morgan Will, Volunteer Coordinator. U.S.D.A. Forest Service staff included Robin Dobson, Botanist/Ecologist and Eric Anderson, Restoration Coordinator. Julie Wasserman was the Volunteer Coordinator for Friends of the Columbia Gorge (FOCG).

Other organizations that aided in planting and maintaining the site include Northwest Service Academy's EnviroCorps field teams, Adult Community Service Crews and Friends of Trees' Youth Tree Corps.

The Sandy River Delta hosted 418 planting and maintenance volunteers, including volunteers from such organizations as Reynolds High School, Committed Partners for Youth, Hands on Portland and Centennial High School among many others.

9. HOW PROJECT RELATES TO THE GREENSPACES PROGRAM

This project falls within the Greenspaces program goal to " protect and enhance wetlands, stream corridors and similar remaining natural areas in the Portland metropolitan area." The Sandy River Delta is located near the city of Troutdale, approximately 18 miles east of Portland's city center in the Columbia River Gorge.

Situated where the Sandy River meets the Columbia River, this site serves as an important resource for fish species and other freshwater inhabitants, migratory and resident wildlife. In its current condition, its capacity to support various forms of life in large numbers is limited. With restoration of the area, this capacity will increase.

Water quality enhancement is another way this project serves to fulfill the goals of the Greenspaces program. The complex and varying depths of root systems from a large spectrum of native plants act as a filter for water that eventually reaches these two river systems. In the future as the plants live out their life span, they will contribute nutrients back into the ecosystem from which new plant life will emerge.

Not only is this area an important natural resource, but it also an important historical site, visited by the Lewis and Clark expedition. In the Portland-Metro area, we have lost many of the sites visited by this monumental expedition due to development. That said, it is important to maintain and restore part of this legacy as it was 150 years ago.

10. WHAT WORKED / WHAT DIDN'T / HELPFUL HINTS / ADVICE

The Sandy River Delta is a site burdened with many challenges. Our small seedlings faced fierce competition not only from other invasive plant life like the prolific reed canary grass *Phalaris arcendinacea* and Himalayan blackberry *Rubus discolor*, but there were also other inhibitors to their success including voles and deer. Also, during the summer of 2000, the delta underwent an accidental burn, damaging about 3 acres of seedlings planted by Friends of Trees.

The proposed restoration site on Sundial Island is a huge site encompassing 13 acres. It is also rather remote, situated over 1 mile from the entrance along dirt (sometimes mud) roads. During part of the year, the site is inaccessible due to flooding of the Sandy River. Due to Friends of Trees' reliance on large numbers of volunteers and the necessity of transporting them to the project site, these inconveniences became major obstacles.

Some of the methods of plant protection we initially tried included using such accessories as weed mats, vexar tubes, mouse mesh and aluminum foil. We found that the weed mats worked well to suppress growth of the reed canary grass. However, it was still necessary to return to the site to cut back around some of the plants. Unfortunately, we found the weed mats created an easy access for the large vole population and many of the plants died due to girdling. Vexar tubes were to protect the plants from other predators like deer. Unfortunately they provided little deterrence to hungry herbivores. Oftentimes the leader had been chewed off and the plant was unable to grow much passed the boundaries of the tube. Mouse mesh and aluminum foil provided some protection to tender, tasty bark, but a few enterprising rodents found a way to bypass these barriers and chewed above them.

Since determining the cause of this damage, we have installed wire caging around some of the surviving plants hoping this will provide a break from deer foraging and allow the plants to realize their growth potential. We also found the fire to work to our advantage since it cleared a large parcel of blackberry and reed canary grass to provide easier planting. This planting season, we planted taller six to eight foot trees to eliminate the ability of the deer to reach the leader on a part of the burned section. We also spaced the trees apart in 20-foot rows to allow a mower to pass through and contain the reed canary grass and Himalayan blackberry. Although it is still early, we are finding a better survival rate among these taller trees than their smaller counterparts.

11. MONITORING AND MAINTENANCE PLAN

We conducted monitoring and maintenance activities starting in April through September. The monitoring protocol used was similar to that used by City of Portland, Bureau of Environmental Services. We established several random plots of five to seven feet in diameter throughout the

site. Within these plots we measured tree survival, vigor and causes of death and damage. This information helped guide our maintenance plan and future planting methods. For example, if we found extensive rodent damage we increased or changed the barriers protecting the plant.

Maintenance plans primarily involved control of reed canary grass as the largest source of competition for tree and shrub survival. To control the reed canary grass we used manual labor from volunteers, Youth Trees Corps members and Adult Community Service crews. Beginning in April and working through September, we regularly sent groups to the site to release individual trees and shrubs from growing reed canary grass. Also included in our maintenance plan was replacement, repair or addition to existing barriers depending on their integrity and effectiveness.

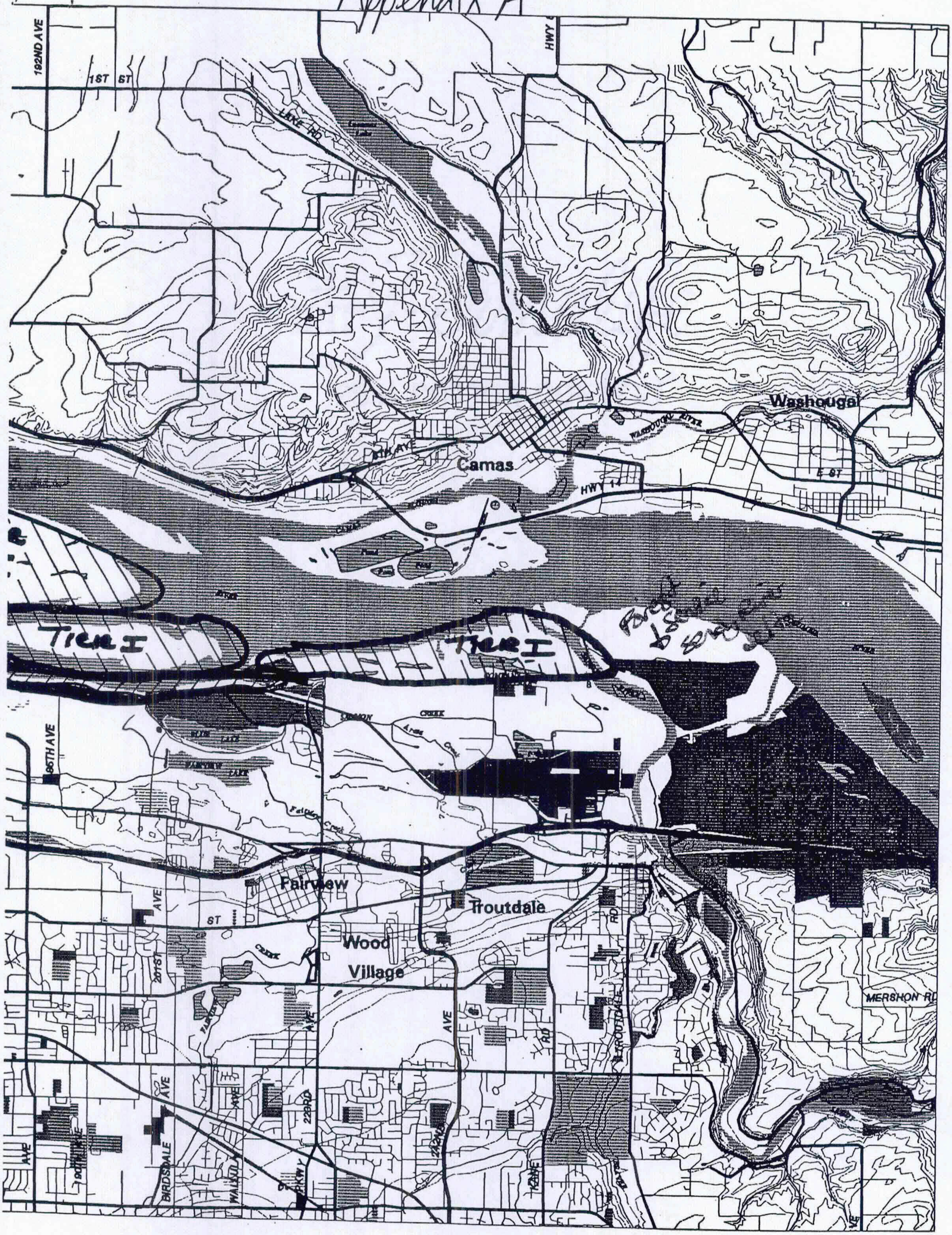
12. ACCURATE COUNT OF SPECIES OF TREES AND SHRUBS PLANTED

3622	Oregon ash	*Fraxinus latifolia*
2978	black cottonwood	*Populus trichocarpa*
1096	red alder	*Alnus rubra*
761	pacific willow	*Salix lasiandra*
110	Indian plum	*Oemleria cerasiformis*
145	pacific ninebark	*Physocarpus capitatus*
125	Douglas spiraea	*Spiraea douglasii*
150	red elderberry	*Sambucus racemosa*
50	blue elderberry	*Sambucus caerulea*
90	big leaf maple	*Acer macrophyllum*
15	cascara	*Rhamnus purshiana*
300	red osier dogwood	*Cornus sericea*
90	Pacific crabapple	*Malus fusca*
80	black hawthorn	*Crataegus douglasii*
81	aperta sedge	*Carex aperta*
81	slough sedge	*Carex obnupta*
81	one-sided sedge	*Carex unilateralis*
81	tufted hairgrass	*Deschampsia cespitosa*

81	taper-tipped rush	*Juncus acuminatus*
81	common rush	*Juncus effusus*
81	pointed rush	*Juncus oxymeris*
81	rice cutgrass	*Leersia oryzoides*
10,260		

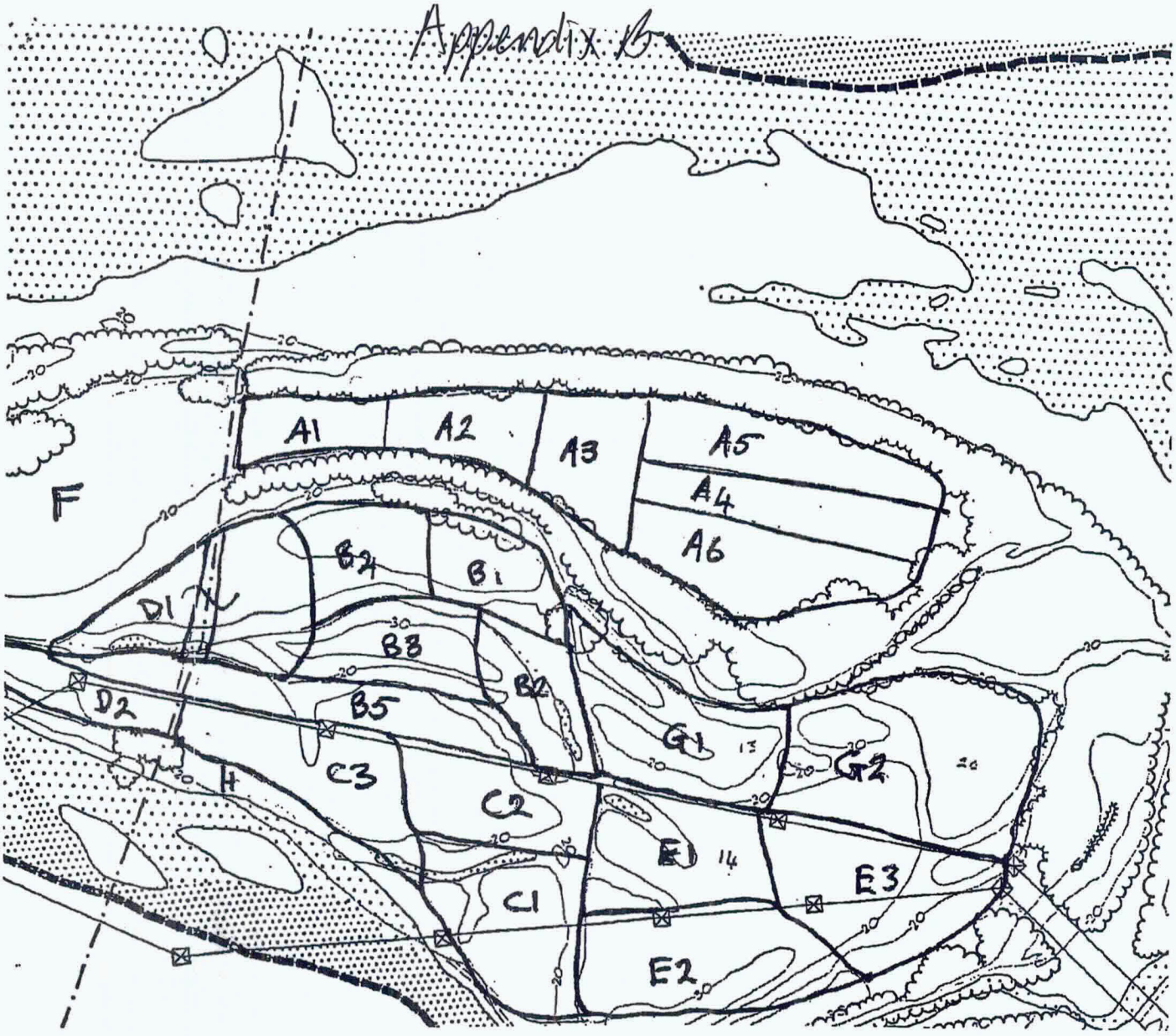
	Description of Services or Materials Purchased	Cost or Cash Value (cash, in-kind materials & services; volunteer labor)	Request for Reimbursement from Metro*
PERSONNEL COSTS Volunteer hours are valued at $5.50 per hour. Attach time sheets or receipts for both in-kind and reimbursements.	• EnviroCorps field team ($300.00-$500.00/day, 17 days) • Volunteers ($5.50/hr, 4 hrs/ea, 418 volunteers)	• $6,000.00 • $9,196.00	• $3,900.00 • $0.00
MATERIALS & SUPPLIES Briefly describe. Attach receipts for both in-kind and reimbursements.	• Plants • Vector tubes • Weed mats • Flagging tape • Other (gloves, etc)	• $13,123.25 • $3,221.17 • $1,176.19 • $6.00 • $215.00	• $9,602.00 • $1,986.41 • $342.00 • $0.00 • $0.00
EQUIPMENT RENTAL Briefly Describe. Attach receipts for both in-kind and reimbursement.	• Shovels, tin snips • FOT vehicle use ($0.345/mi, 844 mi.)	• $637.12 • $291.18	• $0.00 • $0.00
PROFESSIONAL or OUTSIDE SERVICE(S) Briefly describe. Attach receipts for both in-kind and reimbursements	• USDAFS • USDAFS • FOT Natural Area Program Manager • FOT Natural Area Program Coordinator • FOT Volunteer Coordinator • FOCG Volunteer Coordinator • Youth Tree Corps • Blackberry removal • Herbicidal application	• $3,765.00 • $2,420.00 • $4,780.00 • $1,670.00 • $700.00 • $400.00 • $4,803.00 • $9,899.05 • $9,000.00	• $0.00 • $0.00 • $0.00 • $0.00 • $0.00 • $0.00 • $0.00 • $0.00
TOTAL REIMBURSEMENT REQUESTED		**$71,302.96**	**$15,830.41**

Appendix A



192ND AVE
1ST ST
HWY
LAKE RD
Camas
Washougal
WASHOUGAL RIVER
HWY 14
E ST
TIER I
TIER I
SALMON CREEK
FAIRVIEW LAKE
Fairview Creek
185TH AVE
Fairview
Troutdale
Wood
Village
201ST
AVE
ST
MERSHON RD
TROUTDALE
RD
KANE
RD
BIRDSDALE
AVE
223RD
AVE

Appendix B



A_2 planted 1997, 1998, 1999, 2000

A_3 planted 1997, 1998, 1999, 2000

A_4 planted 1997, 1998, 1999, 2000

B_1 planted 1999, 2000

D_1 planted 2000, 2001

C.R.G.N.S.A.
12/02/98 WED 13:40 FAX 541 3361910

Appendix B