



METHOW
Mobile Field Station

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Donnelly August 22, 2021

Land Acknowledgement

This project is centered on the unceded land of the Methow peoples, including the Methow, Chelan, Wenatchi, Entiat, Columbia, Okanogan, Lakes, Colville, Sanpoil, Nspelem, Chief Joseph Band of Nez Perce, and Palus people. We ask you to join us in acknowledging the Methow community, their elders both past and present, as well as future generations. We also acknowledge that the cities of the Valley as we know them today were founded upon exclusions and erasures of many Indigenous peoples. This acknowledgement demonstrates a commitment to contributing to the process of working to dismantle the ongoing legacies of settler colonialism.

WWU Campus Sustainability Planning Studio

- 10-week long summer course
- 16 students, all housed in Twisp, Winthrop, or Mazama
- Teams engage in local problem-based research projects aimed at helping communities achieve sustainability in many different realms including environment, human health, economy, and social equity.



Image: *Courtesy of Joshua Porter*

What is sustainability?

From the WWU Office of Sustainability: *“Sustainability: protects local and global ecology. upholds social equity. creates economic vitality, and maintains human health.”*

Our definition: a sustainable solution is one that creatively addresses the root cause of multifaceted problems to mutually benefit all parties involved and empower systemic change.

Statement of Need

- Student housing for future eight month (April- November) fellowship programs as part of Huxley College's Campus Sustainability and Planning Studio Fellowship.
- Sustainable, mobile tiny homes to house WWU students engaged in place-based education programs without contributing to the housing crisis in the Methow Valley.



Idahome Cascade custom exterior, Image: *Tiny Idahomes*

Project Goals

- Sustainable Solutions to Student Housing within Housing Crisis
- Sustainable Land Stewardship
- Inspiration and Education



Bridge at Twisp Ponds site

Background Research

- Housing crisis in the Methow Valley
- Community perspectives on alternative and creative solutions to housing
- Mobile tiny home sustainability



Image: *Methow Valley Citizens Council*

Connection to the UN Sustainable Development Goals

- 17 “buckets” as guides for a sustainable future
- Can be implemented at any scale



Methodology

Benchmarking Existing Projects

- Community Layouts
- Tiny Home Options

Student Preference Survey

- Evaluate Preferences and Priorities
- Multiple Choice and Short-Answer
- List Additional Desired Amenities or Features

Stakeholder Identification and Interviews:

- Stakeholders

- Someone who has interest/concern for the outcome of this field station.
- Those who without support and guidance this project would not progress
- Valuable sources of information

- Interviews

- Primary source of contact with the stakeholders
- Questions based off expertise
- Follow-up meetings/Updates

Results

Twisp Ponds Land

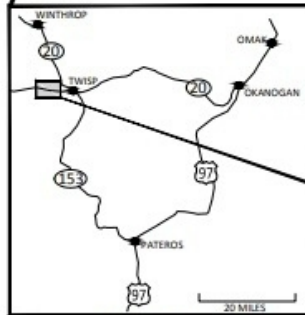
- 37-acre parcel owned by the Methow Salmon Recovery Foundation
- Located half a mile from Twisp up the Twisp River
- Supports two wells and one structure called the “Yellow Barn”
- Is also connected to the town septic system and access to electricity
- Currently a working restoration site



Image: Twisp Ponds Yellow Barn

LOWER TWISP RIVER TWISP PONDS LEFT BANK

OKANOGAN COUNTY, WASHINGTON



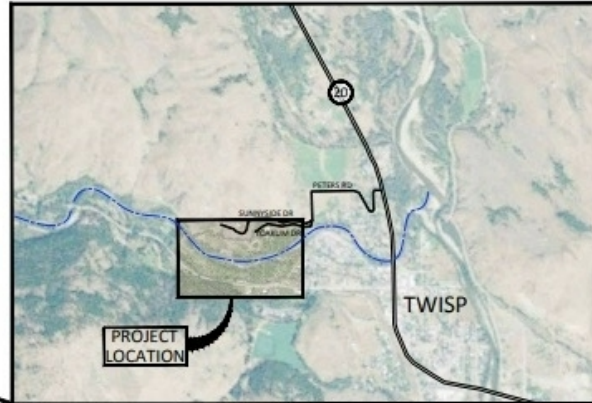
VICINITY MAP

COORDINATES:

LATITUDE 48° 22' 15.75" N
LONGITUDE 120° 9' 44.51" W

SECTIONS 11-12, TOWNSHIP 33N, RANGE 21E

WATERBODY: LOWER TWISP RIVER
TRIBUTARY OF: METHOW RIVER



SITE MAP

SHEET INDEX

1. COVER SHEET, SHEET INDEX, VICINITY MAPS
2. EXISTING CONDITIONS, PROPERTY OWNERSHIP, ACCESS
3. PROPOSED CONDITIONS, PROJECT SITES OVERVIEW
4. GENERAL NOTES
5. EROSION CONTROL NOTES
6. EROSION CONTROL NOTES
7. SIDE CHANNEL PLAN AND PROFILE
8. SIDE CHANNEL CROSS SECTIONS
9. ALCOVE PLAN AND PROFILE
10. ALCOVE CROSS SECTIONS
11. DETAILS

NO.	BY	DATE	REVISION DESCRIPTION

MM	MM	MB
DESIGN	DESIGNER	DRAWING
GL	1/3/16	TWISP PONDS
APPROVE	DATE	PROJECT

CONFEDERATED BANDS AND TRIBES OF THE YAKAMA NATION
LOWER TWISP RIVER
TWISP PONDS LEFT BANK



COVER SHEET
SHEET INDEX
VICINITY MAPS

Image: Twisp Ponds Left Bank Restoration Planset

Permitting Process

- Which permits are necessary?
- What work must be done before submitting the permit application?
- How can our project be applied to other communities?

Breakdown of the Permitting Process

Permitting step	Component of	Organization(s)	Timeline	Details	Special Considerations	Resources*
Land use application	CUP application	Okanogan County	90-120 days	Included in the CUP application packet. Consult with MSRF to discuss the availability of records on the land, especially environmental assessments and studies of the land or watershed.	Include details of the extensive restoration efforts on the land by MSRF, especially before/after pictures and details of ongoing projects (if any).	Okanogan County Office of Planning and Development, <i>Conditional Use Permit (CUP)</i> .
Landowner consent	CUP application	Office of Planning and Development, Okanogan County, MSRF		Included in the CUP application packet. Consent will come from MSRF.	See the section on discussion with Indigenous leaders below. Though this is a form within the packet, it would be valuable to engage the Methow tribe as a landowner by including a separate research report on the topic.	Okanogan County Office of Planning and Development, <i>Conditional Use Permit (CUP)</i> .
Memorandum of Understanding (MOU)	Partnership with WWU. Can also be submitted with the CUP application.	MSRF and WWU		This will serve as the main description of WWU's involvement in the project. The MOU explains the terms of the collaboration between MSRF and WWU, including the timeline of the project, how the parties will communicate, and how they will address obstacles.	It would be valuable to explain where funding may come from and how the university will be involved even after the field station community has been constructed.	General information on MOUs: University of Alaska Fairbanks. An example MOU: Western Washington University & Washington Federation of State Employees, 2020.
Water consumption estimate	DOE approval	WA DOE		An estimate of the quantity of water consumed, as well as the quantity that will be restored to the watershed, will strengthen the SEPA checklist application.	Determining the number of units connected to water, as well as the specifications of the faucets, showerheads, and toilets to be used, will make this number more accurate.	Group B water systems information: Washington State Department of Health. More tips on estimating water consumption: Washington State Department of Ecology
Project description	CUP application	Okanogan County		Included in the CUP application packet. Confusion from the planning staff can cause delays, so try to include as much detail as possible.	Can include details from the MOU on WWU's role in the project.	Okanogan County Office of Planning and Development, <i>Conditional Use Permit (CUP)</i> .
Site Plan	CUP application	Okanogan County		Provide as many details as possible, including images of the individual units, the greater community layout, and any additional structures. Also include specifics on any necessary building retrofits, roads, or parking spaces.	Consider including the anticipated results of ongoing restoration projects, if any.	Okanogan County Office of Planning and Development, <i>Conditional Use Permit (CUP)</i> .
SEPA checklist	Department of Ecology approval	Washington State Department of Ecology	90 days, concurrent w/ CUP app	This is what the Department of Ecology will use to determine to what extent the project will impact the environment. It can be filled out and submitted at the same time as the CUP application.	The SEPA checklist is very detailed and requires extensive knowledge of the flora and fauna present on the land. We advise thorough consultation with MSRF, ecologists, and the fire department in order to gather the most accurate details possible.	Okanogan County Office of Planning and Development, <i>Conditional Use Permit (CUP)</i> .
Neighbor approval	Submit with the CUP application	Various landowners	Depends on quantity of neighbors, degree of familiarity, and level of opposition (if any).	Submitting the CUP application with neighbor approval is not required but would go a long way towards minimizing delays as the planning staff review the application.	Depending on familiarity with neighbors, could consider preparing some informational materials, like a 1-pager. This can draw from the project description in the CUP application and the environmental impacts in the SEPA checklist.	Use OK county's parcels map on Taxfiler to determine who owns the parcels adjacent to property of interest.
Letter to the Recreation and Conservation Office (RCO)	Preparation for the CUP application	RCO in Olympia, WA	Depends on time taken to write letter.	This step will be necessary for any projects which will make use of land parcels holding state easements. The letter should contain details on how the project will remain consistent with the land's deed of rights.	Be sure to consult the parcel's easement records, and ensure that the project is consistent with all of the parcel's easements (if multiple exist).	A copy of the land's deed of rights can be obtained by contacting the Okanogan County Auditor's office.
Recommended: results of research on Indigenous living and/or discussions with Methow leaders	N/A	N/A	Depends on extent of research.	Though not required for the permitting process, including considerations of how the project aligns with Indigenous community lifestyles in the Methow will demonstrate the applicants' dedication to honoring the history of the land and the peoples it belongs to.	If discussing the project with Methow leaders, make sure to keep them updated and involved for every remaining step of the project. Be careful not to extract their knowledge without offering anything in return. Discussions should be centered on how the project can serve the land and should NOT be had with the goal of gaining approval.	Determined by your research. We recommend visiting the Coleville Confederated Tribes' website and the Methow Valley Interpretive Center.

Student Preferences Survey Results

- Shared Kitchen
- Shared Bathroom space
- Hangout space
- Parking
- Interest in Land Stewardship

Building Structures and Amenities

- Two Tiny Home Models, The Cascade and The Pioneer
- Offer range of potential housing customization

The Pioneer

- 170 sq ft
- Solo Housing or Shared Kitchen/Bathroom Structure



The Cascade

- 220 sq ft
- Shared living space
- Full amenities or access to shared kitchen/bathroom unit



Recommendations

Sustainable Building Design

- On-site solar power
- South- and east-facing windows, skylights
- High R-value insulation
- Rainwater capturing systems

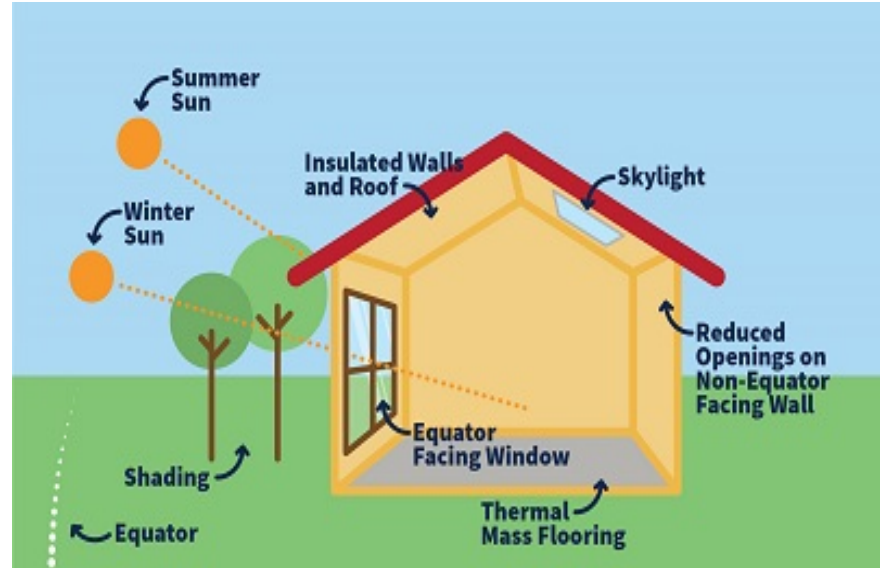


Image: *Construction Links Network*

Housing options

	Option 1	Option 2	Option 3
Description	Two people living in a tiny home with full amenities	One person living in a tiny home with full amenities	Two people in a tiny home that share a kitchen/bathroom unit with another tiny home
Number of people accommodated	2	1	4(2 per sleeping unit)
Shared bathroom/kitchen	Yes (with roommate)	No	Yes (with three others)
Which unit from Idahomes is being used	Cascade	Pioneer	Cascade (Sleeping unit), Pioneer (Kitchen/Bathroom)
Total Cost	\$52,100	\$36,995	\$145,933
Cost per person	\$26,050	\$36,995	\$36,483

Addressing the Housing Crisis In The Methow Valley

- **Potential Uses of our Recommendations include housing for:**
- Youth Climate Corps based out of the Methow Valley
- Displaced victims of natural disasters



Image: *Methow Valley News*

Field Station Layout

- Community-building spaces
- Shared gear locker
- Shared kitchen
- Inspiration from Indigenous communities
- Connection to the Eco-Share Project

Individual mobile living units with shared kitchen, bathroom, and hangout spaces



Image: Top Community Grants

Sustainable Land Stewardship

- Trail maintenance
- Native plant monitoring and invasive species control
- Salmon restoration
- Monitoring of terrestrial and aquatic life



Image: *Twisp Ponds Trail Discovery Guide*

Common Species Found at Twisp Ponds

Fish

Rainbow trout/steelhead
Coho salmon
Chinook salmon
Bridgelip sucker
Longnose dace
Mountain whitefish



Coho salmon fry



Bridgelip sucker

Birds

Belted kingfisher
Osprey
American robin
Mallard
Great blue heron
Northern oriole



Belted kingfisher

Mammals

White tailed deer
Mule deer
Beaver
Mink



Beaver



Quaking Aspen



Willow



Plants

Red osier dogwood
Black cottonwood,
Quaking aspen
Willow
Rose
Hawthorn
Mock orange



Red Osier Dogwood



Timeline

- Permitting process: 3-4 months
- Building process: uncertain
 - Developing the land, building roads or parking areas
 - Benchmarking initial condition of the land
 - Restoration projects
 - Construction of the structures
 - Retrofitting the Yellow Barn.

Monitoring and Evaluation

- More benchmarking and research from future project groups
- Resident well-being evaluations
- Detailed land stewardship observation sheets

Budget

- Flexible preliminary budget
- Recommended tiny home option per person ranges between \$26,000 and \$36,000
- Funding?

Summary

Special Thanks To...

Joshua Porter from WWU's Community Learning Lab (and our project sponsor!)

Chris Johnson from the Methow Salmon Recovery Foundation

Comment,
Questions, or
Concerns?

References

Confederated Bands and Tribes of the Yakima Nation, Interfluve, & Methow Salmon Recovery Foundation. (2015, 12 30). *Twisp Ponds Left Bank Planset*.

Construction Links Network. (2019, February 20). Designing Homes with Passive Solar in Mind. Construction Links Network. <https://constructionlinks.ca/news/designing-homes-passive-solar-design-mind/>

Methow Salmon Recovery Foundation. (n.d.) *Twisp Ponds Discovery Guide*. <https://static1.squarespace.com/static/5cf6c35a35567a0001e9c963/t/5e3cb25e5749b2699aa8c03a/1581036136068/TwispPondsTrailDiscoveryGuide.pdf>

Methow Valley Citizens Council. (n.d.). *Collaborating to Find Affordable Housing Solutions*. <http://mvcitizens.org/collaborating-to-find-affordable-housing-solutions/>

Methow Valley News. (2021, July 20). Updated: Cedar Creek, Cub Creek fires force level 3 evacuations. *Methow Valley News*. <https://methowvalleynews.com/2021/07/20/breaking-cedar-creek-cub-creek-fires-force-level-3-evacuations/>

Tiny Idahomes. (n.d.). *Tiny Idahomes Tiny House Builders*. <https://tinyidahomes.com/index.html>

United Nations Department of Economic and Social Affairs. N.d. *The 17 Goals*. <https://sdgs.un.org/goals>