

**Belcampo-North Annex Site Plan**  
**For the Template Safe Harbor Agreement prepared by the Shasta Watershed**  
**Conservation Group for Coho Salmon (*Oncorhynchus kisutch*)**

**A. Introduction**

This Site Plan Agreement for the Template Safe Harbor Agreement (Agreement) for Southern Oregon and Northern California Coast (SONCC) Evolutionarily Significant Unit (ESU) of coho salmon (the Covered Species) is between the Outpost North Annex, LLC (hereinafter referred to as the Permittee), National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW). This Site Plan Agreement, combined with the measures prescribed in the Agreement, may serve as the basis for NMFS to issue a federal enhancement of survival permit (Permit) to the above named Permittee pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA). The joint and respective responsibilities of NMFS, CDFW and the Permittees are detailed in the Template Safe Harbor Agreement. The Site Plan Agreement is subject to terms of the Template Safe Harbor Agreement and Permit.

This Site Plan Agreement documents site-specific information detailing the Permittee’s enrolled property, including the location of the property and management authority of the Permittee, the Enrolled Property baseline conditions, existing and, as available, proposed future land-use activities, the duration of this Site Plan Agreement and requested permit. This Site Plan Agreement also documents the agreed-upon conservation measures to be undertaken by the Permittee on the enrolled property that are expected to benefit coho salmon.

**B. Enrolled Property**

**B.1 General narrative and map describing property**

Belcampo-North Annex Property (North Annex) is owned and operated by Outpost M-R LLC (Permittee). North Annex is located within the Agreement Area between Interstate 5 and the Shasta River in central Siskiyou County (41°37’58.93’’ N latitude, 122°29’35.62’’W longitude). Belcampo includes a total of 4167± acres, with 1503 ± acres under irrigation. Approximately 4 miles of the Shasta River is adjacent to the North Annex , within what has been designated as the **Mid Shasta Reach** in the Agreement. The approximate property boundaries and general location of Belcampo within the Agreement Area is shown in Figure 1.

**B.2. Legal Description of Property Boundary**

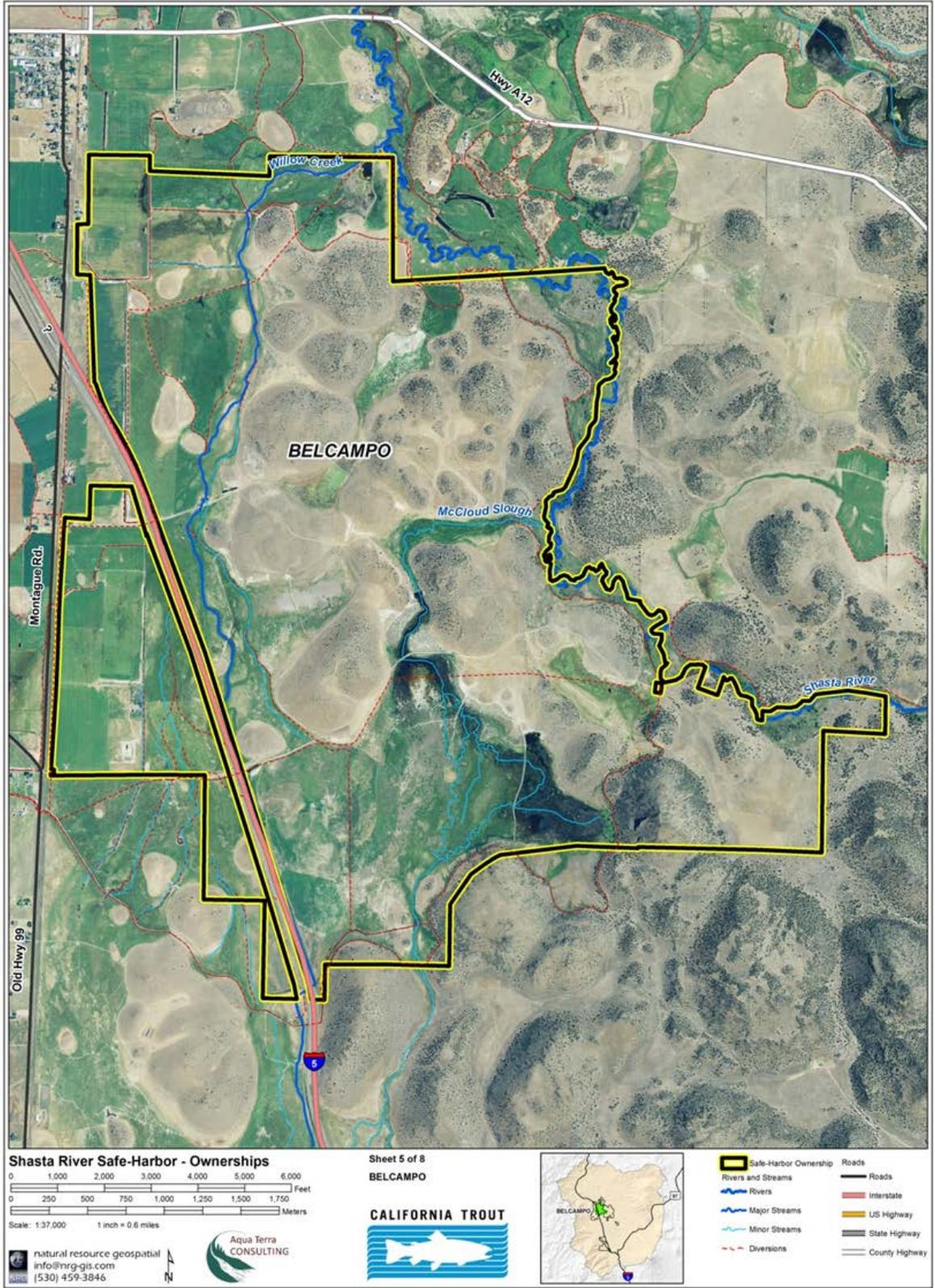
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Legal Description from Landowner Deed is included as **Appendix A**.

### **B.3. Description of Water Rights**

Permittee uses a combination of water sources for irrigation. They have property within the Grenada Irrigation District and the Shasta River Water Association and receive water from both districts. Shasta River Water Association delivers approximately 5 to 7 cfs for 125 hours every three weeks. Grenada Irrigation District (GID) delivers approximately 7 cfs for 135 hours of water every three weeks when GID is diverting. Permittee also has several groundwater wells they use as a source of irrigation water to run sprinkler systems on the ranch.



**Figure 1- Belcampo Farms -North Annex Property Boundary Map**

**Table 1- BELCAMPO diversion and irrigation information**

Water Right #	Volume of right	Irrigated acreage	Season of use
No water rights included in this site plan*	0.00		

No water rights or diversions are included to be covered within this site plan. Permittee does not have surface water rights within the Shasta Water Conservation Group (SWCG) boundary for the Belcampo North Annex property, other than water diverted and provided by the Grenada Irrigation District, a separate entity and Permittee. Permittee also receives water from the Shasta Water Users Association, an irrigation entity with a point of diversion located outside of the SWCG boundary.

**C. Routine Land Use**

**C.1. Present Routine Land Use**

Belcampo - North Annex Property consists of approximately 4,167 acres, with approximately 1,503 acres under irrigation for livestock grass production. All of the 1,503 acres are considered grass pasture and are flood irrigated either by Grenada Irrigation District (GID), Shasta Water User Association, and/or groundwater. Other than property owned by Permittee and within GID service boundary (a separate Permittee) , no surface water is diverted from Permittee within SWCG boundary on Belcampo-North Annex property. GID Permittee has approximately 32,000-feet of buried mainline with irrigation risers, 32,000-feet of pipeline for conveyance and irrigation. There is also 10,500-feet of open ditch.

There are no bridges or low water crossing on the ranch. The ranch utilizes off channel watering in open ditches or troughs and there are no designated water lanes. There are 27,000 feet of ranch road with 80 percent paved or rocked and the remaining native unsurfaced roads have low intensity use.

**Irrigation Management**

Irrigation on the ranch is a combination of flood irrigation utilizing GID and Shasta Water User Association irrigation and some groundwater/surfacewater pressurized pumping for center pivot irrigation. A series of developed sump ponds is used to collect and reuse the ranches tail water. This water is recirculated on the ranch and to keep tailwater from returning to the Shasta River. Related to the Belcampo - North Annex Property, Belcampo does not own or operate any points of diversion within the SWCG boundary and is not seeking coverage for the act of diverting water.

## **Irrigation Maintenance**

### *Ditch cleaning*

The open irrigation ditches are prone to vegetation growth, which slows the conveyance of water and clogs the buried mainlines. The ditches need to be mechanically cleaned at least yearly to remove moss and repair breaches, by using a backhoe. Clean out of the pipelines and the irrigation risers have to be fully opened to flush the pipes of sediment and vegetation. Irrigation maintenance cleaning is required annually, at a minimum, and as needed throughout the irrigation season.

### *Diversion cleaning*

Permittee does not maintain a point of diversion on the North Annex Property

### *Fish Screen cleaning*

Permittee does not maintain a fish screen.

## **Pasture Grazing Management**

Permittee has 30 to 50 distinct pastures where livestock graze. Livestock are rotated through the pastures as part of Permittee's holistic pasture grazing management. The livestock are moved frequently based on a number of factors but primarily to avoid over-grazing and other impacts. The ranch tries to keep at least 4-6 inches of stubble remaining. This practice improves productivity of grass forage, by increasing root depths and improving the soil moisture retention, and also helps to reduce solar radiation of irrigation waters due to increased soil shading. .

## **Riparian Grazing Management**

The entire riparian area on the ranch is integrated into Permittee's pasture grazing management, based on Savory Institute Holistic Grazing Methods. Permittee moves livestock frequently to different paddocks/fields within the riparian area to avoid disturbance to bed, bank and channel, as well as reduce impacts to riparian vegetation.

## **Fence Maintenance**

The riparian area is not fenced so fence maintenance does not apply.

## **Road Maintenance**

The ranch roads are accessed from Siskiyou Boulevard and are a combination of asphalt and aggregate base/rock. The aggregate base is maintained on an annual basis, or as needed, to minimize erosion.

## **Crossing Maintenance**

There are no crossings on the Ranch.

## **Herbicide/Fertilizer/Pesticide Use**

Permittee does not utilize/apply herbicides or pesticides or fertilizer.

### **C.2. Avoidance and Minimization Measures**

#### **Covered Activities and Avoidance and Minimization Measures**

This section outlines and describes all activities that may be implemented under the Template Safe Harbor Agreement (SHA) including Routine Land and Water Use Activities and Avoidance and Minimization Measures (AMMs), monitoring and Beneficial Management Activities (BMAs).

The Template SHA provides permittees with ESA assurances that efforts to promote the conservation and recovery of the Covered Species on their enrolled property, including implementation of Routine Land and Water Use Activities with AMMs, monitoring, and BMAs, will not result in additional restrictions on the use of the enrolled property.

Permits will authorize take of SONCC coho salmon incidental to the rights, obligations, and activities contemplated in the Template SHA provided that such take is consistent with maintaining the Present and Elevated Baseline Conditions identified in site plan agreements. The specific activities that will be implemented by each permittee on their enrolled property under the Template SHA are described in individual Site Plan Agreements. Each permittee will select appropriate activities from this section in coordination with NMFS and CDFW, and such measures will be included in Individual Site Plans.

### **C. Pasture Grazing and Riparian Grazing Management**

Pasture grazing management includes the movement of cattle between pastures, as well as harrowing, mowing, and haying of pastures. Riparian grazing management includes cattle grazing within riparian areas according to a riparian grazing management plan that is part of a permittee's Site Plan Agreement. Riparian grazing management plans have been developed cooperatively with University of California (UC) Cooperative Extension or other range management specialists.

C1. Develop riparian grazing management plans in coordination with UC Cooperative Extension or other range management specialists.

C2. Fenced riparian areas may be grazed in accordance with grazing management plans approved by the Parties. The grazing management plan will address standard grazing management principles, such as the seasonal timing, duration, and intensity (number of livestock allowable per unit area [i.e., stocking rate]), of livestock grazing within the riparian zone and will explain how the proposed management plan will result in improved riparian function and enhanced aquatic habitat. In addition, the grazing plan will describe the means by which the

flash grazing will avoid and minimize impacts to streambanks, riparian vegetation, spawning and rearing areas, and avoid direct impacts to spawning and rearing coho salmon.

C3. To avoid direct impacts to Covered Species spawning, incubation, and emergence, grazing in riparian pastures with streams that are accessible to the Covered Species will be allowed from May 1 to November 1 or as approved by NMFS and CDFW. The permittee will perform at least one of the following actions prior to grazing livestock in riparian pastures where livestock could enter a stream between November 1 and May 9:

- Obtain written concurrence from NMFS and CDFW that potential Covered Species spawning habitat does not occur adjacent to the riparian pasture.
- If potential spawning habitat occurs adjacent to the riparian pasture, perform weekly redd surveys between November 1 and January 15. Redd surveys may be performed by NMFS, CDFW, or a qualified biologist. If surveys are performed by a non-agency biologist, written survey results will be provided to NMFS and CDFW for concurrence prior to grazing. If redds are not detected during the redd surveys, riparian grazing may occur in conformance with the Participant's riparian grazing management plan.
- If redds are determined to be present, livestock may graze within the riparian pasture between November 1 and April 30 if a temporary electric exclusion fence or wire is installed between the riparian pasture and the stream bank, and provisions are made to supply off-channel stockwater. The electric fence must be checked and maintained daily.

### **Monitoring Protocols**

Riparian grazing management shall be monitored as follows:

- Three to five permanent photo point stations will be established and marked at locations within each riparian pasture designed to show both vegetation changes before and after seasonal grazing activities, and long-term trends. Digital photographs will be taken at each photo point station once per year for trend monitoring, and before and after riparian pasture grazing takes place for annual implementation reporting. Permittee will provide a Photo Point monitoring map which includes:
  - Points showing the exact location of each photo monitoring point on the ranch
  - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
  - Directional orientation of photos
  - Map scale and North marker
  - Landmarks such as labeled road crossings and waterways.

Permittee will also provide a photo log which includes:

- Site code
- Photo's code (digital label)

- Date photos were taken
- Description of what was being documented (riparian growth, project implementation, etc.)
- Maintain a log of grazing activities carried out within the calendar year and include in the yearly Site Plan monitoring report. At a minimum, the log will include the following information: beginning and end dates of riparian pasture grazing; number of animals, monitoring practices during the riparian grazing period, and management actions taken as a result of monitoring results including management cues used to determine the time to move livestock out of the riparian pasture.
- NMFS and CDFW may initiate periodic inspection of grazed riparian pastures to ensure riparian grazing management plan is effective.
- NMFS, CDFW, or a qualified party, approved by NMFS and CDFW, may conduct redd surveys to determine the need for livestock restrictions in streams. In the event surveys indicate redds are not present, then livestock access will follow the procedures described in riparian grazing management plan.

#### **D. Fence Maintenance**

Installation, construction, maintenance, and removal of fencing material, including mesh field fence, panels, or other designed fence barriers, within riparian areas for riparian zone protection, stream crossings & stock-water access.

D1. Inspect riparian exclusion fencing during and after each season of grazing and after high flow events where over bank flows may inundate fences and prior to and after riparian grazing has occurred. If riparian exclusion fencing is damaged, repair fencing and move livestock, as appropriate, to minimize resource impacts. If cattle are present, riparian fences shall be repaired within 30 days.

D2. If riparian fences are lost due to a catastrophic event, the permittee shall notify agencies of the loss in the annual report. The permittee will repair up to the percentage of fencing they committed to replace in the Individual Site Plan, and request funding assistance for the remaining repairs beyond the percentage of its commitment. Cattle shall not have access to areas of riparian areas normally excluded through other provisions of the AMM's.

#### **Monitoring Protocols**

All maintenance of riparian fencing shall be monitored as follows:

- A short description of fence maintenance activities will be included in the annual report.

## **E. Road Use and Maintenance**

Ranch roads are regularly used to access irrigation facilities, move cattle and equipment. Roads may be secondary, which are infrequently used or only utilized by cattle and ATVs, or primary, which are roads used more regularly by trucks and heavy equipment. This category is for both the use and the regular maintenance of all ranch roads, which could include grading, rocking, laying base, and culvert replacement.

E1. Ensure fish passage at road crossings of streams that are accessible to the Covered Species including at bridges, wet crossings and culverts. Any instream crossing structure will be designed and implemented in accordance with the fish passage evaluation methods specified in the 2010 4<sup>th</sup> edition of the Department's California Salmonid Stream Habitat Restoration Manual. The most current edition of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.

E2. Minimize erosion and sedimentation from roads and road work. Rock road crossings and approaches to stream channels to minimize sedimentation. Utilize mulch or other suitable materials, as necessary, to minimize sediment runoff and transport to surface waters. Apply mulch so that not less than 90% of the disturbed areas are covered. Apply all mulches, except hydro-mulch, in a layer not less than two (2) inches deep. Where appropriate, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, will be reseeded with non-invasive species at a rate which will ensure establishment.

E3. Planned Instream work shall occur only when Covered Species are least likely to be present or affected by the project, typically from June 15 through November 1.

E.4. Avoid using native surface roads for heavy traffic during wet or thaw periods, and roads not designed and constructed for these conditions. Evaluate the future needs for a road and close roads that will not be needed. Inspect roads annually to determine the need for structural maintenance. Conduct maintenance practices, when conditions warrant, including cleaning and replacement of deteriorated structures and erosion controls, grading or upgrading road surfaces with aggregate. Properly maintain permanent stream crossings and associated fills and approaches to reduce the likelihood (a) that stream overflow will divert onto roads, and (b) that fill erosion will not occur if the drainage structures become obstructed

### **Monitoring Protocols**

All maintenance of roads that have an impact on water ways shall be monitored as follows:

- A short description of annual road maintenance activities will be included in the annual report.

## **G. Herbicide (Weed Management), Fertilizer and Pesticide Use**

This category includes weed management, in the form of livestock grazing, use of California legal weed spray products, manual removal, burning, and mowing.

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G1. Ensure that any pesticide or herbicide is handled and applied by a licensed applicator (when required) in accordance with and all applicable, federal, state, local laws, regulations, procedures, and guidelines. Application of pesticides will be in conformance with the pesticide label as well as any required buffers from anadromous streams. The permittees will apply herbicides/pesticides, if any, in conformance with the applicable label directions, as well as any required buffers from anadromous streams in conformance with the Order entered in *Washington Toxics Coalition et al. v. Environmental Protection Agency et al.*, (W.D. Wash No. C01-132C) (January 22, 2004). When possible, areas will be spot treated to reduce the amount applied. Use of broad spectrum insecticides will be minimized or avoided as they are more likely to be harmful to non-target organisms including fish and aquatic insects if exposed. Chemicals with the lowest possible toxicity rating will be used when possible. Use of mobile, pre-emergent herbicides will be minimized or avoided as they can impact non-target plants in the riparian area leading to other impacts such as sedimentation. The Applicant will avoid or minimize exposing aquatic resources by managing spray drift. This includes using modern spray equipment (e.g., low volume or electrostatic sprayers); routinely checking for nozzle wear and calibrating the sprayer frequently throughout the growing season; turning off the sprayer along creeks, drainages and in the turn-around areas; supervising the spraying to minimize effects to surface waters.

G2. Use care to minimize fertilizer use in applications that could result in nutrient loading to natural waterways.

G3. Review label information and avoid the use of any material known to be detrimental to fish where it could impact Covered Species.

G4. Use or store stationary petroleum-powered equipment in a manner to prevent the potential release of petroleum materials into natural waterways by use of drip pans or other measures.

G5. Refuel machinery and handle or store hazardous materials no less than one hundred and fifty (150) feet away from the edge of any water body. All unused or leftover materials will be transported off-site and properly disposed of, when applicable.

### **Monitoring Protocols**

Herbicide, Fertilizer and Pesticide use shall be monitored as follows:

- Log of herbicide, fertilizer and pesticide use activities carried out within the calendar year to be included in the annual report.

### **H. Flood or Emergency Events**

This category includes immediate work needed to prevent loss of or damage to property from emergencies, including flood, fire, storm, earthquake or other unexpected natural events. Activities may include sediment and debris removal, emergency fish screen repairs, fencing repairs, streambank or crossing stabilization and moving livestock or equipment across streams during emergencies. Emergency is defined in California Code of Regulations section 15359.

H1. Prior to, during or immediately after the event, NMFS and CDFW will be contacted and AMMs will be developed in coordination with the permittee for the particular flood or emergency circumstances.

H2. NMFS and CDFW will be notified within 14 days of beginning emergency work per Fish and Game Code 1610.

### **Monitoring Protocols**

All flood repair shall be monitored as follows:

- Photographs of the emergency site repairs and a detailed description of the repairs to be included in the annual report.

## **II. Beneficial Management Activities**

The primary objective of the Template SHA and Site Plan Agreements is to enhance, restore, or maintain habitat to benefit the Covered Species. To accomplish this, the Parties will implement BMAs (the types of actions to be implemented will vary with each Site Plan) that will result in improved habitat conditions for the Covered Species. Habitat restoration projects authorized under the Template SHA will be designed and implemented consistent with techniques and minimization measures presented in CDFG’s *California Salmonid Stream Habitat Restoration Manual, Third Edition, Volume II* with four chapters (*Part IX: Fish Passage Evaluation at Stream Crossings, Part X: Upslope Assessment and Restoration Practices, Part XI: Riparian Habitat Restoration, and Part XII: Fish Passage Design and Implementation*) added in 2003, 2004, and 2009, respectively (Flosi et al. 1998, hereafter referred to as CDFG Manual). The Template SHA requires AMMs for all projects to avoid or minimize adverse effects to the Covered Species and habitat.

Individual Site Plans will include property-specific BMAs that will be implemented on an enrolled property, and the monitoring protocol that will be implemented for each BMA. Project design and implementation of BMAs will include the AMMs provided below. Table 1 lists the entire suite of potential BMAs that could be implemented under the Template SHA on a given property and the type of monitoring that will be associated with each BMA. If grant funds are obtained to implement a given BMA on an enrolled property, data collection and reporting will be required to satisfy the grant contract obligations. Implementation monitoring of BMA’s, as described below will be used to inform the Parties and to confirm that each BMA has been constructed as intended, without any structural changes or omissions that would compromise the integrity of the project or reduce it’s intended benefits.

**Table 1. Beneficial Management Activities and Associated Monitoring Techniques.**

<b>Beneficial Management Activity</b>	<b>Monitoring Techniques</b>
Barrier Modification and Fish Passage Improvement	Photo monitoring, as-built surveys

Fish Screen Installation or Replacement	Photo monitoring, screening criteria compliance monitoring
Instream Habitat Structures and Improvements	Photo monitoring, as-built surveys
Riparian Habitat Restoration, Bioengineering and Fencing	Photo monitoring, transects, survival monitoring
Off-channel and Side-channel restoration	Photo monitoring, as-built surveys
Road and Trail Erosion Control	Photo monitoring
Water Conservation Measures*	Photo monitoring, SB88 compliant diversion monitoring

\*includes Water Exchange and Efficiency Measures, Tailwater Management and Collection Ponds, Irrigation Management, Water Storage Tanks, Piping Ditches and Loss Evaluation, Sprinkler/Pressurized Irrigation, Head gates and Water Measuring Devices)

### A. Instream Habitat Structures and Improvements

Instream habitat structures and improvements are intended to provide predator escape and resting cover, increase spawning habitat, improve migration corridors, improve pool to riffle ratios, and add habitat complexity and diversity. Specific techniques for instream habitat improvement may include:

- placement of large woody debris (LWD) scour and cover structures, log weirs, upsurge weirs, single and opposing log-wing-deflectors, engineered log jams, Hewitt ramps, divide logs, digger logs, spider logs; and log, root wad, and boulder combinations),
- boulder structures (boulder weirs, vortex boulder weirs, boulder clusters, and single and opposing boulder-wing-deflectors),
- install post-assisted wood structures (PAWS) or beaver dam analog structures (BDAS) to increase rearing habitat, and placement of imported spawning gravel. Implementation of these types of projects may require the use of heavy equipment (e.g., self-propelled logging yarders, excavators, backhoes, helicopters), however, hand labor will be used when possible. Projects will include both anchored and unanchored logs, depending on site conditions and wood availability.

#### Monitoring Protocols:

- Provide Photo Monitoring in the Annual SHA report upon completion of the habitat structures that can clearly document changes over time. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).

2. Provide a Photo Point monitoring map which includes:

- Points showing the exact location of each photo monitoring point on the ranch
- Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
- Directional orientation of photos
- Map scale and North marker
- Landmarks such as labeled road crossings and waterways.

3. Photo log which includes:

- Site code
- Photo's code (digital label)
- Date photos were taken
- Description of what was being documented (riparian growth, project implementation, etc.)

## **B. Beaver Management**

Two of the most common undesirable impacts to ranching activities that are caused by beavers include cutting of trees and flooding of properties or facilities important to the routine agricultural activities that occur on the property. Potential non-lethal measures that may be considered to mitigate for unwanted tree cutting in critical locations include the installation of wire mesh cages or the application of paint and sand mix at the base of trees in need of protection. Where the construction of beaver dams have raised the water level to cause unwanted flooding of ranch infrastructure landowners should consider installation of pond levelers or Clemson levelers as described Chapter 9 of *The Beaver Restoration Guidebook (Pollock et al. 2015)*. If it is determined that implementation of the measures described in the *Beaver Restoration Guidebook* would not alleviate the impacts to agricultural activities caused by beaver dam construction, then the landowner is permitted to modify the structure and discourage future beavers from utilizing the site in the future when NMFS and CDFW have assessed the situation and agree on the extent of dam modification.

### **Monitoring Protocols:**

- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
    - Points showing the exact location of each photo monitoring point on the ranch
    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)

- Directional orientation of photos
- Map scale and North marker
- Landmarks such as labeled road crossings and waterways.

3. Photo log which includes:

- Site code
- Photo's code (digital label)
- Date photos were taken
- Description of what was being documented (riparian growth, project implementation, etc.)

### **C. Barrier Modification for Fish Passage Improvement**

Barrier modification projects are intended to improve salmonid fish passage by (1) providing access to upstream habitat, and (2) increasing the duration of accessibility (both within and between years). Projects may include those that improve fish passage through beaver dams, existing culverts, diversions, dams, bridges, and paved and unpaved fords through replacement, removal, or retrofitting. In particular, these practices may include the use of gradient control weirs upstream or downstream of barriers to control water velocity, water surface elevation, or provide sufficient pool habitat to facilitate jumps, or interior baffles or weirs to mediate velocity and the increased water depth. BMAs also include log jam and beaver dam modifications to facilitate juvenile and adult fish passage. Implementing these types of projects may require the use of heavy equipment (*e.g.*, self-propelled logging yarders, mechanical excavators, backhoes), however, hand labor will be used wherever possible.

The chapter in the CDFG Manual (Part XII), entitled *Fish Passage Design and Implementation*, provides technical guidance for the design of fish passage projects at stream crossings, small dams and water diversion structures and should be referenced when developing fish passage remediation projects. Part XII is intended to “guide designers through the general process of selecting a design approach for passage improvement. Where there is further opportunity to protect salmonids, additional site-specific criteria may be appropriate and recommended by agencies.

### **Monitoring Protocols**

All fish passage projects shall be monitored using the following protocols:

- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (*i.e.* fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:

- Points showing the exact location of each photo monitoring point on the ranch
- Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
- Directional orientation of photos
- Map scale and North marker
- Landmarks such as labeled road crossings and waterways.

3. Photo log which includes:

- Site code
  - Photo's code (digital label)
  - Date photos were taken
  - Description of what was being documented (riparian growth, project implementation, etc.)
- The NOAA Restoration Center's Fish Passage Barrier Removal Performance Measures and Monitoring Worksheet which includes longitudinal profiles, cross sections and socio/economic information.  
[http://www.habitat.noaa.gov/toolkits/restoration\\_center\\_toolkits/forms\\_and\\_guidance\\_documents/ori\\_monitoring\\_sheet\\_w\\_guidance.pdf](http://www.habitat.noaa.gov/toolkits/restoration_center_toolkits/forms_and_guidance_documents/ori_monitoring_sheet_w_guidance.pdf)

#### **D. Bioengineering and Riparian Habitat Restoration**

These projects are intended to improve salmonid habitat through increased stream shading intended to lower stream temperatures, increase future recruitment of LWD to streams, and increase bank stability and invertebrate production. Riparian habitat restoration projects will aid in the restoration of riparian habitat by increasing the number of plants and plant groupings, and will include the following types of projects: natural regeneration, livestock exclusion fencing, bioengineering, and revegetation. Part XI of the CDFG Manual, *Riparian Habitat Restoration*, contains examples of these techniques and should be referenced when planning riparian projects. Reduction of instream fine sediment will improve fish habitat and fish survival by increasing fish embryo and alevin survival in spawning gravels, reducing injury to juvenile salmonids from high concentrations of suspended sediment, and minimizing the loss of, or reduction in size of, pools from excess sediment deposition.

The proposed activities will reduce stream sedimentation from bank erosion by stabilizing stream banks with appropriate site-specific techniques including: boulder-streambank stabilization structures, log-streambank stabilization structures, tree revetment, native plant material revetment, willow wall revetment, willow siltation baffles, brush mattresses, check dams, brush check dams, water bars, and exclusion fencing.

Guidelines for stream bank stabilization techniques are described in Part VII of the CDFG Manual, *Project Implementation*. These types of projects usually require the use of heavy equipment but hand labor will be used where ever possible.

## **Monitoring Protocols:**

- CDFW Quantitative Effectiveness Monitoring of Bank Stabilization and Riparian Vegetation Restoration, 2007. Reports on field testing specific protocols for bank stabilization and riparian vegetation restoration. <http://cesonoma.ucanr.edu/files/27283.pdf>
- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
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    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
    - Directional orientation of photos
    - Map scale and North marker
    - Landmarks such as labeled road crossings and waterways.
  3. Photo log which includes:
    - Site code
    - Photo's code (digital label)
    - Date photos were taken
    - Description of what was being documented (riparian growth, project implementation, etc.)

## **F. Creation of Off-channel/Side Channel Habitat**

The creation of off-channel or side channel habitat is not included in the CDFG Manual however, guidelines and minimization measures have been developed for this BMA. Types of side channel or off-channel restoration projects that are eligible as a BMA under the Template SHA are:

- Connection of abandoned side channel or pond habitats to restore fish access
- Connection of adjacent ponds
- Connection of oxbow lakes on floodplains that have been isolated from the meandering
- Channel by river management schemes, or channel incision
- Creation of side channel or off-channel habitat with self-sustaining channels
- Creation of alcoves
- Improvement of hydrologic connection between floodplains and main channels

Projects that involve the installation of a flashboard dam, head gate or other mechanical structure are not part of the BMAs under the Template SHA. Off channel ponds constructed under the Template SHA will not be used as a point of water diversion. The use of logs or boulders as stationary water level control structures will be allowed.

Restoration projects in this category may include: removal or breaching of levees and dikes, channel and pond excavation, creating temporary access roads, constructing wood or rock tailwater control structures, and construction of LWD habitat features. Implementation of these types of projects may require the use of heavy equipment (*e.g.*, self-propelled logging yarders, mechanical excavators, backhoes).

Information regarding consideration of water supply (channel flow/overland flow/groundwater), water quality, and reliability; risk of channel change; as well as, channel and hydraulic grade should be considered when developing off channel habitat features. A good reference document for designing off channel habitat features can be found in “Section 5.1.2 Side Channel/Off Channel Habitat Restoration in the Washington Department of Fish and Wildlife 2004 Stream Habitat Restoration Guidelines” (Saldi-Caromile, et al. 2004).

### **Monitoring Protocols:**

- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
    - Points showing the exact location of each photo monitoring point on the ranch
    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
    - Directional orientation of photos
    - Map scale and North marker
    - Landmarks such as labeled road crossings and waterways.
  3. Photo log which includes:
    - Site code
    - Photo’s code (digital label)
    - Date photos were taken
    - Description of what was being documented (riparian growth, project implementation, etc.)
- Pre- and post-construction and design flow surveys of constructed inlet and outlet structures, including any other critical or controlling hydraulic features.

## **G. Developing Alternative Stockwater Supply**

Many riparian fencing projects will require the development of off channel watering areas for livestock. These are often ponds that have been excavated and are filled either by rainwater, overland flow, surface diversions or groundwater (either through water table interception or pumping). BMAs under the Template SHA also include small wells with solar pumps, water lines, watering troughs, and piping used to provide ground or surface water to livestock. All pump intakes associated with surface diversions will be screened in accordance with NMFS Southwest Region “Fish Screening Criteria for Salmonids” (NMFS 1997). Stockwater ponds will be located at a distance from the edge of the active channel as to avoid or minimize stranding of juvenile salmonids or channel avulsion during flood events.

### **Monitoring Protocols:**

- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
    - Points showing the exact location of each photo monitoring point on the ranch
    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
    - Directional orientation of photos
    - Map scale and North marker
    - Landmarks such as labeled road crossings and waterways.
  3. Photo log which includes:
    - Site code
    - Photo’s code (digital label)
    - Date photos were taken
    - Description of what was being documented (riparian growth, project implementation, etc.)

## **H. Riparian Restoration and Revegetation**

This category includes revegetation of riparian areas and only other types of restoration that are consistent with the methods specified in the most current edition of the CDFW Salmonid Stream Habitat Restoration Manual, or as otherwise approved in writing by CDFW. The most current edition of the manual is available at [www.dfg.ca.gov/fish/resources/habitatmanual.asp](http://www.dfg.ca.gov/fish/resources/habitatmanual.asp).

Typically, riparian vegetation is planted within or adjacent to the active channel, and often in or near the wetted channel. Plantings include native herbaceous perennials, emergent species,

grasses, trees, and shrubs. Planting methods vary by species, site, and size of material planted, ranging from hand planting to using a backhoe or excavator. For riparian trees, planting densities range from 130 to 300 plantings per acre, depending on the restoration goals (e.g., shading, sediment trapping, and bank stabilization), substrate, soil chemistry and hydrology. Trees and cuttings range in size from small rooted plugs to large diameter pole plantings. When installing pole plantings, heavy equipment may be used to excavate to or below water table depth. Maintenance activities include the occasional use of hand tools, portable pumps, pick-up trucks and/or water trucks in or near the bed, bank, or channel, for irrigation, debris removal, and replanting of restoration sites.

### **Monitoring Protocols:**

- CDFW Quantitative Effectiveness Monitoring of Bank Stabilization and Riparian Vegetation Restoration, 2007. Reports on field testing specific protocols for bank stabilization and riparian vegetation restoration. <http://cesonoma.ucanr.edu/files/27283.pdf>
- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. Photo point locations will be selected to give a sense of extent of planting and survival. These locations will be likely located along the fence line and revisited yearly, for 5 years, to establish qualitative success rates.
- The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
    - Points showing the exact location of each photo monitoring point on the ranch
    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
    - Directional orientation of photos
    - Map scale and North marker
    - Landmarks such as labeled road crossings and waterways.
  3. Photo log which includes:
    - Site code
    - Photo's code (digital label)
    - Date photos were taken
    - Description of what was being documented (riparian growth, project implementation, etc.)

### **I. Monitoring and Research**

This includes monitoring required by permittee's ESA Section 10 permits, CDFW's 1600 permit and all other regulatory requirements. Other studies and research that landowners will allow to

further the understanding of the Shasta River are also included such as studies for riparian survival, fish surveys, habitat improvement, and food availability.

### **Monitoring Protocols:**

- Reports on all monitoring and research done within a reporting year be included in the annual SHA report if author of the research gives consent for inclusion.

### **J. Water Storage and Tailwater Capture Systems**

This BMA addresses water storage that results from storage of water diverted from surface or groundwater sources and tailwater capture (off channel). A water storage facility enables a landowner to use stored water at a later date or when desired. Water storage facilities can have many benefits that go beyond agricultural use including groundwater recharge, and allowing diversion during winter and early spring when instream discharge is ample. Water storage, when paired with reduction of water use later in the season, can be a benefit to the Covered Species.

Tailwater is created in flood irrigation operations as unabsorbed, untranspired, and unevaporated irrigation water that may flow back into the stream. Restoration projects to address tailwater input will include construction of tailwater capture systems (pond, berms or pick up ditches) to intercept tailwater before it enters streams as surface flow. Water held in capture systems, such as a pond, can be reused for future irrigation purposes, therefore reducing the need for additional stream diversions. Tailwater ponds are used primarily during the irrigation season (dry summer months).

A tailwater pond allows a landowner the ability to irrigate between set irrigation cycles (if in an irrigation district). The State Water Board allows for captured water to be put to beneficial use, not used to irrigate ground that may not have been in production in the past or otherwise harm other legal users of water. Tailwater ponds will be located at a distance from the edge of the active channel to avoid causing stranding of juvenile salmonids or channel avulsion during flood events. Tailwater ponds must be combined with a reduction in diversion amounts or be utilized at an existing point of diversion to ensure water allocation is consistent with adjudication. Tailwater berms allow for intercepting tailwater before it enters the stream, but is not able to be reused. Berms allow tailwater to be kept on the fields and percolate into soils and back to the river. These shall be placed in areas where they will not pose any channel pressure in the event of a flood and in areas where soils have high permeability (well-draining) and not be an excessive amount. Tailwater pick up ditches allow the landowner to intercept tailwater and convey it to another place of use to utilize for irrigation, thereby reducing demand for surface water diversion.

### **Monitoring Protocols:**

- Report of amount of water stored or captured and reused where possible.

## **K. Piping Ditches**

Piping projects consist of constructing a pipe to transport irrigation water as an alternative to conveying water in an open ditch, thereby reducing water loss including from evaporation and absorption. A water budget/balance or consumptive use analysis will be completed to determine actual amount of water saved by these projects. The amount determined to be saved will remain in the stream to benefit the Covered Species. These projects must demonstrate that they intend to dedicate the saved water for instream beneficial use, and make progress towards instream dedication through a means mutually agreeable to the permittee and NMFS and CDFW.

### **Monitoring Protocols:**

- Provide Photo Monitoring in the Annual SHA report that can clearly document changes over time and/or management activities. The Permittee will do the following as part of photo point monitoring:
  1. Establish, label and re-occupy set photo points, with a permanent marker in view of the photo monitoring point (i.e. fencepost, hillside, large tree, etc).
  2. Provide a Photo Point monitoring map which includes:
    - Points showing the exact location of each photo monitoring point on the ranch
    - Labels for each photo monitoring point with a site code (Ranch ID/Photo Point #)
    - Directional orientation of photos
    - Map scale and North marker
    - Landmarks such as labeled road crossings and waterways.
  3. Photo log which includes:
    - Site code
    - Photo's code (digital label)
    - Date photos were taken
    - Description of what was being documented (riparian growth, project implementation, etc.)
- Real time water diversion monitoring protocol (TBD) or water measuring protocol that is in concurrence with SB88.

## **IIA. Avoidance and Minimization Measures for Beneficial Management Activities**

The following general minimization measures, as they apply to particular BMAs, shall be incorporated into Site Plan Agreements authorized under the Template SHA, as appropriate.

## A. General Protection Measures

- The general construction season shall be from June 15 to November 1st. Restoration, construction, fish relocation, and dewatering activities within any wetted or flowing stream channel shall only occur within this period. Revegetation outside of the active channel may continue beyond November 1, if necessary.
- Prior to construction, any contractor shall be provided with the specific protective measures to be followed during implementation of the project. In addition, a qualified biologist shall provide the construction crew with information on the listed species in the project area, the protection afforded the species by the ESA, and guidance on those specific protection measures that must be implemented as part of the project.
- All activities that are likely to result in negative aquatic effects, including temporary effects, shall proceed through a sequencing of effect reduction: avoidance, reduction in magnitude of effect.
- Poured concrete shall be excluded from the wetted channel until the water surrounding the concrete structure has a PH between 6 and 8.5 to avoid water quality issues for salmonids.
- If the thalweg (location of the deepest and fastest part) of the stream has been altered due to construction activities, efforts shall be undertaken to reestablish it to its original configuration<sup>1</sup>.

## B. Requirements for Fish Relocation and Dewatering Activities

**1. Guidelines for dewatering.** Project activities funded or permitted under the Template SHA may require fish relocation or dewatering activities. Dewatering may not be appropriate for some projects that will result in only minor input of sediment, such as placing logs with hand crews, or installing boulder clusters. Dewatering can result in the temporary loss of aquatic habitat, and the stranding, or displacement of fish and amphibian species. Increased turbidity may occur from disturbance of the channel bed. The following guidelines may minimize potential effects for projects that require dewatering of a stream:

- In those specific cases where it is deemed necessary to work in flowing water, the work area shall be isolated and all flowing water shall be temporarily diverted around the work site to maintain downstream flows during construction. Restoration actions such as installing LWD, boulder structures or spawning gravel, where heavy equipment does not enter the stream and can operate from the streambank, do not need to occur in a dewatered stream channel.
- Exclude fish from occupying the work area by blocking the stream channel above and below the work area with fine-meshed net or screens. Mesh will be no greater than 1/8 inch diameter. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily and cleaned of debris to permit free flow of water. Block nets

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<sup>1</sup> Projects that may include activities, such the use of willow baffles, which may alter the thalweg are allowed  
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shall be placed and maintained throughout the dewatering period at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream do not enter the areas proposed for dewatering between passes with the electrofisher or seine.

- Prior to dewatering, determine the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates (as described more fully below under ***General conditions for all fish capture and relocation activities.***)
- Coordinate project site dewatering with a qualified biologist in coordination with NMFS and CDFW to perform fish relocation activities. The qualified biologist(s) must be familiar with the life history and identification of listed salmonids within the action area.
- Prior to dewatering a construction site, qualified individuals will capture and relocate Covered Species and other native fish and amphibians to avoid direct mortality and minimize adverse effects. This is especially important if listed species are present within the project site.
- Minimize the length of the dewatered stream channel and duration of dewatering, to the extent practicable.
- Any temporary dam or other artificial obstruction constructed shall only be built from materials such as sandbags or clean gravel which will cause little or no siltation. Cofferdams should be constructed to minimize water seepage into the construction areas. Cofferdams and stream diversion systems shall remain in place and fully functional throughout the construction period.
- When coffer dams with bypass pipes are installed, debris racks will be placed at the bypass pipe inlet. Bypass pipes will be monitored a minimum of two times per day, seven days a week. All accumulated debris shall be removed.
- Bypass pipes will be sized to not create scour at the outflow and to accommodate the existing streamflow.
- The work area may need to be periodically pumped dry of seepage. Place pumps in flat areas, well away from the stream channel. Secure pumps by tying off to a tree or stake in place to prevent movement by vibration. Refuel in an area well away from the stream channel and place fuel absorbent mats under pump while refueling. Pump intakes shall be covered with 1/8 inch mesh to prevent potential entrainment of fish or amphibians that failed to be removed. Check intake periodically for impingement of fish or amphibians.
- If pumping is necessary to dewater the work site, procedures for pumped water shall include requiring a temporary siltation basin for treatment of all water prior to entering any waterway and not allowing oil or other greasy substances originating from operations to enter or be placed where they could enter a wetted channel. Projects will adhere to NMFS Southwest Region *Fish Screening Criteria for Salmonids* (NMFS 1997).

- Discharge sediment-laden water from construction areas to an upland location or settling pond where it will not drain sediment-laden water back to the stream channel.
- When construction is complete, the flow diversion structure shall be removed as soon as possible in a manner that will allow flow to resume with the least disturbance to the substrate. Cofferdams will be removed so surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than one inch per hour. This will minimize the probability of fish stranding as the area upstream becomes dewatered.

## ***2. General conditions for all fish capture and relocation activities:***

- Fish relocation and dewatering activities shall only occur between June 15 and November 1 of each year.
- All seining, electrofishing, and relocation activities shall be performed by a qualified fisheries biologist. The qualified fisheries biologist shall capture and relocate listed salmonids prior to construction of the water diversion structures (*e.g.*, cofferdams). The qualified fisheries biologist shall note the number of salmonids observed in the affected area, the number and species of salmonids relocated, where they were relocated to, and the date and time of collection and relocation. The qualified fisheries biologist shall have a minimum of three years field experience in the identification and capture of salmonids.. The qualified biologist will adhere to the following requirements for capture and transport of salmonids:
  1. Determine the most efficient means for capturing fish (*i.e.*, seining, dip netting, trapping, electrofishing). Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down the pool and then seining or dipnetting fish.
  2. Notify NMFS and CDFW one week prior to capture and relocation of salmonids to provide NMFS and CDFW an opportunity to monitor.
  3. Initial fish relocation efforts will be conducted several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional seining or electrofishing passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts.
  4. In streams with high water temperature, perform relocation activities during morning periods.
- Prior to capturing fish, determine the most appropriate release location(s). Consider the following when selecting release site(s):
  1. Similar water temperature as capture location
  2. Ample habitat for captured fish
  3. Low likelihood of fish reentering work site or becoming impinged on exclusion net or screen.
  4. Fish must be released in the nearest suitable location within the same stream . If another location is proposed, this will be approved in advance by NMFS or CDFW.

- Periodically measure air and water temperatures. Cease activities when measured water temperatures exceed 18 °C if fish are present. Temperatures will be measured at the head of riffle tail of pool interface.

**3. *Electrofishing Guidelines.*** The following methods shall be used if fish are relocated via electrofishing:

- All electrofishing will be conducted according to *NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act (2000)*.
- The backpack electrofisher shall be set as follows when capturing fish:

Voltage setting on the electrofisher shall not exceed 300 volts.

A) Voltage:	100 Volts	300 Volts
B) Duration:	500 $\mu$ s (microseconds)	5 ms (milliseconds)
C) Frequency:	30 Hertz	70 Hertz

- A minimum of three passes with the electrofisher shall be conducted to ensure maximum capture probability of salmonids within the area proposed for dewatering.
- No electrofishing shall occur if water conductivity is greater than 350 microSiemens per centimeter ( $\mu$ S/cm) or when instream water temperatures exceed 18 °C. Water temperatures shall be measured at the pool/riffle interface. Direct current (DC) shall be used.
- A minimum of one assistant shall aid the fisheries biologist by netting stunned fish and other aquatic vertebrates.

**4. *Seining guidelines.*** The following methods, shall be used if fish are removed with seines.

- A minimum of three passes with the seine shall be utilized to ensure maximum capture probability of salmonids within the area.
- All captured fish shall be processed and released prior to each subsequent pass with the seine.
- The seine mesh shall be adequately sized to ensure fish are not gilled during capture and relocation activities.

**5. *Guidelines for relocation of salmonids.*** The following methods shall be used during relocation activities associated with either method of capture (electrofishing or seining):

- Salmonids shall not be overcrowded into buckets; allowing approximately six cubic inches per young-of-the-year (0+) individual and more for larger fish.
- Every effort shall be made not to mix 0+ salmonids with larger salmonids, or other potential predators. Have at least two containers and segregate 0+ fish from larger age-classes. Place larger amphibians,, in containers with larger fish.

- Salmonid predators, such as sculpins (*Cottus sp.*) collected and relocated during electrofishing or seining activities shall be relocated so as to not concentrate them in one area. Particular emphasis shall be placed on avoiding relocation of sculpins relocation sites. To minimize predation on salmonids, these species shall be distributed throughout the wetted portion of the stream so as not to concentrate them in one area.
- All captured salmonids shall be relocated, preferably upstream, of the proposed construction project and placed in suitable habitat. Captured fish shall be placed into a pool, preferably with a depth of greater than two feet with available instream cover.
- All captured salmonids will be processed and released prior to conducting a subsequent electrofishing or seining pass.
- All native captured fish will be allowed to recover from electrofishing before being returned to the stream.
- Minimize handling of salmonids. When handling is necessary, always wet hands or nets prior to touching fish. Handlers will not wear DEET based insect repellents.
- Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.
- Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds 18 °C., fish shall be released and rescue operations ceased.
- In areas where aquatic vertebrates are abundant, periodically cease capture, and release at predetermined locations.
- Visually identify species and estimate year-classes of fishes at time of release. Record the number of fish captured. Avoid anesthetizing or measuring fish.
- If more than three percent of the salmonids captured are killed or injured, the project lead shall contact NMFS and CDFW. The purpose of the contact is to allow the agencies a courtesy review of activities resulting in take and to determine if additional protective measures are required. All salmonid mortalities must be retained, placed in an appropriately sized whirl-pak or zip-lock bag, labeled with the date and time of collection, fork length, location of capture, and frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NMFS.

### **C. Measures to Minimize Disturbance from Instream Habitat Restoration Construction**

Measures to minimize disturbance associated with instream habitat restoration construction activities are presented below.

- Construction will only occur between June 15 and November 1.
- Debris, soil, silt, excessive bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil or entering waterways. Any of these materials, placed within or where they may enter a stream or lake, by the applicant or any party working under contract, or with permission of the applicant, shall be removed

immediately. During project activities, all trash that may attract potential predators of salmonids will be properly contained, removed from the work site, and disposed of daily.

- Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- Use of heavy equipment shall be minimized in a channel bottom with rocky or cobbled substrate. If access to the work site requires crossing a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle. Only after this option has been determined infeasible will the use of tracked vehicles be considered. The amount of time this equipment is stationed, working, or traveling within the creek bed shall be minimized. When heavy equipment is used, woody debris and vegetation on banks and in the channel shall not be disturbed if outside of the project's scope.
- Hydraulic fluids in mechanical equipment working within the stream channel shall not contain organophosphate esters. Vegetable based hydraulic fluids are preferred.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into waterways.
- Areas for fuel storage, refueling, and servicing of construction equipment must be located in an upland location.
- Prior to use, clean all equipment to remove external oil, grease, dirt, mud and potential invasive species. Wash sites must be located in upland locations so wash water does not flow into a stream channel or adjacent wetlands.
- All construction equipment must be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment shall be thoroughly inspected and evaluated for the potential of fluid leakage. All mechanical equipment shall be inspected on a daily basis to ensure there are no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks shall be repaired in the equipment staging area or other suitable location prior to resumption of construction activity.
- Oil absorbent and spill containment materials shall be located on site when mechanical equipment is in operation with 100 feet of the proposed watercourse crossings. If a spill occurs, no additional work shall commence in-channel until (1) the mechanical equipment is inspected by the contractor, and the leak has been repaired, (2) the spill has been contained, and (3) CDFW and NMFS are contacted and have evaluated the impacts of the spill.

#### **D. Measures to Minimize Degradation of Water Quality**

Construction or maintenance activities for projects covered under the Template SHA may result in temporary increases in turbidity levels in the stream. The following measures will be implemented to reduce the potential for adverse effects to water quality during and post-construction:

##### ***1. General erosion control during construction:***

- When appropriate, isolate the construction area from flowing water until project materials are installed and erosion protection is in place.
- Effective erosion control measures shall be in place at all times during construction. Do not start construction until all temporary control devices (*e.g.*, straw bales with sterile, weed free straw, silt fences) are in place downslope or downstream of project site within the riparian

area. The devices shall be properly installed at all locations where the likelihood of sediment input exists. These devices shall be in place during and after construction activities for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water and detaining sediment-laden water on site. If continued erosion is likely to occur after construction is complete, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles (esp. snakes) and amphibians.

- Sediment shall be removed from sediment controls once it has reached one-third of the exposed height of the control. Whenever straw bales are used, they shall be sterile and weed free, staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- Sediment-laden water created by construction activity shall be filtered before it leaves the settling pond or enters the stream network or an aquatic resource area.
- The contractor/applicant to the Program is required to inspect, maintain or repair all erosion control devices prior to and after any storm event, at 24 hour intervals during extended storm events, and a minimum of every two weeks until all erosion control measures have been completed.

## ***2. Guidelines for temporary stockpiling:***

- Minimize temporary stockpiling of material. Stockpile excavated material in areas where it cannot enter the stream channel. Prior to start of construction, determine if such sites are available at or near the project location. If nearby sites are unavailable, determine location where material will be deposited. Establish locations to deposit spoils well away from watercourses with the potential to deliver sediment into streams supporting, or historically supporting populations of listed salmonids. Spoils shall be contoured to disperse runoff and stabilized with mulch and (native) vegetation. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
- If feasible, conserve topsoil for reuse at project location or use in other areas. End haul spoils away from watercourses as soon as possible to minimize potential sediment delivery.

## ***Pre Rainstorm and Post construction erosion control:***

- Prior to a forecasted precipitation event of  $> \frac{1}{2}$  inch, immediately after project completion and before close of seasonal work window, stabilize all exposed soil with erosion control measures such as mulch, seeding, and/or placement of erosion control blankets. Remove all artificial erosion control devices after the project area has fully stabilized. All exposed soil present in and around the project site shall be stabilized after construction. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles (esp. snakes) and amphibians.
- All bare and/or disturbed slopes ( $> 100$  square ft of bare mineral soil) will be treated with erosion control measures such as hay bales, netting, fiber rolls, and hydroseed as permanent erosion control measures.

- Where straw, mulch, or slash is used as erosion control on bare mineral soil, the minimum coverage shall be 95 percent with a minimum depth of two inches.
- When seeding is used as an erosion control measure, only seeds from native plant species will be used. Sterile (without seeds), weed-free straw, free of exotic weeds, is required when hay or hay bales are used as erosional control measures.

## **E. Measures to Minimize Loss or Disturbance of Riparian Vegetation**

Measures to minimize loss or disturbance to riparian vegetation are described below. The revegetation and success criteria that will be adhered to for projects implemented under the Template SHA that result in disturbance to riparian vegetation are also described below.

### ***1. Minimizing disturbance:***

- Retain as many trees and brush as feasible, emphasizing shade-producing and bank-stabilizing trees and brush.
- Prior to construction, determine locations and equipment access points that minimize riparian disturbance. Avoid entering unstable areas. Use project designs and access points that minimize riparian disturbance without affecting less stable areas, which may increase the risk of channel instability.
- Minimize soil compaction by using equipment with a greater reach or that exerts less pressure per square inch on the ground than other equipment, resulting in less overall area disturbed or less compaction of disturbed areas.
- If riparian vegetation is to be removed with chainsaws, only use vegetable-based bar oil.

### ***2. Revegetation and success criteria:***

- Any stream bank area left barren of vegetation as a result of the implementation or maintenance of the practices shall be restored to a natural state by seeding, planting, or other means with native trees, shrubs, or grasses prior to November 1 of the project year. Barren areas shall typically be planted with a combination of willow stakes, native shrubs and trees and/or erosion control grass mixes.
- Native plant species shall be used for revegetation of disturbed and compacted areas. The species used shall be specific to the Shasta Valley, and comprise a diverse community structure (plantings shall generally include both woody and herbaceous species, in coordination with NMFS and CDFW).
- For projects where re-vegetation is implemented to compensate for riparian vegetation impacted by project construction, a re-vegetation monitoring report will be required after 5 years to document success. Success is defined as 50 percent survival of plantings or 50 percent native ground cover for broadcast planting of seed after a period of 3 years. If revegetation efforts will be passive (*i.e.*, natural regeneration), success will be defined as total cover of woody and herbaceous material equal to or greater than pre-project conditions. If at the end of five years, the vegetation has not successfully been re-established, the project applicant to the Program will be responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve the above success standards. If success is not achieved within the first 5 years, the project applicant will need

to prepare a follow-up report in an additional 5 years. This requirement will proceed in 5 year increments until success is achieved.

- All exclusion netting or fencing placed around plantings will be removed after 3 years, or later until plantings are no longer being substantially impacted by livestock or wildlife.

#### **F. Measures to Minimize Impacts to Roads in Project Area**

Upon the completion of restoration activities, roads within the riparian zone used for implementation of BMAs and AMMs shall be weather proofed according to measures as described in *Handbook for Forest and Ranch Roads* by Weaver and Hagans (1994) of Pacific Watershed Associates and in Part X of the CDFG Manual entitled “*Upslope Assessment and Restoration Practices*.” The following are some of the methods that may be applied to roads impacted by project activities implemented under the Template SHA.

- Establish waterbreaks (*e.g.*, waterbars and rolling dips) on all seasonal roads, skid trails, paths, and fire breaks by October 15. Do not remove waterbreaks until May 15.
- Maximum distance between waterbreaks shall not exceed the following standards: (1) 100 feet for road or trail gradients less than 10 percent slope; (2) 75 feet for road or trail gradients from 11 to 25 percent; (3) 50 feet for road or trail gradients from 26 to 50 percent slope; and (4) 50 feet for road or trail gradients greater than 50 percent slope. Depending on site-specific conditions more frequent intervals may be required to prevent road surface rilling and erosion.
- Locate waterbreaks to allow water to be discharged onto some form of vegetative cover, slash, rocks, or less erodible material. Do not discharge waterbreaks onto unconsolidated fill.
- Waterbreaks shall be cut diagonally a minimum of six inches into the firm roadbed, skid trail, or firebreak surface and shall have a continuous firm embankment of at least six inches in height immediately adjacent to the lower edge of the waterbreak cut.
- The maintenance period for waterbreaks and any other erosion control facilities shall occur after every major storm event for the first year after installation.
- Rolling-dips are preferred over waterbars. Waterbars shall only be used on unsurfaced roads where winter use (including use by bikes, horses, and hikers) will not occur.
- After the first year of installation, erosion control facilities shall be inspected for failure prior to the winter period (October 15) after the first major storm event, and prior to the end of the winter period (May 15). If the erosion controls have failed, additional erosion control elements will be installed to the project site.
- Applicant will establish locations to deposit spoils well away from watercourses with the potential to delivery sediment into streams supporting, or historically supporting salmonids. Spoils shall be contoured to disperse runoff and stabilized with mulch and (native) vegetation.
- No berms are allowed on the outside of the road edge.

### III. References

- National Marine Fisheries Service. 1996. Juvenile Fish Screen Criteria for Pump Intakes. National Marine Fisheries Service, Southwest Region.  
[http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish\\_screen\\_criteria\\_for\\_pumped\\_water\\_intakes.pdf](http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_screen_criteria_for_pumped_water_intakes.pdf)
- National Marine Fisheries Service. 1997. Fish Screening Criteria for Anadromous Salmonids. National Marine Fisheries Service, Southwest Region.  
[http://www.westcoast.fisheries.noaa.gov/publications/hydropower/southwest\\_region\\_1997\\_fish\\_screen\\_design\\_criteria.pdf](http://www.westcoast.fisheries.noaa.gov/publications/hydropower/southwest_region_1997_fish_screen_design_criteria.pdf)
- National Marine Fisheries Service. 2014. Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (*Oncorhynchus kisutch*). National Marine Fisheries Service. Arcata, CA.  
[http://www.westcoast.fisheries.noaa.gov/publications/recovery\\_planning/salmon\\_steelhead/domains/southern\\_oregon\\_northern\\_california/sonccfinal\\_ch1to6\\_mainchapters\\_\\_1\\_.pdf](http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/southern_oregon_northern_california/sonccfinal_ch1to6_mainchapters__1_.pdf)
- Pollock, M.M., G. Lewallen, K. Woodruff, C.E. Jordan and J.M. Castro (Editors) 2015. The Beaver Restoration Guidebook: Working with Beaver to Restore Streams, Wetlands, and Floodplains. Version 1.02. United States Fish and Wildlife Service, Portland, Oregon. 189 pp. Online at:  
<http://www.fws.gov/oregonfwo/ToolsForLandowners/RiverScience/Beaver.asp>
- Weaver, W., E. Weppner, and D.Hagans. 1994. Handbook for Forest, Ranch & Rural Roads. A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads. Pacific Watershed Associates. Arcata, CA.  
[http://www.pacificwatershed.com/sites/default/files/roadsenglishbookapril2015b\\_0.pdf](http://www.pacificwatershed.com/sites/default/files/roadsenglishbookapril2015b_0.pdf)
- Saldi-Caromile, K., K. Bates, P. Skidmore, J. Barenti, D. Pineo. 2004. Stream Habitat Restoration Guidelines: Final Draft. Co- published by the Washington Departments of Fish and Wildlife and Ecology and the U.S. Fish and Wildlife Service. Olympia, Washington.

### D. Description of Baseline Conditions

#### Baseline Conditions and Beneficial Management Activities

Baseline Conditions means the habitat conditions for the Covered Species on the Enrolled Property when NMFS approves this Site Plan Agreement. The Enrolled Property is within the Upper Shasta Reach of the Agreement Area. Baseline Conditions for the Enrolled Property are the conditions described in Appendix 2 of the Template Safe Harbor Agreement for these reaches of the Shasta River.

Elevated Baseline Conditions are certain Baseline Conditions improved as a result of certain Beneficial Management Activities. Elevated Baseline for this Site Plan Agreement are the improved fish passage and flow conditions that will result from the following actions: A tailwater project and allowing GID to implement the conveyance pipeline project.

Table 2 summarizes the Beneficial Management Activities required to maintain Baseline Conditions and to achieve Elevated Baseline Conditions on the Enrolled Property for the term of the Site Plan Agreement. The Beneficial Management Activities implement habitat enhancement actions recommended in the Template Safe Harbor Agreement (Appendix 2) for the Mid Shasta reaches of the Shasta River.

**Table 2- Summary of Baseline and Net Conservation Benefits**

<b>Habitat Parameter</b>	<b>Net Conservation Benefit Actions</b>		
	<b>Present Day Baseline (Maintain)</b>	<b>Elevated Baseline Condition (Restore)</b>	<b>Other Beneficial Management Activities (Restore; Measures to Avoid and Minimize Impacts)</b>
Hydrology/Water Quality	<ul style="list-style-type: none"> <li>-Maintain existing pipeline infrastructure as described in E.1.a.</li> <li>- Continue irrigation practices to capture, reuse and reduce tailwater impacts as described in E.1.a.</li> <li>- Continue to collect tailwater in open ditches and ponds to reuse on the ranch, to prevent tailwater leaving property or entering Shasta River as described in Section E.1.a.</li> <li>- Continue to maintain stockwater systems as</li> </ul>		<ul style="list-style-type: none"> <li>-Implement soil moisture monitoring to ensure adequate irrigation as described in E.3.a1.</li> <li>-Work with Grenada Irrigation District to develop easement and install pipeline to increase delivery efficiency and reduce diversion from Shasta River. E.3.a2</li> </ul>

	described in Section E.1.c.		
Passage/Migration/Screening			-Implement beaver BMPs as described in the Template.
Instream Habitat Complexity			-Provide access and assist with seeking funding and implementation and maintenance of large wood enhancement as specified on the Habitat Improvement map and as described in Section E.3.c.  -Provide access and assist with seeking funding, implementation and maintenance to reconnect oxbows for off channel habitat features as specified on habitat improvement map and as described in Section E.3.c.
Riparian Condition	-Will continue to maintain riparian areas by managing livestock grazing within the riparian area as described in Section E.1.d.		Allow access, seek funding and assist with implementation and maintain riparian plantings within the riparian areas on the ranch as described in Section E.3.d

Substrate Quality			-Allow access, seek funding, assist with implementation and maintain spawning gravel enhancement on Permittee property in collaboration with the Agencies as stipulated in Section E.3.e
Pasture Management	-Will continue to holistically and intensively manage livestock grazing on the ranch as described in Section E.1.f.		Permittee produces many livestock species and management is more intensive than cattle production. The riparian grazing plan will require additional consideration an input from UC Extension Service. Permittee agrees to work with UC Extension Service to develop a riparian grazing plan by the end of the first year of the agreement.
Assessment/Studies			- Support and allow access for studies as described in Section E.3.g.
Supplementation			-The Permittee will allow access for salmonid supplementation as described in Section E.3.h.

## **E. Description of Beneficial Management Activities**

This section provides a detailed description of Conservation and Habitat Enhancement Activities to be implemented on the enrolled property for the benefit of the Covered Species.

## **E.1. Actions Required to Maintain Baseline Conditions**

This section details the actions required to maintain Baseline Conditions. This includes any land and/or water management activities that are being implemented, or have been implemented on the enrolled property that benefit the Covered Species and will be maintained over the duration of the Template Safe Harbor Agreement.

### **E.1.a. Hydrology/Water Quality**

*Increased delivery and irrigation efficiencies:*

The Permittee will continue to maintain existing pipeline infrastructure that has been added to replace open unlined ditches over the past years in several pastures for better irrigation efficiency, reduce water usage and maintain efficiency of open ditches. A map of the existing irrigation system is included in Appendix B.

*Tailwater Reduction*

Tailwater and reuse systems have been developed in the pastures where flood irrigation occurs.

Tailwater will continue to be collected in open ditches, pipelines and developed sump ponds with return systems. Collection and reuse systems will be maintained and operated.

*Livestock Watering*

Existing livestock watering systems, other than the Shasta River will continue to be developed, used and maintained including: ponds, ditches, and/or water troughs to reduce impacts to the riparian area.

### **E.1.b. Passage/Migration/ Diversion Screening**

*The Permittee is not implementing or maintaining any measures specific to fish passage/migration/diversion.*

### **E.1.c. Instream Habitat Complexity**

*The Permittee is not implementing or maintaining any measures specific to instream habitat complexity.*

### **E.1.d. Riparian Condition**

*Intensively Managed Riparian Grazing*

The Permittee agrees to a continued intensively managed grazing schedule for pastures riparian to and adjacent to the Shasta River. The riparian areas grazed by livestock and are observed daily and moved prior to impacts to riparian species using electric cross fencing to reduce

impacts to riparian area. Grazing practices will continue to ensure protection of existing riparian and promote riparian expansion along Shasta River

#### **E.1.e. Substrate Quality**

*The Permittee is not implementing or maintaining any measures specific to substrate quality.*

#### **E.1.f. Pasture Management**

The Permittee will continue to implement Intensive and Holistic Pasture management to avoid overgrazing. Over grazing has been associated with increased tailwater production and heating, sedimentation, increased water use, etc. Pastures are divided into 30 to 50 distinct areas through which the livestock are rotated based upon the size of the herd and the size of the pasture. Herd movements are done based upon the height of the grass (amount of available feed) for the size of the herd. Livestock will remain in a designated pasture until another pasture has enough height (volume) of grass to support the herd or when the grass in the current holding pasture is at a general stubble height of 4” or more. Livestock are provided hay (grown off site) during winter/early spring periods as well as times when pasture grass is unavailable due to weather conditions (drought conditions, etc.)

#### **E.1.g Assessments/Studies**

*The Permittee is not implementing or maintaining Assessments/Studies..*

### **E.2. Actions Required to Achieve Elevated Baseline Conditions**

This section details the actions required to achieve and maintain Elevated Baseline conditions. This includes any land and water management activities that will be implemented and maintained on the enrolled property to improve unsuitable habitat conditions for the Covered Species for the duration of the Template Safe Harbor Agreement.

#### **E.2.a. Hydrology/Water Quality**

*The Permittee is not implementing or maintaining any water quality measures within elevated baseline.*

#### **E.2.b. Passage/Migration/ Diversion Screening**

*The Permittee is not implementing or maintaining any fish passage, migration or screening measures within elevated baseline.*

#### **E.2.c. Instream Habitat Complexity**

*The Permittee is not implementing or maintaining any instream habitat complexity measures under elevated baseline.*

#### **E.2.d. Riparian Function**

*The Permittee is not implementing or maintaining any measures to protect/improve riparian under elevated baseline.*

#### **E.2.e Substrate Quality**

*The Permittee is not implementing or maintaining any measures under substrate quality within elevated baseline*

#### **E.2.f. Pasture Management**

*The Permittee is not implementing or maintaining any measures under pasture management within elevated baseline.*

#### **E.2.g Assessments/Studies**

*The Permittee is not implementing or maintaining any Assessment or Studies within elevated baseline.*

### **E.3. Other Beneficial Land and Water Management Activities**

This section summarizes any other land and water management activities that will be implemented on the enrolled property to benefit the Covered Species.

#### **E.3.a. Hydrology/Water Quality**

##### *Soil Moisture Monitoring*

The Permittee agrees to work with UC Extension Service to install soil moisture sensors throughout the ranch under advisement with UC-Extension to monitor irrigation application and ensure adequate irrigation without over application of water. Permittee commits to having up to 3 soil moisture sensors installed by the close of the 3rd year of the agreement. E.3.a1

##### *Water Conservation-Support and Allow Grenada Irrigation District to Increase delivery efficiency:*

The North Annex Property includes property within the Grenada Irrigation District (GID), a separate Permittee within the SWGC. Permittee agrees to support and allow GID access to improve delivery efficiency through installation of a pipeline from its POD on Shasta River through Permittee property to Grenada Irrigation District boundary. Permittee will work with and grant necessary easements to implement and maintain proposed pipeline project so as long as the impacts to Belcampo are minimized. This project is in the design and planning phase and will end with a completed design by early 2019. Implementation is intended to occur by 2021. Permittee will develop easement with GID in 2019. E.3.a2

### **E.3.b. Passage/Migration/ Diversion Screening**

#### *Beaver Management for Instream Benefit*

Permittee encourages the development of beaver dams on the reach to further expand the presence of pools and cover. Such dams are found on other reaches and expected to occur along this reach in the future. The Permittee will adhere to the Beaver BMPs from the 1st year through the end of the agreement.

### **E.3.c. Instream Habitat Complexity**

#### *Large Woody Debris*

- As riparian planting is completed and riparian woody species mature, they will become a natural source of LWD recruitment.
- Where appropriate, woody debris will be left in the stream bed to support cover for various life stages of the Covered Species.
- The Permittee commits to allow access, assist in seeking funding and implementation of habitat improvement projects as specified on the Habitat Improvement maps. Specifically, Permittee will allow the installation of up to 40 pieces of LWD along up to 7 outside meander bends to reduce bank erosion and provide instream cover. Permittee commits to provide available materials (trees with root wads, rock) participate in permit development, seeking funds and implementation with funding and permitting made available through public restoration programs by 2023

#### *Off Channel Habitat*

- The Permittee commits to reconnect up to 3 disconnected oxbows to enhance off channel habitat, which will be constructed as specified on the habitat improvement map. Each oxbow will also include the installation LWD at a rate of up to 7-10 structures per oxbow. The Permittee will allow access, donate trees for the project and assist with materials development, and use of heavy equipment if needed. Permittee commits to provide materials, participate in permit development, seeking funds and implementation with funding and permitting made available through public restoration programs by 2023.

### **E.3.d. Riparian Function**

#### *Riparian Function:*

The Permittee agrees to allow additional riparian plantings within the riparian areas on the ranch, in addition to areas identified for LWD or off channel project. Permittee agrees to seek funding , allow access, assist in planting, maintenance and protection of up to 3.0 acres of riparian cuttings in 3-5 distinct sites where riparian establishment is consider probable by the close of the 4th year of the agreement.

The Permittee agrees to have a grazing plan developed by UC Extension Service for the riparian area that is protective of riparian establishment. Permittee commits to have the riparian grazing plan complete by the end of the first year of the SHA agreement.

### **E.3.e Substrate Quality**

The Permittee will allow NMFS and CDFW access to determine the feasibility of the introduction of spawning gravel and will allow implementation of spawning gravel enhancement projects. Up to three sites will be evaluated and potentially implemented.

### **E.3.f. Pasture Management**

The Permittee allow abide by riparian pasture management plan developed by UC Extension Service. Permittee will ensure grazing practices do not impact woody plant and riparian specie development. Because Permittee produces many livestock species and management is more intensive than cattle production, the riparian grazing plan will require additional consideration an input from UC Extension Service. Permittee agrees to work with UC Extension Service to develop a riparian grazing plan by the end of the first year of the agreement.

### **E.3.g Assessments/Studies**

#### *Access for Studies*

The Permittee will work with research entities such as UC Davis, Shasta Valley Resource Conservation District (SVRCD), CDFW, USFWS, NMFS to conduct studies to describe salmonid habitat conditions, life history requirements, habitat utilization and productivity to help inform efforts to improve survival and productivity of coho salmon in the future.

The Permittee will allow for test plots to evaluate the effectiveness of the intensively managed grazing that is employed on the ranch.

### **E.3.h Supplementation**

The Permittee will allow access for salmonid supplementation and all associated monitoring activities.

## **F. Effective Date and Duration of the Site Plan and Agreement**

The Template Safe Harbor Agreement, Site Plan Agreement and Permit take effect when signed by the Participants/Permittees, NMFS, and CDFW. The Template Safe Harbor Agreement, Site Plan Agreement and Permit have a term of 20 years, which may be extended by mutual written consent of the Participants/Permittees, NMFS, and CDFW as stipulated in the Agreement. One (1) year prior to end of term of the Template Safe Harbor Agreement, Site Plan Agreement and Permit, the Participant/Permittees, NMFS, and CDFW will meet to decide whether to extend the term of the Template Safe Harbor Agreement, Site Plan Agreement and Permit.

**G. Monitoring and Reporting (who, what, when, where)**

**G.1. Avoid and Minimization Monitoring Commitments**

The Permittee agrees to the following AMMs and Monitoring actions:

<b>Covered Activity</b>	<b>Belcampo-North Annex -AMM</b>	<b>AMM Monitoring Technique</b>
<b>Irrigation Management</b>	A1 A2	All maintenance of instream diversion structures shall be monitored as follows: -Log of what in-water work had occurred and what minimization measures were implemented will be included in the Annual SHA report -When construction or repair work is being done, three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 <a href="http://www.fs.fed.us/pnw/pubs/gtr526/">http://www.fs.fed.us/pnw/pubs/gtr526/</a> or an annual agency inspection can be requested.
<b>Irrigation Maintenance</b>	B1 B2 B3 B4 B5 B6 B7 B8	All maintenance of instream irrigation facilities shall be monitored. Following are some examples of protocols: -Log of maintenance activities carried out within the calendar year be included in the yearly SHA report.
<b>Riparian Grazing Management</b>	C1 C2 C3	Riparian grazing management shall be monitored as follows: -Three to five permanent photo point stations will be established and marked at locations within each riparian pasture designed to show both vegetation changes before and after seasonal grazing activities, and long-term trends. Photo points shall be established using USDA Forest Service Photo Point Monitoring Handbook, 2002 <a href="http://www.fs.fed.us/pnw/pubs/gtr526/">http://www.fs.fed.us/pnw/pubs/gtr526/</a> . Digital photographs will be taken at each

		<p>photo point station once per year for trend monitoring, and before and after riparian pasture grazing takes place for annual implementation reporting.</p> <p>-Maintain a log of grazing activities carried out within the calendar year and include in the yearly Site Plan monitoring report. At a minimum, the log will include the following information: beginning and end dates of riparian pasture grazing; number of animals, monitoring practices during the riparian grazing period, and management actions taken as a result of monitoring results including management cues used to determine the time to move livestock out of the riparian pasture.</p> <p>-NMFS and CDFW may initiate periodic inspection of grazed riparian pastures to ensure riparian grazing management plan is effective.</p> <p>--NMFS, CDFW, or a qualified party, approved by CDFW or NMFS, may conduct redd surveys to determine the need for livestock restrictions in streams. In the event surveys indicate redds are not present, then livestock access will follow the procedures described in riparian grazing management plan.</p>
<b>Fence Maintenance</b>	D1 D2	-A short description of fence maintenance activities will be included in the annual report template.
<b>Road Maintenance</b>	E2 E3	-A short description of annual road maintenance activities will be included in the annual report.
<b>Crossing Maintenance</b>	F1 F2	- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 <a href="http://www.fs.fed.us/pnw/pubs/gtr526/">http://www.fs.fed.us/pnw/pubs/gtr526/</a>
<b>Herbicide/Fertilizer/Pesticide Use</b>	G1 G2 G3 G4	- Participant commits to log use of herbicide, fertilizer and pesticide activities carried out within the calendar year be included in the annual report.

	G5	
<b>Flood Repair</b>	H1 H2	- Participant shall take photographs of the emergency site repairs and a detailed description of the repairs to be included in the annual report.

## G.2 Implementation and Effectiveness Monitoring Commitments

The Permittee agrees to the following monitoring actions:

<b>Habitat Parameter</b>	<b>Belcampo-North Annex -Net Conservation Benefit Actions</b>	<b>Implementation Monitoring Technique</b>	<b>Effectiveness Monitoring Commitment? Technique?</b>
<b>Hydrology/Water Quality</b>	-Implement soil moisture monitoring to ensure adequate irrigation as described in E.3.a1.  -Work with Grenada Irrigation District to develop easement and install pipeline to increase delivery efficiency and reduce diversion from Shasta River. E.3.a2	- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 documenting functioning diversion, pipeline improvements and spring source enhancements. -Soil Moisture sensor data	- Diversion monitoring station will be maintained and operated as designed. Provide yearly data.
<b>Passage/Migration/Screening</b>	-Implement beaver BMPs as described in the Template.	- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 documenting fish passage and fish screen.  -Water measuring protocol that is in concurrence with SB88 of diversion, submit diversion data.	

<p><b>Instream Habitat Complexity</b></p>	<p>-Provide access and assist with seeking funding and implementation and maintenance of large wood enhancement as specified on the Habitat Improvement map and as described in Section E.3.c.</p> <p>-Provide access and assist with seeking funding, implementation and maintenance to reconnect oxbows for off channel habitat features as specified on habitat improvement map and as described in Section E.3.c.</p>	<p>- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 Habitat improvements</p>	
<p><b>Riparian Condition</b></p>	<p>Allow access, seek funding and assist with implementation and maintain riparian plantings within the riparian areas on the ranch as described in Section E.3.d</p>	<p>- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 To document riparian grazing area, and crossing and stockwater systems in proper function.</p>	<p>-Survival rates of riparian planting will be reported by Shasta Valley RCD or other implementing organization for a minimum period of 3 years after planting occurs or term will be stipulated by the grants utilized for implementation.</p>
<p><b>Substrate Quality</b></p>	<p>-Allow access, seek funding, assist with implementation and maintain spawning gravel enhancement on Permittee property in collaboration with the Agencies as stipulated in Section E.3.e</p>	<p>- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 To document fence maintenance.</p>	

<b>Pasture Management</b>		- Three to five photo points using USDA Forest Service Photo Point Monitoring Handbook, 2002 To document pasture condition.	
<b>Assessment/Studies</b>	- Support and allow access for studies as described in Section E.3.g.	-Reports of studies will be written/summarized/obtained and provided in the annual report	-Access to maintain existing pit tag array and trap and tag fish as deemed feasible by agency staff -Juvenile surveys for presence absence and for capturing and PIT tagging fish with 7 day notification of landowner.
<b>Supplementation</b>	-The Permittee will allow access for salmonid supplementation as described in Section E.3.h.		

## **H. Annual Report and Adaptive Management**

The Participant will complete the Annual Report Form, attached in Appendix D, yearly and reported as stipulated in the Agreement.

## **I. Regulatory Assurances**

Upon execution of this Agreement by the Parties, and the satisfaction of all other applicable legal requirements, NMFS will issue a permit under Section 10(a)(1)(A) of the ESA to assure the Permittee may incidentally take Covered Species, in accordance with the Site Plan and Agreement, as a result of Routine Land Use and Beneficial Management Activities as described in each Agreement, and except where such Routine Land Use would result in the diminishment or non-achievement of the Baseline and/or Elevated Baseline Conditions established for the enrolled property. This assurance depends on the Permittee maintaining the Baseline and/or achieving the Elevated Baseline Conditions set forth in the Site Plan, complying fully with the Agreement and their Site Plan, and so long as the continuation of Routine Land Use and Beneficial Management Activities would not be likely to result in jeopardy to Covered Species or the adverse modification or destruction of their designated critical habitat. NMFS provides no assurances with regard to any action that may affect Non-Covered species, including the take of



Appendix A- Legal Deeds

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570

REC. BY MSTC

RECORDING REQUESTED BY:  
Mt. Shasta Title & Escrow Company

MAIL TAX STATEMENT  
AND WHEN RECORDED MAIL DOCUMENT TO:  
Outpost North Annex, LLC, a California limited  
liability company  
20 Trafalgar Square, Suite 205  
Nashua, NH 03063



Siskiyou, County Recorder  
Mike Mallory, Assessor-Recorder  
**DOC - 2018 - 0000435 - 00**  
Acct 2-Mt Shasta Title and Escrow  
**Monday, JAN 22, 2018 13:38:27**  
TII Pd \$8,423.05 Nbr-0000307346

RNK / C1 / 1-8

Space Above This Line for Recorder's Use Only

File No.: 4702-5585518 (PAB)

A.P.N.: 020-020-020 and 022-410-150 and  
022-200-430 and 022-400-060 and 022-  
400-110 and 022-400-120 and 038-280-120  
and 038-230-080 and 038-230-020 and  
038-250-260 and 038-260-140 and 038-  
270-040 and 038-270-231 and 038-280-090  
and 038-280-110 and 038-240-010 and  
038-240-030 and 038-240-040 and 020-  
020-020 and 020-020-100 and 020-250-030  
and 022-190-020 and 022-190-110 and  
022-190-120 and 039-330-050

**GRANT DEED**

The Undersigned Grantor(s) Declare(s): DOCUMENTARY TRANSFER TAX \$8,388.05; CITY TRANSFER TAX \$;

SURVEY MONUMENT FEE \$

- computed on the consideration or full value of property conveyed, OR
- computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,
- unincorporated area; [ ] City of, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **Belcampo Property, LLC, a California limited liability company, as successor in interest to Shasta Farm Property East, LLC, a California limited liability company**

hereby GRANTS to **Outpost North Annex, LLC, a California limited liability company**

the following described property in the unincorporated area of the County of **Siskiyou**, State of **California**:

**PARCEL ONE:**

**All that part of the Southwest quarter of the Northeast quarter of Section 27, Township 44 North, Range 6 West, M.D.B. & M.**

**Commencing at the Southeast corner of the Southwest quarter of the Northeast quarter of said Section 27; thence N. 89° 30' W. along the East and West center line of said Section 27, 328 1/2 feet to the East right of way fence line of the Southern Pacific Railroad, 50 feet from the center line; thence N. 2° 25' E. 1192.0 feet along the East right of way of the S.P. Company R.R.; thence S. 89° 30' E. and parallel with the East and West center line of said Section 27, 265.0 feet; thence South 1192.0 feet along the East line of the Southwest quarter of the Northeast quarter of said Section 27 to the place of beginning.**

**SAVING AND EXCEPTING therefrom any portion which lies within the right of way of the Southern Pacific Railroad Company.**

Mail Tax Statements To: **SAME AS ABOVE**

**ALSO SAVING AND EXCEPTING therefrom the following:**

Commencing at the Southeast corner of the Southwest quarter of the Northeast quarter of said Section 27; thence West along the South line of said forty acre tract 326 feet to the East right of way fence of the Southern Pacific Railroad; thence North 2° 24' East along the East right of way fence of the Southern Pacific Railroad 103 feet; thence North 86° 17' East 322.4 feet to the East line of said Southwest quarter of the Northeast quarter of said Section 27; thence South along the East line of said Southwest quarter of the Northeast quarter of said Section 27, 105 feet to the place of beginning.

APN 038-250-260 (PTN)

**PARCEL TWO:**

Lot 10 of the Grenada Ranch Tract according to the Map thereof on file in Volume 2 of Maps at page 158, Records of Siskiyou County, California, in Section 27, Township 44 North, Range 6 West, M.D.M.

APN 038-250-260 (PTN)

**PARCEL THREE:**

All that portion of the East half of Section 34, Township 44 North, Range 6 West, Mount Diablo Meridian, described as commencing at the East one-quarter corner of said Section 34; thence North 89° 35' West 1032.6 feet to a point; thence North 0° 25' East, 219 feet to the Southeast corner of the Alton Taylor property; thence North 87° 58' West, 823 feet, more or less, to the Southwest corner of said Taylor property and the intersection of the East right of way of the Central Pacific Railroad Company; thence South 2° 25' West along said East right of way 651.7 feet, more or less, to the Northwest corner of the former Brown property (now Bhend property); thence East 1860 feet, more or less, to the East line of said Section 34; thence North 0° 45' West 424 feet to the point of commencement.

EXCEPTING THEREFROM all that portion conveyed to the State of California for Highway Purposes (Interstate No. 5) as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

ALSO EXCEPTING THEREFROM an undivided 1/2 interest in and to all oil and minerals discovered or undiscovered as reserved in Book 95 Deeds, page 68.

APN 038-280-090 & 038-270-231 (PTN)

**PARCEL FOUR:**

The South half of Section 25, Township 44 North, Range 6 West, Mount Diablo Meridian, SAVING AND EXCEPTING THEREFROM that portion thereof conveyed by Dana H. McCargar and Ida A. McCargar, his wife, to Angelo Salvadori, by Instrument dated October 28, 1943, recorded March 21, 1947, in Liber 202 Official Records, page 250, as follows:

That portion of the East half of the Southeast quarter of Section 25, Township 44 North, Range 6 West, Mount Diablo Meridian, lying East of the Shasta River as the same now traverses said land.

**APN 038-230-080**

**PARCEL FIVE:**

All of Section 26, Township 44 North, Range 6 West, Mount Diablo Meridian.

**SAVING AND EXCEPTING** therefrom the South half of the Southeast quarter.

**ALSO SAVING AND EXCEPTING** that portion of Section 26, described within Parcel 1 of the "Notice of Approval of Waiver", recorded September 25, 1978 in Volume 833 O.R. page 282.

**APN 038-230-020**

**PARCEL SIX:**

The East half of the Southeast quarter of Section 27, Township 44 North, Range 6 West, Mount Diablo Meridian.

**EXCEPTING THEREFROM** all that portion conveyed to the State of California for Highway purposes, (Interstate No. 5) as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

**APN 038-260-140**

**PARCEL SEVEN:**

The East half of the Northeast quarter of Section 34, Township 44 North, Range 6 West, Mount Diablo Meridian.

**EXCEPTING THEREFROM** all that portion conveyed to the State of California for Highway purposes (Interstate No. 5), as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

**ALSO EXCEPTING THEREFROM** that portion conveyed by Samuel Bruinsma, aka Sam Bruinsma, to Richard L. Peters and Henrietta E. Peters, by deed recorded December 13, 1988 Official Records as Document No. 88014799, described as follows:

Being more particularly described as a portion of Section 34, T44N, R6W, M.D.M. and known as **PARCEL NO. 1**, per that certain Parcel Map on file in the office of the Siskiyou County Recorder in Parcel Map Book No. 10, at page 145, together with, subject to and reserving there-from that certain Ditch Easement shown thereon, with the rights and privileges necessary to use, upkeep, and repair said ditch.

**APN 038-270-040 & 038-270-231 (PTN)**

**PARCEL EIGHT:**

All of Section 35, Township 44 North, Range 6 West, Mount Diablo Meridian.

**EXCEPTING THEREFROM** all that portion conveyed to the State of California for Highway purposes (Interstate No. 5), as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

**APN 038-240-010, 030**

**PARCEL NINE:**

All of Section 36, Township 44 North, Range 6 West, Mount Diablo Meridian.

**SAVING AND EXCEPTING THEREFROM** that portion thereof conveyed by Dana H. McCargar and Ida A. McCargar to Angelo Salvadori by instrument dated October 28, 1943, recorded March 21, 1947, in Liber 202, Official Records, page 250, as follows:

That portion of the East half of Section 36, Township 44 North, Range 6 West, Mount Diablo Meridian, lying East of the Shasta River as the same now traverses said land.

**APN 038-240-040**

**PARCEL TEN:**

The North half; the North half of the South half and the Southwest quarter of the Southwest quarter of Section 1, Township 43 North, Range 6 West, Mount Diablo Meridian. Also the Southwest quarter of the Southeast quarter and the Southeast quarter of the Southwest quarter of Section 1.

**SAVING AND EXCEPTING THEREFROM** that portion thereof described as:

Commencing at Southwest corner of the Southeast quarter of the Southwest quarter of said Section 1, said Township and Range; thence North 41° 00' East 859 feet; thence North 49° 20' East 376 feet; thence North 53° 33' East 179.3 feet; thence North 61° 06' East 148.1 feet; thence North 81° 47' East 1573 feet to Northeast corner of Southwest quarter of the Southeast quarter of Section 1; thence South 1320 feet to the Southeast corner of the Southwest quarter of the Southeast quarter of said Section 1; thence West 2689 feet to the place of beginning.

**APN 022-190-020**

**PARCEL ELEVEN:**

The North half; the Southeast quarter, the East half of the Southwest quarter of Section 2, Township 43 North, Range 6 West, M.D.M.

**EXCEPTING THEREFROM** all that portion conveyed to the State of California for Highway purposes, (Interstate No. 5), as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

**APN 022-190-110 (PTN) & 120 (PTN)**

**PARCEL TWELVE:**

The North half of the Northeast quarter of Section 11; and all that portion of the Southwest quarter of the Northeast quarter of said Section 11, all in Township 43 North, Range 6 West, Mount Diablo Meridian, described in that certain deed from George Meyer to Thomas Orr, recorded in Liber 11 of Deeds, page 721, as follows:

North half of the Southwest quarter of the Northeast quarter of Section 11, said Township and Range.

EXCEPTING THEREFROM all that portion conveyed to the State of California for highway purposes (Interstate No. 5), as described in Deed recorded September 29, 1967, in Volume 548 of Official Records at page 582, Siskiyou County, California.

APN 022-190-110 (PTN) & 120 (PTN)

**PARCEL THIRTEEN:**

Northwest quarter of the Northwest quarter of Section 12, Township 43 North, Range 6 West, Mount Diablo Meridian.

APN 022-190-120 (PTN)

**PARCEL FOURTEEN:**

All that portion of the Southwest quarter of the Southwest quarter of Section 31, Township 44 North, Range 5 West, Mount Diablo Meridian, lying West of the Shasta River.

APN 039-330-050

**PARCEL FIFTEEN:**

All that portion of the North half of the North half of Section 6, Township 43 North, Range 5 West, Mount Diablo Meridian, lying South and West of the center line of the Shasta River as it now traverses said Section.

SAVING AND EXCEPTING THEREFROM that portion thereof conveyed to the Grenada Irrigation District as described in Liber 105, Deeds, page 478.

And the South half of the Northwest quarter; Southwest quarter of the Northeast quarter, and the Northwest quarter of the Southeast quarter of Section 6, Township 43 North, Range 5 West, Mount Diablo Meridian.

APN 020-020-020 & 020-250-030

**PARCEL SIXTEEN:**

The South half of the Southeast quarter of Section 26, Township 44 North, Range 6 West, M.D.M.

APN 038-230-020

**PARCEL SEVENTEEN:**

The North half of Lots 1 and 2 of the Southwest quarter of Section 6, Township 43 North,

Range 5 West, M.D.B. & M.

APN 020-020-100

**PARCEL EIGHTEEN:**

All that portion of the West half of the Southeast quarter of Section 34, Township 44 North, Range 6 West, M.D.M. described as:

COMMENCING at a point on the East right of way line of the Southern Pacific Railroad from which the East and West centerline of said Section 34, bears North 2° 25' East 955.8 feet; thence East 354.0 feet; thence South 2° 25' West 411.0 feet; thence West 84.0 feet; thence on a diagonal line Southwesterly 390.0 feet, more or less, to the East right of way line of the Southern Pacific Railroad; thence along the right of way line North 2° 25' East 681.0 feet to the place of beginning.

ALSO commencing at a point South 0° 45' West 424 feet from the quarter corner common to Sections 34 and 35, Township 44 North, Range 6 West, M.D.M.; thence West 1860 feet to the East boundary line of the Southern Pacific Company's right of way; thence South 2° 25' West 535.8 feet along the Eastern boundary of the Southern Pacific Company's right of way; thence East 1873.3 feet; thence North 0° 45' East 533.8 feet to the point of beginning.

EXCEPTING THEREFROM any portion lying within the right of way of the Southern Pacific Railroad.

APN 038-280-110

**PARCEL I:**

A portion of the Northeast quarter of Section 3, Township 43 North, Range 6 West, M.D.M., and a portion of the Southeast quarter of Section 34, Township 44 North, Range 6 West, M.D.M., described as:

BEGINNING at the Section corner common to Sections 2 and 3, Township 43 North, Range 6 West, M.D.M., and Sections 34 and 35, Township 44 North, Range 6 West, M.D.M.; thence North 0° 41' 10" East 1692.77 feet along the East line of said Section 34 to the Southeast corner of the Salinas parcel as described in the deed recorded in Book 483 of Official Records, page 397, thence West, 1467.98 feet along a Southerly line of said property; thence South 2° 25' 00" West, 411.00 feet along an Easterly line of said property; thence West 84.00 feet along a Southerly line of said property; thence South 46° 12' 30" West, 389.81 feet along a Southeasterly line of said property to the Easterly right of way line of the Southern Pacific Railroad from Gazelle to Grenada; thence South 2° 25' 00" West, 1720.07 feet along said Easterly right of way line; thence South 87° 35' 00" East, 1906.14 feet to the East line of Section 3, Township 43 North, Range 6 West, M.D.M., thence North 0° 06' 30" West, 786.65 feet along said East line to the point of beginning.

APN 038-280-120 & 022-400-060

**PARCEL II:**

A portion of the Northeast quarter of Section 3, Township 43 North, Range 6 West, M.D.M., described as:

**BEGINNING** at the Northeast corner of said Section 3; thence South 0° 06' 30" East, 786.65 feet along the East line of said Section 3 to the TRUE POINT OF BEGINNING; thence South 0° 06' 30" East, 1873.33 feet along said East line to the East quarter corner of said Section 3; thence North 89° 36' 10" West, 1990.05 feet along the East and West centerline of said Section 3 to the Easterly right of way of the Southern Pacific Railroad from Gazelle to Grenada; thence North 2° 25' 00" East, 37.78 feet along said right of way line to the South line of California Oregon Power Company property as per deed recorded in Book 113 of Deeds, page 514, in the office of the Siskiyou County Recorder; thence South 89° 47' 00" East, 69.85 feet to the Southeast corner of said property; thence North 100.4 feet to the Northeast corner of said property; thence West 65.62 feet along the North line of said property to the Easterly right of way line of the Southern Pacific Railroad from Gazelle to Grenada; thence North 2° 25' 00" East, 1803.59 feet along said right of way line; thence South 87° 35' 00" East, 1906.14 feet to the TRUE POINT OF BEGINNING.

**EXCEPTING THEREFROM** all oil and gas and the right to prospect for mine, and remove such deposits as reserved by the United States of America in the Document recorded August 6, 1965 in Volume 519 O.R. page 123.

**APN: 022-400-110 & 022-400-120**

**PARCEL A:**

All those portions of the SE $\frac{1}{4}$  of Section 3; the W $\frac{1}{2}$  of the SW $\frac{1}{4}$  of Section 2; the NE $\frac{1}{4}$  of Section 10 and the W $\frac{1}{2}$  of Section 11, Township 43 North, Range 6 West, M.D.M., lying Northerly and Easterly of the following described line:

Beginning at a point from which the Easterly right of way monument, Engineer's Sta. 'Z'869+29.36 P.O.T. 191 survey of Highway 99, bears North 11°06'38" West 428.60 feet, thence through the following courses, all lying Southerly and Westerly of the Grenada Irrigation Ditch:

South 48°39'26" East 197.35 feet (said course to be prolonged or shortened so as to terminate on the Easterly right of way line of the Southern Pacific Railroad), South 32°48'15" East 1880.50 feet, South 57°24'41" East 666.90 feet, South 24°01'24" East 478.81 feet, South 78°51'06" East 762.65 feet, South 51°58'46" East 436.65 feet, South 32°53'15" East 570.66 feet, South 65°27'47" East 272.29 feet, South 79°35'32" East 479.42 feet, South 26°45'18" East 709.54 feet, South 87°01'55" East 338.47 feet, more or less to the East line of the W $\frac{1}{2}$  of Section 11, Township 43 North, Range 6 West, M.D.M.

Saving and excepting therefrom any portion of the above described land lying West of the Easterly boundary line of the right of way of the Southern Pacific Railroad.

**Assessor's Parcel No.: 022-200-430, 022-190-170 & 022-410-150**

Grant Deed - continued

Date: 12/11/2017

A.P.N.: 020-020-020 and 020-020-100 and 020-250-030 and 022-190-020 and 022-190-110 and 022-190-120 and 038-230-020 and 038-230-080 and 038-240-010 and 038-240-030 and 038-240-040 and 038-250-260 and 038-260-140 and 038-270-040 and 038-270-231 and 038-280-090 and 038-280-110 and 039-330-050

File No.: 4702-5585518 (PAB)

Dated: December 11, 2017

Belcampo Property, LLC, a California limited liability company

By   
Name: Anya Fernald  
Title: Manager

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF California )SS

COUNTY OF Alameda )

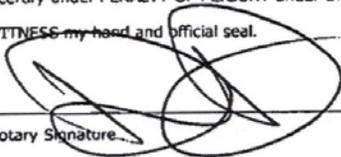
On 01/12/2019 before me, Dominique Dillard, Notary Public, personally appeared Anya Fernald

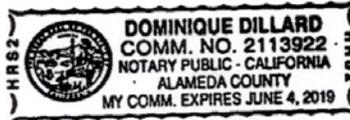
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

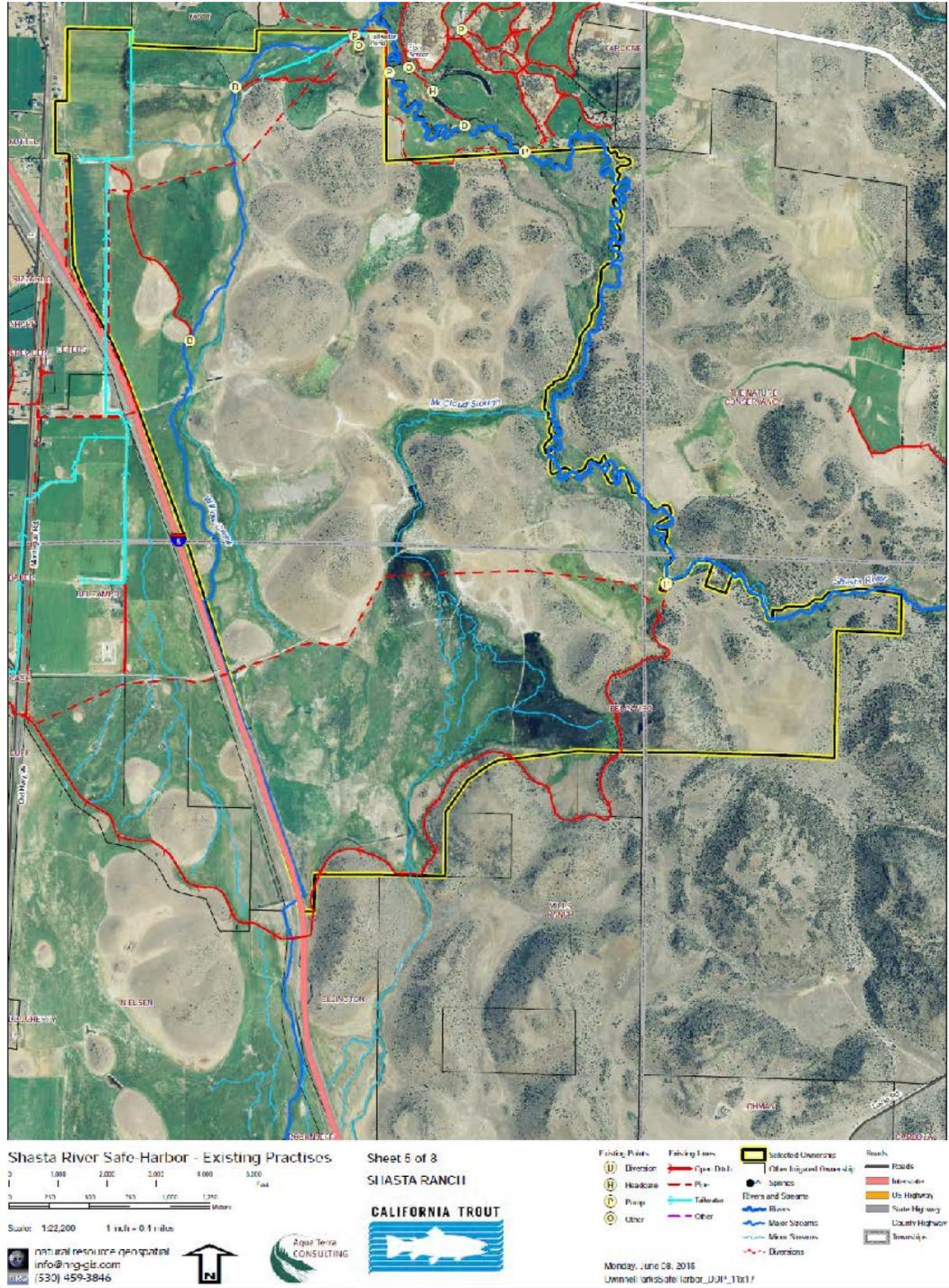
WITNESS my hand and official seal.

This area for official notarial seal.

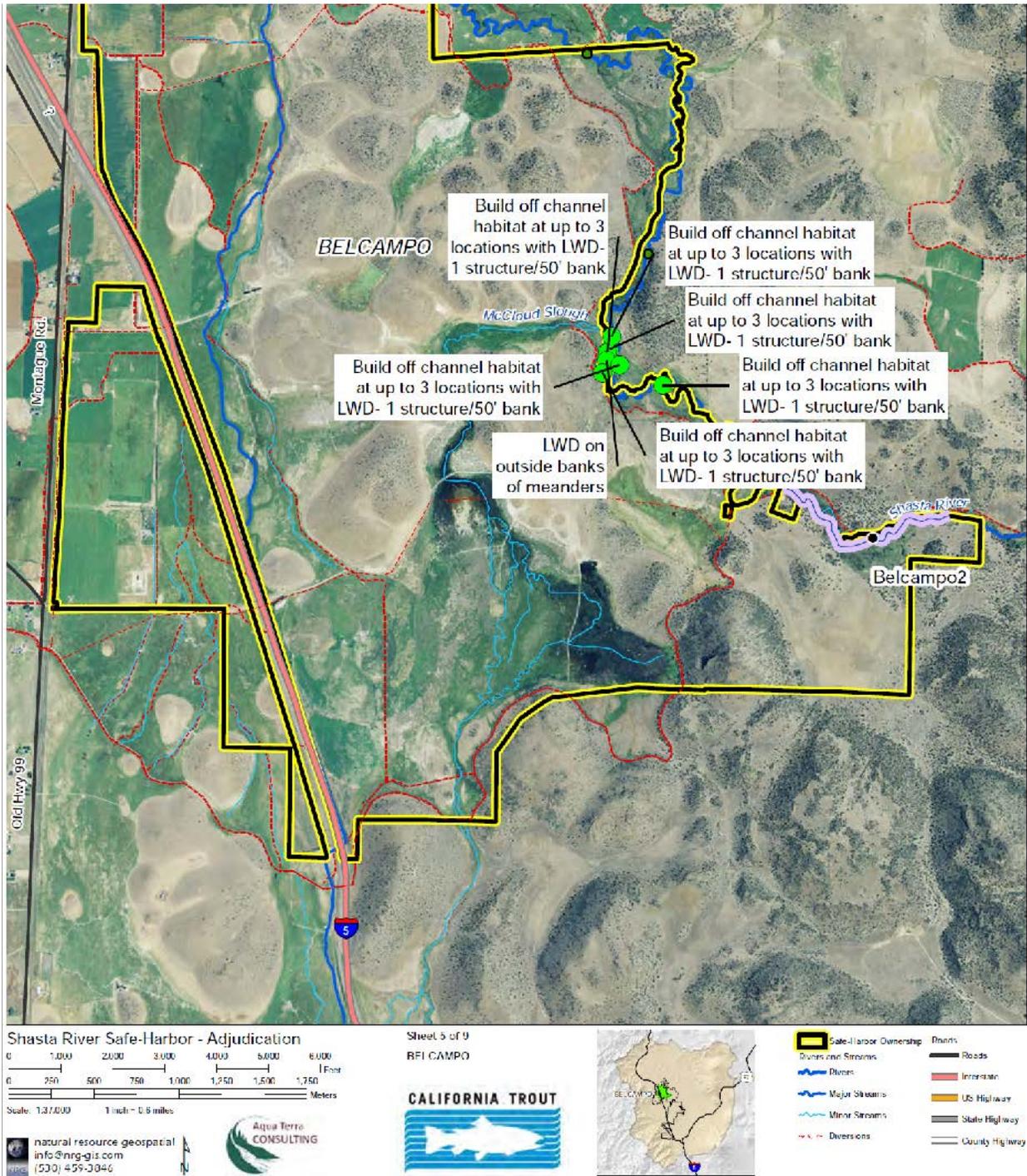
  
Notary Signature



## Appendix B- Map of Existing Conditions



## Appendix C- Habitat Improvement Map



## Appendix D-UC Extension Service Grazing Plan - North Annex

**Attach grazing plan here to be developed by UC Extension Service by end of the first year of the agreement**