

List of Attachments

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Attachment 1 – Project Description

Overview of Project

This is a fisheries enhancement project designed to increase instream flows in a critical reach of the Mattole River headwaters during the dry season through a storage and forbearance project. Applicant Whitethorn Construction (“WTC”) owns a complex of businesses and residences in the village of Whitethorn Junction on the upper Mattole River. WTC proposes to add 110,000 gallons of storage to its existing 133,000 gallon storage system, which will create sufficient capacity to allow it to forego direct diversion of surface water from the river during the critical low-flow months of July through October, when native coho salmon and steelhead trout are most at risk. This project is being undertaken by WTC owner Robert Mckee in partnership with the non-profit organizations Trout Unlimited, Sanctuary Forest, and the Center For Ecosystem Management and Restoration, with funding from the California Department of Fish and Wildlife (“DFW”), California State Coastal Conservancy, and private foundations.

WTC currently diverts water year-round from the Mattole River at a rate of up to 3,900 gallons per day for domestic and industrial use at a mixed-use complex of small offices, a café, a lumber yard, a machine repair shop, a small furniture manufacturer, a post office, and several residences. In partnership with Sanctuary Forest, WTC already takes what measures it can to reduce the impacts of its diversion to the fishery given the limitations of its existing system. For example, WTC minimizes its diversion from the river whenever streamflow drops below the minimum threshold (0.7 cfs) needed to maintain salmon and steelhead habitat (see discussion below). During these times, WTC relies on its existing 133,000-gallon storage system to meet as much of its water need as possible instead of taking water from the river. To the extent it does have to divert from the river during low-flow periods, WTC voluntarily coordinates the timing its diversions with other water users to minimize the amount of water they draw from the river at the same time. Despite these measures, however, WTC must still pump some water from the river when streamflow is below the 0.7 cfs threshold in order to meet its water needs.

To further reduce the impacts of its diversions on anadromous fish, WTC has undertaken the Project, in partnership with the agencies and non-profits listed above. The Project will eliminate all diversion by WTC from the Mattole River when flows are below 0.7 cfs. The Project consists of the following components:

- Installation of approximately 110,000 gallons of new storage (and related upgrades to water delivery and treatment systems)
- A binding forbearance agreement with the nonprofit organization Trout Unlimited, in which WTC agrees to forego diverting water under its existing right when flows drop below 0.7 cfs (generally a 2-3 month period at the driest time of year)

WTC is submitting the current water right application to appropriate the water it will divert, store, and use in connection with the Project. Those amounts are based on WTC’s existing use, and do not represent any increase in the amount of water WTC is currently diverting from the river. For more detail, see Attachment 2.

Proposed Water Right Terms

WTC proposes the following terms for a new appropriative permit:

Amount:	2,500 gallons per day by direct diversion 15,840 gallons per day (max) to storage Max. annual amount diverted/used/stored: 4.24 acre-feet
Season of diversion/ collection:	Nov. 1 – July 15
Instantaneous rate of diversion:	11 gpm
Minimum bypass flow:	0.7 cfs

The proposed season of diversion and bypass terms are based on a site-specific fisheries study in conformance with the Water Board's *Policy for Maintaining Instream Flows in Northern California Streams*. For more detail see Attachment 12.

The requested volume of diversion to storage allows for future installation of up to 200,000 gallons prior to licensing, and is three times the ultimate capacity of the storage system to allow for filling the system up to three times a year. Conditions that could require multiple fillings of the tanks include (1) the occurrence of two or more extended low-flow periods in a single year, and (2) loss of stored water due to an emergency such as fire or damage to the storage system.

Forbearance Agreement

Prior to construction of the modifications to the water system, WTC will execute a 15-year Forbearance Agreement with the non-profit organization Trout Unlimited ("TU") in which WTC agrees to forego diversion from the Mattole River whenever streamflow drops below 0.7 cubic feet per second (cfs) as measured at a gauge maintained near Thorn Junction. The 0.7 cfs threshold corresponds to the minimum streamflow necessary to ensure protection of coho salmon and steelhead, as determined by a site-specific study prepared on behalf of TU by the firm McBain & Trush, in accordance with the *North Coast Instream Flow Policy*. The California Department of Fish and Wildlife has supported the use of the study for water right permitting on the upper Mattole, and the Surface Water Resources Control Board has approved the study as the basis for permit terms in other water rights on the upper Mattole. WTC proposes the 0.7 cfs threshold be incorporated into the permit as the minimum bypass flow to be maintained at all times. Compliance will be ensured via participation in Sanctuary Forest's Tanks and Forbearance program.

Description of Existing WTC Water System

WTC operates a non-community public water system for a complex of businesses including retail stores, restaurants, a lumber yard, a machine repair shop, a small furniture manufacturer, a

post office, and several residences. Interior water usage is dominated by public toilets (up to 75 customers have been counted on a daily basis) and two residential units. The fixtures in the bathroom toilets are a combination of efficient low flow and inefficient older designs. Industrial uses are primarily for cleaning equipment. Outdoor uses include gardens and trees that are irrigated in the summer months and water for horses kept in pasture.

The existing water system pumps water from the Mattole River to a 133,000-gallon storage tank system by a 3 horsepower pump with a 1.5 inch PVC intake pipe using a manual timer. The tanks are located at a sufficient elevation to provide enough head for adequate pressure at the tap. Any overflow from the tanks feeds a surface water pond. The 2 inch main line gravity feeding the water delivery plumbing throughout the WTC yard was metered at 50-60 psi. The complex water delivery system has numerous valves for control of large network of pipes feeding the various buildings and fire safety stand pipes. There is no systemic water treatment at this time, although many of the tenants treat water for consumption at the using individual filters. The tanks are maintained by periodic cleaning and shock chlorination. Waste water treatment consists of individual septic systems for each building.

Proposed Modifications to Water System

Add the following components:

- Twenty-two 5,000 gallon poly tanks
- Plumbing to connect tank to water source and commercial site water supply
- Pressure pump
- Source pump intake screens to comply with DFG criteria for protection of juvenile salmonids
- Water meter on tank to record water use
- Water clarity filter for source water filtration including slow sand filters and controls
- Chlorination system
- Tank leak-safety valves
- Operational controls including: pump automatic shut-off to prevent tank overtopping, pump on/off switch, and valves to direct flow

Attachment 2 --Spreadsheet -- Justification of Amounts Requested

			Domestic Use	Commercial/Industrial Use
Quantity	GPD			
Full-time Residents				
White Bldg. (1 residence)	2	55	110	
Brown Bldg. (2 residences)	2	55	110	
1 Residence Behind Post Office	4	55	220	
1 Residence behind Construction Yard	1	55	55	
1 Residence within construction Yard	1	55	55	
Total consumption - residents	10		550	
Whitethorn Construction Co. Employees				
Whitethorn Construction office	5	12		60
Hardware Store	4	12		48
Custom Work Flooring Shop	4	12		48
Maintenance workers	1	12		12
Total consumption - WTC employees	14			168
Whitethorn Construction Co. Non-human Use				
Irrigation/landscaping (1600 sq. ft.) *	1600	0.15		240
community garden (5000 sq. ft.) partly dry farm *	5000	0.15	750	
5 residences with 200 sq. ft. garden per residence *	1000	0.15	150	
3 horses (15 gallons/horse/day)	3	15	45	
Mill and hardwood products	1	100		100
Washing Equipment at Repair Shop	1	100		100
Total consumption - WTC non-human			945	440
Employee Use - Commercial Tenants				
Cafe, owner plus 2	3	12		36
Sanctuary Forest	6	12		72
Mattole Restoration Council Office	2	12		24
Post Office	3	12		36
Mattole River Studios	3	12		36
Dayle's Diesel Repair	2	12		24
Whitethorn Winery	1	12		12
Lisa's Studio	1	12		12
Luminart	4	12		48
Volunteer Fire Department	3	12		36
Total consumption - commercial tenants	28			168
Customer Use				
Café water use per customer	40	2.5		100
Hardware store water use per customer	40	2.5		100
Additional water usage	20	2.5		50
Total consumption - customers	100			250
Total Domestic Use/ Industrial Use			1495	1026
Total Daily Use			2521	

* Outdoor use is based on a rate of .15 gallons/sq. ft./ day, which is what WTC has historically achieved via water-wise practices

Storage Amount

Existing storage:	133,000	
Storage to be installed in 2014	110,000	
Storage to be installed in future years	200,000	
Total storage capacity:	443,000 gallons	1.36 acre-feet
Total storage amount requested*	1329000 gallons =	4.08 acre-feet

*The total diversion to storage is three times the capacity of the storage system to allow for filling the system up to three times a year. Conditions that could require multiple fillings of the tanks include (1) the occurrence of two or more extended low-flow periods in a single year, and (2) loss of stored water due to an emergency such as fire or damage to the storage system.