FINAL REPORT

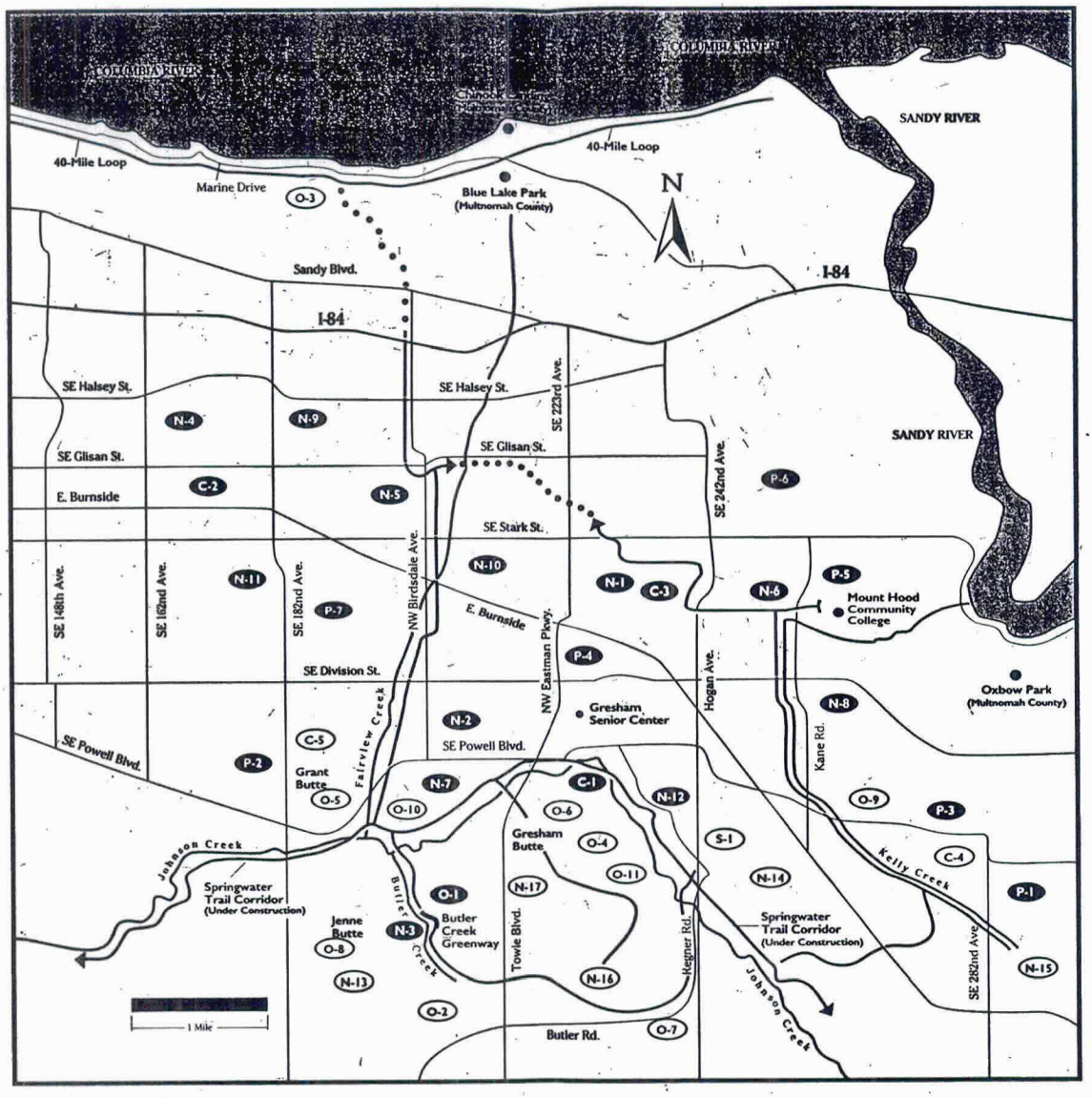
METROPOLITAN GREENSPACES RESTORATION PROJECT

BINFORD LAKE / BUTLER CREEK GREENWAY

CITY OF GRESHAM

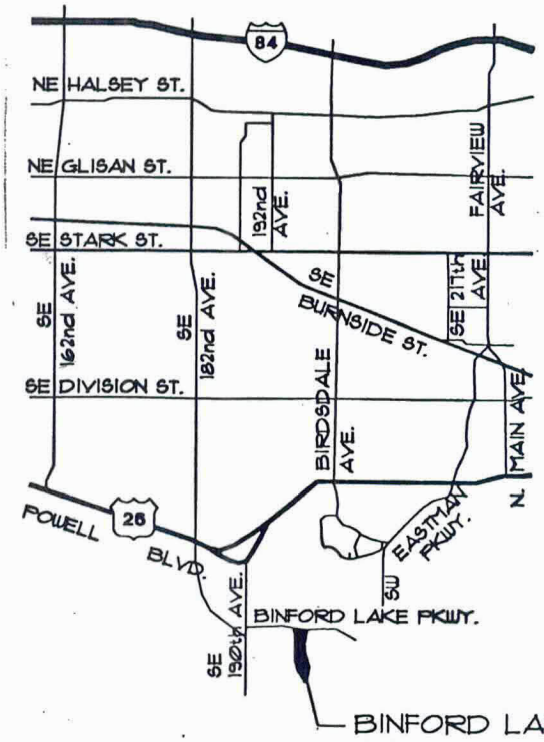
June 1994

VICINITY MAP



MAP LEGEND

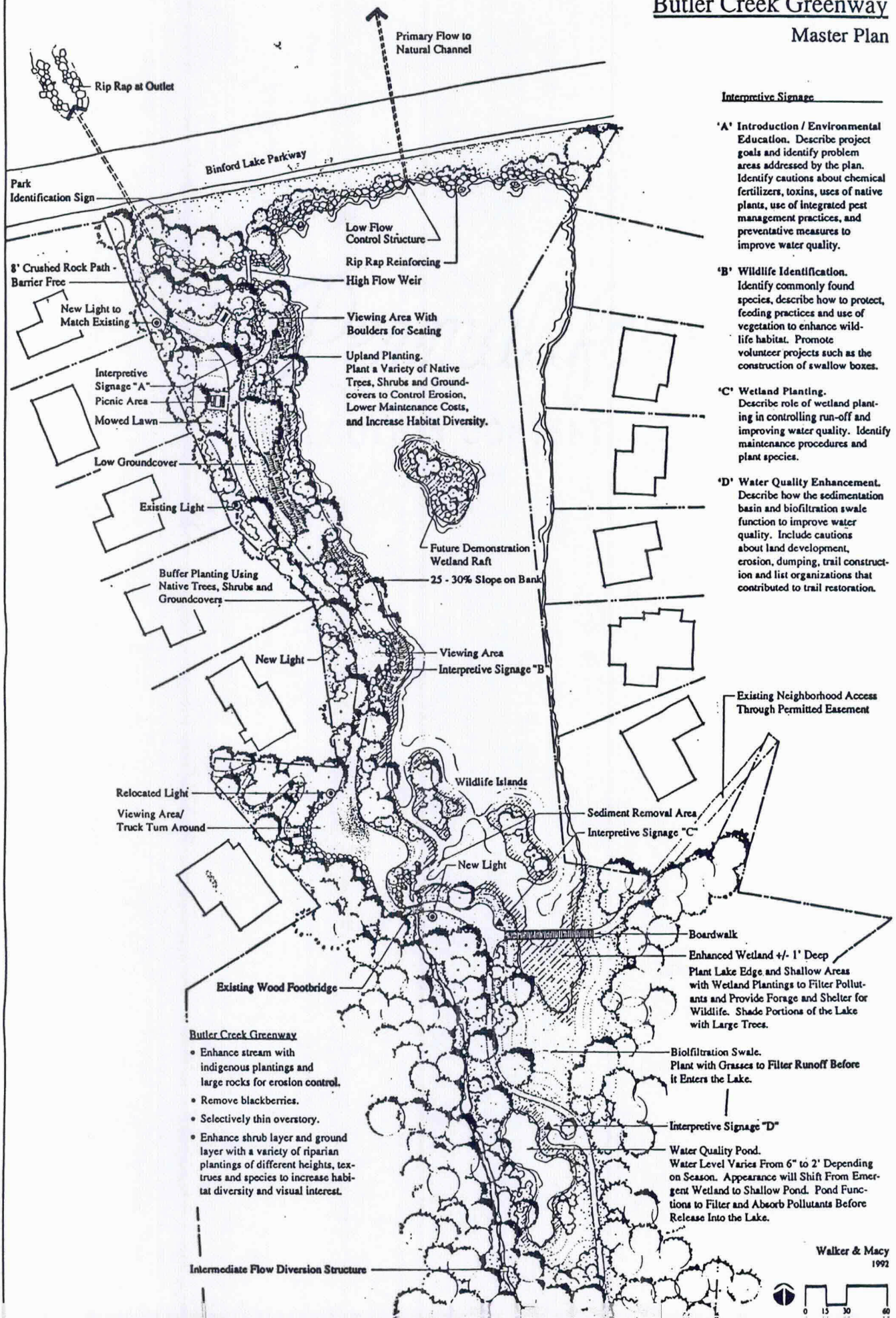
- Existing Parks and Recreation Facilities
- Existing Trails
- Proposed Parks, Open Spaces
- Proposed Trails
- Proposed Trail Connections



BINFORD LAKE/
BUTLER CREEK GREENWAY

Binford Lake/ Butler Creek Greenway

Master Plan



Interpretive Signage

'A' Introduction / Environmental Education. Describe project goals and identify problem areas addressed by the plan. Identify cautions about chemical fertilizers, toxins, uses of native plants, use of integrated pest management practices, and preventative measures to improve water quality.

'B' Wildlife Identification. Identify commonly found species, describe how to protect, feeding practices and use of vegetation to enhance wildlife habitat. Promote volunteer projects such as the construction of swallow boxes.

'C' Wetland Planting. Describe role of wetland planting in controlling run-off and improving water quality. Identify maintenance procedures and plant species.

'D' Water Quality Enhancement. Describe how the sedimentation basin and biofiltration swale function to improve water quality. Include cautions about land development, erosion, dumping, trail construction and list organizations that contributed to trail restoration.

Walker & Macy
1992

METROPOLITAN GREENSPACES RESTORATION PROJECT 1992-93
BINFORD LAKE / BUTLER CREEK GREENWAY
CITY OF GRESHAM

PROJECT DESCRIPTION

This project is a joint project of the City's Stormwater and Parks Divisions, which embodies the joint goals of addressing increased runoff and its resultant impacts caused by higher density development in the watershed; and enhancing Binford Lake as a natural resource and recreational resource by improving water quality, expanding and enhancing wildlife habitat and improving access for wildlife viewing. Components of the project include:

* Stabilizing an eroded spillway downstream from the lake.

* Returning the primary flow of the lake to the original stream channel and increasing the lake's flood storage capacity by lowering lake level.

* Remove accumulated sediment at south end of lake.

* Create islands for water fowl habitat.

* Divert medium flows from the creek channel through a wetland diversion course to trap sediment and filter pollutants.

* Establish wetland plants and riparian shrubs along the water quality pond, wetland swale and the lake's edge. Plant native shrubs and trees on the upland bank to provide additional shade and buffer.

GOALS AND BENEFITS OF THE THE PROJECT

The principal goals of this project are to improve water quality in Binford Lake and Butler Creek; to increase the detention capacity of the lake in order to reduce flooding and erosion; to enhance wildlife habitat of the greenway and lake; and to enhance the recreational experience.

The broader benefits of this project are improvement of the natural resources of the area by improving water quality and wildlife habitats, reduced flooding and erosion hazard, and increased public awareness and enjoyment of the greenway. More specifically the water quality is improved by removing sediment from the lake and by designing hydrology to collect and contain future sediment in an area of the lake that can be periodically removed. Water quality is also improved by the construction of the water quality pond and wetland swale which will filter pollutants from water before entering the lake.

Wildlife habitat is both expanded and diversified by the creation of

islands and the wetland swale and water quality pond. Twenty four species of native wetland plants and shrubs and trees were planted. The flooding and erosion hazard is reduced by returning the lake flow to the original channel and by reinforcing the high water spillway channel.

WORK TASKS AND TIMELINES

Water Quality testing- volunteer	(monthly basis)
Finalize permit conditions	June 1993
Contract bidding and selection	July 1, 1993
Start of construction	August 12, 1993
Erosion control measures	August 16, 1993
Transplant existing shrubs-volunteer	August 25, 1993
In-stream construction work completed	September 20, 1993
Construction of protective fence	October 8, 1993
Hydroseeding of project area	October 15, 1993
Wetland Planting	October 26, 1993
Educational outreach @ Centennial H.S.	November 4 , 1993
Bareroot tree and shrub planting	November 20, 1993
Erosion control measures	December 10, 1993
Complete Irrigation installation	May 25, 1994
Wetland plants and shrub planting-volunteer	June 2, 1994
Planting and plant maintenance- volunteer	June 4, 1994
Transplant willows and cattails- volunteer	June 29, 1994
Monitoring and maintenance	ongoing

PROJECT BUDGET

The total construction cost for improvements was $189,422. Approximately $117,420 of the total amount was used for the specific construction of stormwater improvements, i.e. diversion structure, high flow wier, low flow weir, spillway channel stabilization and earth work. The remaining portion, $72,000 was used for habitat enhancement and recreation improvements. The Metro Greenspaces Grant represents $17,500 of this amount which funded the plant material, some planting, and irrigation and fence improvements to help establish the plants. For a detailed cost of construction items and a summary of project expenses, refer to Appendix A.

PROJECT STAFF, WORKERS AND VOLUNTEERS

Primary City Staff included Lora Price; Project manager, Clint Moshofsky; Stormwater Engineer, and a Construction Inspector

Consultant Services for preparation of the construction documents and construction inspection included Walker & Macy Landscape Architects, and Oakley Engineering.

Construction was executed by Brant Construction, Inc.

Volunteers included:

Centennial High School	- Doug Bell's biology students for water quality testing
Boy Scout Troop 760	- plant maintenance, bank repair, wetland planting,trail improvements
Centennial High School	- Mark Porterfield's leadership students - planting of upland native shrub border and wetland plants
Boy Scout Troop 160	- Mulching of new plants
Southwest neighbors	- Transplanting plants, monitoring
Boy Scout Troop 760	- Transplanting cattails and willow stakes

PROJECT RELATION TO THE GREENSPACES PROGRAM

This project embodies the goals of the Metropolitan Greenspaces Program: by addressing a highly visible urban-impacted natural area that is a connected part of the Johnson Creek watershed and a regional greenway system; by increasing the diversity of plants and habitats to foster and preserve a diversity of animal life; by using the assistance of other agencies and volunteer groups to help in the planting, maintenance and monitoring of native plants; and by encouraging environmental awareness through community involvement and educational outreach efforts.

WHAT WORKED/WHAT DIDN'T/ ADVICE FOR OTHER PROJECT MANAGERS

Earthwork: The earthwork for this project required substantial adjustment in the field, with the grading plan serving more as a guide than an absolute measure. In projects such as this, it is probably the rule rather than the exception, therefore it is important to have a contractor that works well with these kind of conditions, and very important to communicate the parameters of what needs to be achieved and why, so that can be accomplished. Working this way can be both beneficial and satisfying but it requires having the time to to be on site to work with the contractor. A number of existing trees were saved by adjusting the configuration of the water quality pond and swale. The contractor also added a substantial base of rock beneath each of the viewing areas before filling because the gradient of the lake bottom was much steeper than the survey indicated.

Plants and Planting: The timing for planting wetland plants and shrubs worked well. The use of bare root stock also worked well. The protective fence is a reasonable deterrent to foot traffic along the lake edge. The major impediment to the successful establishment of trees, shrubs and wetland plants was and is persistant vandalism and general bike and foot traffic. The wildlife islands have become a desirable and heavily used destination for fishing and the shallow water areas are also attractive to bicyclers. The wetland plants were also jeopardized somewhat by the resident duck population which probably supplemented its diet over the winter and also grazed the newly hydroseeded banks which diminished the cover before the winter

rains. The lake is a highly used and impacted site and the new vegetation will remain somewhat vulnerable until it achieves a moderate maturity.

Planting larger plants would help reduce the likelihood of them being trampled. Relocating the ducks prior to planting would have increased the success of the wetland plants. However, this would have been a very contentious issue with the community since they are almost all wild ducks. The City is now coordinating with ODA and USF&W to relocate the domestic and mixed breed ducks in the pond. However, the obvious key element for the success of this project and health of our greenways in general is continued public involvement and education outreach.

The volunteer efforts with school groups and scouts that took place, has not necessarily reached the most frequent or high impact users of this area. Those youth are harder to identify or reach as a group, and are drawn to the greenway because of the wildness of the area and the "freedom" it affords them. An ongoing and coordinated effort that includes neighbors, schools, police and park managers to address vandalism, and other activities that negatively impact the area is essential. The efforts that have begun so far include: a police officer has met with lake residents and is alerted to the extent of problem activities taking place; explorer scouts will patrol the greenway in the summer; volunteer community service projects continue to be directed toward Binford Lake; and educational outreach field trips are planned for this summer for middle middle school age youth through PAL (Police Activities League).

MONITORING AND MAINTENANCE PLAN

The Stormwater Division is responsible for monitoring and maintenance within the stream course and maintenance of the control structures, spillway, and outfalls.

The Parks Division maintenance staff is responsible for periodic maintenance of the greenway and pathway systems; in particular they will operate and maintain the irrigation system.

Monitoring of plants is done by Southwest Neighbors and the Park Planner.

Water quality monitoring will be continued by Centennial High School biology students and the Stormwater Division.

Periodic maintenance of new plantings will be organized and carried out as needed with scout troops, Oregon Youth Conservation Corps and/or other community organizations.

APPENDIX A

EXPENSE SUMMARY

Attachment "A"
Binford Lake/Butler Creek Greenway
Expense Summary

	City of Gresham	Metro
PERSONNEL		
Park Planners	$16,503.00	
Stormwater Engineer	$5,525.00	
	$22,028.00	
VOLUNTEER SERVICES		
Centennial High School. Planting of trees and shrubs on west bank. 160hrs @ $4.75/hr.	$760.00	
Eagle Scout troop #740. Planting of wetland plants at wetland swale and islands. 75hrs @ $4.75/hr.	$356.25	
Southwest Neighbors. Transplanting shrubs. 15hrs @ $4.75/hr.	$71.25	
Eagle Scout troop #160. Spreading mulch around shrubs on west bank. 105hrs @ $4.75/hr.	$499.00	
Centennial High School. Water quality testing. 144hrs @ $4.75/hr.	$684.00	
Eagle Scout troop #740 . Transplanting cattails. 64hrs @ $4.75/hr	$304.00	
Total Volunteer Hours = 563 Subtotal	**$2,674.50**	
MATERIALS, PLANTS AND SUPPLIES		
Hydroseeding	$3,000.00	
Wetland plants along lake		$3,400.00
Wetland plants in swale and along water quality pond		$3,400.00
Native planting on west bank	$562.00	$6,450.00
Bark mulch	$500.00	
Protective fence for plants		$1,680.00
Irrigation mainline		$530.00
Irrigation meter connection	$2,098.00	$1,970.00
Irrigation laterals, sprinklers, controllers, and backflow prevention device	$3,600.00	
Subtotal	**$9,760.00**	**$17,430.00**

Attachment "A"
Binford Lake/Butler Creek Greenway
Expense Summary

	City of Gresham	Metro
RENTAL FEES		
Van for OYCC crew 92-93	$1,500.00	
School bus for Centennial High 92-94		$64.76
Subtotal	**$1,500.00**	**$64.76**
PROFESSIONAL SERVICES		
Construction services	$170,962.00	
Consultant services - construction inspection	$9,138.22	
Subtotal	**$180,100.22**	
INDIRECT COSTS		
Photography	$250.00	
Subtotal	**$250.00**	
TOTAL	**$216,312.72**	**$17,494.76**

CITY OF GRESHAM
Department of Environmental Services
1333 N.W. Eastman Parkway
Gresham, Oregon 97030-3825
(503) 669-2549

Estimate No. 4
Pay Period 10/31/93 THROUGH 11/30/9
Project No. 7057, 7084, 9027
Sheet 2

Project: BINFORD LAKE/BUTLER CREEK GREENWAY IMPROVEMENTS

ITEM NO	DESCRIPTION	UNIT	UNIT PRICE	CONTRACT AUTH QUAN	CONTRACT AUTH AMOUNT	PERFORMED THIS EST. QUAN	PERFORMED THIS EST. TO DATE	PERFORMED TO DATE QUAN	PERFORMED TO DATE TO DATE	% COMP
1	MOBILIZATION				5,250.00				5,250.00	100%
2	DEMOLITION				1,800.00				1,800.00	100%
3	CLEARING				5,860.00				5,860.00	100%
4	SURVEYING				1,000.00				1,000.00	100%
5A	EARTHWORK - GRADING				24,300.00				24,300.00	100%
5B	EARTHWORK - EROSION CONTROL				3,000.00				3,000.00	100%
6A	DRAINAGE				200.00				0.00	
7A	BASE ROCK/PAVING - BASE ROCK				8,790.00				8,790.00	100%
7B	BASE ROCK/PAVING - CRUSHED ROCK				2,500.00				2,500.00	100%
7C	BASE ROCK/PAVING - BARK MULCH				1,000.00				1,000.00	100%
8A	LANDSCAPE - TOPSOIL				1,000.00				1,000.00	100%
8B	LANDSCAPE - SHRUBS & TREE PLANT				6,450.00				6,450.00	100%
8C	LANDSCAPE - LAWN & GRASS SEED				3,000.00				3,000.00	100%
8D	LANDSCAPE - WETLAND PLANTING				6,800.00				6,800.00	100%
9	HIGH FLOW CONTROL WEIR				16,200.00				16,200.00	100%
10	LOW FLOW CONTROL WEIR				51,600.00				51,600.00	100%
11A	WATER QUALITY - DIVERSION STRUCT				6,100.00				6,100.00	100%
11B	WATER QUALITY - 15" CSP CULVERT 32				960.00				960.00	100%
11C	WATER QUALITY - 18" CSP CULVERT 40				1,400.00				1,400.00	100%
12	SPILLWAY OUTFALL				27,300.00				27,300.00	100%
13	TEMPORARY FENCE				1,680.00				1,680.00	100%
14	STEPS AND HANDRAILS				900.00				900.00	100%
15	BOARDWALK/FLOATING DOCK				6,000.00				6,000.00	100%
16	ROCK PLACEMENT AT VIEWING AREAS				2,600.00				2,600.00	100%
17	BENCH RELOCATION				500.00				500.00	100%
18	ELECTRICAL TRENCHING				2,400.00				2,400.00	100%
19	CLEANUP				300.00				300.00	100%
20	CLOSEOUT AND AS-BUILTS				300.00				300.00	100%
	OTHER				300.00				300.00	100%
CO#1	#10				(4,600.00)				(4,600.00)	100%
CO#2	# 9				(3,100.00)				(3,100.00)	100%
CO#3	#7A & 7B				(4,395.00)				(4,395.00)	100%
CO#4	#15				2,000.00				2,000.00	100%
CO#5					8,647.52				8,647.52	100%
CO#6					1,380.00				1,380.00	100%
	TOTALS				189,422.52				189,222.52	

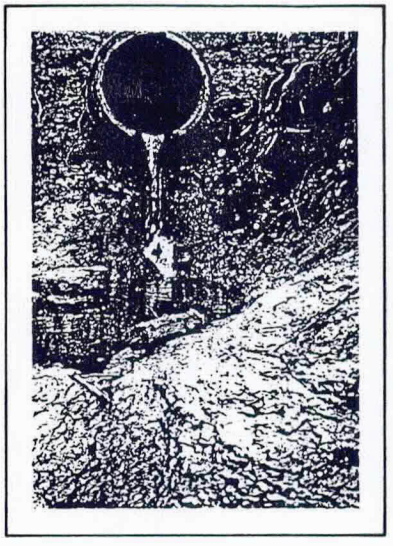
APPENDIX B

NEWS ARTICLES

VOLUME 7, NO. 5 A CITY NEWSLETTER FOR THE CITIZENS OF GRESHAM MARCH/APRIL 1992

INSIDE Gresham

CITY PLANS STORMWATER AND HABITAT RESTORATION IMPROVEMENTS TO LAKE

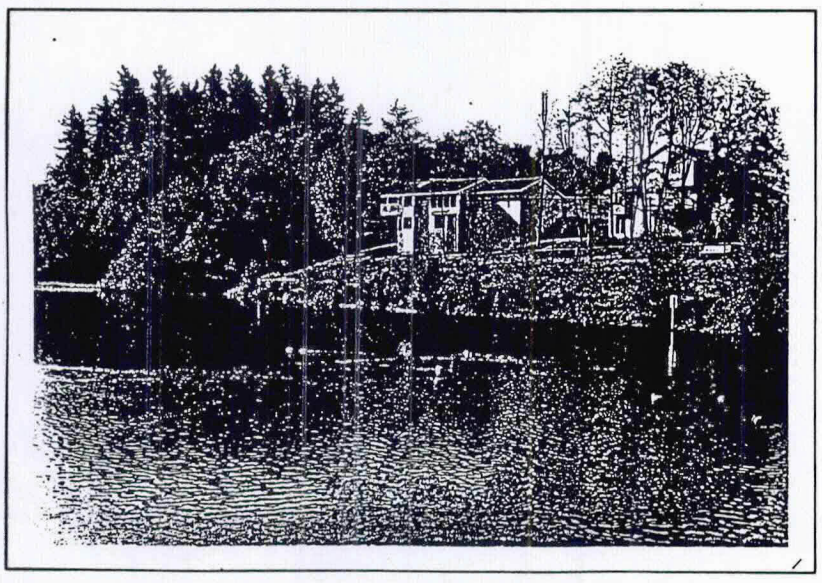


▲ EROSION UNDER A STORM WATER PIPE AT BINFORD LAKE.

BOTH stormwater and recreational/nature improvements are being made simultaneously to Binford Lake in a joint project involving two City divisions.

The Department of Environmental Services' stormwater management program and its parks and recreation division are working together on the project, which not only involves significant levels of citizen input, but also has been successful in finding some funding from sources outside of the City. Those sources include grants from the Metropolitan Greenspaces Program, the U.S. Fish & Wildlife Service, financial assistance from the Oregon Department of Agriculture, and aid from the East Multnomah Soil & Water Conservation District.

The first phase of the project, which begins this month, is the master plan design phase. It will incorporate active citizen participation in the initial site design. The master plan also will address how neighbors and area citizens can become more involved in this restoration project.



◀ BINFORD LAKE IN SOUTHWESTERN GRESHAM IS THE SITE OF A RESTORATION PROJECT COMBINING BOTH THE CITY'S PARKS AND RECREATION DIVISION AND ITS STORMWATER MANAGEMENT PROGRAM.

THE PLAN

Preliminary plans call for a combination of activities at the lake, including improvements to the pond to enhance its flood control capacity, the removal of silt to improve water quality and measures to decrease downstream erosion. At the same time, wetland expansion will be considered for the site – a two-acre lake in the middle of a housing tract in the southwest part of the City.

Wetlands, utilizing native plants, not only help improve water quality and reduce soil erosion, but also provide an optimum environment in

As funding allows, interpretive signage will be erected to explain the importance of this "neighborhood" natural resource.

NEIGHBORHOOD COOPERATION

The City has begun to work with the Gresham Southwest Neighborhood Association, the local school districts, and interested citizens to ensure the success of the project. It is envisioned that this project will be come a statewide model for other communities, as it will accomplish multiple goals with involvement from citizens, professionals and school districts.

The City invites citizens to participate in several ways, beginning with attendance at the upcoming public meetings, slated to begin in late March, early April. Other avenues for participation include site tours, future tree plantings and ongoing stewardship of this precious open space.

For information or to sign up to help with the project, call the Department of Environmental

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Outlook, Aug 12, 1992

MARGARET M. DUNNE/The Outlook

Noe Larios, 15, plants ferns along the Butler Creek greenway in Gresham as part of the Oregon Youth Conservation Corps.

Teens preserving Butler Creek beauty

by DAVID R. ANDERSON
of The Outlook staff

The Butler Creek Greenway is looking better and Gresham has teen-agers to thank for it.

This summer a crew from the Oregon Youth Conservation Corps has been working to remove blackberries, repair the trail, remove garbage, build bird boxes and stabilize the banks of the creek.

"It's interesting, to say the least, working on trails," said Jonathan Juilfs, crew leader. "This gives us a chance to learn how to repair a creek and help improve the environment."

The teens also will be passing out 500 educational fliers to local residents next week. The fliers will explain the history of the area, its importance as a natural area and what residents should do to protect the greenway and Binford Lake.

It asks people to stay on trails, avoid dumping yard debris in the greenway, limit the use of fertilizers and pesticides, landscape with natural vegetation and refrain from feeding the ducks.

The teens have installed terraced stairs on a once-muddy part of the trail and also prepared an area south of the lake as a detention pond to regulate the flow of the creek.

The conservation corps crew also will spend several days cleaning garbage from the Kelly Creek area south of Powell Valley Road.

The teens are proud of the work they've done.

"I live around here and I can bring my family down here to show what I've done," said 18-year-old Andrea Custis of southwest Gresham.

The project was funded by a $7,500 grant from the Metropolitan Greenspaces program and a $6,700 grant from the Oregon Department of Agriculture.

Mel Huie, regional planner for Metro, said the Metro grant was part of $200,000 distributed in the Portland area.

Metro Councilor Ruth McFarland and Gresham City Councilor Barbara Wiggin toured the site Tuesday and said they were impressed with what they saw.

"A businessman who came home at the end of a busy day and walked through here, this would really relax him," Wiggin said.

Julee Conway, manager of Gresham's parks and recreation division, said the city has applied for a $28,000 grant for next year to work on Binford Lake. The funds would improve the water quality, add vegetation and help create a habitat suitable for blue heron.

MARGARET M. DUNNE/The Outlook

Centennial High School students, from left, 16-year-old sophomore Aimee Huddleston, 17-year-old junior Sheree Nading and 16-year-old Danny Coates test water at Binford lake for carbon dioxide.

Students friends of Binford Lake

Teens test water quality and save Gresham money in process

by HOWDY STOUT
of The Outlook staff

Braving rain and disgruntled ducks, Centennial High School students Tuesday afternoon completed end-of-the-year water quality testing at Binford Lake.

The students are part of science classes using a grant from the Metro Greenspaces Program funded by the U.S. Fish and Wildlife Service. Results from the testing will be shared with the U.S. Soil and Conservation Service and the city of Gresham to monitor Binford Lake and Fairview Creek during riparian enhancements to the waterways.

"It costs a lot of money to have consultants come in," said Jim Hartner, member of the city's parks and recreation advisory committee. "Plus it's great to have cooperation with the city and high school students because high school students are on the ball. They can make decisions without the help of a consultant."

Two grants, totaling more than $24,000, will help fund continued water quality testing to help identify potential enhancements to the city's watersheds. The city is already planning a silt pond above Binford Lake to reduce the amount of silt draining into the pond.

Julee Conway, parks and recreation division manager, said the silt pond construction and reconstruction of stormwater flow from Binford should begin near the beginning of August. The city is planning education programs on the dangers to the city's water resources, she said.

"So they understand when they put their grass clippings in the gutter, their pesticides end up in the creek," Conway said.

"It's a health creek right now," said Doug Bell, a Centennial science and biology teacher. "The high water we've had this year has helped to keep it healthy. When you have low water, you get problems."

Fellow science teacher Bruce Tolonen said Fairview Creek also tested healthy. Students conducted dozens of tests, determining the silt content, oxygen and carbon dioxide levels, among other things.

"Everyone has there pet projects," Tolonen said.

Students from various science and biology classes are expected to continue testing for the next several years to monitor the progress of the water shed enhancements.

"It was fun," said Brenda Ruppel. "It was an educational experience."

Gresham's Binford Lake set to go back to nature

■ The city plans to add plants, wetlands and boardwalks for public and wildlife convenience

By DAVID R. ANDERSON
Correspondent, The Oregonian 8/12/93

GRESHAM — Wildlife — from heron to frogs to bass — will like the return to nature planned for Binford Lake.

People, too, should appreciate the ponds, wetlands, boardwalks, native plants and other improvements to the southwest Gresham lake.

"We're putting it back to the way it was intended," said Clint Moshofsky, a civil engineer with the city's Stormwater Division.

Brant Construction, a contractor hired by the city, began drawing down the lake earlier this week and will start construction Monday.

One purpose of the work is to improve the water quality of Binford Lake and Butler Creek as it flows from the lake to Johnson Creek, said Lora Price, city parks planner. Residential development upstream has brought silt, motor oil and other contaminants to the lake.

Water entering the lake at the south end will first go through a pair of sedimentation ponds surrounded by wetland vegetation. The ponds will serve to remove and settle out contaminants — a process called biofiltration.

The wetland plantings will include sedges, rushes, cattails and Wapato Duck Potato, a tuberous plant traditionally eaten by Northwest Indians. Workers will plant native grasses, such as creeping red fescue, in a swale around the ponds.

Other plantings around the south and west shores of the lake will include dogwoods, willows, bigleaf maples, western hemlocks and elderberry and huckleberry bushes.

In addition, Brant will return the lake's outlet at the north end to its natural channel. For years, a malfunctioning valve has forced the water through an emergency overflow channel, causing downstream erosion.

The city also will improve the walking path on the west side of the lake and install additional lighting.

The work will cost the city about $175,000, Price said.

The area around the lake will be closed until about Oct. 1, when construction is scheduled to be completed.

The lake will be lowered 3 feet for much of that period and 7 feet for a short time while work on the outflow is done. Fish and wildlife will not be harmed by lowering the water level, according to the Oregon Department of Fish and Wildlife.

The plantings will be complete by Dec. 1.

The improvements are part of a master plan developed for the lake. In 1995, the city will install interpretive signs around the lake and build a floating raft in the lake with native plants. A submersible pump below the raft will circulate and aerate the water.

Gresham to improve Binford Lake

by ADAM WEBSTER
of The Outlook staff 8/11/93

In order to provide a healthy ecosystem and a nicer atmosphere for the public, the city of Gresham will break ground on major improvements to Binford Lake this week.

According to Lora Price, parks planner for the parks and recreation division, the stormwater and greenway improvement project includes reconstructing the channel which connects it to Butler Creek and the major overflow channel.

Originally an agricultural detention pond, the lake has gradually gotten shallower due to silt that has been carried into it by Butler Creek. By creating sedimentation ponds and a low/high flow diversion, the silt will be able to settle and a higher quality of water will be returned to the lake. The lower the water level, the warmer it is, which is not as healthy for the fish and wildlife, according to Price.

In addition to using the filtration system, the city plans to improve the water quality by planting a wetlands area which will allow preliminary biofiltration and improve the habitat for the existing wildlife.

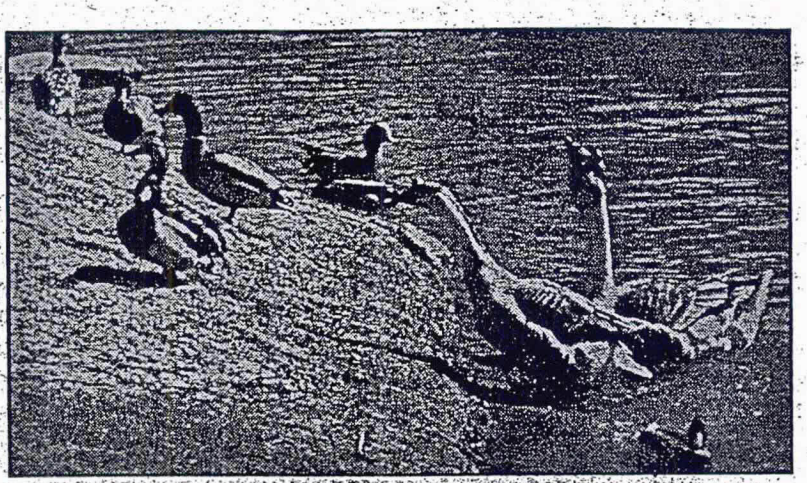
The city also aims to improve the quality of life for visitors to the area, Price said, by doing improvements to the west bank to decrease the steep slope and beautifying the walking path by adding more viewpoints, a footbridge and more lighting.

The improvements will force temporary closure of the lake as well as the paths leading to it, including the ones off of Southwest Binford Lake Parkway, Southwest Lake Place, Southwest Myers Place and from Butler Creek Park at Southwest Mawcrest Court. While it is not expected that Southwest Binford Lake Parkway will close, there will be traffic disruptions with construction trucks and other heavy equipment for the duration of the project. The paths will reopen upon completion of the improvements, which is scheduled for Oct. 1, with the wetland plantings being done by Dec. 1.

The parks and recreation division is working in conjunction with the stormwater engineering division on the project which will be done by Brant Construction, who also did work on Gresham's Springwater Trail. The $189,490 project is funded by the 1988 parks bond measure.

INSIDE
Gresham

SPRING ISSUE A CITY NEWSLETTER FOR THE CITIZENS OF GRESHAM APRIL 1994



A Balance With Nature

Relief Is On The Way

Gresham Parks and Recreation Division recently completed improvements at Binford Lake which will increase stormwater capacity, improve water quality and increase wetland wildlife habitat. Those improvements are in jeopardy, however, because of domestic birds crowding out the wild ducks, eating the greenery, and eroding the banks so nothing can grow there. Too many ducks also fouls the waters, creating unhealthy conditions for fish and other aquatic habitat.

As soon as the laying and hatching season is complete and the new ducklings have reached good size, the domestic ducks will be moved to a farm in Boring where they will be well cared for by their new host, a farmer who has asked to "adopt" them. This will allow new plantings at the lake to take hold and thrive, eventually creating an inviting, lush wetland environment for wild ducks and other wildlife.

The Oregon Department of Fish and Wildlife and the U.S. Department of Agriculture are acting as advisors and will manage the actual operation of safely relocating the domestic ducks. For more information about Binford Lake call Lora Price, Park Planner at 669-2659.

Back to nature

Centennial High students help resurrect forlorn, mistreated Binford Lake

By AMY R. BARRETT
Correspondent, The Oregonian
4/3/94

Until recently, Binford Lake was not the kind of place you'd find Gresham residents enjoying a picnic or taking a Sunday stroll.

Residents say the lake, which is located in Southwest Gresham near Butler Creek park, used to look like a giant mud puddle.

Instead of ducks and fish, the lake was inhabited by an old car. Garbage — not vegetation — lined its shores, and oil clouded its waters.

"It was a junk pile," recalled Micah Dennis, a Centennial High School senior who visited the lake often as a boy because his baby sitter lived nearby.

These days, the lake is filled with clear water.

Bordered on its western shore by a walking path, a fence and several viewing areas, it is home to a family of ducks and an increasing number of plants.

Over the past year, the city of Gresham and local volunteers have transformed the area into a popular spot for fish and fowl as well as joggers, picnickers and walkers.

Dennis is one of about 40 Centennial students who are helping restore the lake to its natural state.

The students, all members of a leadership class at the high school, planted 275 shrubs and wetland plants Thursday as a community service project.

Over a five-hour period, the students put bulrush and spike rush along the shore to create a nesting place for ducks and planted shrubs including wild rose, hazelnut, ocean spray and Oregon grape along the western border of the lake to provide screening for residents and enhance the wildlife habitat.

All of the plants were paid for by a $17,500 Metro Greenspace grant awarded to the city by the U.S. Fish and Wildlife Service.

One of several service activities completed by the leadership team each year, the lake restoration project provided students with a rare opportunity to make a difference in their high school neighborhood, said Mark A. Porterfield, student activities director.

"Students need to have a sense of responsibility for not only their schools, but also their community," Porterfield said. "The majority of these kids pass by here, and it's good for them to feel a sense of pride and ownership."

The student planters, many of whom drive by the lake on their way to school, said they were glad to invest their time in a local project where they can see the results of their work on a regular basis.

"This is better because it's close to home," senior Becky Vachal said. "We always drive by here, and now we can remember this is something we took part in."

City park planners also will remember their efforts.

These volunteer activities, along with others planned for the future, are helping them carry out their vision for restoring the lake.

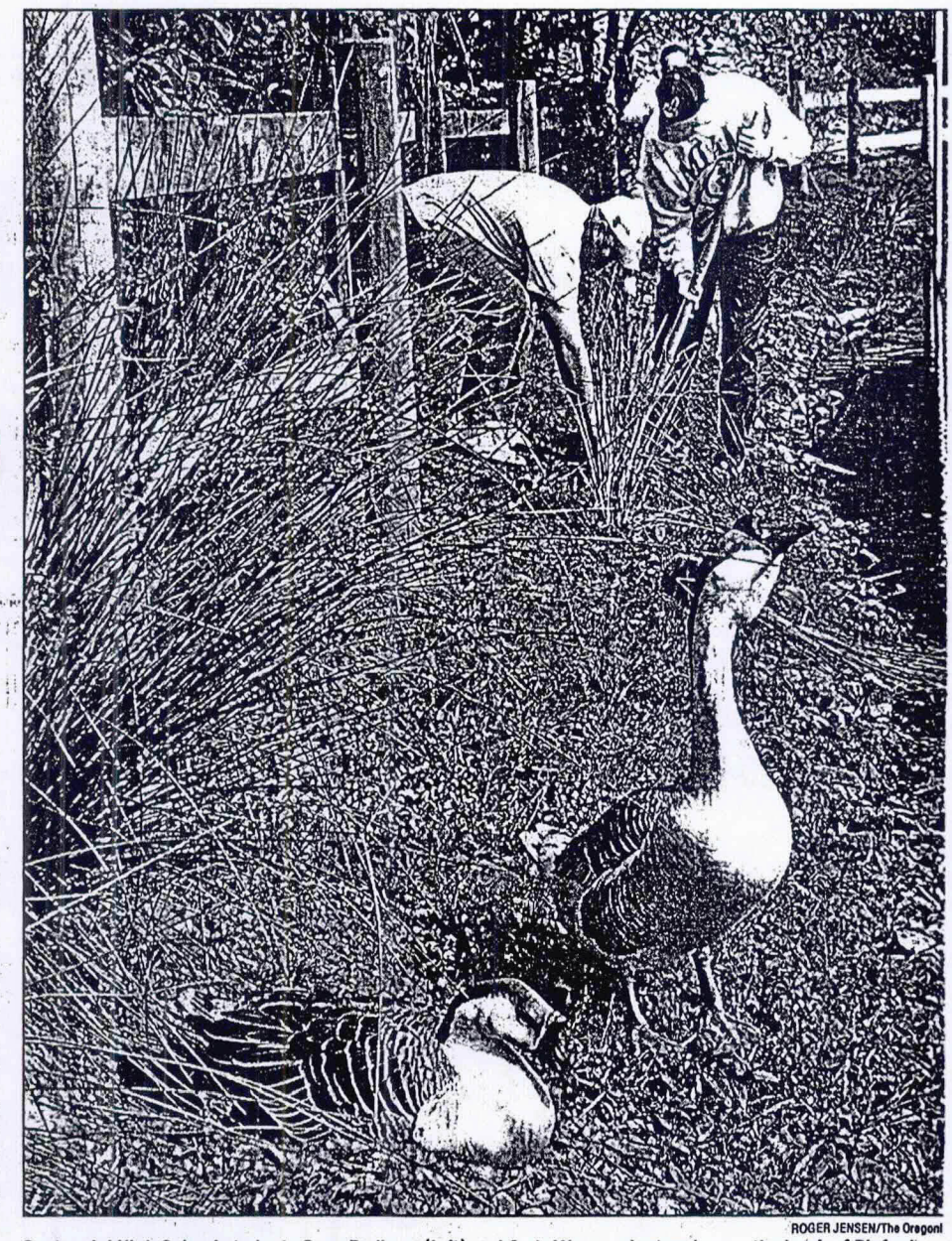
"It's an ongoing transformation that is both gratifying and challenging," said Lora J. Price, parks planner. "We are starting to enhance the wildlife habitat here and create recreational opportunities for people."

Amazed at how much the are has changed since he came here a a child, Dennis said he might r turn to Binford just to see how h plants are coming along.

"I have a good reason to com here now," he said.

MAKING WILDLIFE AT HOME

- **WHERE:** Binford Park in Southwest Gresham.
- **WHAT:** $17,500 Metro Greenspace grant awarded to the city by the U.S. Fish and Wildlife Service.
- **WHO:** Forty Centennial High School students who are helping restore the lake to its natural state.
- **THE JOB:** Planting 275 shrubs and wetland plants.



ROGER JENSEN/The Oregonian

Centennial High School students Sean Padberg (left) and Cody Warren plant rushes on the bank of Binford Lake in Southwest Gresham to make the lake more appealing to fish and wildlife.

Outlook - 4/1/94

Scouts, students to end projects at Binford Lake

Students and Scouts will complete a series of wildlife habitat and water quality projects at Binford Lake this week.

On Thursday, beginning at 8:30 a.m., leadership students from Centennial High School will plant native plants such as wild rose, ocean spray, hazelnut, Oregon grape and salal along the western border of the lake, which is located in Southwest Gresham along Binford Lake Parkway.

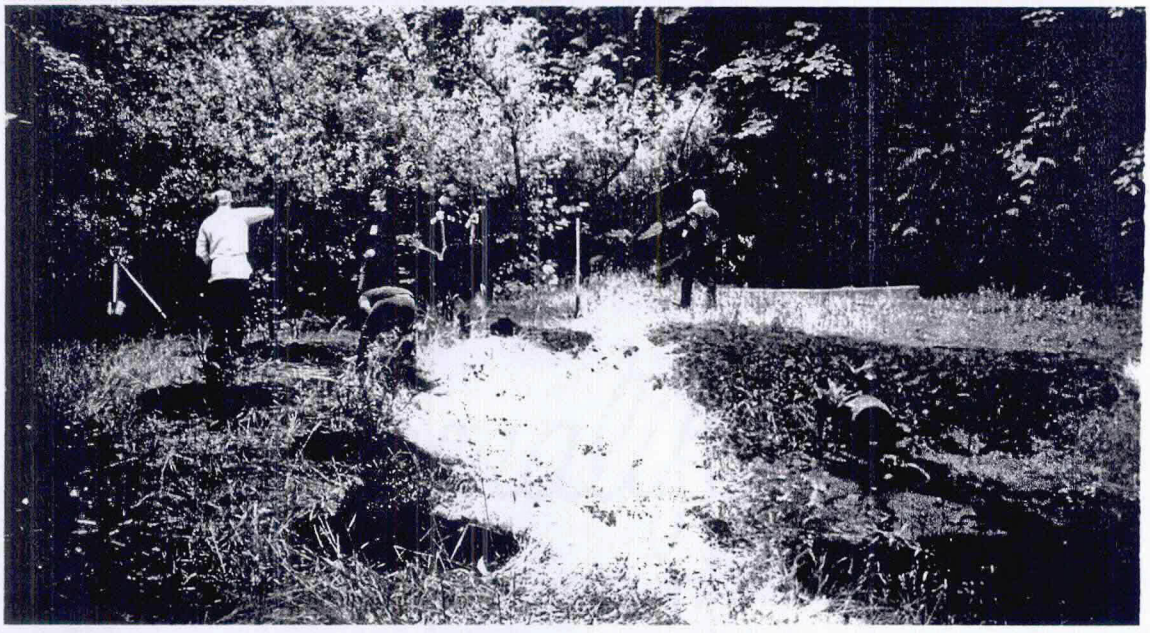
The work will provide screening for residents and food and habitat for wildlife. A team of about 40 students will be led by Centennial teacher Mark Porterfield.

On Saturday, Eagle Scout Ryan Curtis will lead Troop 740 planting wetland plants, repairing banks and improving a bark trail at the lake's south end. Eagle Scout Josh Hough and Troop 160 will add to the Centennial students' work by spreading mulch around the newly planted greenery and completing wetland plantings at the water's edge.

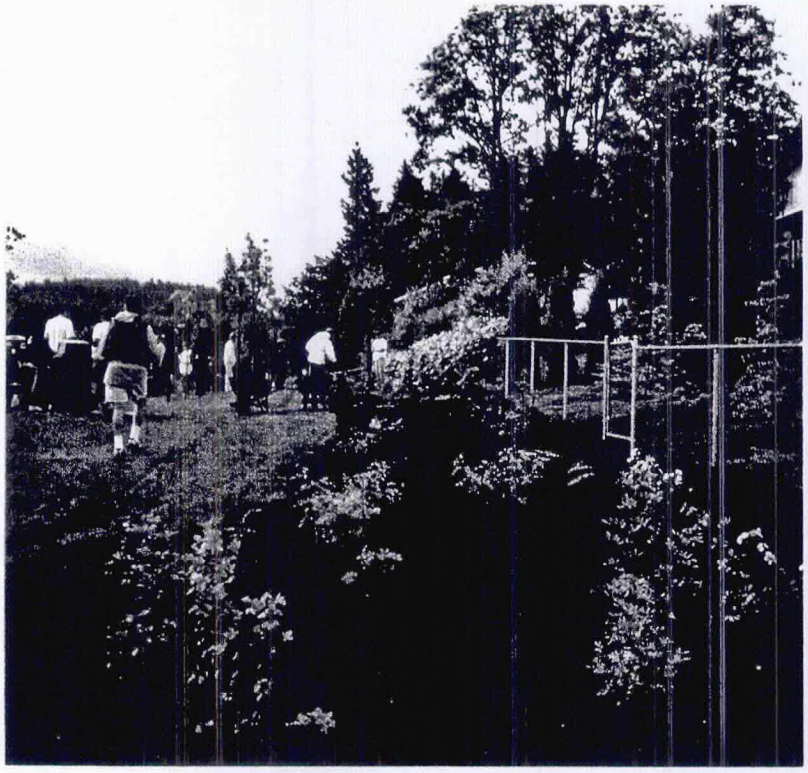
The volunteer activities help carry out the master plan vision for Binford Lake, which is owned by Gresham, say city planners.

Plants for the lake were funded from part of a $17,500 Metro greenspace grant awarded to the city and funded by the U.S. Fish and Wildlife Department.

The improvements are aimed at reducing erosion and sedimentation into the lake, improving water quality and animal habitat.

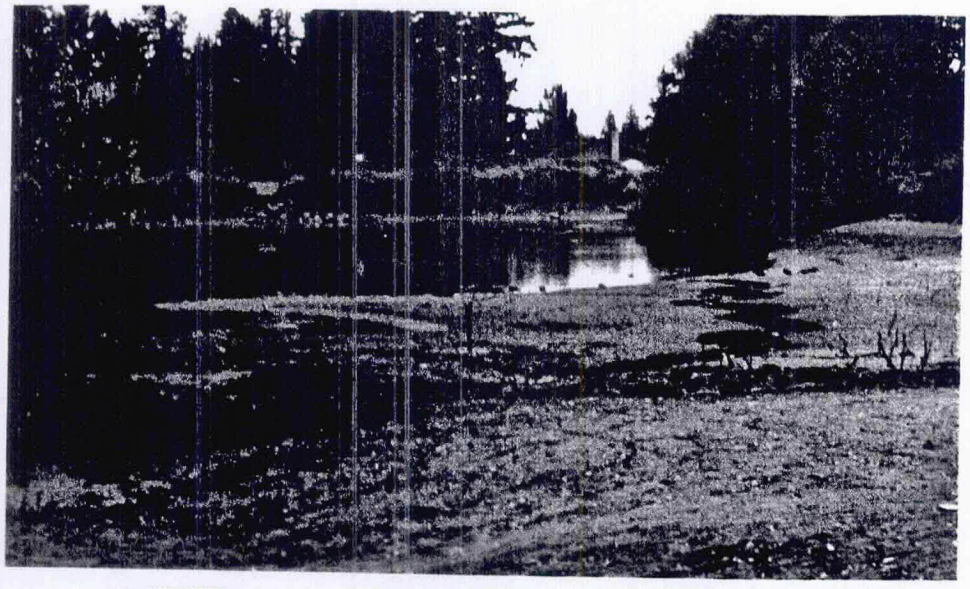


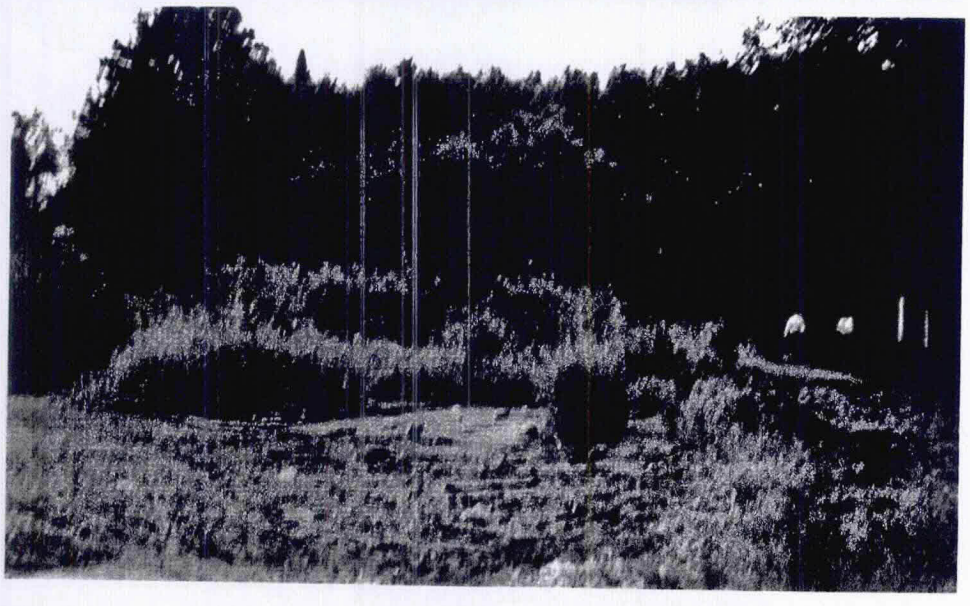
EAGLE SCOUT RYAN CURTIS AND TROOP 740 PLANT RUSHES IN WETLAND SWALE, CLEAR WEEDS AROUND YOUNG PLANTS AND IMPROVE BANK AND TRAIL AT SOUTH END OF LAKE.



EAGLE SCOUT JOSH HOUGH WITH TROOP 160 AND FRIENDS SPREAD MULCH AROUND NEW NATIVE SHRUB BUFFER PLANTINGS WHICH WERE PLANTED BY CENTENNIAL HIGH SCHOOL STUDENTS.

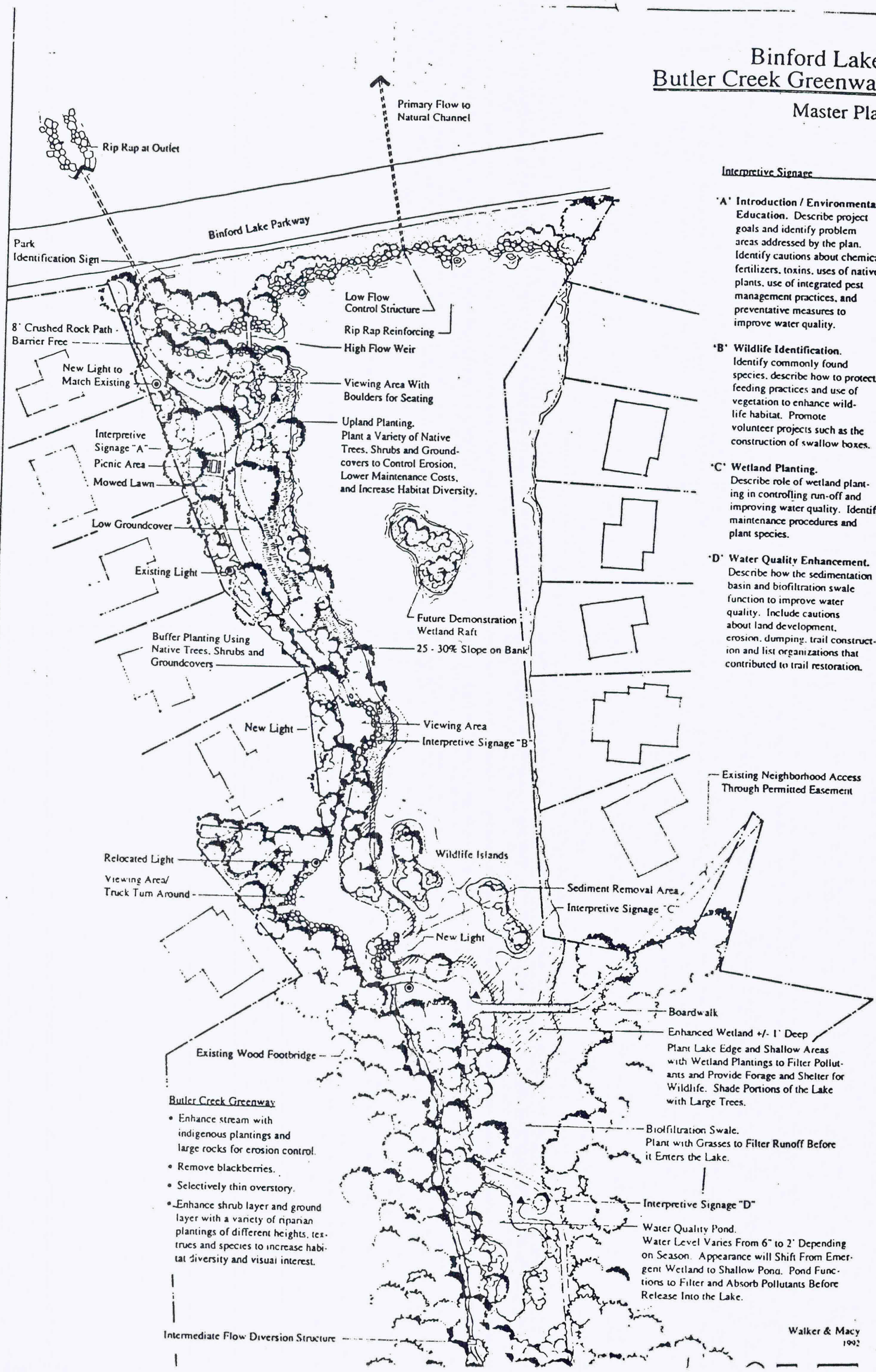
WEST BANK AND SOUTH END OF LAKE PRIOR TO CONSTRUCTION.





Binford Lake/ Butler Creek Greenway

Master Plan



Interpretive Signage

'A' Introduction / Environmental Education. Describe project goals and identify problem areas addressed by the plan. Identify cautions about chemical fertilizers, toxins, uses of native plants, use of integrated pest management practices, and preventative measures to improve water quality.

'B' Wildlife Identification. Identify commonly found species, describe how to protect, feeding practices and use of vegetation to enhance wildlife habitat. Promote volunteer projects such as the construction of swallow boxes.

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'D' Water Quality Enhancement. Describe how the sedimentation basin and biofiltration swale function to improve water quality. Include cautions about land development, erosion, dumping, trail construction and list organizations that contributed to trail restoration.

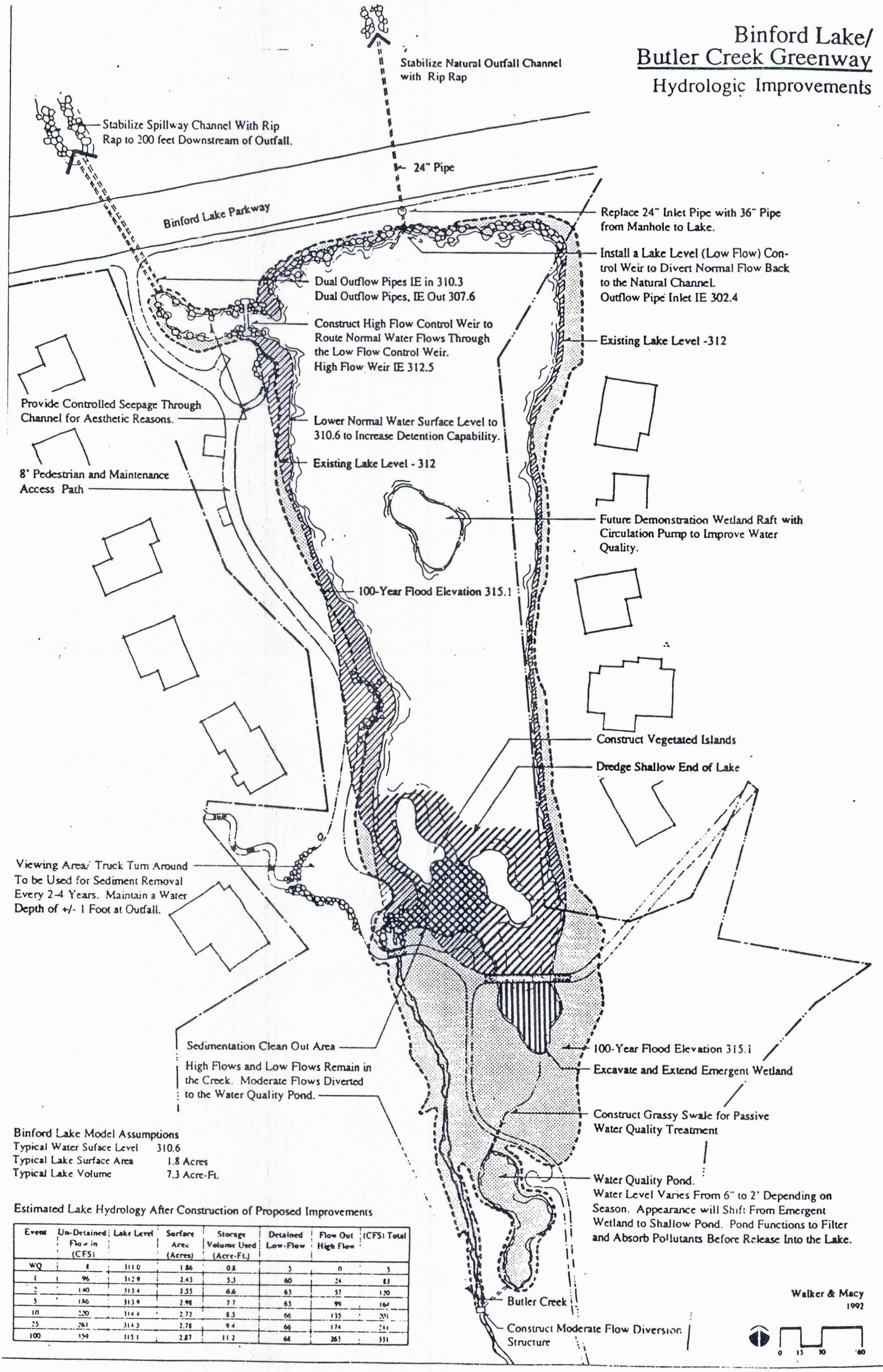
Butler Creek Greenway

- Enhance stream with indigenous plantings and large rocks for erosion control.
- Remove blackberries.
- Selectively thin overstory.
- Enhance shrub layer and ground layer with a variety of riparian plantings of different heights, textrues and species to increase habitat diversity and visual interest.

Walker & Macy
1992

Binford Lake/ Butler Creek Greenway

Hydrologic Improvements



Binford Lake Model Assumptions

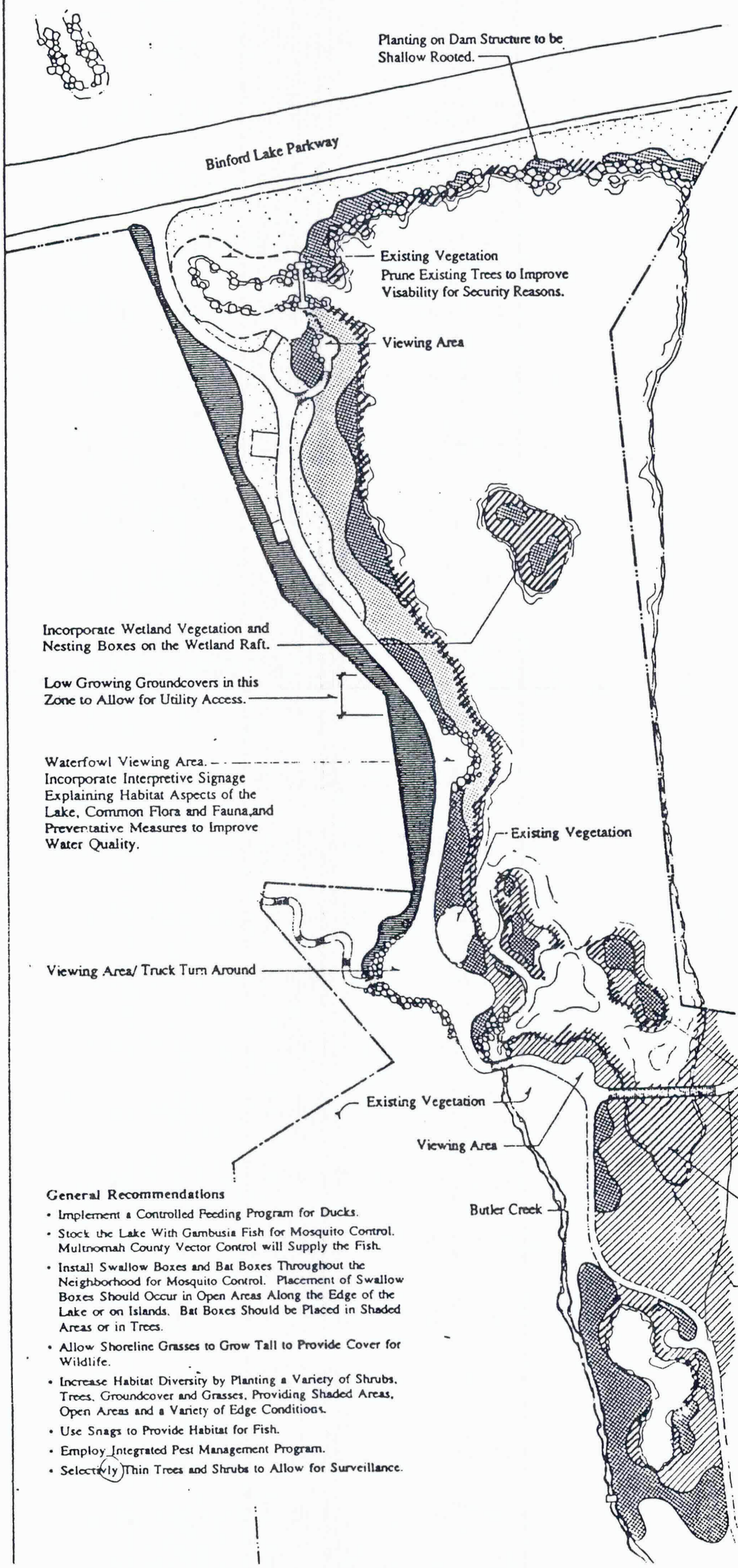
Typical Water Suface Level	310.6
Typical Lake Surface Area	1.8 Acres
Typical Lake Volume	7.3 Acre-Ft.

Estimated Lake Hydrology After Construction of Proposed Improvements

Event	Un-Detained Flow in (CFS)	Lake Level	Surface Area (Acres)	Storage Volume Used (Acre-Ft.)	Detained Low-Flow	Flow Out High Flow	(CFS) Total
WQ	8	311.0	1.86	0.8	5	0	5
1	96	312.9	2.43	5.3	60	24	83
2	140	313.4	2.55	6.6	63	57	120
5	186	313.9	2.98	7.7	65	99	164
10	220	314.4	2.72	8.5	66	135	201
25	261	314.5	2.78	9.4	66	174	241
100	159	315.1	2.87	11.2	68	263	331

Binford Lake/ Butler Creek Greenway

Vegetation and Wildlife Enhancements



Plant Key

Shrub/Tree Planting Near Lake's Edge

Cornus stolonifera	Red Osier Dogwood
Fraxinus latifolia	Oregon Ash
Salix scouleriana	Scouler's Willow
Salix sitchensis	Sitka Willow
Spirea douglasii	Hardhack Spirea

Buffer Shrub/Tree Planting

Acer macrophylla	Bigleaf Maple
Alnus rubra	Red Alder
Cornus nuttallii	Pacific Dogwood
Crataegus douglasii	Black Hawthorn
Tsuga heterophylla	Western Hemlock
Amelanchier alnifolia	Western Serviceberry
Corylus cornuta	Hazelnut
Gaultheria shallon	Salal
Holodiscus discolor	Ocean spray
Lonicera involucrata	Twinberry
Prunus virginiana	Common Chokecherry
Ribes sanguineum	Red Currant
Sambucus racemosa	Red Elderberry
Symphoricarpos albus	Common Snowberry
Vaccinium ovatum	Evergreen Huckleberry

Groundcover on Bank

Gaultheria shallon	Salal
Arctostaphylos nevadensis	Pinemat Manzanita

Wetland Edge

Carex spp.	Sedges
Eleocharis acicularis	Spike Rush
Juncus effusus	Soft Rush
Polygonum muhlenbergh	Smartweed
Sagittaria latifolia	Wapato Duck Potato
Sparganium eurycarpun	Burreed
Typha latifolia	Cattail

Biofiltration Swale

Alopecuris pratensis	Meadow Foxtail
Beckmania syzigachne	American Slough Grass
Descampsia caespitosa	Tufted Hairgrass
Festuca rubra	Creeping Red Fescue
Glyeria spp.	Manna Grass

General Recommendations

- Implement a Controlled Feeding Program for Ducks.
- Stock the Lake With Gambusia Fish for Mosquito Control. Multnomah County Vector Control will Supply the Fish.
- Install Swallow Boxes and Bat Boxes Throughout the Neighborhood for Mosquito Control. Placement of Swallow Boxes Should Occur in Open Areas Along the Edge of the Lake or on Islands. Bat Boxes Should be Placed in Shaded Areas or in Trees.
- Allow Shoreline Grasses to Grow Tall to Provide Cover for Wildlife.
- Increase Habitat Diversity by Planting a Variety of Shrubs, Trees, Groundcover and Grasses, Providing Shaded Areas, Open Areas and a Variety of Edge Conditions.
- Use Snags to Provide Habitat for Fish.
- Employ Integrated Pest Management Program.
- Selectively Thin Trees and Shrubs to Allow for Surveillance.

Walker & Macy
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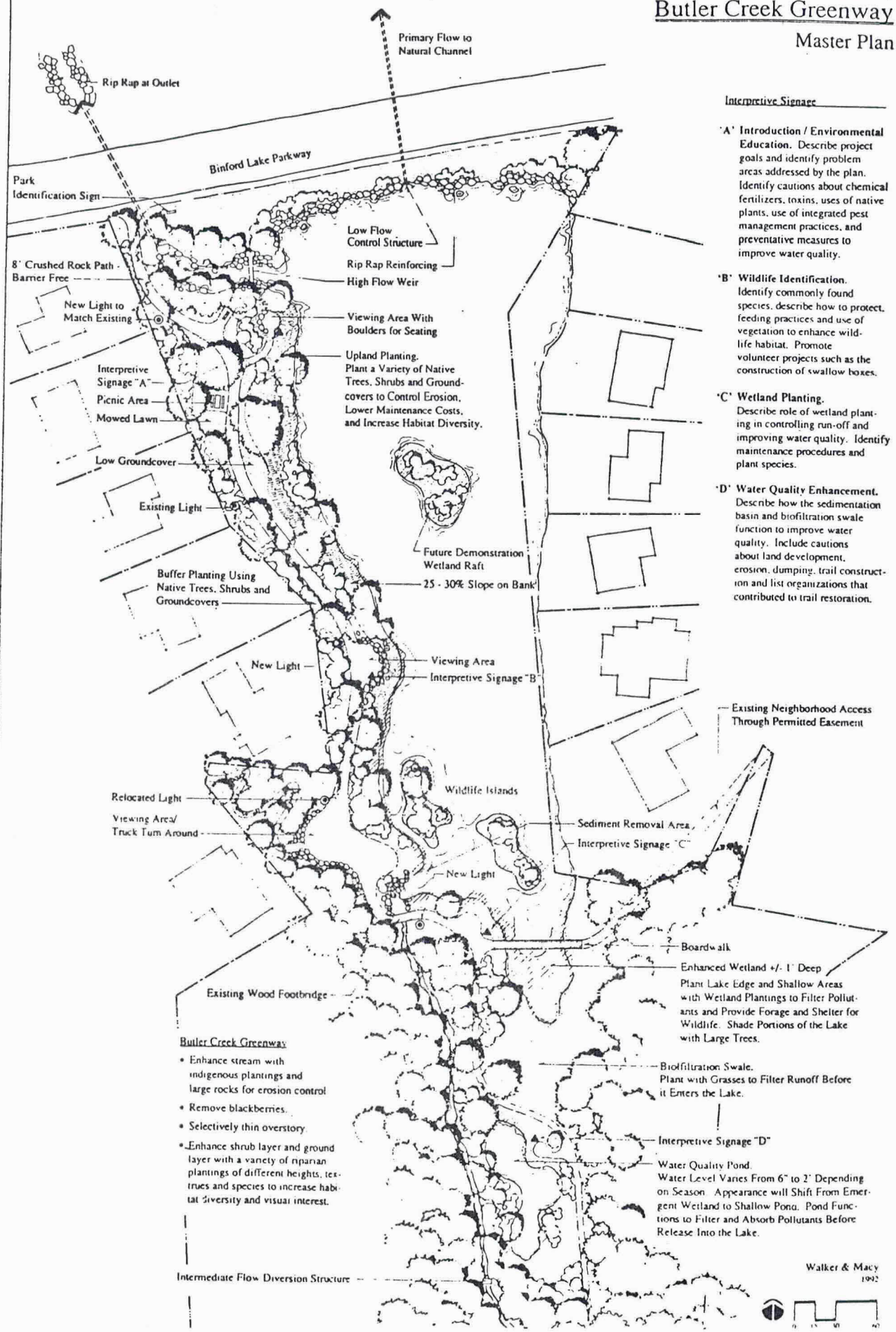

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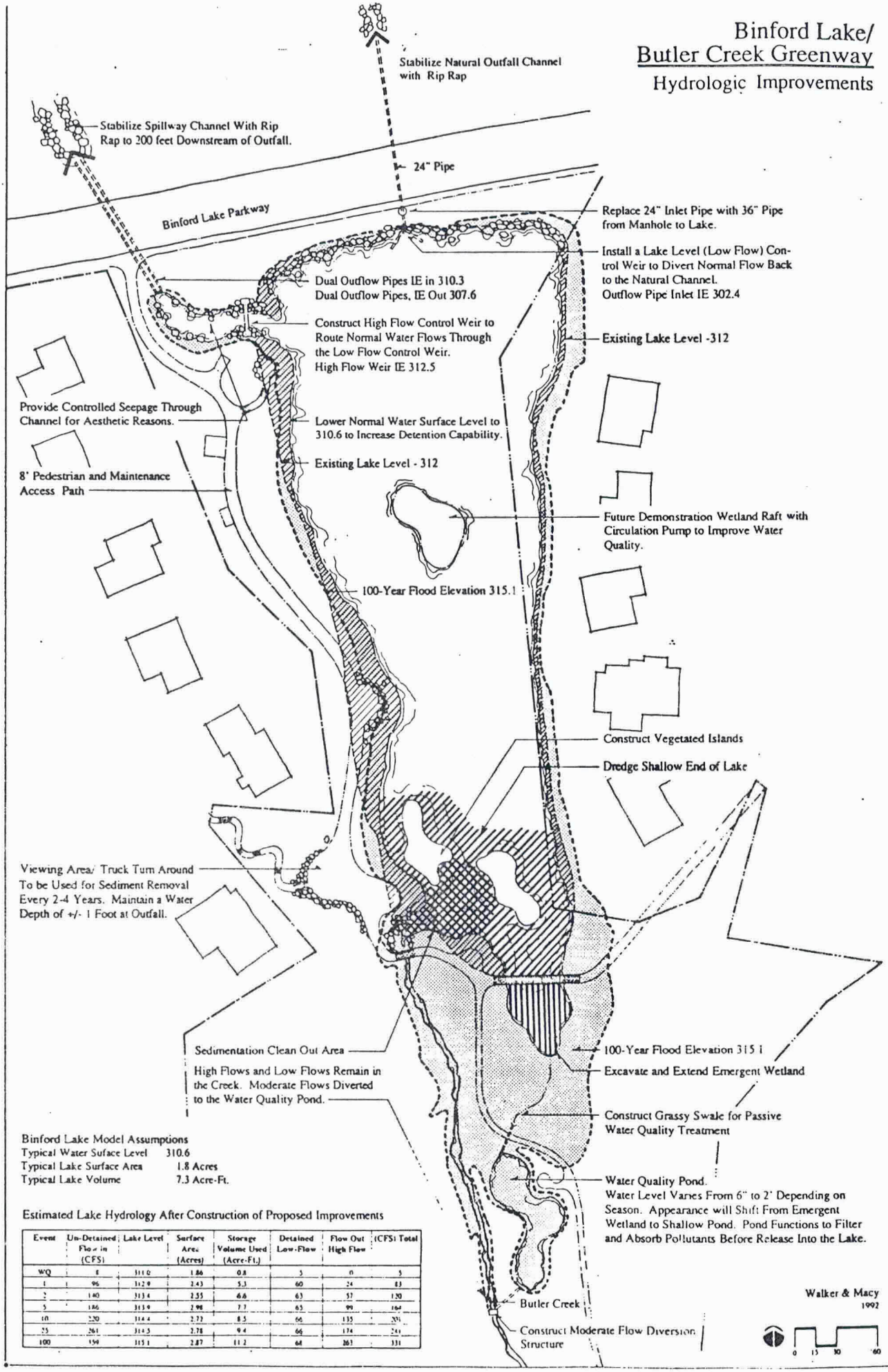

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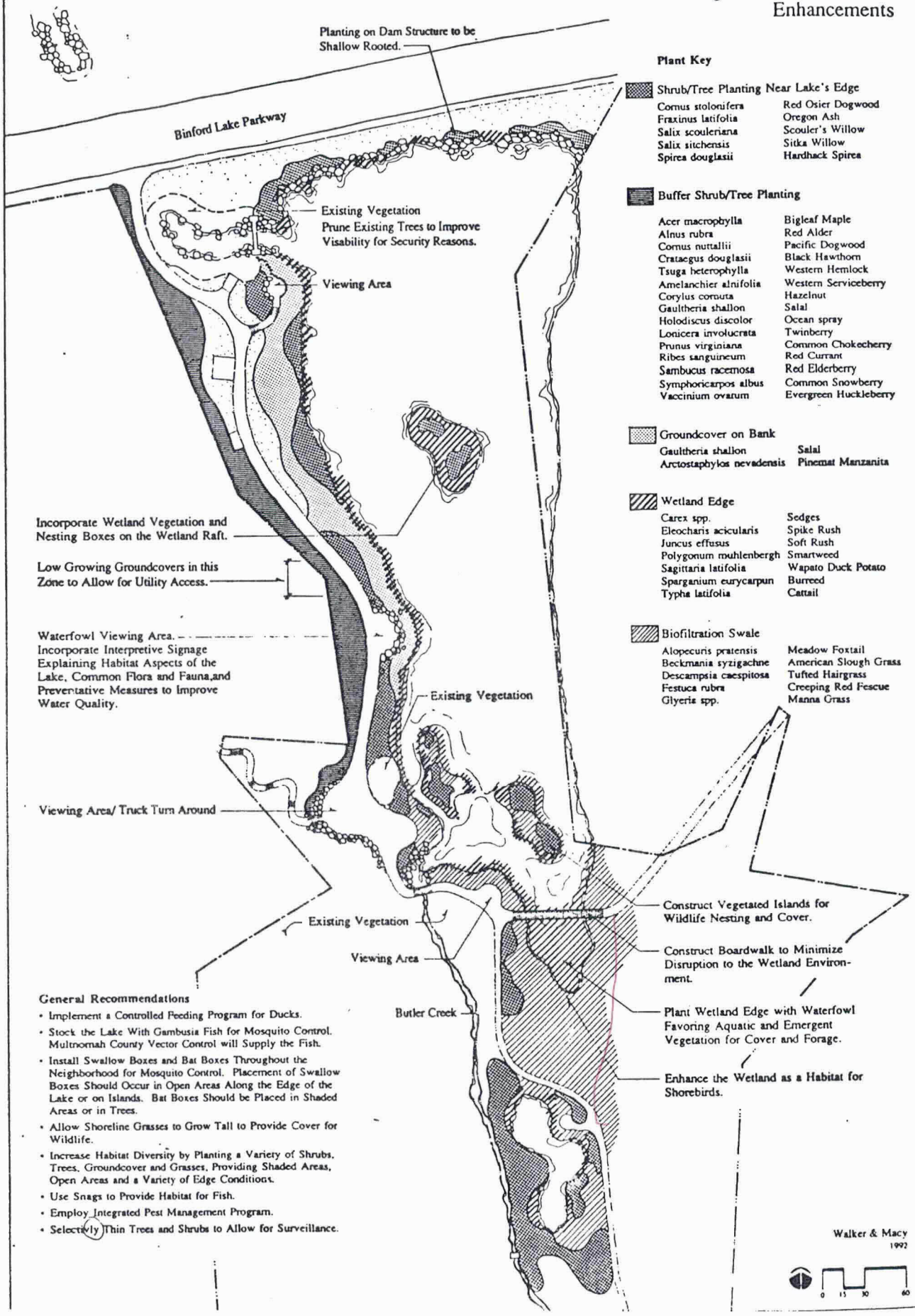

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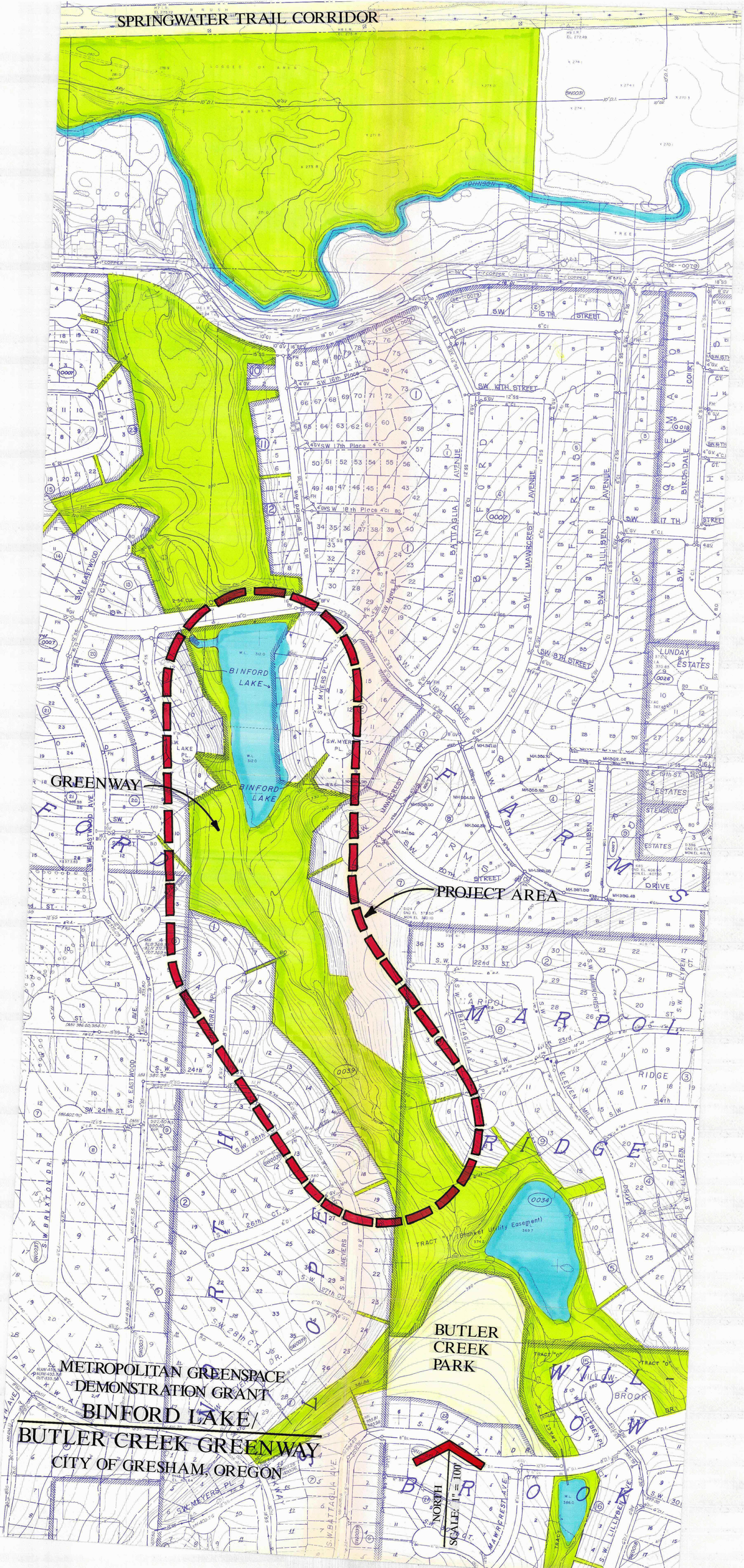
SPRINGWATER TRAIL CORRIDOR
BINFORD LAKE
BINFORD LAKE
GREENWAY
PROJECT AREA
BUTLER CREEK PARK
METROPOLITAN GREENSPACE DEMONSTRATION GRANT
BINFORD LAKE/
BUTLER CREEK GREENWAY
CITY OF GRESHAM, OREGON
NORTH
SCALE: 1" = 100'

A Photographic History

submitted to

Metropolitan Greenspaces

for

Binford Lake

and

Butler Creek Greenway

City of Gresham
Parks and Recreation Division

April 1992

Binford Lake showing a very low water level in August 1992.

Low water level exposes garbage and sediment build-up in the southern portion of the Lake.

Oregon Conservation Youth Corps crews cleaned garbage from the Lake and Greenway.

August 1992

OYCC crews forged a trail through the Butler Creek Greenway which now connects Binford Lake with Butler Creek Park.

August 1992

OYCC crews replanted native ferns on "cut-through' paths and widened the existing original trail.

August 1992

The crew members built steps on this steep slope, a portion of the Butler Creek Greenway Trail.

Woody debris and logs were placed at strategic locations across "cut through" paths to keep people on the main path.

The crew removed blackberries from the stream side banks and planted ferns along the newly created path.

Here, crew members carry rocks for a stream restoration project: placing logs and river rock against the eroding stream banks.

August 1992

BINFORD LAKE SOUTH VIEW

ENCROACHING DEVELOPMENT

1990 CONSERVATION PROJECT

1990 CONSERVATION PROJECT BIRDHOUSE CONSTRUCTION