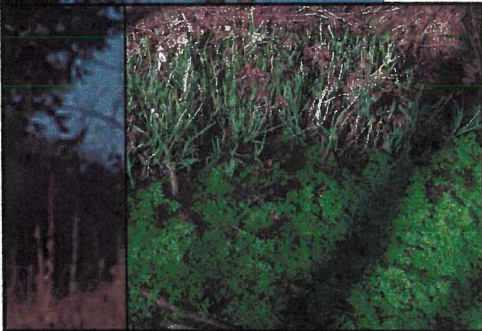
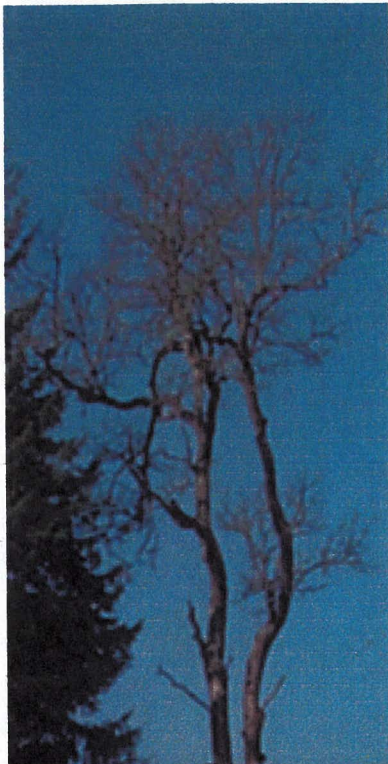


March 21, 2001



**JEWETT SPRING PARK CONCEPTUAL PLAN**  
Public Works & Planning  
City of White Salmon, Washington



Prepared by:

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*“To provide the White Salmon, Bingen and western Klickitat County community with an urban green space park/natural area for public access, education, and enjoyment.”*

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### **Project Acknowledgements:**

Susan Benedict	White Salmon City Council
Roger Holen, Mayor	City of White Salmon
Wil Keyser, Director	White Salmon Public Works & Planning
Amy Mann, Chair	Jewett Creek Streamkeepers
Steve Stampfli, Manager	Underwood Conservation District



## Introduction



*Jewett Spring Outfall*



*Concrete Diversion Vault*

### **Project Background and Site History**

The population size of the White Salmon/Bingen area continues to expand and with it the need for local recreational opportunities. Of particular interest are parks that can be readily accessed and used by individuals, groups, and families alike.

Jewett Spring Park is named after a perennial spring that flows from an outfall near the center of the park (see photo). The spring had been used by Dickie Farms, in Bingen, as an irrigation source for their orchards for many years until the City of White Salmon formally obtained rights for the use of the spring. On Feb 27th, 1963 the City obtained the water rights to Jewett Spring for the diversion of 1.0 cfs for domestic water purposes. This amounts to the entire productive flow of the spring as measured at the time White Salmon obtained the rights.

By 1968, the City of White Salmon completed the construction of the existing 6" transit water pipeline and diversion vault (see photo) at Jewett Spring. The pipeline connected into the municipal water line on Tohomish Street near it's junction with Orchard Avenue. This water source has historically been used as a supplemental water supply to the City's Buck Creek primary water source. It has been used very sparingly for many years because the spring water source must be chlorine treated prior to use and must receive full and continuous water treatment for the removal of turbidity and bacteriological organisms prior to public consumption. Due to the large capital costs in effective treatment of this water source, the City will not be using this spring as a source of water for the foreseeable future. The Public Works Department will be disconnecting the vault from the water system sometime in 2001, however the vault will remain connected to the spring and can be reopened with an existing valve.

### **Existing Conditions**

Jewett Spring Park has existed as a relatively undisturbed 5.76 acre piece of property for some time. There are non-maintained trails throughout the park property that join with Jewett Creek Trail to the east and continue onto adjacent property to the south. It has historically been used by hikers and bikers without any organization or control by the City of White Salmon. It is surrounded by privately owned forested property to the east and south, residential property to the west, and gently sloping and relatively open fields to the north.

An existing road, Spring St. cuts through the property from the west prop-

erty line, making a hard turn to the north and exiting on the northeast corner of the property.

Recently the City has purchased a 1.69 acre tract of land directly to the south of the larger property that is connected by a sliver of property along Jewett Creek. Also, the City has commenced negotiations with the property owner to the north of the 5.76 acre tract and will likely purchase an additional 1+ acres. With the recent addition of the 1.69 acre southern parcel, Jewett Spring Park is currently 7.45 acres of riparian and upland forest. Lastly, the city has granted a 60' R.O.W. road easement to a private property owner immediately to the south of the 5.76 acre parcel. A roadway will likely be built in the Summer of 2001.

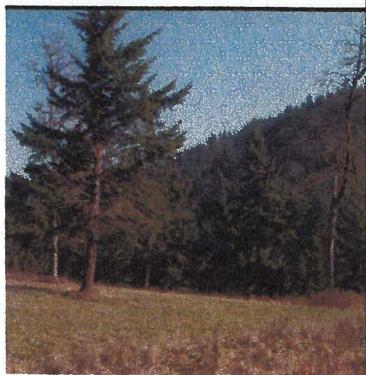
The diversion vault is currently empty and unused. The spring has been opened and now flows naturally over the surface of a small bench of land where it has created a small wetland, down an embankment, and into a series of small streams that eventually empty into Jewett Creek.

Jewett Spring Park also has a varied and interesting topography. It falls 150 feet from the northwest corner to the southeast corner of the property, where Jewett Creek cuts through. There is a gentle bench at the northwest corner of the site at an elevation of 725 feet, before the topography drops suddenly down to Spring St. The land then falls quickly to the bench in the center of the park at the spring, then falls suddenly again onto a wide, open, and gently sloping forest floor that drains into Jewett Creek at an elevation of 580 feet. The newly acquired southern triangle of property also slopes heavily, falling approximately 50 feet east to west. Jewett Creek forms the west boundary of this parcel.

Although the integrity of the native plant communities are intact, there are some patches of invasive species that are choking out native vegetation, especially around the Jewett Spring and along Jewett Creek.



## Design Elements



*Environmental Education Site*



*Ed. Center Entry Drive Location*

### **Site Organization**

(see page 6 for Site Plan)

Jewett Spring Park can be divided into two areas; North of Spring Street and South of Spring Street. The north part of the site contains a proposed Environmental Educational Center that will serve as both an educational opportunity for local schools as well as office space for the Underwood Conservation District (UCD). The Center also has adjacent demonstration gardens, parking facilities, and a new handicap accessible path connection to the southern area and will act as the main hub for activity within the park. The south part of the site is the “Nature Park” which includes a Jewett Creek Trail trailhead with seating, trails, a directional/interpretive kiosk, and limited parking. This area also has an accessible path to the restored vault that will fill with water from Jewett Spring and spill into a wetland demonstration area with a boardwalk. This area also includes the newly acquired 1.69 acre parcel of land and would work well as a working forestry demonstration site.

- **North Area – Environment Education Center**

The Environmental Education Center site sits on the 1.5 acre piece of land north of Spring St., in a very attractive clearing with excellent views of the surrounding hills and Jewett Creek Watershed (see photo). There is an existing roadbed in nearly the same location as the proposed entrance drive that would likely require additional property acquisition or an easement at its intersection with Spring St. (see photo). The road will climb at approximately an 8% grade to the Education Center building and a drop-off area that can accommodate multiple buses and vehicles.

The drop-off opens to a plaza with views into the demonstration gardens and into a large open interpretive lobby of a 2240 sf. Environmental Education Center. The plaza leads to an accessible paved path from the center to the Nature Park in the south area. The plaza would provide shaded gathering and seating areas for groups visiting the center. As part of the educational opportunities at the center, the demonstration gardens located to the north of the building are for growing and cultivating local plant communities for interpretation and education. The building would be designed as a model of sustainability in keeping with the environmental education component. A means to measure the sustainability of the project is the “LEED Green Building Rating System – Version 2.0 Final” checklist, which is designed and issued by the U.S. Green Building Council. The following is the preliminary program for the Environmental Education Center:

- Small Interp.Exhibit Area/Lobby (400sf)
- Office Space: 5-6 staff (1000sf)
- Conference/Meeting/Lab Room for 40 people (600 sf)
- Public restrooms accessible from outside (240sf)
- Use existing access road
- Parking for 20 vehicles and 1 bus
- Native plant demonstration garden
- Overlook for watershed

After dropping off visitors, vehicles and buses continue around a one-way loop through a parking area that has been designed to break up the large expanses of paving. There is a large planting area for water quality and infiltration facilities planted with native plants. In keeping with the objective of sustainability, all runoff from the parking areas and building will be directed into the water quality facilities to treat runoff before it is guided into the wetlands in the south area nature park. Also, the parking aisles will be paved with either "Eco-Stone" pavers, a paver that is specifically designed to allow water to infiltrate through the paving, or reinforced grass capable of supporting parked vehicles.

- **South Area – Nature Park**

The remainder of the 7.45-acre Jewett Spring Park is maintained as a nature park. The vehicular entrance to the park is about 50 feet to the east of the entrance to the Environmental Education Center. There is a proposed road from Spring Street to a residential area located to the south of the property. There will be a small gravel parking pull-off located on the east side of the proposed road that would accommodate 6 cars. Pedestrian paths from the Education Center and the small parking lot both come to a small trailhead that will have an Information/Interpreve Kiosk.







*Existing Wetland Plants*

The kiosk will educate about the vegetative diversity of the park, as well as have an informational overview of the park and its resources. A restroom could easily be added in addition to the kiosk.

From the trailhead pedestrians can continue down a new paved path down to a 'y' intersection that has way-finding signage.

The path to the east of the intersection leads to a small interpretive plaza (see image below) at the wetland demonstration area, the restored vault, and a boardwalk. There will be interpretive panels or elements that educate to the function of the wetlands, including information about the runoff from the Environmental Education Center and how that water has been cleansed through natural systems before it goes into Jewett Creek. The tank will be uncapped and saw-cut to a lower height. The valve to



the spring will then be opened, allowing water into the tank again. The tank will be renovated with a stone fascia and two spillways, creating a water feature. The spillways will allow water to cascade both to the north into the restored wetlands, and to the south down a waterfall into the small creek that currently leads the spring water to Jewett Creek. A pedestrian boardwalk will lead across the wetlands, 6 to 8 inches above the surface of the water, and

to a Jewett Creek overlook platform at the eastern property boundary. From the overlook, hikers will go down a series of steps to the northern Jewett Spring Creek intersection.



*Existing Trail*

The path to the south of the 'y' intersection turns into a restored soft path leading to the southern portion of the Jewett Spring Park property, down new rock steps, and across a new foot bridge to the southern trail intersection with the existing Jewett Creek Trail. The Jewett Creek trail continues to the south through the southern triangular piece of property along Jewett Creek and provides the best opportunity for riparian and upland vegetative restoration. Due to the heavily sloping nature of this part of the property, this area will be left as is and be used as a working forestry demonstration site. Actual demonstrations will be limited to measurement, layout and planning. No actual harvesting or other ground disturbance will be permitted.



*Jewett Creek Watershed Sign*

## **Environmental Restoration/Education Opportunities**

Jewett Spring Park is a functioning urban forest with a large perennial spring, abundant wildlife, Jewett Creek, and other natural elements that provide many great recreation and educational opportunities. Some of these natural features are being degraded or lost due to negligence and lack of maintenance. There are wonderful opportunities to restore native wetlands around the spring head, and riparian vegetation along Jewett Creek.

- **Jewett Spring**

The spring head provides the best immediate opportunity for environmental restoration and enhancement. It also provides one of the best educational and interpretive opportunities on the site because of the processes that a wetland goes through in cleansing building and road runoff, as well as the interesting geologic history behind a spring of this sort. A simple clean up job and removal of invasive plant species (blackberry) will go a long way in aesthetic enhancement and is relatively inexpensive. The location of the spring and its high vantage point over the Jewett Creek watershed allows for multiple interpretive and educational opportunities.

- **Jewett Creek**

The creek provides some excellent opportunities and creek restoration and enhancement, especially in the southern triangular portion of the site. This includes riparian vegetation enhancement and restoration, including replacement of conifers and removal of invasive plant species, such as blackberry. Also, as mentioned earlier, this area could be developed in a sustainable manner to provide for field study in forestry, surveying, riparian vegetation, wildlife habitat, etc.

## **Recreational Opportunities**

Jewett Spring Park is a relatively small park at only 7.45 acres. However, its proximity to the widely used Jewett Spring Trail in combination with the educational opportunities make this an ideal location for a trail head and 20 minute loop trail. This park will be most appropriately used in a passive recreational manner and in connection with larger regional trail systems. Because of the topography and valuable natural features of the site, it would take considerable resources and would be inadvisable to plan for active recreation at Jewett Spring Park.



## Implementation

### **Project Construction Phasing**

Due to the total cost of developing the entire plan, it is recommended that a phased approach be taken in funding and implementation. Based on our preliminary cost estimate, and our discussions with city staff, the project is broken down into three phases. The planning and construction costs for the following items are shown in the cost estimate, Appendix A:

#### **Phase I** (Total \$173,400)

- Trailhead – includes stone and gravel plaza; interpretive/orientation kiosk; stone retaining walls.
- Paved pathways – from Spring St. to trailhead; from trailhead to wetland demonstration plaza, including the ‘y’ extension to the south.
- Wetland Demonstration Area – includes stone and gravel plaza; stone retaining wall; wetland and spring head cleanup/restoration; tank refurbishment; boardwalk; Jewett Creek overlook; the northern connection to Jewett Creek Trail.
- Park entry signage, interpretive signage, and way finding signage.

#### **Phase II** (Total \$75,900)

- Soft path restoration and creation – from the end of the paved path; at the ‘y’ intersection; to the south property line; stone steps; two foot bridges; the southern connection to the Jewett Creek Trail, including gravel plaza and stone retaining wall
- 6 Car gravel parking lot off of the proposed road to the southern residential subdivision and paved path to trailhead.
- Jewett Creek streambank and riparian vegetation enhancement and restoration.
- Any additional signage.

#### **Phase III** (Total \$739,000)

- Environmental Education Center
- Access Road and Main Parking
- Demonstration Gardens

# Appendix



**Project Totals**

<i>Phase</i>	<i>ITEM</i>	<i>COST</i>
I.	Nature Park	\$173,437
II.	Nature Park	\$75,858
III.	Environmental Education Center	\$739,046
<b>Total Estimated Construction Cost</b>		<b>\$988,341</b>

**ASSUMPTIONS:**

1. Prevailing Wage Labor Rates Apply
2. No donated materials or labor
3. Inflation is calculated as 5% per year with an estimate of 2 years for a total of 10%
4. General Conditions @ 7%
5. Bond and Insurance @ 8%
6. Overhead and Profit @ 8%
7. We recommend that owners carry a 10% construction contingency allowance for construction projects. This number can be found at the bottom of each page as an additional cost item.

**Jewett Spring Park**  
Phase I  
Construction Cost Estimate

Estimate Date: 3/15/01  
Print Date: 03/26/2001

**I. Nature Park**

CSI Sec.	ITEM	QTY.	UNIT	UNIT COST	EXT. COST	REMARKS
02200	<b>SITE PREPARATION &amp; DEMOLITION</b>					
	Clear and Grub	9500	LF	\$0.25	\$2,375	
02300	<b>EARTHWORK</b>					
	Rough Grading for Trailhead Plaza	845	SF	\$0.20	\$169	
	Rough Grading for Paths	2800	SF	\$0.20	\$560	
	Rough Grading for Misc.	9000	SF	\$0.20	\$1,800	
	Finish Grading for all disturbed areas	6300	SF	\$0.30	\$1,890	
02600	<b>DRAINAGE</b>					
	Drain Inlets	4	EA	\$150.00	\$600	
	4" ABS Drain Line	130	LF	\$5.00	\$650	
	Restore Line from Spring to Tank	1	Allow	\$1,000.00	\$1,000	
02700	<b>PAVINGS</b>					
	<i>Asphalt</i>					
	5' Paths	400	LF	\$12.00	\$4,800	
	<i>Other</i>					
	Crushed gravel w/ flagstone paving	845	SF	\$10.00	\$8,450	
02800	<b>SITE IMPROVEMENTS</b>					
	Kiosk	1	Allow	\$15,000.00	\$15,000	
	Wayfinding Signage	1	Allow	\$2,500.00	\$2,500	
	Interpretive Signage	4	EA	\$4,000.00	\$16,000	
	Site Signage	1	LS	\$4,000.00	\$4,000	
	Site Walls:					
	24"	225	FF	\$45.00	\$10,125	75 LF
	36"	128	FF	\$45.00	\$5,760	32 LF
	Boardwalk	1100	SF	\$35.00	\$38,500	
	Tank Restoration	1	Allow	\$6,000.00	\$6,000	
	Stone Steps	5	EA	\$300.00	\$1,500	Rough, unmortared
02900	<b>PLANTING</b>					
	Native infill planting	1500	SF	\$0.45	\$675	
	New native planting	2300	SF	\$0.80	\$1,840	
	Wetland planting	2800	SF	\$1.00	\$2,800	
	Meadow Planting	0.37	AC	\$2,000.00	\$740	
	Subtotal				\$124,194	
	Design Contingency (5%)				\$6,210	
	<b>Estimated Base Construction Cost</b>				<b>\$130,404</b>	

**Additional Cost Factors:**

Inflation to Project Midpoint (2 years)	\$13,040
G.C. General Conditions	\$9,128
G.C. Bond & Insurance	\$10,432
G.C. Overhead & Profit	\$10,432

**Total Estimated Construction Cost**

**\$173,437**

Recommended Construction Contingency Allowance (10%)

\$17,344

Total with Contingency

\$190,781



**II. Nature Park**

CSI Sec.	ITEM	QTY.	UNIT	UNIT COST	EXT. COST	REMARKS
02200	<b>SITE PREPARATION &amp; DEMOLITION</b>					
	Clear and Grub	1	Allow	\$1,000.00	\$1,000	
	Clear and Grub Streambank	8750	Allow	\$0.30	\$2,625	5' Each Side - 875LF
02300	<b>EARTHWORK</b>					
	Rough Grading for Trail Intersection Plaza	380	SF	\$0.20	\$76	
	Rough Grading for Paths	800	SF	\$0.20	\$160	
	Rough Grading for Misc.	1300	SF	\$0.20	\$260	Parking Areas, misc.
	Finish Grading for all disturbed areas	1200	SF	\$0.30	\$360	
02600	<b>DRAINAGE</b>					
	Drain Inlets	1	EA	\$150.00	\$150	
	4" ABS Drain Line	30	LF	\$5.00	\$150	
02700	<b>PAVINGS</b>					
	<i>Asphalt</i>					
	5' Paths	100	LF	\$12.00	\$1,200	From Parking to Trailhead
	<i>Gravel</i>					
	Parking Lot	1200	SF	\$1.25	\$1,500	
	<i>Other</i>					
	Soft Foot Paths	300	LF	\$4.50	\$1,350	Bark Mulch Paths
	Gravel Plaza	380	SF	\$2.50	\$950	
02800	<b>SITE IMPROVEMENTS</b>					
	<b>Bridges</b>					
	20'	120	SF	\$40.00	\$4,800	6' Wide
	35'	280	SF	\$40.00	\$11,200	8' Wide
	Stone Steps	9	EA	\$300.00	\$2,700	Rough, unmortared
	Wayfinding Signage	1	Allow	\$1,000.00	\$1,000	
	Interpretive Signage	2	EA	\$4,000.00	\$8,000	
	<b>Site Walls:</b>					
	24"	66	FF	\$45.00	\$2,970	22 LF
	36"	220	FF	\$45.00	\$9,900	55 LF - Parking Lot
02900	<b>PLANTING</b>					
	Native infill planting	1200	SF	\$0.45	\$540	
	New native planting	1200	SF	\$0.80	\$960	
	*Riparian Restoration and Enhancement	8750	SF	\$1.75	\$15,313	Along Jewett Creek
	Subtotal				\$51,851	
	Design Contingency (10%)				\$5,185	
	<b>Estimated Base Construction Cost</b>				<b>\$57,036</b>	

**Additional Cost Factors:**

Inflation to Project Midpoint (2 years)	\$5,704
G.C. General Conditions	\$3,993
G.C. Bond & Insurance	\$4,563
G.C. Overhead & Profit	\$4,563

**Total Estimated Construction Cost**

**\$75,858**

Recommended Construction Contingency Allowance (10%)	\$7,586
<b>Total with Contingency</b>	<b>\$83,444</b>

\* Riparian Restoration Assumptions: 1 tree, 4 shrubs, and 2 forbes per 40 SF

### III. Environmental Education Center

CSI Sec.	ITEM	QTY.	UNIT	UNIT COST	EXT. COST	REMARKS
02200	<b>SITE PREPARATION &amp; DEMOLITION</b>					
	Clear and Grub		LS	\$0.25	\$0	
02300	<b>EARTHWORK</b>					
	Rough Grading for Parking & Entry Drive	21700	SF	\$0.50	\$10,850	
	Rough Grading for Paths	6500	SF	\$0.50	\$3,250	
	Rough Grading for Building Area	2650	SF	\$0.50	\$1,325	
	Rough Grading Misc.	2650	SF	\$0.50	\$1,325	Planting areas, water quality fac.
	Finish Grading for all disturbed areas	27500	SF	\$0.05	\$1,375	
02600	<b>DRAINAGE</b>					
	Catch Basins	4	EA	\$750.00	\$3,000	
	Drain Inlets	4	EA	\$150.00	\$600	
	4" ABS Drain Line	550	LF	\$4.50	\$2,475	
02700	<b>PAVINGS</b>					
	<i>Asphalt</i>					
	Entry Road & Drive Aisles	17340	SF	\$1.75	\$30,345	
	5' Paths	495	LF	\$8.75	\$4,331	
	<i>Eco-Stone Pavers</i>					
	Parking Aisles and Drop-off	4400	SF	\$12.00	\$52,800	
	<i>Concrete</i>					
	5' paths	515	LF	\$22.50	\$11,588	
	Plaza Flatwork	1882	SF	\$4.50	\$8,469	
02800	<b>SITE IMPROVEMENTS</b>					
	Site Signage	1	EA	\$5,000.00	\$5,000	
	Wayfinding Signage	1	Allow	\$2,500.00	\$2,500	
	Tool Shed	1	EA	\$10,000.00	\$10,000	
	Environmental Education Center	2240	SF	\$150.00	\$336,000	Including furnishings & Interp.
	Site Furnishings	1	Allow	\$5,000.00	\$5,000	
	Stone Steps	10	EA	\$300.00	\$3,000	Rough, unmortared
02810	<b>IRRIGATION</b>					
	Quick Coupler System	1	LS	\$10,000.00	\$10,000	
02900	<b>PLANTING</b>					
	Native infill planting	2500	SF	\$0.45	\$1,125	
	New native planting	1000	SF	\$0.80	\$800	
	Water Quality/Infiltration Facility	4620	SF	\$2.50	\$11,550	
	Subtotal				\$505,158	
	Design Contingency (5%)				\$50,516	
	<b>Estimated Base Construction Cost</b>				<b>\$555,674</b>	

**Additional Cost Factors:**

Inflation to Project Midpoint (2 years)	\$55,567
G.C. General Conditions	\$38,897
G.C. Bond & Insurance	\$44,454
G.C. Overhead & Profit	\$44,454

**Total Estimated  
Construction Cost**

**\$739,046**

Recommended Construction Contingency  
Allowance (10%)

\$73,905

Total with Contingency

\$812,950