May 10, 2016

Ms. Tasha McKee
Sanctuary Forest Inc.
315 Shelter Cover Road, Unit 4
Whitethorn, CA 95589

Dear Ms. McKee:

Subject: Notice of Applicability (NOA) for Coverage under the State Water Resources Control Board General 401 Water Quality Certification Order for Small Habitat Restoration Projects: SB12006GN

File: Baker Creek Terrace Groundwater Recharge Project, WDID No. 1B16263WNHU, ECM PIN No. CW-823636

On April 2, 2016, Sanctuary Forest Inc. submitted to the North Coast Regional Water Quality Control Board (North Coast Water Board) a Notice of Intent (NOI) to comply with the terms of, and obtain coverage under, the General 401 Water Quality Certification Order for Small Habitat Restoration Projects (General 401 Order) for the *Baker Creek Terrace Groundwater Recharge Project* (Project) in the Mattole River watershed.

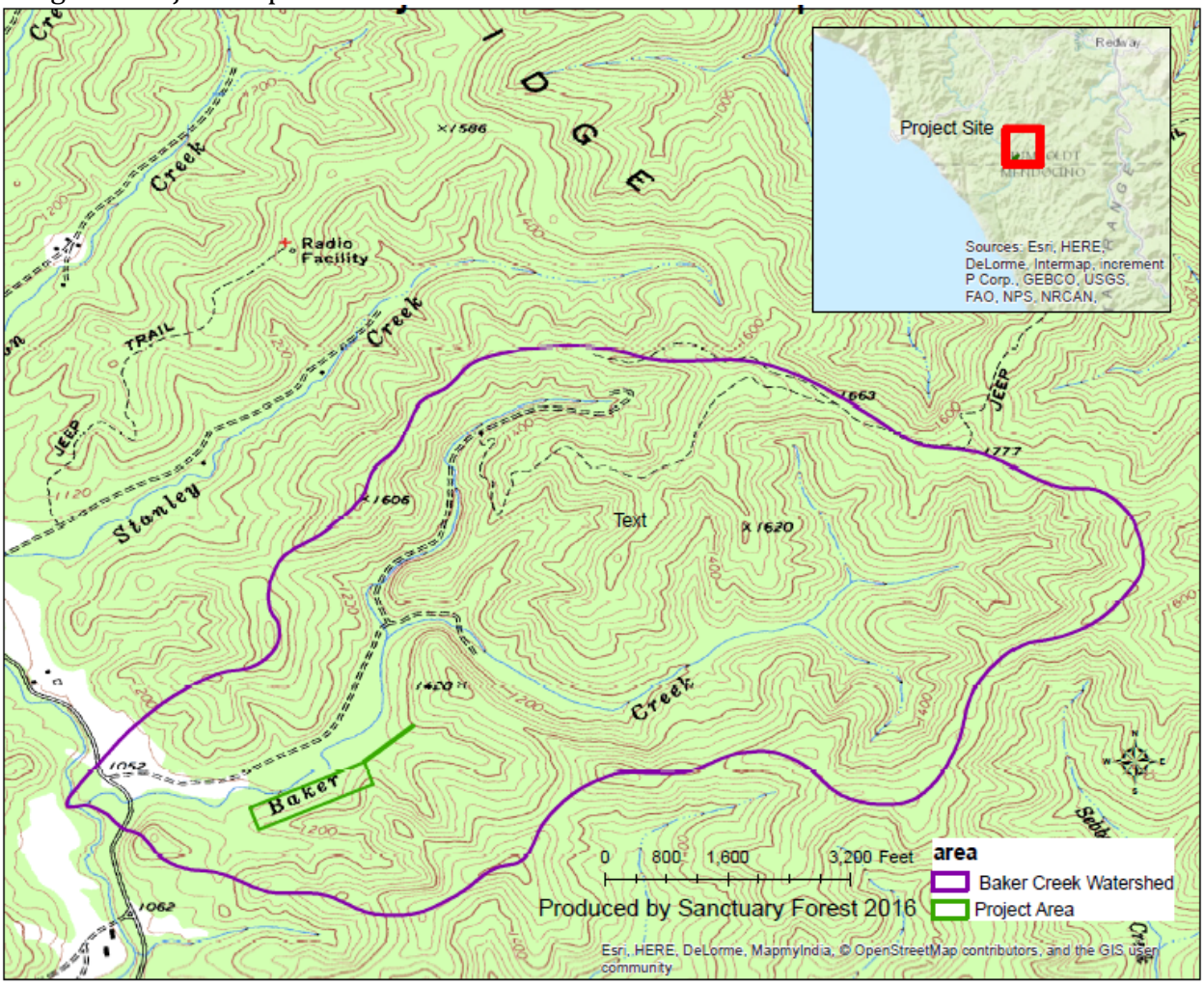
North Coast Water Board staff has determined that the Project, as described in the NOI, is categorically exempt from California Environmental Quality Act (CEQA) review (section 15333 - Small Habitat Restoration Projects) and meets the eligibility requirements for coverage under the General 401 Order.

The project implementation team includes: Sanctuary Forest Inc., U.S. Bureau of Land Management (BLM), Stillwater Sciences, general engineering contractor John Neill and the California Conservation Corps (CCC).

<u>Project Location:</u>
The Project is located adjacent to Baker Creek, a tributary to the headwaters of the Mattole River Hydrologic Unit 112.30. The Project sites are located 1,000 feet east of the Briceland-Thorne Road via a private access road, approximately 1.5 miles southeast of the town of

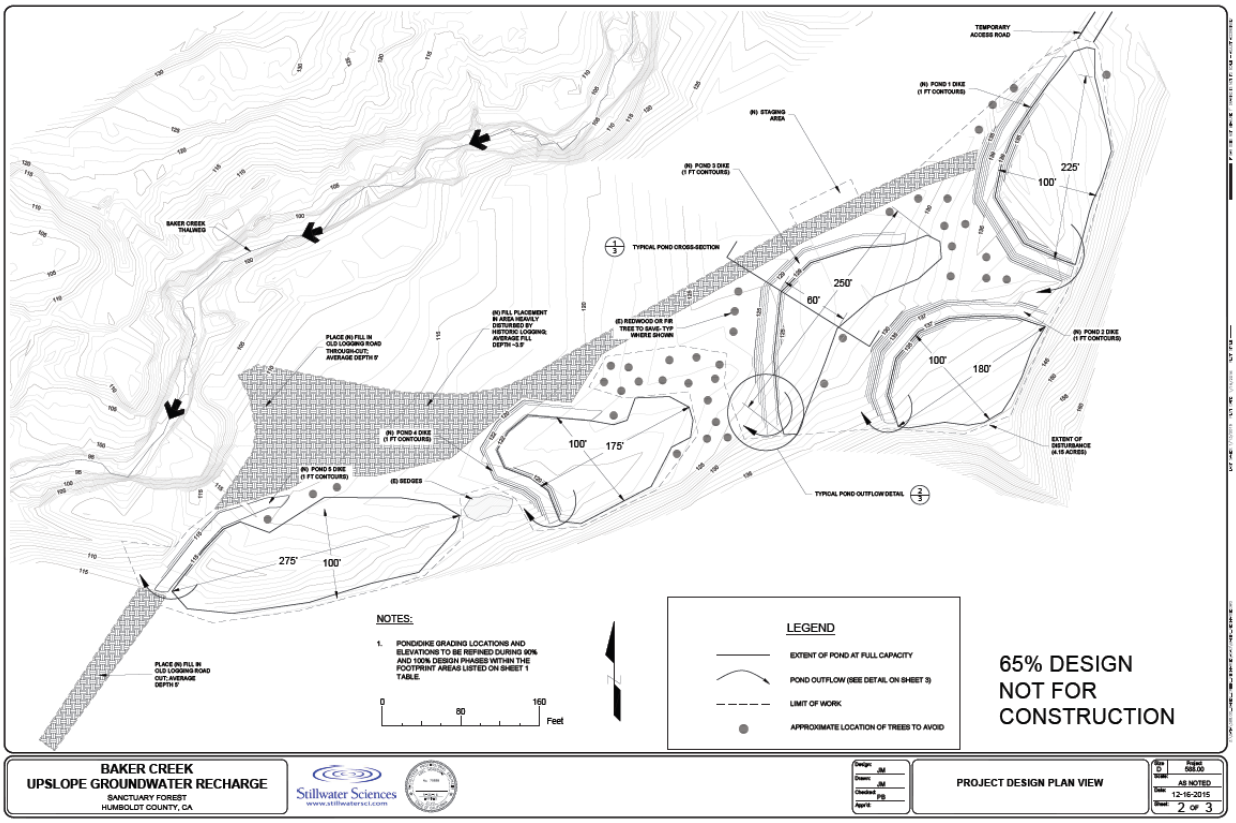
Whitethorn, Humboldt County, California. Coordinates of the Project site are latitude 40.008333°N and longitude 123.941667°W.

Image 1: Project Map



<u>Project Purpose and Description:</u>
The stated purpose of the Project is to improve groundwater storage and summer streamflow within the adjacent Baker Creek; an important stream for juvenile coho salmon and steelhead trout. The proposed upland restoration project aims to increase groundwater storage and recharge by approximately 10 million gallons through the construction of five shallow infiltration ponds on an upslope, abandoned floodplain terrace. The design is based on the concept of slowing down run-off and increasing infiltration such that the groundwater levels are higher in the spring and decline more slowly through the summer. The Project objectives are to promote groundwater recharge upslope of Baker Creek to sustain surface water in the creek during the summer low-flow period for the benefit of juvenile salmonid rearing and to restore the riparian ecosystem through direct planting with native grasses, plants and shrubs.

Image 2: Project Design Plan View



The NOI includes engineering designs and standards that were produced by Stillwater Sciences Inc. for the Project (65% designs completed). Final project designs shall be submitted to the North Coast Water Board for review and approval in advance of implementation. The implementation plan includes completion of the site plan along with final engineering and design specifications for the ponds. The initial plans included in the NOI include specifications address berm compaction requirements, spillway and erosion control measures, and sealing techniques to ensure the slow and continuous release of water into the ground. Site work includes brush clearing by John Neill and the CCC's needed to prepare the area prior to building the ponds. Brush and small trees will be chipped and used for mulch and larger trees will be used for woody debris in the creek on other restoration projects.

Construction will include removal of topsoil from the pond areas. The topsoil will be saved and spread around the pond area along with mulch after construction. Disturbed areas outside the ponds and berms will be planted with native grasses, shrubs and deciduous trees in the winter following pond construction. The ponds will be formed by excavating down to the natural clay layer and building an earthen berm at the low end. Bentonite or imported clay will be used on the inside of the pond to partially seal the berm. The design for the ponds will include directing the overflow from each pond so that it helps fill the next

pond downstream. A spillway for each pond will be engineered for 100-year storm events and armored with rock cobble or other non-erodible materials to prevent erosion. Spillways will be located on native ground where feasible (rather than in the berm).

Project Access:
Access to the project will require opening an old logging road and installation of a temporary crossing where the logging road crosses a class 2 intermittent stream. The extent of the activity within the bed channel will be limited to the installation and removal of the temporary crossing on the old logging (access) road where it crosses the intermittent stream. If for any reason this access route is not feasible, a temporary bridge will be installed across Baker Creek with minimal bank disturbance. A culvert will be installed for the temporary crossing if needed (if the intermittent stream is wet). Rock/cobble will be used over the top of the culvert (if a culvert is used) and/or will be used to build a temporary ford crossing across the 1ft deep x 3 ft wide channel if it is dry. If instead a temporary bridge is installed across Baker Creek, an excavator will cross the creek once as needed to install the bridge. The route will use an old crossing that goes subsurface in June and rock/cobble will be used as needed to protect the approaches. The temporary bridge installation impacts will be minimal with excavation of ~ 6 cubic yards (max 1 ft deep) to level the approaches. After removal of the bridge, approaches will be shaped to their natural contour and mulched.

Excluded Activities:
The NOI also includes a proposal to reconstruct a historic mill pond on the east side of Baker Creek. The mill pond was constructed approximately sixty-years ago, likely as part of former timber operations in the area. The pond has numerous trees growing on the outside dam and water is leaking out of the structure through many small leaks from tree roots. The mill pond is not associated with any watercourse channels, but rather, is filled by overland flow and an inboard drainage ditch on the upslope road. The applicant proposed to remove numerous trees on the outside berm of the pond, deconstruct a portion of the dam face, and reconstruct and compact the fill material.

On April 25, 2016, Jonathan Warmerdam of my staff initiated a discussion with Tasha McKee of Sanctuary Forest Inc. regarding the reconstruction of the Mill Pond. The eligibility requirements for the General 401 Order require the primary purpose of a project to be for restoration. Although the reconstruction of the mill pond may provide a benefits that are similar in nature to the other shallow, groundwater recharge ponds, North Coast Water Board staff notified the applicant that these activities may fall outside of the scope of the General 401 Order eligibility requirements and should be addressed through a separate permitting pathway.

Adaptive Management:
The Project proposes to conduct adaptive management as necessary during the life of the certification, and beyond. Adaptive management within the first five years is expected to be minimal and limited to hand labor. Potential adaptive management needs include

additional sealing of pond berms with bentonite- if needed to slow groundwater release and further armoring of spillways –if needed for erosion control. Additional planting of native grasses, shrubs and deciduous trees may also occur within the first five years.

As described in the NOI, Sanctuary Forest expects that the maintenance of the berms over the first 20 years will likely include hand labor to remove tree sprouts that could cause the berms to leak if allowed to grow. North Coast Water Board staff shall be notified in advance of proposed modifications or adaptive management associated with the project after the certification expires (in five years) to determine whether an updated water quality certification is required. The hand labor described does not necessitate notification.

Project Monitoring and Measurable Performance Standards:
Quantitative monitoring will consist of pre- and post-project monitoring of groundwater levels as well as streamflow monitoring. Qualitative monitoring will consist of pre- and post-project photo documentation.

Quantitative monitoring:
Pre-Project:

1) Groundwater monitoring and subsurface investigations: Installation of 6-10 groundwater wells along with subsurface investigations including depth to bedrock and documentation of soil type layers. Monitoring of groundwater wells will occur twice monthly for 1 year.
2) Seasonal streamflow monitoring twice monthly for 3 years at two established monitoring sites that bracket the project.
3) Water quality (dissolved oxygen and temperature) in 2 pools of the affected instream reach for 1 year prior to the project.

Post-Project:

1) Monitoring of groundwater wells twice monthly for 2 years.
2) Seasonal streamflow monitoring twice monthly for 2 years at two established monitoring sites that bracket the project.
3) Water quality (dissolved oxygen and temperature) in 2 pools of the affected instream reach for 2 years post-project.

Qualitative monitoring:
Pre-Project:

1) Establish photo point sites at each pond location including view of spillway.
2) Take pre-project photos prior to and during construction.

Post–Project:

1) Re-occupy photo point sites and take photos at 1 year and 3 years post-project.

Groundwater evaluation will compare pre- and post-project groundwater levels from 6-10 groundwater wells adjacent to the proposed ponds. Streamflow evaluation will compare

pre- and post-project streamflow from established monitoring sites in Baker Creek upstream and downstream of the project. Monitoring will occur in the summer & fall months when low streamflow is a big concern (flow range from 0.5-0.0 cubic feet per second). Water quality will compare pre- and post-project water quality (dissolved oxygen and temperature) in pools where low dissolved oxygen associated with extreme low flows has been an issue in past years. Water quality monitoring will be conducted along with streamflow monitoring in the flow range of 0.5-0.0 cubic feet per second. Temperature data loggers will be installed in 2-3 pools in the affected reach. Dissolved oxygen will be monitored twice monthly (same frequency as stream flows) using a hand held meter. Procedures for groundwater and streamflow monitoring have been developed with consulting hydrologists and are attached at the end of this plan.

The Project shall be constructed and maintained as described in the NOI as well as any revised material reviewed and approved by the Executive Officer. The Project is expected to be implemented during the months of June through October of 2016-2017, although the project applicant requested a certification term of five years total to allow for completion and adaptive management as described in the NOI.

Receiving Water:	Baker Creek Mattole River Hydrologic Unit 112.30
Filled / Excavated Area:	Permanent Area Impacted: None Temporary Area Impacted: 20 linear feet of unnamed Class II tributary stream
Project Size:	4.74 acres
Latitude/Longitude:	40.008333°N / 123.941667°W

Final project designs shall be submitted to the North Coast Water Board for review and approval in advance of implementation. Following approval, the proposed activities may proceed under the General 401 Order. Any subsequent changes to these plans shall require review and approval of the Executive Officer.

Please be advised that coverage under this General Order requires you to conduct monitoring and submit reports to the North Coast Water Board to document the achievement of performance standards and project goals. As per the monitoring plan, reports will be submitted annually by December 1 following implementation and post-project monitoring and evaluation. The report will include: 1) monitoring results, 2) project performance observations and evaluation results, 3) lessons learned and adaptive management needs (if any), 4) maintenance activities (if any) implemented in the previous year with photos, and 5) maintenance activities (if any) planned for the upcoming year.

A Notice of Completion (NOC) shall be submitted by the applicant no later than 30 days after the Project has been completed. A complete NOC includes as a minimum: photographs with a descriptive title, the date the photograph was taken, the name of the photographic site, as-built drawings, the WDID number and ECM PIN number indicated above and success criteria for the project. The NOC shall demonstrate that the Project has been carried out in accordance with the Project description as provided in the applicants NOI. Please, include the project name, WDID number and ECM PIN number with all future inquiries and document submittals. Document submittals shall be made electronically to: NorthCoast@waterboards.ca.gov.

Please call Jonathan Warmerdam at (707) 576-2468 or Stephen Bargsten at (707) 576-2653 if you have any questions.

Sincerely,

Fred Blatt
for

Fred Blatt
2016.05.10
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Water Boards

Matthias St. John
Executive Officer

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Weblink: The State Water Resources Control Board General 401 Water Quality Certification Order for Small Habitat Restoration Projects SB09016GN can be found here:

http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/shrpcert032713.pdf