FINAL APPLICATION

Final applications must be physically received by the deadline. Please send or deliver one original and 8 double-sided copies to: Jennifer Thompson, U.S. Fish and Wildlife Service, 2600 SE 98th Avenue, Ste. 100, Portland, OR 97266. Questions? Call (503) 231-6179 or e-mail Jennifer_Thompson@fws.gov.

PART 1: BACKGROUND INFORMATION

1.	Project/Program name: ***Western painted turtle habitat enhancement***		
2.	Applicant organization: *Metro – Regional Parks and Greenspaces Dept.*		
	Address: *600 NE Grand Ave., Portland, OR 97232-2736*		
3.	Application contact person: *Elaine Stewart, Wildlife Area Manager*		
	Phone #: *503.797.1515*	Fax #: *503.797.1849*	E-mail address: *stewarte@metro.dst.or.us*
4.	On-site project or activity leader: *Elaine Stewart, Wildlife Area Manager*		
	Phone #: *503.797.1515*	Fax #: *503.797.1849*	E-mail address: *stewarte@metro.dst.or.us*
5.	Fiscal agent, agency or organization that will enter into contractual agreement with the U.S. Fish and Wildlife Service and to which reimbursements will be made, if different from above:		
	Agency/organization: *Metro*		Tax ID #: *93-0636311*
	Address: *600 NE Grand Ave., Portland, OR 97232-2736*		
	Contract Officer: *Rachel Fox*		
	Phone #: *503.797.1856*	Fax #: *503.797.1849*	E-mail address: *foxr@metro.dst.or.us*
6.	Funding request: *$37,688*	Projected match: *$515,262*	Total estimated project cost: *$552,950*
7.	Project Summary: *Re-direct human activity and provide relief from disturbance to western painted turtles. Demolish existing parking lot, entry road and short trail segment near slough heavily used by western painted turtles. Import topsoil and plant areas with riparian forest plants. Project is part of an overall project to move visitor facilities away from turtles, to less sensitive habitat.*		

8.	Is the above named organization submitting more than one proposal this year? _X_ Yes ___ No If so, list the projects proposed in order of your organization's priorities: *Both proposals are high-priority projects for Metro. The proposed projects are very different, and Metro was not able to select one as a higher priority than the other.* #1:	#2:	#3:
9.	Has your organization received Greenspaces funding before? _X_ Yes ___ No		
	If so, what year(s)? *2001, 2002*	What program(s)? *Parks and Greenspaces, Planning*	
10.	If applicable, provide directions to the project area(s) from I-5 or I-205 (attach map): *Travel north from Portland on I-5. Take exit 307 (North Marine Drive) and go west on North Marine Drive approximately 2.2 miles. Wildlife Area entrance is on the left and marked with a brown and white sign, "Smith and Bybee Lakes Wildlife Area".*		

PART 2: ESSAY QUESTIONS

1. **Describe the proposed project or program, and your goals. For restoration and enhancement projects, representative photos are required along with a description of the land ownership and level of natural resource protection, existing site conditions, project dimensions, proposed activities and implementation methods. If restoration is proposed on unprotected private property, this response must explain the need for this work as it relates to fish and wildlife habitat on protected lands.**

This project will re-direct human activity away from sensitive habitat used by western painted turtles (*Chrysemys picta*) at Smith and Bybee Lakes Wildlife Area, providing relief from disturbance and undesirable human activity. Metro is implementing a recreational facilities plan to address conflicts between wildlife and people and to implement key components of the Natural Resources Management Plan for Smith and Bybee Lakes. This project is focused on balancing wildlife habitat protection with public use; when completed, this project could serve as a model for achieving this balance.

Existing facilities (parking lot and unimproved canoe slide) are located adjacent to a slough used by the largest group of painted turtles at the wildlife area (Figures 1 and 2). Boaters currently access the lakes by paddling through this slough. Once through the slough, boaters must portage into Bybee Lake to explore the wildlife area.

Development of the new facilities is driven by the needs of the western painted turtle and other wildlife – see goals 1 and 2 below. Although improved visitor facilities are sorely needed at the wildlife area, the primary impetus for the new facilities is the conflict between humans and turtles. Additional goals for improved public access and amenities are included in the list below.

1. Provide relief from disturbance to western painted turtles.
2. Restore riparian habitat at Smith and Bybee Lakes Wildlife Area.
3. Improve bus access for school groups.
4. Provide canoe/kayak launching directly onto the lakes, eliminating the need to portage.
5. Provide permanent, fully accessible restroom facilities.
6. Integrate public facilities with the 40-mile Loop Trail.

This grant application seeks funding for demolishing the existing parking lot and restoring it, the associated trail and road, and the existing canoe slide to native forest habitat (goals 1 and 2). The full project includes a new parking lot and trailhead, a 2-stall vault toilet, a new canoe launch, and other amenities, all located on the north side of Smith Lake, ¼ - ½ mile from the existing facilities (Figure 3).

All of the restoration work to be funded under this grant will occur on publicly owned land in North Portland. The project site is located entirely within the environmental zone and the boundary of Smith and Bybee Lakes Wildlife Area. Thus, a high level of natural resource protection is assured for this restoration project site.

The 0.6-acre project area includes a 10,000 sq. ft. asphalt parking lot with a concrete curb and two stormwater drains. Additional areas to be demolished include an asphalt path connecting the existing parking lot with the interior trail at the wildlife area, and a gravel road leading from North Marine Drive to the parking lot (Figure 4). The concrete, asphalt and gravel will be

removed and the stormwater drains will be plugged with concrete. The rock base will be removed to facilitate planting, and topsoil will be brought in to bring the site back up to grade.

All demolished areas and the canoe slide, as well as an open area near the entry road, will be planted with locally grown native trees and shrubs (bare-root plants), and seeded with grasses and forbs. (Species and quantities are provided in the materials section of the budget on pages 13-14.) All plant material will be compatible with the plant community in the adjacent forest. A dense band of prickly species at the east side will deter people from using the area. The newly planted area will prevent paddlers from launching at the informal launch site, and will cut off human access to nearby turtle nesting grounds. It will also expand the riparian forest habitat at the wildlife area. Metro will work with the City of Portland, Bureau of Environmental Services' Watershed Revegetation Program (WRP) to accomplish the planting. The WRP and Metro have planted more than 90 acres at the wildlife area to date. Metro will use an existing agreement with WRP to procure plants and a planting crew, and to supervise the planting crew.

Figure 1. View of Smith and Bybee Lakes Wildlife Area parking lot. Informal canoe slide is located immediately left of the bike rack located next to the sign at the left of the photograph. North Marine Drive is to the right of the parking lot.

Figure 2. Blind slough used by western painted turtles, viewed from the base of the informal canoe slide. Note the woody debris used for basking by turtles. The surrounding riparian forest is dominated by black cottonwood, bigleaf maple and other typical riparian gallery forest plants.

Plot time: Jan 6, 2003 J:\price\03006

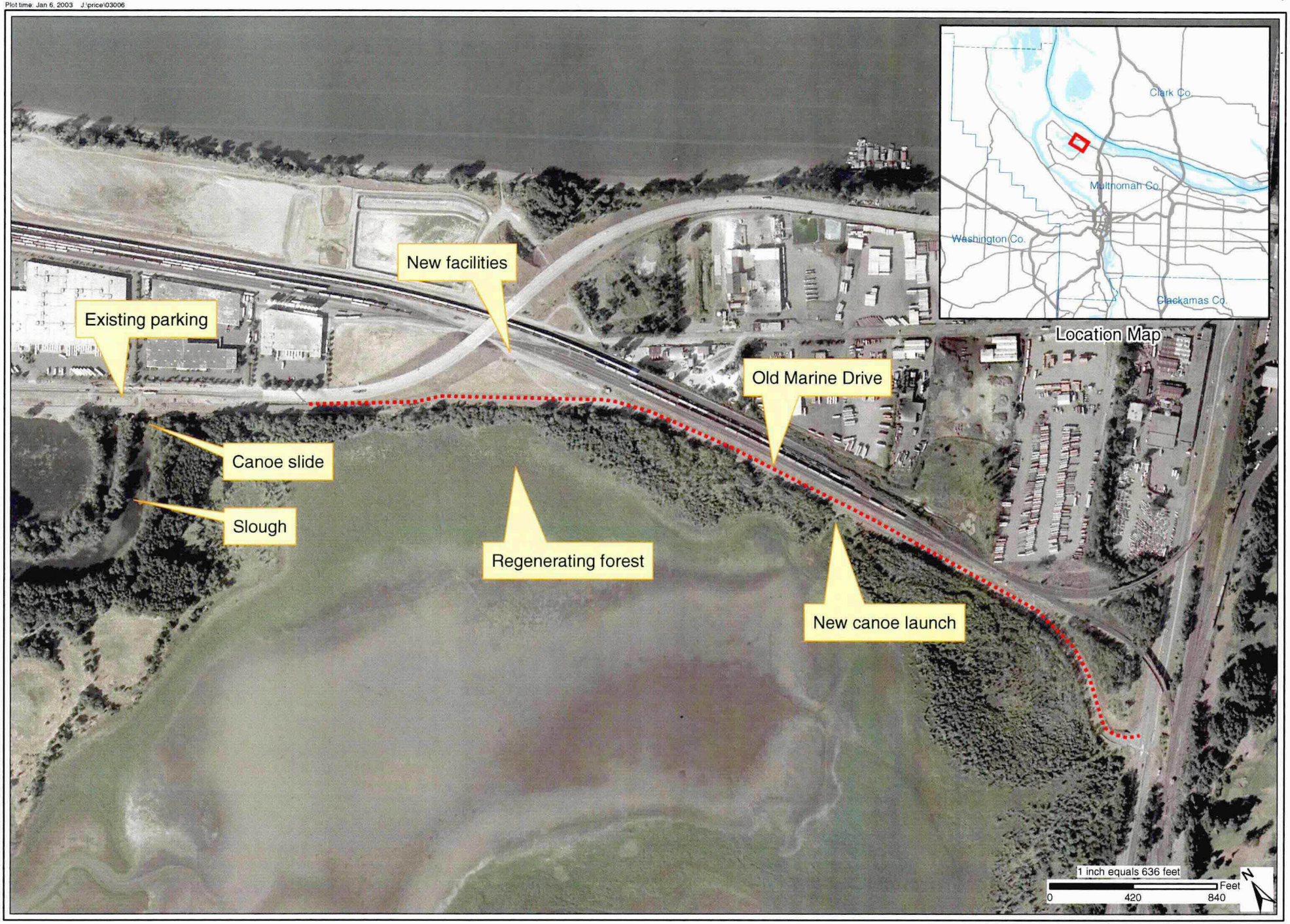

Figure 3. Aerial Photograph of Existing and Future Facility Locations

Figure 4A

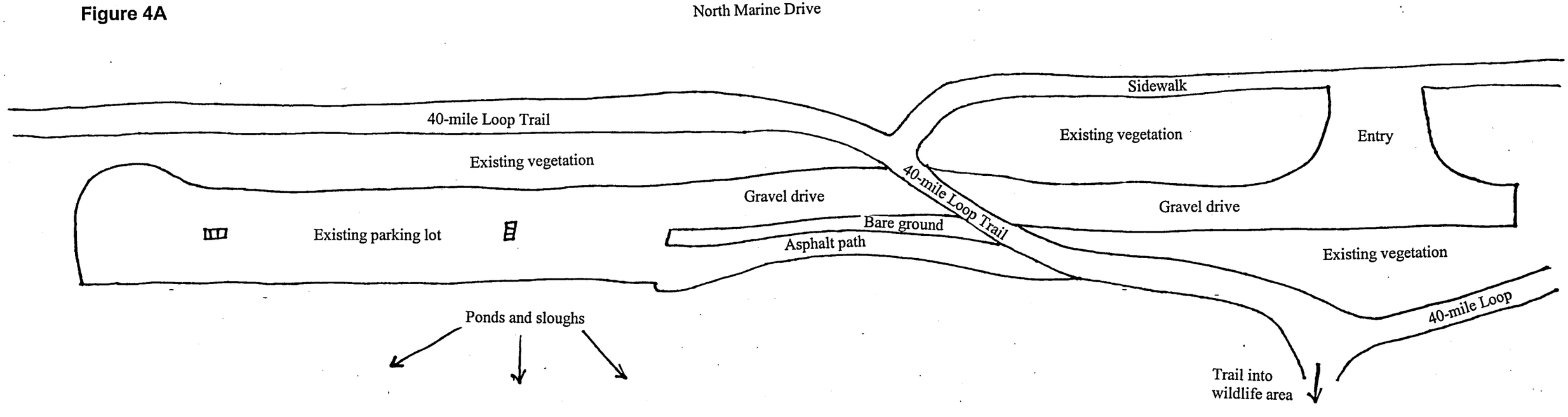

Figure 4B

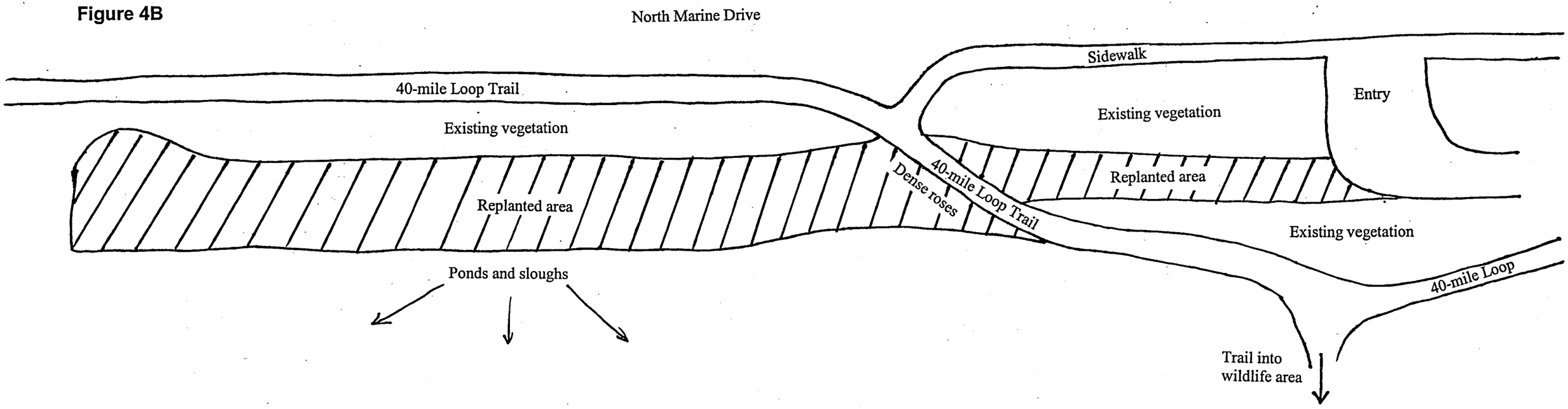

Figure 4. Diagrams of (A) existing parking lot, gravel entry road and trail segment to be demolished, and (B) planted areas after restoration.

2. Explain the need for the project or program, including any plans, documents or rationale to demonstrate the importance of the proposed work and how it ties in with other conservation efforts.

The project will divert human activity away from important habitat for western painted turtles, which are listed Sensitive-Critical in Oregon (Marshall et al., 1996; Oregon Natural Heritage Program, 2001). Human disturbances to turtles include interruption of basking and feeding activities, nest destruction, illegal collection and direct mortality. Smith and Bybee Lakes Wildlife Area has what may be the largest population of painted turtles remaining in Oregon and is one of only two sites with significant populations left in the state. More than 300 turtles have been marked in studies there, and protection of this sensitive species is an important management objective.

The area of greatest human activity, the ponds and sloughs along North Marine Drive, is the same area where 70 percent of the wildlife area's turtle population basks, feeds, nests and overwinters (Metro, 2001). The unimproved canoe slide off the parking lot leads into a slough that is heavily used by painted turtles. Paddlers repeatedly disturb basking turtles, which retreat to the water; animals often remain under water for a considerable time after disturbance. Turtles bask for thermoregulation, digestion, vitamin D synthesis, resting and other reasons. The energetic costs of this continual disturbance are unknown, but it could contribute to reduced reproductive success. The percentage of gravid (egg-bearing) females captured at Smith and Bybee lakes in 1999 and 2000 was less than half the percentage at a nearby area with less human activity (Northwest Ecological Research Institute, 2001).

The easy access to prime turtle habitat leaves them vulnerable to illegal collection and incidental mortality from fishing; both have been documented in recent years. Fishing activity will decrease as access is reduced, and the longer walk to their vehicles, in the open where they are easily seen, should deter poachers. Human activity also has encroached upon turtle nests. The shoreline and adjacent upland area between North Marine Drive and the ponds and sloughs are known nesting areas for painted turtles. The network of deep ruts on shore attests to the number of vehicles driven throughout the area, and people also bicycle, walk and take dogs through the area; few nests probably survive this onslaught. The recent North Marine Drive road-widening project reduced available nesting habitat, but it also removed most vehicle access points. The remaining access point is the existing wildlife area parking lot. Once the existing lot is demolished and replanted, the remaining nesting grounds will be fully protected from vehicles, and foot traffic will be considerably diminished.

In addition to the western painted turtle population, the wildlife area has a number of other natural resource values. Smith and Bybee lakes and their associated sloughs and wetlands are remnants of formerly extensive river bottomlands located near the confluence of the Willamette and Columbia rivers. The Oregon Biodiversity Project identified Smith-Bybee and other nearby Columbia River bottomlands as one of five conservation opportunity areas for the Willamette Valley (Oregon Biodiversity Project, 1998). Metro has identified the Columbia Slough wetlands, including Smith-Bybee, as a regionally significant natural area (Metro, 1992). Ecological restoration efforts at the wildlife area include restoring hydrologic processes to support natural regeneration of bottomland hardwood forests and emergent wetlands, control of myriad invasive species, and revegetation of more than 90 acres (to date) of riparian forest. The project to be funded by the Greenspaces program would restore a small but critical part of the riparian forest complex at Smith-Bybee.

This habitat restoration project and the overall visitor facilities project are influenced by a number of planning efforts and documents. The Smith and Bybee Lakes Wildlife Area was established in 1990, when Metro and the City of Portland jointly adopted the Natural Resources Management Plan for Smith and Bybee Lakes (Portland Bureau of Parks and Recreation, 1990). The plan's goal is to "protect and manage the Smith and Bybee Lakes area as an environmental and recreational resource for the Portland region". Although the emphasis is on the ecological values of the site, recreational uses are also important. The management plan recommended recreational uses of the wildlife area, including paddling, hiking, wildlife viewing, fishing and other activities. Subsequent planning efforts, including the Recreation Master Plan (Portland Bureau of Parks and Recreation, 1992) and the Recreation Facilities Plan (Apostol and Sinclair, 1999), reflected the public's desire for recreational opportunities as well as habitat enhancement and protection.

The final planning and design work for the new facilities and restoration of the existing parking area reflect not only the planning efforts specific to Smith-Bybee, but also the policies of the City of Portland regarding development, environmental zone protection, incorporation of the 40-mile Loop Trail, transportation design standards and allowable activities within a public right of way. Every detail of the facility design, including the habitat restoration piece, is a result of input from multiple interest groups and public agencies that have regulatory or other interests in the project. Considerable effort has gone into balancing public access with environmental protection, and designing facilities with minimal impact to the site while providing required amenities such as stormwater treatment, restrooms, etc. This "light touch" is reflected in the on-site treatment of stormwater, and the use of an existing roadbed for the shared driveway and trail.

3. **Describe the expected benefits and outcomes of the proposed work, as it relates to fish and wildlife.**

The western painted turtle is the primary beneficiary of this project. Lack of recruitment is believed to be the main reason for declines in Oregon's western painted turtle populations (Marshall et al., 1996). Reduced disturbance to basking turtles may improve the percentage of gravid (egg-bearing) females in the population. This, combined with greater protection of nesting habitat, should improve recruitment in the Smith-Bybee population. Redirecting anglers to other locations within the wildlife area will reduce, and may eliminate, mortality from turtles biting or swallowing baited hooks. With the parking lot relocated ¼ mile away, poachers will no longer be able to move through the brush to their vehicles without being seen.

Many other wildlife species will benefit from lowered human disturbance at the ponds and sloughs and Bybee Lake, and from habitat restoration at the current parking lot. A wide range of species use the ponds and sloughs, such as: river otter; beaver; muskrat; belted kingfisher; osprey; chorus frog; waterfowl such as Canada goose, mallard, American wigeon, and gadwall; great blue heron and tree swallow.

Reforesting the parking area will contribute to Smith-Bybee's healthiest mature, contiguous patch of riparian forest, which is one of only two nesting sites at the wildlife area for interior forest birds such as the Swainson's thrush. Other species nesting in this area include yellow warbler, western wood peewee, downy woodpecker, black-headed grosbeak, brown creeper, bushtit, common yellowthroat, Bewick's wren and many others.

The re-forested area will also help buffer the noise and light from North Marine Drive, which borders the wildlife area on the north. The recent expansion of North Marine Drive from two lanes to four lanes encroached into the wildlife area and brought considerably more street lighting with it, in spite of protective shields on lights along the wildlife area boundary. Traffic noise can affect wildlife in many ways, such as reducing the density of breeding birds near roads (Reijnen et al., 1995). Effects of artificial light include blinding nocturnal animals, increasing their susceptibility to predators and decreasing their ability to forage (International Dark Sky Association, 2002). The forest patch to be planted with this project lies between North Marine Drive and the rest of the wildlife area; it will shield the wildlife area from some of the road noise and lights.

Placing the canoe launch on Smith Lake will reduce the activity in Bybee Lake, which is intended to be more of a reserve. This will result in reduced disturbance of birds that use Bybee Lake, such as the bald eagle, great egret, great blue heron, numerous waterfowl species, and migrating shorebirds. Many of these birds, especially the great egrets and shorebirds, tend to use Bybee Lake more than Smith Lake.

4 Describe how you plan to monitor and/or evaluate the program to measure success. For restoration and enhancement projects, please include specific details about how baseline information will be obtained, the monitoring protocols to be used, the monitoring schedule, and responsible parties.

The key measure of success for this project will be the reduction of disturbance to western painted turtles and their nesting area. Additional measures of success include successful reestablishment of the native plant community where the existing parking lot and canoe slide are located. Indicators of success will be:

- Cessation of boat launching into the slough and ponds near the existing parking lot – the area will be patrolled, and also monitored visually, since footprints and tracks left by sliding canoes are easily seen;
- Cessation of driving and bicycling on the nesting area – patrols and visual monitoring to detect tire tracks from bikes or vehicles;
- Turtle numbers remain high in the slough and ponds area – formal visual surveys conducted annually will document use of the area;
- Woody plants in the revegetation area are established – they should be "free to grow" in five years after planting;
- Successful establishment of the herbaceous plant community – the herbaceous community should be dominated by native grasses and forbs, which can be determined visually;
- Human access to the nesting grounds nearly eliminated in five years – footprints, bandit trails and other evidence of trampling will reveal this activity.

The restoration piece of this project can be monitored directly (as opposed to sampling), since the site is small. Overplanting will ensure that sufficient plants are established after the inevitable mortality. Monitoring of the overall site will include watching for signs of trampling or other damage to plants. Signing and fencing will be installed as needed to protect the area if warranted. (Any signage would be temporary signs, asking visitors to stay away from the young plants; they would not refer to the site's use by turtles.) The adjacent forest is serving as a reference site for the restoration plan.

Monthly visual inspections of the trees and shrubs will enable rapid response if herbivory becomes a problem. Tree tubes will be installed at the time of planting as needed for species that are most vulnerable to herbivory. When trees approach the size where they become attractive to beaver (around year four or five), some trees will be caged. Overplanting the site allows for some harvest by beaver, an important resident of the wildlife area, while preserving the integrity of the restoration work.

Visual monitoring will also determine whether herbaceous plants are successfully established. The area will be reseeded as needed to establish good cover that will compete well with exotic species. Weed control will include hand removal by volunteer work parties and digging and spraying by staff. Herbicides may be used if weed outbreaks become a problem. For example, rosettes of teasel (*Dipsacus sylvestris*) or thistle (*Cirsium* spp.) may be spot-sprayed with glyphosate (e.g., Rodeo) or triclopyr (e.g., Garlon 3A), applied with a backpack sprayer. (Funding for herbicides is not sought under this proposal.)

Since the City of Portland's Land Use Review process is under way with this project, there will be requirements for plant establishment related to the LUR decision. Those requirements are not known at this time, however, common requirements include 100 percent survival of woody

plants shown in the submittal and 80 percent cover by seeded grasses and forbs over three years. Annual monitoring reports are typically required for the first three years.

5. List project partners with a description of their roles and qualifications.

Partners in the restoration component of this project include:

- Watershed Revegetation Program (City of Portland, Bureau of Environmental Services): The WRP will provide plants, seeds and other materials for the planting component of this project. WRP staff will hire and oversee the planting crew. Metro has an intergovernmental agreement with WRP for these services. The WRP has planted hundreds of acres in Portland in recent years, including more than 90 acres at Smith-Bybee. WRP staff have considerable expertise in forestry, plant propagation, plant ecology and botany, and they have worked with staff in other city bureaus on updates for the Portland Plant List, lists of nuisance species, and integrated pest management approaches for weed management.
- Volunteers: Metro's volunteer program has a workforce that assists with maintenance on plantings; volunteers donated nearly 2,000 hours to the wildlife area in 2002, working on site maintenance and wildlife monitoring. In addition to the wildlife area manager and seasonal technician, Smith and Bybee Lakes Wildlife Area has an experienced site steward who is responsible for leading volunteer work parties there. Because this is a relatively small restoration site, Metro may involve groups from nearby schools that are engaged in service learning projects. The wildlife area manager is contacted several times a year by schools that are seeking opportunities for service learning. This restoration project would provide a good opportunity for students to learn about habitat restoration, invasive species and wildlife-habitat relationships while assisting with site maintenance.

Partners in the other project components include:

- Port of Portland: The Port is assisting Metro with the revocable permit with City of Portland for use of the public right of way, allowing use of the Port's road for the 40-mile Loop Trail and driveway to the parking lot and canoe launch, allowing use of the Port's property for the canoe launch, and contributing $10,000 toward design and engineering of the project.
- Oregon Department of Parks and Recreation: The state parks department is a major funding partner in public access projects such as this one. This project is expected to be highly competitive with both state parks grants that will be sought.
- Metro Open Spaces bond measure: The Metro Council re-allocated a substantial contribution from the "local share" component of the bond measure to this project.

6. Outline the proposed schedule, including target dates for specific work tasks, permits and approvals, and plans for long-term maintenance and monitoring, as applicable.

The following timeline includes milestones for the full project. Those items related to this grant application are in bold italics. The timeline presented is an optimistic scenario; permits frequently take longer than anticipated. If construction is not possible this fall, it will begin next summer (restoration of the parking lot area would then occur in October and November, 2004).

June 2002 – project kickoff, conduct canoe launch feasibility study
July-August 2002 – site design concept generation
August 2002 – first Project Advisory Committee meeting, feedback on concept
Sept.-Oct. 2002 – refine concept
Oct. 2002 – second Project Advisory Committee meeting, approve final concept
January 2003 – 50% construction drawings available for review
February 2003 – 90% construction drawings ready
February 2003 – submit Land Use Review to City of Portland
February 2003 – submit Land and Water Conservation Grant application
April 2003 – submit Greenspaces Conservation and Restoration Program grant application
May 2003 – submit Local Government Grant application
June 2003 – Land Use Review decision/approval
June 2003 – building permits submitted
Summer 2003 – grant funding determined
Summer 2003 – revocable permit obtained from city for use of public right of way
Summer 2003 – obtain fill-removal permits for canoe launch work
August 2003 – advertise for bids
September 2003 – bid opening
October 2003 – construction begins
January 2004 – construction of new facilities complete; demolish old parking lot and restore site.
April-May 2004 – visual survey of turtles in sloughs and ponds
April, June and Sept. 2004 – volunteer work parties to weed plants at restoration site, replace mulch as needed
Year-round – regular inspections of restoration site for herbivory and noxious weed problems
April-May 2005 – visual survey of turtles in sloughs and ponds
April, June and Sept. 2005 – volunteer work parties to weed plants at restoration site, replace mulch as needed
Year-round – regular inspections of restoration site for herbivory and noxious weed problems
April-May 2006 – visual survey of turtles in sloughs and ponds
April, June and Sept. 2006 – volunteer work parties to weed plants at restoration site, replace mulch as needed
Year-round – regular inspections of restoration site for herbivory and noxious weed problems
April, June and Sept. 2007 – volunteer work parties to weed plants at restoration site, replace mulch as needed
Year-round – regular inspections of restoration site for herbivory and noxious weed problems
April, June and Sept. 2008 – volunteer work parties to weed plants at restoration site, replace mulch as needed

Literature Cited

Apostol, D. and M. Sinclair. 1999. Smith and Bybee Lakes Wildlife Area Recreation Facilities Plan. Prepared for Metro, Portland, Oregon.

International Dark Sky Association. 2002. Effects of Artificial Light at Night on Wildlife. Information Sheet #187. International Dark Sky Association, Tuscon, Arizona.

Marshall, David B., M. Chilcote, and H. Weeks. 1996. Species at Risk: Sensitive, Threatened and Endangered Vertebrates of Oregon. Oregon Department of Fish and Wildlife, Portland, Oregon.

Metro. 2001. Unpublished data – annual visual survey of western painted turtles at Smith and Bybee Lakes Wildlife Area. Metro, Portland, Oregon.

Metro. 1992. Metropolitan Greenspaces Master Plan. Adopted by the Metro Council, July, 1992. Metro, Portland, Oregon.

Northwest Ecological Research Institute. 2001. Western Painted Turtle Research at Smith and Bybee Lakes Wildlife Area, Year Two Report – 2000. Prepared for Metro, Portland, Oregon.

Oregon Biodiversity Project. 1998. Oregon's Living Landscape: Strategies and Opportunities to Conserve Biodiversity. Defenders of Wildlife, Lake Oswego, Oregon.

Oregon Natural Heritage Program. 2001. Rare, Threatened and Endangered Plants and Animals of Oregon. Oregon Natural Heritage Program (now Oregon Natural Heritage Information Center), Portland, Oregon.

Portland Bureau of Parks and Recreation and Port of Portland. 1990. Natural Resources Management Plan for Smith and Bybee Lakes. Adopted by the Portland City Council and Metro Council, November, 1990. City of Portland, Portland, Oregon.

Portland Bureau of Parks and Recreation. 1992. Smith and Bybee Lakes Recreation Master Plan. Prepared for Metro, Portland, Oregon.

Reijnen, R., R. Foppen, C. Ter Braak, and J. Thissen. 1995. The Effects of Car Traffic on Breeding Bird Populations in Woodland. III. Reduction of Density in Relation to the Proximity of Main Roads. Journal of Applied Ecology 32:187-202.

PART 3: BUDGET

Please complete the following table and budget narrative, using additional sheets as needed to explain budget details and projected costs. Please be as specific as possible, listing budget items, quantities, hours, and other information to indicate how figures were derived. For matching contributions, list contributors for each item and indicate if the contribution is currently pending or received.

1. Budget Table

Budget Items	Greenspaces funding request	Matching contribution				Total Cost
		Funds	in-kind value	contributor(s)	pending/ received	
VOLUNTEER LABOR (VALUED @ $6.50/HOUR; INCLUDE THE ESTIMATED NUMBER OF VOLUNTEERS AND HOURS)						
Turtle monitoring – 2 volunteers each time, 3 8-hour visits			$ 312			
Plant maintenance – 6 volunteers each time, 15 3-hour visits			$ 1,755			$ 2,067
MATERIALS & SUPPLIES (list specific items and quantities used to derive figures)						
Topsoil	$ 10,880					
Bare root plants	1,401					
Mycorrhizal dip	100					
Bamboo stakes	362					
Tubes	576					
Mulch	90					
Native grass/forb seed	750					$ 14,159
OTHER (itemize)				Metro ($240,152)	Rec.	
Demolish parking lot, trail and road	$ 19,840			Port of Portland ($10,000)	Rec.	
Cap off catchbasins	575			Land and Water Conservation Grant		
Till topsoil	1,600			($255,650)	Pend.	
Install native plants	824			Local Government Grant Program		
Install protective tubes	591			($7,393)	Pend.	
Apply seed	99					
Remaining facility improvements (see narrative for detail)		$ 513,195				$ 536,724
TOTALS:	$ 37,688	$ 513,195	$ 2,067	NA		$ 552,950

1. **Budget Narrative:** Please use the space below or attach additional sheets as needed to provide an itemized list for each line in the budget, explain how figures were derived, describe personnel and/or professional service costs and expected products, and to provide any other relevant information.

The following costs are a combination of estimates from past work done at the wildlife area and from the design team working on the facility plan.

Volunteer Labor:

Turtle monitoring – annual spring visual surveys for three years, two volunteers for eight hours
2 volunteers x 8 hours x $6.50 x 3 site visits = $ 312

Plant maintenance – three volunteer work parties per year for five years, six volunteers per three-hour work party
6 volunteers x 3 hours x $6.50 x 15 site visits = $1,755

Turtle monitoring	$ 312
Plant maintenance	1,755
Total	$ 2,067

Materials and Supplies:

Item	Description	Units	Unit cost	Total
Topsoil	12 inches of topsoil over 17,250 sq. ft. for 640 cu. yd. total.	640 cu. yd.	$ 17.00/ cu. yd.	$ 10,880
Bare root plants*	For 1,000 plants – this is increased over the amount in the pre-application to allow for mortality.	1,000	$ 1.40	1,401
Mycorrhizal dip*	Plant dip to improve survival and vigor.	0.61 acres	$164/ acre	100
Bamboo stakes*	Stakes to support protective tubing on plants susceptible to herbivory.	0.61 acres	$594/ acre	362
Tubes*	Tubes to protect plants from herbivory	0.61 acres	$944/ acre	576
Mulch*	Mulch to improve plant survival (reduce weeds, conserve moisture)	0.61 acres	$148/ acre	90
Seed*	*Elymus glaucus, Bromus* sp., *Agrostis exarata, Deschampsia* sp., others	0.61 acres	$1,229/ acre	750
Total				$ 14,159

Notes to Materials and Supplies:

1. Topsoil estimate is increased from the amount in the pre-application because of interviews with people familiar with the parking lot's construction; it is believed the asphalt and gravel base are more than 6 inches deep, more like 9-12 inches. Topsoil will be a silt loam, the same class as the native Sauvie and Rafton Silt Loams present at the wildlife area.

2. Items with a * will be obtained through the Watershed Revegetation Program. Costs are based on an estimate from Lynn Barlow, Columbia Slough Watershed Program Manager, dated April 11, 2003.
3. Bare root plants to be installed are as shown in the following table:

Botanical Name	Common Name	Percentage
Alnus rubra	Red alder	6
Acer macrophyllum	Bigleaf maple	6
Fraxinus latifolia	Oregon ash	6
Populus trichocarpa	Black cottonwood	16
Mahonia aquifolium	Oregon grape	6
Rosa nutkana	Nootka rose	20
Symphoricarpos albus	snowberry	40

Other:

Item	Description	Units	Unit cost	Total
Demolition	Remove and recycle asphalt on trail and parking lot, remove gravel base and gravel road.	17,250 sq. ft.	$1.15/ sq. ft.	$ 19,840
Cap off catchbasins	General estimate of expected cost.	N/A	N/A	575
Till in topsoil	Cost based on past experience.	0.61 acres	$2,500/ acre	1,600
Install bare root plants*	Reforestation crew to install plants.	0.61 acres	$1,350/ acre	824
Install tubes*	Reforestation crew to install tubes.	0.61 acres	$968/ acre	591
Apply seed*	Overseeding by BES staff or contractor.	0.61 acres	$163/ acre	99
Design and engineering	Includes new gated entrance, entry road improvements, ½ mile of 40-mile Loop Trail improvements, parking lot with associated stormwater and landscape improvements, interpretive/orientation signage, vault restroom, canoe launch and habitat restoration.			$ 80,000
Construction item 1^	Main entry and entry drive with 40-mile Loop Trail to parking lot.			83,900
Construction item 2^	Parking lot with landscaped bioswales for on-site stormwater treatment.			210,100
Construction item 3^	Visitor orientation and staging area with restroom			60,000
Construction item 4^	Park road with 40-mile Loop Trail to canoe launch			48,200
Construction item 5^	Canoe launch – grading, gravel path installation, wetland fill mitigation.			30,995
Total				$ 536,724

Notes to Other items:

1. Design and engineering includes permit fees.
2. Items with a * will be obtained through the Watershed Revegetation Program. Costs are based on an estimate from Lynn Barlow, Columbia Slough Watershed Program Manager, dated April 11, 2003.
3. Items with a ^ are to be funded by other sources shown below. The Land and Water Conservation Grant program may choose to partially fund the project. In that case, the balance of funding needed will be sought from the Local Government Grant Program, which will seek projects later this spring. Both programs are administered by the Oregon Department of Parks and Recreation, which encourages applicants to submit projects to both programs. Since the gravel path for the canoe launch was dropped from this proposal, the Local Government Grant application will include at least the amount needed for that item.

$ 220,000	Metropolitan Greenspaces bond measure (local share) – secured.
20,152	Metro staff time (planner, wildlife area manager) – secured.
10,000	Port of Portland – secured.
255,650	Land and Water Conservation Grant – pending.
(TBD)	Local Government Grant Program; will be at least $7,393 – pending.

Response to Review Committee Feedback

The review committee's thoughtful written feedback and comments made during the site visit have been very valuable in crafting the final proposal for this project. Committee members should see their comments reflected in the proposal; their questions are also directly answered below:

1. Surface for new canoe launch: This project component has been dropped from the Greenspaces program request, and funding for it will be sought elsewhere. Not only was it controversial with the review committee, but recent work on the parking lot demolition project indicates that more topsoil will be needed than originally anticipated. It made sense to drop the canoe launch piece from this grant request in favor of additional funding for topsoil for the restoration site.

2. What is the plan if the Land and Water Conservation grant does not come through? The Oregon Department of Parks and Recreation has two funding opportunities for facilities this spring: the Land and Water and Local Government grant programs. It is very common for park providers to obtain funds from both sources for their projects, and Metro has done this in the past. Metro should hear about the Land and Water grant later this month. If the Land and Water grant is not fully funded, then Metro will submit a Local Government grant in mid-May for the rest of the funding needed. We will know this summer how much funding we will receive from the latter source. The Smith-Bybee project should be very competitive, and we are optimistic.

3. What is the likelihood that this project would be able to move forward without Greenspaces funding? If Greenspaces funding is not granted, then another source of funds would have to be found. The parking lot demolition will be the last piece of the facilities project to be done, because Metro cannot tear up the existing parking lot until the new one is ready. Since it will be the last part of the work, it will be vulnerable – if sufficient funds are not available, the work may be deferred until funding can be obtained. With the extension of the 40-mile Loop Trail directly alongside the parking lot, more people will be visiting the wildlife area than ever before. As long as the parking lot remains, even without vehicle access, visitors will be tempted to make their way onto the nesting grounds or into the sloughs and ponds. Anglers would still fish the ponds and sloughs, causing hooking mortality of turtles; walkers and cyclists would continue to trample the nesting grounds; and determined paddlers would still drop their boats by the parking lot and paddle through the slough, disturbing turtles. The parking lot offers no buffer between the noise and light of North Marine Drive and the wildlife area, and this buffer is an important project benefit. The Greenspaces grant is a key component for achieving all of the goals and objectives of the overall facilities project. Without it, the wildlife that was the impetus for the new facilities plan may continue to suffer.

4. Is a planting and soil amendment plan available for review? The Watershed Revegetation Program (City of Portland, Bureau of Environmental Services), Metro's

partner in the planting work, does not typically use a planting plan. Metro and WRP staff agree on the species composition and quantity of plants to be installed, and the plants are distributed in a fairly random fashion by the planting crew. Over the years, Metro has worked with the WRP to install plants in a manner that is less regular and evenly spaced than is often the case in reforestation work. For example, the planting crews space the plants irregularly in rows that meander. This provides a more natural appearance as the plants grow. In this project, many of the Nootka roses will be concentrated along the trail, to provide a thorny barrier to visitors who may be thinking about leaving the trail and wandering into the sensitive habitat. The topsoil for the project will be a silt loam, since that is the native soil in the area (Sauvie and Rafton silt loams). Several inches of topsoil will be spread first and tilled into the underlying soil, since there may be dredge spoils under the parking lot. This will prevent formation of hydrologic barriers between the soils. Remaining topsoil will be spread over the tilled, mixed soil.

5. Are there any plans for signage? Signage is a difficult issue in natural areas, because it can attract people to sites they should avoid. During the early stages of restoration on the old parking lot site, Metro will probably install a barrier and series of signs to keep people out of the area until the roses grow large enough to serve as a barrier. This would initially be simple and fairly unobtrusive, for example, a rope may be stretched along the trail's edge with a series of small laminated signs asking people to stay out of the area and allow the plants to grow (the signs would make no mention of the turtles or their nesting grounds). If trampling becomes a problem, Metro will gradually increase the barrier, however, no practical barrier exists that can guarantee people will stay out of the site. Regular patrols and enforcement will be needed to train people to leave the restoration area alone.

Smith & Bybee Lakes Wildlife Area Management Committee
Nancy Hendrickson, Chair
Troy Clark, Vice Chair

coordinated by:

Metro

600 NE Grand Ave.
Portland, OR 97232
(503) 797-1515

January 10, 2003

To Whom It May Concern,

The Smith and Bybee Lakes Management Committee supports the recreational facilities/habitat restoration project for Smith and Bybee Lakes Wildlife Area. As the primary advisory body to Metro for the wildlife area, the management committee has been involved in development of the facility plan for several years. The management committee includes representation from North Portland Neighborhoods, Friends of Smith and Bybee Lakes, Portland Audubon Society, 40-mile Loop Trust, City of Portland, Oregon Dept. Fish and Wildlife, Port of Portland and several other agencies and organizations.

The primary impetus for this facility plan is to reduce disturbance to western painted turtles, listed by the Oregon Department of Fish and Wildlife as a critically Sensitive Species. The main access point for paddlers at the wildlife area is also an important basking site for the turtles. Paddlers using the informal boat slide adjacent to the parking lot must paddle through a blind slough before portaging to Bybee Lake. This activity disturbs the turtles and interrupts their essential thermo-regulation, resting, and foraging periods. This project, through its facility relocations and improvements and habitat restoration, will achieve the goal of reducing human disturbance to turtles and protecting this sensitive species. Because Smith and Bybee Lakes Wildlife Area has one of the largest remaining populations of western painted turtles in Oregon, it is especially important to protect their key habitats.

Relocating the facilities is consistent with the goal statement of the Natural Resources Management Plan for Smith and Bybee Lakes, which states that human activity should be focused on Smith Lake. The existing facilities focus paddling activity on Bybee Lake, which is to be managed as more of an environmental preserve. The new canoe launch site will cause paddlers to launch directly onto Smith Lake.

The facility improvements will foster educational uses of the wildlife area by schools and other groups. Educational activities are an important use of the site that need to be accommodated. Improvements such as the bus turnaround and parking areas are sorely needed for schools to take advantage of Metro's educational programs.

The project will make improvements to the 40-mile Loop Trail along the north shore of Smith Lake. This trail segment will connect to completed segments on either side, achieving another objective of the management plan – integration of the 40-mile Loop Trail into the wildlife area.

In addition to the facility improvements, this project will restore habitat in several places. The existing parking lot will be replaced with riparian forest. Other areas that will be planted or otherwise restored are located around the new parking lot and trailhead, and the new canoe launch.

The visitor facilities/habitat restoration project is consistent with the management plan for Smith and Bybee lakes and the 1999 Recreational Facilities Plan. The management committee was involved in the development of the 1999 plan and the 2002 refinement of that plan.

The Smith and Bybee Lakes Management Committee supports this project, because it provides protection measures that are urgently needed for a state-listed Sensitive Species. It also implements key components of the management plan for the wildlife area. The management committee urges you to support this project at the requested level of funding.

Sincerely,

Nancy Hendrickson

Nancy Hendrickson
Chair

Friends of Smith & Bybee Lakes
P.O. Box 83862
Portland, OR 97283-0862

January 6, 2003

To Whom It May Concern,

The Friends of Smith and Bybee Lakes (Friends)are writing to express their support for the new facilities/habitat restoration project at Smith and Bybee Lakes Wildlife Area. The planned improvements to Smith and Bybee Lakes Wildlife Area will provide much improved access for paddlers, school groups, birders and others. The Friends lead regular free canoe trips into the wildlife area. Gaining direct access to the lakes without the need to portage boats has been a long term goal of the Friends. The Friends are represented on the Smith and Bybee Lakes management committee and have strongly endorsed the current facility plan.

The project will also redirect the public access to less sensitive habitat within the wildlife area and restore the existing parking lot to forest habitat. The current paddling access is detrimental to the western painted turtle, a state-listed sensitive species. We support moving the human activity away from these animals. The project will also restore riparian forest in the wildlife area. The Friends actively back the revegetation projects throughout the wildlife area and support Metro's replanting work.

The Friends of Smith and Bybee Lakes urge you to fund this project.

Sincerely,

Troy Clark
President

The Columbia Slough Watershed Council

7040 NE 47th Avenue Portland, Oregon 97218-1212
Tel: 503.281.1132 Fax: 503.281.5187 Email: jay.mower@columbiaslough.org
www.columbiaslough.org

Jay Mower, Coordinator

January 10, 2003

To Whom It May Concern,

The Columbia Slough Watershed Council is writing to express its support for the new facilities/habitat restoration project at Smith and Bybee Lakes Wildlife Area.

The new facilities will provide better amenities for visitors to the wildlife area, more parking to accommodate increased use, and a better launch site for paddlers. It will provide better accommodation for school groups, including a drop-off area at the trailhead, and bus parking and turnaround areas. Other aspects of the project include reducing human disturbance of western painted turtles (a State-listed sensitive species) and demolition of the existing parking lot and restoring that site with native plants.

The Council has been working to improve educational opportunities and public access to the slough and other natural areas within the watershed. Projects such as this one are valuable opportunities to accomplish our shared objectives.

The project will move the public access site to a less sensitive area and restore the existing parking lot to forest habitat. The current paddling access is detrimental to the western painted turtle and will be moved. We support moving the human activity away from these animals. The project will also restore riparian forest in the area. The council is an active backer of revegetation projects throughout the watershed and supports Metro's replanting work at the wildlife area.

The Columbia Slough Watershed Council urges you to fund this project.

Sincerely,

Jay Mower

Jay Mower
Coordinator

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204-1912 503-823-7740, FAX 503-823-6995 Dean Marriott, Director

January 10, 2003

To Whom It May Concern,

I am writing to indicate the City Of Portland's Columbia Slough Watershed group's support for the proposed recreational facilities/habitat restoration project at Smith and Bybee Lakes Wildlife Area.

Our group of Slough watershed professionals is highly supportive of this proposal. We are deeply committed to public use and enjoyment of this area but feel that it is critical to improve access while reducing disturbances to the western painted turtle's habitat. These turtles are listed by the Oregon Department of Fish and Wildlife as a critically Sensitive Species.

At the present nearly all paddlers travel through a blind slough used heavily by turtles when entering and leaving the Lakes. The main access point for paddlers is also an important turtle basking site. This activity disturbs the turtles and interrupts their essential thermo-regulation, resting, and foraging periods.

The Lakes are a heavily used public area. The other proposed improvements will foster appropriate educational uses of the wildlife area by schools and other groups. However, the area needs upgrading to safely and effectively accommodate educational groups. The bus turnaround and parking areas are sorely needed.

Improvements to the 40-mile Loop Trail segment along the north shore of Smith Lake will connect completed segments on either side. This trail system has been in the making for nearly 100 years. We look forward to a project that completes another trail connection and which realizes another objective of the Lakes management plan, namely integration of the 40-mile Loop Trail into the wildlife area.

This project restores and establishes habitat in numerous places. The existing parking lot will be replaced with riparian forest. Other areas that will be planted or otherwise restored are located around the new parking lot and trailhead, and the new canoe launch.

This project provides multiple benefits. It provides urgently needed protection for sensitive species, implements key components of the management plan for the wildlife area, and will provide appropriate access to a heavily used urban wildlife area.

Sincerely,

Susan Barthel

Susan Barthel
Columbia Slough Program Coordinator