

**STREAMBED ALTERATION AGREEMENT TEMPLATES MASTER CONDITIONS  
LIST**

**FOR SAN DIEGO CREEK WATERSHED  
SPECIAL AREA MANAGEMENT PLAN/WATERSHED STREAMBED ALTERATION  
AGREEMENT (SAMP/WSAA) PROCESS**

**Mitigation:**

1. The Operator(s) shall mitigate for \_\_\_\_\_ acre(s) of permanent impacts to: \_\_\_\_\_ habitat, and \_\_\_\_\_ acre(s) of temporary impacts to: \_\_\_\_\_ habitat; for a total mitigation obligation of \_\_\_\_\_ acre(s).

Project mitigation shall consist of creation, restoration, and/or enhancement of riparian habitat on-site and/or off-site.

**Mitigation Ratios:**

**Compensatory Mitigation for Temporary Impacts:**

- **Restoration On-Site:** After a temporary impact, an area shall be restored to pre-construction elevations within one month. Re-vegetation shall commence within three months after restoration of pre-construction elevations and be completed within 1 growing season. If re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter should not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces shall be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water.
- **Offsets for Temporal Loss:** Temporary impacts to riparian habitat shall be compensated through consideration of the time needed to fully recover temporarily-impacted functions. In general, impacts to unvegetated habitat will not require additional compensatory mitigation, impacts to herbaceous vegetation will require an additional 0.5:1 ratio of compensatory mitigation, impacts to shrubby vegetation will require an additional 1:1 ratio of compensatory mitigation, tree vegetation will require an additional 2:1 ratio of compensatory mitigation, and tree vegetation with dense understory vegetation will require an additional 3:1 ratio of compensatory mitigation.
- **Preparation of Compensatory Mitigation Plan:** All on-site revegetation efforts require a mitigation and monitoring plan approved by the resource agencies.
- **Delays in implementation of compensatory mitigation:** Any delays in implementation of compensatory mitigation will be penalized by an increase in 25% of the initial compensatory mitigation acreage for every 3-month delay. If a delay is expected to occur, the permittee should notify the U.S. Army Corps of Engineers Los Angeles District Regulatory Division (Corps) and the California Department of Fish and Game (Department) to provide explanations for the delay and the new expected start date. The Corps and the Department will notify the permittee of each 3-month delay and re-calculate the compensatory mitigation acreage.

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**Compensatory Mitigation for Permanent Impacts:**

- **Mitigation Ratios:** Ratios will be determined based on area-weighted gain in functions at the compensatory mitigation site with respect to area-weighted loss of functions at the impact site. Functions will be measured in terms of functional units with respect to hydrology, water quality, and habitat indices. The Corps' Engineering Research and Development Center (ERDC) calculated these three (3) indices for all major reaches in the San Diego Creek Watershed based on current conditions and after achievement of restoration goals. The ratios will essentially be:

$$\text{AREA}_{\text{MIT}} / \text{AREA}_{\text{IMP}} = \text{FuLOSS}_{\text{IMP}} / \text{FuGAIN}_{\text{MIT}} \quad \text{where}$$

$\text{AREA}_{\text{MIT}} / \text{AREA}_{\text{IMP}}$  = mitigation ratio  
 $\text{AREA}_{\text{MIT}}$  = area of mitigation  
 $\text{AREA}_{\text{IMP}}$  = area of impact  
 $\text{FuLOSS}_{\text{IMP}}$  = loss in functional index at the impact site  
 $\text{FuGAIN}_{\text{MIT}}$  = gain in functional index at the mitigation site

As a reminder, implemented ratios shall always be greater or equal to 1:1 even if the actual calculated ratios are less than 1:1. However, if the calculated ratio is less than 1:1, mitigation at 1:1 will generate excess credits above the calculated ratio to reduce additional mitigation requirements for temporal loss (see below).

- **No Loss in Any Functional Type:** Mitigation will insure that losses to any of the three area-weighted indices (hydrology, water quality, and habitat) do not occur. Even if there is a gain in one or two of the indices, the overall mitigation must insure that there is not a loss in any of the three indices. Losses can be avoided by increasing the mitigation ratio.
- **Temporal Loss:** Temporal loss for permanent impacts will use the same guidelines as for temporary impacts. However, temporal loss will only apply to the habitat index, since the other two indices should not have a temporal lag. In addition, temporal loss can be offset by creating superior habitat. For example, if  $\text{FuLOSS}_{\text{IMP}}$  is 10 (shrubby vegetation) and  $\text{FuGAIN}_{\text{MIT}}$  is 20, then the mitigation ratio would be 0.5 for permanent impacts and there would be a temporal loss credit of 0.5. Given an additional need for 1.0 credits for temporal loss, only an additional 0.5 credit is needed.
- **Delays in implementation of compensatory mitigation.** Compensatory mitigation should begin concurrently with project impacts or prior to project impacts. Any delays in implementation of compensatory mitigation will be penalized by an increase in 25% of the initial compensatory mitigation acreage for every 3-month delay. If a delay is expected to occur, the permittee should notify the Corps and the Department to provide explanations for the delay and the new expected start date. The Corps and the Department will notify the permittee of each 3-month delay and re-calculate the compensatory mitigation acreage.

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**General Mitigation Ratios for Impacts to Oak/Walnut/Sycamore woodlands:**

- a. Minimum acreage requirement for impacts to a large area of Oak/Walnut/Sycamore woodlands shall be a minimum of 3:1 to 20:1 (compensation to impact ratio), with associated understory.
- b. Replacement ratios for impacts to a small area of Oak/Walnut/Sycamore woodlands shall be mitigated on impacts to individual stem counts as follows:
  - i. Trees less than 5 inches diameter at breast height (DBH) shall be replaced at 3:1
  - ii. Trees between 5 and 12 inches DBH shall be replaced at 5:1
  - iii. Trees between 12 and 36 inches DBH shall be replaced at 10:1
  - iv. Trees greater than 36 inches DBH shall be replaced at 20:1
- c. Replacement ratio for damaged trees less than 12 inches DBH shall be 2:1, and greater than 12 inches DBH shall be 5:1 (compensation to impact ratio), with associated understory.

**General Habitat Mitigation and Monitoring**

2. The Operator(s) shall submit a Final Habitat Mitigation and Monitoring Plan for Department review and written approval for all mitigation sites at least 60 days prior to commencing project activities. Plans for creation, restoration, and/or enhancement shall be prepared by persons with expertise in southern California ecosystems and native plant re-vegetation techniques. The plan should include at minimum: (a) the location of the mitigation site; (b) the plant species to be used; (c) a schematic depicting the mitigation area; (d) time of year that the planting will occur; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met.

- An annual report shall be submitted to the Department by Jan. 1<sup>st</sup> of each year for 5 years after planting. This report shall include the survival, % cover, and height of both tree and shrub species. The number by species of plants replaced, an overview of the revegetation effort, and the method used to assess these parameters shall also be included. Photos from designated photo stations shall be included.
- The Operator(s) shall have a qualified biologist conduct monthly surveys of the mitigation area to document the bird, wildlife and fish use of the site. The surveys shall be conducted at appropriate times of the day. Quarterly summary reports shall be submitted to the Department along with copies of all field notes. The surveys shall be initiated one year after the revegetation has occurred and shall continue until the monitoring of the revegetation site is completed or a minimum of 5 years.
- The Operator(s) shall have a qualified biologist identify those areas of best opportunity on the site (e.g. adequate hydrology) and ensure the proper installation occurs no later than \_\_\_\_\_. The Operator(s) shall have the biologist submit a letter report verifying the amount and location of the exotic eradication and installation of the native plants.

**General Mitigation Success Criteria**

3. All plantings shall have a minimum of 80% survival the first year, 95% the second year, and 100% survival thereafter, and/or shall attain 75% cover of native woody species after 3

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years and 90% cover of native woody species after 5 years until the end of the monitoring period. Nonnative species shall comprise less than 5% of the cover after 5 years. Invasive species shall comprise 0% of the cover at the end of the 5-year monitoring period. If the survival and cover requirements have not been met, the Operator(s) is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting. Irrigation shall be stopped two years prior to achieving the success criteria.

- If after 3 years of monitoring the mitigation meets the 5-year success criteria, AND the Department reviews and approves the mitigation status in writing, the Operator(s) may consider the sites have been successful and cease monitoring.
- The Operator(s) shall not be released from these maintenance and monitoring obligations until such time as the Operator has requested and received written concurrence from the Department that the success criteria have been met.
- The Department recommends the use of native plants to the greatest extent feasible in the landscape areas adjacent and/or near the mitigation/open space areas. The Operator(s) shall not plant, seed or otherwise introduce invasive exotic plant species to the landscaped areas adjacent and/or near the mitigation/open space areas. Exotic plant species not to be used include those species listed on Lists A&B of the California Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999." This list includes such species as: pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. A copy of the complete list can be obtained on the web site of the California Exotic Pest Council at <http://www.caleppc.org>. In addition, adjacent to the open space area, the landscaping should not use plants that require intensive irrigation, fertilizers, or pesticides. Water runoff from landscaped areas should be directed away from the open space and contained and/or treated within the development footprint. The Operator(s) shall submit a copy of the draft landscape/planting plan to the Department's representative for review at least 30 days prior to the acquisition and/or use of any plant materials (seeds or container plants) adjacent to the mitigation/open space site. A site visit by the Department representative to review the presence (or absence) of exotic pest plants is required prior to the Department's acceptance of the completed project.
- All planting shall be done between October 1<sup>st</sup> and April 30<sup>th</sup> to take advantage of the winter rainy season.
- In order to determine if the revegetation techniques used have been successful any plant species required that are listed below shall achieve the minimum growth at the end of three and five years. If the minimum growth is not achieved then the Operator(s) shall be responsible for taking the appropriate corrective measures as determined by Department representatives. The Operator(s) shall be responsible for any cost occurred during the revegetation or in subsequent corrective measures.

SPECIES	SIZE AT PLANTING	PLANTING CENTERS	HEIGHT	
			3 years	5 years
Arroyo Willow	PB 1 gallon	8 ft	10 ft	15 ft
		8 ft	10 ft	15 ft
Black Willow	PB	8 ft	12 ft	18 ft

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	1 gallon	8 ft	12 ft	18 ft
Sandbar Willow	PB	5 ft	4 ft	6 ft
	1 gallon	5 ft	4 ft	6 ft
Red Willow	PB	8 ft	9 ft	15 ft
	1 gallon	8 ft	9 ft	15 ft
Cottonwood	1 gallon	*	7 ft	12 ft
	5 gallon	*	9 ft	15 ft
White Alder	1 gallon	*	6 ft	11 ft
	5 gallon	*	8 ft	13 ft

\* = Depending if used as supplemental species (40 ft O.C.) or if dominate species (15 ft O.C.)  
All Shrub species

1 gallon	**
5 gallon	**

\*\* = Plant in naturalized clumps and randomly scattered.

### **Oak, Walnut, and Sycamore Woodland Mitigation and Monitoring Reports:**

4. The Operator(s) shall submit a Final Habitat Mitigation and Monitoring Plan for Department review and written approval for all mitigation sites at least 60 days prior to commencing project activities. Plans for restoration, enhancement/re-vegetation and creation should be prepared by persons with expertise in southern California ecosystems and native plant re-vegetation techniques. The plan should include at minimum: (a) the location of the mitigation site; (b) the plant species to be used; (c) a schematic depicting the mitigation area; (d) identification of suitable locations, soils, aspect, etc.; (e) time of year that the planting will occur; (f) a description of the irrigation methodology; (g) measures to control exotic vegetation on site; (h) use of local propagules; and (i) protection from herbivory; (j) success criteria; (k) a detailed monitoring program; and (l) contingency measures should the success criteria not be met.

- The Final Habitat Mitigation and Monitoring Plan shall also be designed to identify and meet the objectives of the successful establishment and long-term survival of riparian oak woodland habitat. In addition, associated understory and early-successional native species must be planted and monitored along with trees to achieve viable habitat and adequately compensate for biological functions lost. Specific woodland and understory performance criteria for the riparian habitat shall be monitored for a minimum of 10 years (5 years for understory) and shall meet the overall success criteria as described below.
- The location of the mitigation site shall avoid the conversion of other native habitats (e.g. coastal sage scrub) to oak riparian woodlands, and shall identify sites with appropriate soil water availability.
- An annual report shall be submitted to the Department by January 1<sup>st</sup> of each year for 5 years (including years 7 and 10 for oak tree mitigation) after planting. This report shall include the survival, percentage of cover, and height of both tree and shrub

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species. The number by species of plants replaced, an overview of the revegetation effort, and the method used to assess these parameters shall also be included. Photographs from designated photograph stations shall be included.

**Oak, Walnut, and Sycamore Woodland Success Criteria:**

5. All tree plantings shall have a minimum of 80% survival the first year, 95% the second year, and 100% survival thereafter until the end of the monitoring period. All oaks, walnuts, and sycamores shall exhibit measurable annual growth in height and trunk girth, and no loss of the primary growth leader. Loss of the primary growth leader shall require the tree be replaced if this occurs in years 1-3. The maintenance and monitoring period shall be extended an additional five years where replacement plantings are required.

- The maintenance and monitoring period shall be 5 years for sycamores. Monitoring for oaks and walnuts shall be ten years.

Trees shall be spaced in a manner that achieves the targeted planting density. Surviving trees should be well-distributed spatially across the planting area and any area greater than 400 square feet lacking surviving trees with measurable growth in years 1-3 shall receive replacement supplemental plantings, and the maintenance and monitoring period shall be extended an additional five years where replacement plantings are required.

- Nonnative species shall comprise less than 5% of the herbaceous cover after 5 years (minimum of 10 years for oak tree mitigation). Invasive species shall comprise 0% of the herbaceous cover at the end of the 5-year monitoring period (minimum of 10 years for oak tree mitigation). If the survival and cover requirements have not been met, the Operator(s) is/are responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting (minimum of 10 years for oak tree mitigation). Irrigation shall be stopped two years prior to achieving the success criteria (minimum of five years for oak tree mitigation).

**Oak, Walnut, and Sycamore Tree Relocation:**

6. The following Conditions shall be used whenever it is deemed appropriate to relocate any oak, walnut, and/or sycamore trees:

- A complete inventory of plants by species and (diameter-at-breast-height) DBH which will be removed shall be submitted to the Department within 30 days of signing this Agreement.
- No equipment shall be operated within the dripline of oaks. Protective fencing shall be placed around the drilling of oaks to prevent compaction of the root zone.
- The Operator(s) shall transplant oaks trees that are in good health and that are less than 30 inches DBH that will be removed as a result of project activities. The trees shall be boxed and transplanted (relocated) to an appropriate location on-site. If a tree is damaged or destroyed during the boxing or transplanting (relocating of the tree), this information shall be noted as damaged/destroyed in the field notes by a biologist and shall be mitigated for as described in Condition No. (s) \_\_\_\_\_ of this Agreement. All transplanting of trees shall be conducted by a certified arborist experienced with

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transplanting oaks and other native trees and shall be monitored by a biologist. All transplanted trees shall be monitored for ten years after they were transplanted.

- Any oaks and walnuts 30 inches DBH or greater or oaks which are damaged/destroyed shall be replaced on-site and/or off-site, and in-kind. The replacement ratios for trees which are damaged and/or destroyed shall be as follows: trees less than 5 inches DBH shall be replaced at 3:1; trees from 5 to 12 inches shall be replaced at 5:1; and trees from 12 up to 36 inches shall be replaced at 10:1; and all trees 36 inches or greater shall be replanted at a ratio of 20:1. The Department recommends that the Operator(s) use rooted plants in liners, acorns, or walnuts, or one gallon containers for restoration to increase the likelihood of survival of plantings.
- The Operator(s) shall submit to the Department for review and approval a tree mitigation plan designed to meet the identified objectives described in Condition No(s). \_\_\_ of this Agreement. The plan shall include: a tree inventory that identifies the trees (by identification number) damaged due to encroachment within the dripline, destroyed (due to size or accidental during transplanting), and transplanted; the number replacement trees planted; the number of trees transplanted; monitoring and maintenance procedures; success standards; and contingency measures. This mitigation plan shall be submitted within 30 days following completion of the tree removal.
- All trees shall be monitored for survival annually. Any replacement tree that does not survive shall be replaced in-kind. Any transplanted trees that do not survive or appear unhealthy due to transplanting during the 10-year monitoring period shall be replaced as described in Condition No(s). \_\_\_\_\_ of this Agreement. Replacement plants shall be monitored with the same survival and growth requirements for 10 years after planting.
- Sycamores shall be replaced in kind at a 10:1 ratio.
- All replacement tree stock shall be obtained from a native plant nursery, and shall not be inoculated to prevent heart rot.

**Grading For Mitigation Sites:**

7. The Operator(s) shall be responsible for preparation of pre-grading plans, hydrological testing, installation, maintenance, and monitoring of the habitat creation/restoration areas.

- Grading of the mitigation areas is to be completed no later than December 31<sup>st</sup> of the initial project grading. Planting and then seeding shall occur between November 15<sup>th</sup> and February 15<sup>th</sup> to take advantage of winter rains. If supplemental irrigation will be provided for the container stock, planting (but not seeding) may occur into early spring. Container stock will be installed no later than April 30<sup>th</sup>; cuttings will be installed no later than February 1<sup>st</sup>, and seed will be planted no later than December 31<sup>st</sup>.
- Grading associated with providing adequate hydrology for habitat creation and/or revegetation of the mitigation areas shall not impact nesting birds. Therefore, grading shall not take place in vegetated areas from March 1<sup>st</sup> to September 15<sup>th</sup> to avoid impacts to nesting birds. Alternately, an independent qualified biologist may perform a nesting bird survey no more than three days prior to grading. The results of the nesting bird survey, including site conditions and a list of all vertebrate species observed, shall be provided to the Department for concurrence prior to grading. If active nests are observed, the operator shall provide a buffer zone of at least 300 feet (500 feet for

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raptors) until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project.

- Grading associated with providing adequate hydrology for riparian habitat creation and/or revegetation on the project site or off-site mitigation areas shall not directly or indirectly impact any California Threatened, Endangered Species or Species of Special Concern.

**Biological Surveys and Time Restrictions:**

8. The Operator(s) shall not remove vegetation within the stream from March 15<sup>th</sup> to July 31<sup>st</sup> to avoid impacts to nesting birds. *(For lower quality riparian habitat where listed species are not present)*

9. The Operator(s) shall not remove or otherwise disturb vegetation or conduct any other project activities on the project site from March 15<sup>th</sup> to September 15<sup>th</sup> (February 15<sup>th</sup> to August 15<sup>th</sup> in areas with coastal sage scrub) to avoid impacts to breeding/nesting birds. *(for higher quality riparian habitat where listed species are present or could potentially be present)*

10. The Operator shall not remove or otherwise disturb vegetation or conduct any other project activities on the project site from March 15<sup>th</sup> to September 1<sup>st</sup> to avoid impacts to native breeding/nesting birds. If work during the breeding/nesting season can not be avoided, the Operator shall have a qualified biologist survey all breeding/nesting habitat within the project site and adjacent to the project site for breeding/nesting birds prior to construction or site preparation activities. Surveys shall begin no later than June 1<sup>st</sup>. Surveys shall be conducted a minimum of 3 times spaced 3 to 5 days apart and ending no more than 3 days prior to the onset of construction. Documentation of findings, including negative findings, must be submitted to the Department for review and concurrence. If no breeding/nesting birds are observed and concurrence has been received from the Department, site preparation and construction activities may begin. If breeding activities and/or an active bird nest is located and concurrence has been received from the Department, the breeding habitat/nest site shall be fenced a minimum of 300 feet (500 feet for raptors) in all directions, and this area shall not be disturbed until the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the project.

11. No direct or indirect impacts shall occur to any threatened or endangered species. If any threatened or endangered species could be impacted by the work proposed, the Operator shall obtain the required state and federal threatened and endangered species permits. The Operator shall contact the Department's Environmental Scientist \_\_\_\_\_ at \_\_\_\_\_. to obtain information on applying for a "Take Permit" for state listed species.

12. If threatened or endangered avian species are observed in the area, no work shall occur during the breeding season (March 15<sup>th</sup> through September 15<sup>th</sup>) to avoid direct or indirect (e.g., noise) take of listed species except as authorized by state and/or federal threatened/endangered species permits/authorizations which may be required prior to commencing project activities. This Unauthorized take of such listed species may result in prosecution and cancellation of this Agreement. If no permit is required then the following conditions shall apply.

13. If any sensitive species are observed in project surveys, the Operator shall cause a California Native Species Field Survey Form and survey map to be submitted to the Natural

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Diversity Database (NDDB) within five working days of the sightings. The form is available on-line at <http://www.dfg.ca.gov/whdab/natspec.pdf>, and instructions for completing the form are available at <http://www.dfg.ca.gov/whdab/fsfinst.pdf>. The form and survey map shall be sent to the Department of Fish and Game, California Natural Diversity Database, 1807 13th Street, Suite 202, Sacramento, CA 95814, with copies sent to the Department at 4949 Viewridge Avenue, San Diego, CA 92123, Attn: Streambed Alteration Program - SAA # \_\_\_\_\_.

14. Prior to the construction of each phase of the project, the Operator(s) shall conduct additional field surveys between the period of February to July to verify the absence of any rare, threatened, endangered, or other special-status plant or animal species in specific areas proposed for development. In the event that special-status plants or animals are identified in the surveys, the Operator(s) shall consult with the U.S. Fish and Wildlife Service and the California Department of Fish and Game for the development of appropriate plans for those special-status species impacted by the proposed project.

15. The Operator(s) shall have a qualified biologist survey the proposed work area to verify the presence or absence of \_\_\_\_\_ (list species to be surveyed). The results of these surveys shall be provided to the Department, along with copies of all field notes, prior to the initiation of work. The survey technique shall be approved by the Department in writing and the researcher shall have the required permits. *(Please fill in blank with the identified species)*

16. Prior to construction activities, the area shall be surveyed for \_\_\_\_\_ (e.g. southwestern pond turtle, arroyo toad, etc.) by a qualified on-site biologist to ensure that no direct or indirect impacts shall occur to \_\_\_\_\_ (e.g. southwestern pond turtle, arroyo toad, etc.) as a result of the proposed project. If \_\_\_\_\_ (e.g. turtles, toads, etc.) are present, the specialist shall submit a \_\_\_\_\_ (e.g. Pond Turtle, Arroyo Toad, etc.) Mitigation Plan to the Department and it shall include complete avoidance measures for Department review and approval, prior to project initiation. *(Please fill in blanks with the identified species)*

17. The Operator's activities shall be limited to the period of \_\_\_\_\_ (hours, days, weeks, months, years) from \_\_\_\_\_ (date) to (date). *(Specific dates will be dependent upon the identified species)*

18. Prior to work commencing at a bridge site, the Operator(s) shall have a qualified bat biologist survey the bridge structure for bats a minimum of 3 times, seven-days apart; unless a positive presence is determined then surveys can be ended.

If bats are found to be present, provisions for their protection/conservation shall become part of this Agreement. If loss of significant bat roosting habitat occurs due to the implementation of the project, protection measures shall include the installation of roosting structures below the deck, at Department approved locations. The Department shall be provided all supplemental protection measures for its review and written approval.

19. The Operator shall avoid work March 15<sup>th</sup> through September 1<sup>st</sup> on bridges when it would disturb nesting swallows. If such a condition cannot be met, then prior to March 1<sup>st</sup> of each year, the Operator shall remove all existing nests which would be destroyed by the project. The Operator shall continue to discourage new nest building in places where they would be disturbed using methods approved by Caltrans and the Department. Nest removal and hazing must be repeated at least weekly until construction begins or until a swallow exclusion device is installed. The exclusion device must provide a space of four to six inches for the passage of snakes at the bottom edge. Nests must be discouraged

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throughout the term of the project. At no time shall occupied nests be destroyed as a result of project construction.

20. If work is performed within the stream channel during the winter storm period the Operator shall monitor the five (5) day weather forecast. If it is forecasted for any precipitation, work activities shall involve the securing of the site, so as no materials may enter or be washed into the stream. The site shall be completely secured one (1) day prior to precipitation, unless prior written approval has been provided by the Department. During period of precipitation, no construction activities may occur; activities involving the preventing of materials from entering the stream or being washed downstream may be conducted. No work shall occur on site in areas containing flowing water until the flows have receded and the moisture content of the soils have stabilized.

**Aquatic and Terrestrial Species Specific Protection Conditions:**

21. Endangered and/or Threatened Species: *(Applicable if any Federal and/or State listed Endangered/Threatened species are known to occur and/or presumably may occur in the project area)*

- The proposed site has been identified as an area that is potentially inhabited by threatened or endangered species. This Agreement does not allow for the take, or incidental take of any State or Federal listed threatened or endangered species. The Operator(s) is/are required, as prescribed in the state or federal endangered species acts, to consult with the appropriate agencies prior to commencement of the project. Any unauthorized take of such listed species may result in prosecution and cancellation of this Agreement.
- No direct or indirect impacts shall occur to any threatened or endangered species, including least Bell's vireo and southwestern willow flycatcher. If any threatened or endangered species could be impacted by the work proposed, the Operator(s) shall obtain the required state and federal threatened and endangered species permits.
- If \_\_\_\_\_ is found in the proposed work area, or is in a location which could be impacted by the work proposed, the Operator(s) shall submit a plan to the Department for review and approval to ensure this species is protected. If the work requires that the species be removed, disturbed or otherwise impacted, the Operator(s) shall obtain the appropriate state and federal endangered species permits/authorizations. *(Please fill in blank with the identified species)*
- In order to protect State and/or Federally listed avian species, all construction activities within the streambanks must be done with hand equipment and must not exceed ambient sound levels of 60 Db measured with hand-held meters on the water's surface.

22. Species of Special Concern: *(Applicable if Species of Special Concern are known to occur and/or presumably may occur in the project area)*

*The information contained within this section is intended to provide suggestions to minimizing impacts to habitats that may be utilized by special concern species.*

Southwestern Pond Turtles: drainages that contain standing water and that are proposed for impact should be surveyed for western pond turtles (*Emys marmorata*) a State/federal Species of Special Concern. If the proposed impact area is surrounded by upland habitat, efforts should be made to reduce or eliminate the impact to the south-

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facing slope of the upland habitat. A qualified turtle biologist should also walk the proposed impact area prior to construction to identify potential breeding areas or existing nests. If western pond turtles are shown to be on or near the proposed site, impacts to drainages and the surrounding area should take place outside the breeding period (April – August).

- Breeding season occurs from April to August
  - inhabit slack or slow water aquatic habitat
  - Females prefer upland habitat with south-facing slopes for egg laying
  - Adults may leave the water to aestivate in the upland.
  - Upland movement may be as far as 400 meters.
  - The young may remain within the upland habitat up to 6-8 months after hatching
  - Excellent relocation species
- No direct or indirect impacts shall occur to southwestern pond turtle. A pond turtle specialist shall perform focused surveys for southwestern pond turtle prior to project initiation and submit the results to the Department, as well as results from previous surveys in the area. If turtles are present, the specialist shall submit a Pond Turtle Mitigation Plan to the Department, and it shall include complete avoidance measures for Department review and approval, prior to project initiation. These measures may include: date/location; restrictions on grading; identification of suitable existing sites for relocation of pond turtles; identification of suitable potential sites to create pond turtle habitat. For relocation or creation/restoration/enhancement site to be considered suitable by the Department, sites shall include sufficient upland habitat adjacent to the wetland habitat for the pond turtles to sustain a viable population offsite, must have adequate maturity to maximize survival and reproduction of the pond turtles at the new site, including growth of macro invertebrates and necessary cover as indicated by the best available data from the pond turtle consultant, and not be subjected to predation by exotic pest species.
  - If southwestern pond turtle are found, the project shall be monitored by a pond turtle specialist to ensure no impacts occur to southwestern pond turtle. If pond turtles are identified within 200 feet of any construction zone, they shall be relocated to the closest suitable habitat as Determined by the Department. If no suitable habitat exists in the area, the operator shall create habitat that can sustain a viable population of pond turtles.

Western Spadefoot Toad: drainages that contain open grasslands and sandy, gravelly areas such as natural vernal pools, alkali flats, washes, and river floodplains, with associated upland habitat should be surveyed during the breeding season for western spadefoot toad (*Scaphiopus hammondi*) a State Species of Special Concern. Spadefoot toads can also live in man-made cattle drinking ponds, as long as the water dries up in the summer and there are no fish. It spends the day in its burrow, coming out only at night. It breeds in temporary rainpools and therefore has an accelerated breeding cycle. The spadefoot toad has specific breeding and foraging habitats and populations are sensitive to habitat disturbance. Prior to construction or any disturbance in or near spadefoot toad habitat a qualified biologist shall perform focused surveys for spadefoot toad prior to project initiation and submit the results to the Department. If toads are present, the specialist shall submit a Spadefoot Toad Mitigation Plan to the Department, and it shall include complete avoidance measures for Department review and approval, prior to project initiation. No activity should take place on or near toad

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habitat during the breeding season (January to August, depending on rainfall) or during the evening.

- Breeding season occurs from winter through to spring and fall
  - Breeding can occur after relatively warm rains most times of the year
  - Females lay eggs in shallow temporary pools
  - Associated with upland habitat
  - May display breeding and emergent pool fidelity
  - Most active at night
  - Eggs require 6 days to hatch and metamorphosis occurs in 3 – 11 weeks
- 
- Western spadefoot toad individuals to be impacted shall be relocated and dispersed within adequate relocation ponds, approved in writing by the Department. If adequate toad relocation sites are not available, new ponds shall be created to sustain a viable population.
  
  - The Operator(s) shall retain an independent qualified biologist to survey all of the pond basins on site to be impacted to identify western spadefoot toad activity. Surveys to identify tadpoles shall begin the first week of January or following the first one-inch or greater rain event, and will be repeated as necessary to monitor their development. An estimate of the total larval population for each pond and total density for all of the impacted ponds shall be recorded and provided to the Department in monitoring reports. The biologist shall attempt to capture approximately 25% of the western spadefoot tadpoles present in each impacted pond prior to metamorphosis. The tadpoles shall be relocated by netting the individuals, placing them in containers with pond water, and quickly moving the containers to each designated translocation pond. Once the water in the containers has equilibrated to the same temperature as the translocation pond, the tadpoles shall be carefully released into the pond. An estimate of the number of tadpoles captured and released into each translocation pond shall be recorded and provided to the Department in monitoring reports. Because western spadefoot toads are episodic breeders, larvae may not be present for collection during the first year. If spadefoot toad larvae are not present during the first year, spadefoot toadlets shall be collected from the preserved ponds.
  
  - The juvenile western spadefoot toad relocation shall occur at each impacted pond during the peak day of metamorphosis and the day immediately following. Spadefoot toadlets (recently metamorphosed juveniles) will be relocated from all impacted ponds supporting spadefoot toad into the ponds created in advance of construction. The toadlets shall be relocated prior to leaving the ponds by netting the individuals, placing them in containers with pond water, and moving the containers to the translocation pond. Once the water in the containers has equilibrated to the same temperature as the translocation pond, the toadlets shall be carefully released into the pond. An effort shall be made to remove all the toadlets from the ponds to be impacted. An estimate of the number of toadlets captured from each impacted pond and released into each created pond shall be recorded and provided to the Department in monitoring reports. If toadlets are unavailable for collection during the first year due to low precipitation, the Operator(s) shall collect and relocate approximately 25% of the toadlets from the site's preserved ponds during at least one subsequent year.

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- Monitoring of the spadefoot toad relocation sites shall include annual bimonthly surveys for tadpoles in the translocation ponds between January 1 and June 1. An estimate of the number of tadpoles in each translocation pond shall be recorded, along with an estimate of tadpole density for all of the translocation ponds. Because the spadefoot toad is reported to become reproductively mature within two to three years, the identification of tadpoles at the relocation sites during years three through five following the initial relocation may indicate the successful breeding of the relocated individuals. The success criteria will be the natural reproduction of spadefoot toad at the relocation sites, indicated by the presence of tadpoles in the relocation ponds. If spadefoot toad tadpoles are observed in each of the relocation ponds at any time during the monitoring period beginning the second year after the ponds have been created, filled with water, and stocked with spadefoot tadpoles, the translocation effort shall be deemed successful.

**Predator Control:**

23. Cowbird Trapping-

The Operator(s) shall conduct a brown-headed cowbird trapping program in the project area conducted by a person that has an MOU for such activities from the Department. The Operator(s) shall submit a cowbird trapping plan to the Department for approval within 30 days of issuance of this Agreement. The plan will include the following information and conditions:

- a. Trapping will begin concurrent with initiation of clearing and grubbing of riparian/wetland habitat and will continue in perpetuity or until no cowbirds are trapped for five consecutive years or until an alternative cowbird control method that supercedes cowbird trapping is developed. The trapping program may be terminated or modified only as approved by the Department.
- b. A map will be provided showing the cowbird trap locations. Initially, two modified Australian crow traps will be placed within avoided riparian/wetland habitat, one upstream and one downstream of the stream remediation area. A minimum of one additional trap each will be added to riparian/wetland creation site(s) after vireos have been documented in these sites.
- c. The Operator(s) shall provide for a qualified operator to maintain and operate the cowbird management program from March 15<sup>th</sup> to September 15<sup>th</sup> each year and will pay directly for the management program.
- d. Upon initiation of the cowbird trapping program, records of all captures, activities, and comments will be submitted to the Department by October 1<sup>st</sup> of each year the trapping is conducted.

**Vegetation Removal:**

24. Disturbance, removal or trimming of vegetation for equipment access and construction shall not exceed the limits approved by the Department.

25. Due to the presence of native riparian vegetation, all vegetation clearing shall be conducted under the supervision of a qualified biological monitor, and the perimeter of the work site shall be adequately flagged to prevent damage to adjacent riparian habitat, and to ensure

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that direct and indirect impacts to fish or wildlife, in particular birds and pond turtles, are avoided.

26. The work area shall be identified to all workers, as represented in plans. Native vegetation shall not be removed or intentionally damaged or beyond the designated work area.

27. The perimeter of the work site shall be adequately flagged to prevent damage to adjacent riparian habitat.

28. The Operator(s) shall use temporary construction fencing to identify the agreed limits of disturbance within the stream. (*Informational note: For use in sensitive resource areas.*)

29. Except where provided for within this agreement, the removal of soil and native vegetation from the streambed or streambanks is prohibited without prior written approval from the Department.

30. No vegetation with a diameter at breast height (DBH) in excess of \_\_\_\_\_ inches shall be removed or damaged without prior consultation and approval of a Department representative. *Prior to selection of this Condition, the appropriate DBH will be discussed at the pre-application consultation.*

31. Vegetation removed from the stream shall not be stockpiled in the stream bed or on its bank. The sites selected on which to push this material out of the stream should be selected in compliance with the other provisions of this Agreement. Where possible brush piles shall be left to provide wildlife habitat.

32. If mature native trees have been removed from the stream's banks, they shall be replaced in-kind, and maintained until established, under the direction of a Department representative.

33. All exposed soil or areas stripped of vegetation shall be restored with native vegetation local to the area.

34. No trees shall be removed as a result of the proposed project. Only those branches in the lower 1/3 of any tree and less than two inches in diameter may be pruned to accommodate project activities. Understory riparian vegetation such as blackberries, willows, tules, etc., may be pruned only as needed to accommodate project activities. No vegetation shall be removed by excavation or cutting off below the soil. All pruned material shall be removed from the area and properly disposed of.

**Routine Channel Maintenance:**

35. The Operator(s) may remove vegetation less than two (2) inches in diameter at breast height (DBH), accumulated debris, dead and downed vegetation, sediment and rocks which directly interfere with the flow of water in the stream channel. Removal of such material shall be from the bottom of the channel only. Native riparian vegetation along the banks shall not be damaged, except otherwise provided for in the Agreement. All debris removed from the stream channel shall be placed outside of the normal high-water mark.

36. A permanent low flow channel shall be established upon completion of the debris removal or channel maintenance prior to October 15<sup>th</sup> of each year. The bottom of the low flow channel shall be no greater than \_\_\_\_\_-feet wide and shall have the sides sloped back to the toe of the bank at no less than 2 percent. The low flow channel shall follow the natural gradient, contour and meander of the existing streambed from upper to lower perimeter of the project. No holes

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or depressions shall be allowed to remain in the channel maintenance area that may result in entrapment of aquatic species.

37. The Operator(s) may relocate the low flow channel within the existing banks of the stream as needed to direct the flow of water away from points of erosion. The new channel shall follow the natural grade and meander of the stream without causing any holes or depressions or flat sluice like areas that would increase the rate of erosion. The low flow channel shall be \_\_\_\_ to \_\_\_\_-feet wide on the bottom with the side sloped back to the bank at no less than 1½ percent. The final rise to the top of the bank shall be no less than 3 to 1.

38. Vegetation growing on the banks and overhanging the stream may only be removed (pruned) if it is impeding the flow of water. Such pruning shall be done only to the lower one-third of the vegetation as measured by its height and only on the stream side of the vegetation.

39. Woody perennial streambank vegetation shall not be removed or damaged outside the flagged work area. The disturbance or removal of vegetation within the work area shall not exceed the minimum necessary to complete operations.

40. No vegetation within or outside the work area, having a diameter breast height (DBH) in excess of \_\_\_\_-inches, shall be removed or damaged without prior consultation and written approval by the Department.

41. Only hand crews using hand tools shall be used to remove vegetation and debris from the channel and banks of the stream. No heavy equipment or vehicles shall be allowed within the normal high-water mark or inside the riparian zone. Lifting equipment may sling load materials into the work area.

42. All removed vegetation and debris shall be moved outside the normal high-water mark prior to inundation by water. All removed vegetation and debris shall be disposed of according to State and local laws and ordinances.

**Exotic Vegetation Eradication Control – Wildlife and Habitat Protection (associated with mitigation requirement):**

43. The Operator(s) shall not do removal or follow-up treatment of target exotic vegetation within the stream from March 1<sup>st</sup> to August 15<sup>th</sup> to avoid impacts to nesting birds. However, the Operator(s) may conduct such removal/treatment of target vegetation during this time if a qualified biologist conducts a survey for nesting birds within three days prior to the vegetation treatment/removal, and ensures no nesting birds shall be impacted or disturbed by the activity. These surveys shall include the areas within 200 feet of the edge of the proposed impact/work area(s). If active nests are found, a minimum 50-foot (200 feet for raptors) zone around the nest site shall be identified on the ground by the placement of “caution tape” or similar identify material. No vegetation removal/treatment or any other work shall occur within the identified nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project, even if the nest continues active beyond August 15<sup>th</sup>. After each treatment application the monitoring biologist shall remove the identification tape, so that the nest site does not attract attention from unauthorized persons. The Operator(s) shall submit the mapped survey results to the Department for review and approval prior to treatment to ensure full avoidance measures are in place.

- No direct or indirect impacts shall occur to any threatened or endangered species, including least Bell's vireo or southwestern willow flycatcher, as a result of implementing the project or the project's mitigation activities. If any threatened or endangered species could be impacted by the work proposed, U.S. Fish and Wildlife Service (USFWS)

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protocol surveys shall be conducted prior to implementing the project, or the project's mitigation activities. If necessary, the Operator(s) shall obtain the required state and federal threatened and endangered species permits. If there is no USFWS survey protocol for a particular listed species, the Department shall be consulted to determine appropriate survey procedures. The Department shall be provided copies of survey reports prior to project implementation, and prior to the implementation of mitigation activities. This agreement does not authorize the take of any federal or state threatened or endangered species.

- The Operator(s) shall remove non-native vegetation from the restoration/enhancement area and shall dispose of it in a legal manner; in all cases it shall be placed in a manner which prevents its reestablishment in the stream and in such a manner so that it does not negatively affect other sensitive native habitat communities. If the Operator(s) determines that the treated non-native vegetation should be left in place, the Operator(s) shall provide the Department a written (letter, fax, E-mail) description of where and why the treated vegetation should not be removed. If the Operator does not receive a written (letter, fax, E-mail) positive response from the Department, the treated exotic vegetation shall be removed.
- No alteration of the streambed, bank or channel shall occur, except as otherwise permitted in this Agreement. The removal of soil, native vegetation and vegetative debris from the streambed or stream banks is prohibited, except as otherwise specified within this Agreement; however, the Operator(s) may remove all human generated debris, such as lawn and farm cuttings, garbage and trash.
- No bulldozers or other terrain altering equipment shall be used to implement the "enhancement" mitigation obligation.
- All vegetation shall be removed by hand or by hand-operated tools.
- All herbicide use conditions for mixing, application and clean-up shall conform with all applicable federal, State, and local regulations, nothing in this Agreement represents a pesticide use recommendation that allows for an actions that conflict with pesticide use regulations.
- Any application of herbicide shall be done by a licensed applicator in accordance with all applicable, federal, state, local laws, and County Park procedures and/or guidelines.
- No vehicles shall be operated within the stream except as described as follows: Vehicles may be used to carry equipment and transport cut vegetation; all vehicles shall use existing roads for access to the sites; truck-based sprayers may be used only where existing roads are adjacent to exotic species and where exotic plants are growing in large clumps with no native vegetation adjacent; and, small soft rubber-tired ATV's may be used where existing road access is not available, provided that such ATV's can access the central channel without entering wetland areas or damaging native vegetation. *Native vegetation shall NOT be impacted by any vehicle use.*
- Backpack sprayers may be used in all situations where the exotic plants are growing in small clumps interspersed with the native vegetation and in those situations where truck or ATV access is limited or impossible.
- The mitigation activities shall be conducted in such a manner to minimize overspray of herbicide on to adjacent native vegetation.

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- A *small* amount of selective trimming of native species (e.g. willow, oak and sycamore) may occur to prevent overspray of herbicide from reaching these branches, but only as provided within the conditions of this Agreement. Native vegetation may only be trimmed; individual plants shall not be removed. Material in excess of three (3) inches DBH shall require specific notice to and consultation with the Department.
- A qualified biological monitor shall be present and/or shall examine the site and mark native vegetation that is to be trimmed with flagging to ensure impacts are within the conditions of this Agreement.
- Herbicide mixing sites shall only be located in areas devoid of vegetation, and where there is no potential of a spill reaching a vegetated area or a stream, for example avoid mixing at a storm water-inlet.
- Any herbicide used where there is the possibility that the herbicide could come into direct contact with water shall be approved for use in an aquatic environment (e.g. Rodeo). Great care shall be taken to avoid contact with any native vegetation, and it shall only be applied on calm days to prevent airborne transfer of the herbicide.

**Safeguards:**

44. In order to ensure the success of mitigation, the Operator(s) shall provide the Department financial security (e.g. an irrevocable letter of credit, pledge savings account or CD) in the amount of \$ \_\_\_\_\_, that specifically references this agreement, and shall be submitted to the Department for approval prior to initiation of construction activities. The Department may not accept a bond unless the form of the bond has been approved as to conformity with applicable law by the Attorney General as required in Section 11110 of the Government Code. The financial security shall be for assuring compliance with the mitigation, monitoring, and report requirements, and shall be based on a cost estimate which shall be submitted to the Department for approval within 30 days of signing this Agreement. The security instrument shall stipulate that in the event of a default, the Department shall be entitled to relief in the form of cash only. Should any legal action be necessary to enforce or interpret the terms of the security instrument, the Department, as a prevailing party, shall be entitled to collect reasonable attorney's fees from the losing party. The security instrument may be subject to partial reduction upon completion and acceptance of certain work by the Department.

45. Wildlife conservation easements shall be recorded on all on-site and off-site mitigation areas to protect existing fish and wildlife resources in perpetuity. The easement shall be in favor of the Department or its designated agent and shall be recorded within one year of signing this agreement, or as extended by the Department. An offer of dedication shall be made prior to initiation of construction activities. The conservation easement shall have a \$ \_\_\_\_\_ endowment. The form and content of the easement shall be approved by the Department's Office of the General Counsel prior to its execution. The Office of the General Counsel may be reached at (916) 445-9648.

**Placement of Instream Structures - Aquatic and Wildlife Migration Protection:**

46. Installation of bridges, culverts, or other structures shall be such that water flow is not impaired. Bottoms of temporary culverts shall be placed at or below stream channel grade and bottoms of permanent culverts shall be placed below stream channel grade.

47. All temporary culverts shall be of adequate size to handle a 10-year storm event and shall be removed prior to the winter storm period (first winter rain).

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48. All permanent culverts shall be sized to accommodate a 100-year storm event.
49. Bottom of bridge superstructure shall be of sufficient height to allow maximum water flows generated during 100-year high intensity storms to pass beneath unrestricted.
50. The inlet of all permanent culverts shall be protected by the placement of head walls that shall be constructed of rock riprap, gabions, concrete or other suitable nonerodible material. To prevent undercutting, the head walls shall be keyed in place.
51. Culverts shall be long enough to extend completely beyond the toe of the fill (unless both the up and downstream sides of the fill are adequately protected to the maximum high-water mark).
52. Permanent culverts that cannot be installed at grade must have an energy dissipater at the outlet to prevent erosion of streambed and banks.
53. Permanent culverts shall be maintained and kept open year-round. The Operator or responsible party is responsible for such maintenance as long as the culvert remains in the stream.
54. Plans for design of concrete sills and other features that could potentially impede fish/aquatic migrations shall be approved by the Department.
55. Instream structures not designed to withstand high seasonal water flows and materials that could be deleterious to aquatic life shall be removed from the project site prior to inundation by high flows. Any barrier to the movement of aquatic life must be removed.
56. All instream structures shall be designed so that no sudden change in stream velocity shall occur above, below, or in the structure. If a sudden change in stream velocities occurs upon installation of the structure, the structure shall be removed immediately.
57. Permanent structures shall be designed, constructed and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. If any aspect of the proposed project results in a long term reduction in fish/aquatic movement, the Operator(s) shall be responsible for all future activities and expenditures necessary (as determined by the Department) to secure passage of aquatic species across the structure.
58. An adequate fish/aquatic passage facility shall be incorporated into any barrier (permanent or temporary) that obstructs fish/aquatic passage.
59. Pump intakes placed in stream/lake water shall be fitted with (1/4) inch or smaller mesh screens.
60. An area not to exceed 5 feet from the existing pump intake may be dredged as required to maintain the efficient operation of said pump.
61. All diversion channels shall be designed to maintain velocities at levels acceptable to all fish/aquatic species.

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62. If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed and shall be flushed, hazed, or herded in a safe direction away from the project site.

63. At the end of each work day, an escape ramp shall be placed at each end of the open trench to allow any animals that may have become entrapped in the trench to climb out overnight. The ramp may be constructed of earthen fill, wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

64. All sections of pipe shall be visually checked for the presence of wildlife sheltering within them prior to the pipe sections being placed in the trench and attached together, or shall have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe sections to one another, whether in the trench or not, the exposed end(s) of the pipeline shall be capped at the end of each day during construction to prevent wildlife from entering and being trapped within the pipeline.

**Small Dam and Pond Construction:**

64. Any temporary dam or artificial obstruction shall only be built from material such as clean gravel or sandbags which will cause little or no siltation and must be approved by the Department prior to construction. All such materials used for the diversion of water shall be removed prior to winter storm flows.

65. At all times during and after pond construction, or when any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times must be allowed to pass downstream to maintain aquatic life below the dam pursuant to Fish and Game Code section 5937.

66. The Operator(s) shall have extra sandbags readily available to provide additional freeboard to the diversion in the event it becomes evident flows will increase due to rainy conditions. The sandbag diversion may be removed completely only if the streambank is stable and no undue erosion will occur.

67. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and which provide adequate flows to downstream reaches. Flow to downstream reaches shall be provided during all times that natural flow would have supported aquatic wildlife. Said flows shall be sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Normal flows shall be restored to the affected stream immediately upon completion of work at that location.

68. The Operator shall notify the Department at least 10 days in advance of the installation of any dam or structure, or the manipulation of any dam or structure, which could possibly result in the reduction of flows and stranding of fish/aquatic species.

69. The Operator(s) may grade and fill existing levee roads as necessary to assure utility. No material of any nature from this activity shall be sidecast onto the stream side of the levy except as provided for in other provisions of this Agreement.

70. The Operator(s) may repair damage to existing levy slopes. Fills needed to repair levy slopes (on the stream side) shall not extend beyond the dimensions that existed prior to needing repair. Fills shall consist of sand and rock. Repair work shall be accomplished without damaging vegetation or altering the stream bed or stream banks more than \_\_\_\_\_ feet in the direction beyond the extent of the levee slope that existed prior to needing repair, except that where vehicles are required to do this work, disturbance shall not occur more than

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     feet beyond the extent of the levy slope. *Routine maintenance buffers will be established at the pre-application consultation.*

71. The Operator(s) may repair damage to any existing bank protection features, such as rip-rap or concrete lining. Such repair shall employ the same type materials used in the original construction and shall occur only in the locations of existing bank protection. New sites requiring bank protection, expansions in the size of protected sites, or changes in the materials to be used, are not covered by this Agreement. As such a separate notification and Agreement would be needed for such work. Repair work shall be accomplished without damaging vegetation or altering the stream bed or stream.

72. The Operator(s) may remove vegetation and debris including sediment and rocks which directly interferes with the proper function and operation of existing devices, to include gates, culverts, bridges, weirs, pumps and streamflow control and measuring stations, or that which must be removed to repair said devices or to replace them in their existing locations. The stream bed and stream banks are not considered "devices", for purposes of this provision.

73. The Operator(s) may remove herbaceous vegetation, fallen trees, and branches from existing levy roads and the levy slope furthest from the stream. Minor pruning of trees and brush growing on the stream side slope of the levy, stream bed, and stream banks, is also acceptable, except that such pruning shall be limited to the removal of vegetation that interferes with vehicle access along existing roads. Material in excess of      inches in diameter at breast height (DBH) shall require specific notice to and consultation with the Department. *Prior to selection of this Condition, the appropriate DBH will be discussed at the pre-application consultation.*

74. Except as otherwise permitted in this Agreement, the removal of soil, vegetation, and vegetative debris from the stream bed or stream banks is prohibited. The Operator(s) may remove all human generated debris, such as lawn and farm cuttings, garbage and trash. The Operator shall remove washed out culverts, and other construction materials, that the Operator places within, or where they may enter the stream.

75. Spoils shall not be placed on the stream side slope, or where it could enter the stream; or placed over vegetation except as specifically noticed to and accepted by the Department.

**Directional Drilling:**

76. If the Operator(s) proposes to use BENTONITE as a drilling lubricant the following Conditions shall apply. The Department has found that this process may result unpredictably in the discharge of the BENTONITE into the stream by uncontrollable discharges through fissures and fractures (frac-out) in the stream channel substrate. When such discharges occur where water velocities are insufficient to transport and disperse the material, it may produce a coating on aquatic invertebrates, aquatic plants, and other features of the stream channel; potentially smothering organisms (causing direct mortality), embedding the interstitial spaces in gravels, and filling rearing pools, which may decrease available habitat upon which these fish or other aquatic resources may depend. In the event of a BENTONITE spill, clean-up efforts may result in increased disturbance to the stream channel banks, channel bed, riparian areas, and instream habitat as equipment, machinery, and personnel enter and conduct the clean-up work.

- The Operator(s) shall have a Biological Monitor on-site during all boring activities under streambeds where ponded or flowing water is present, or where work shall be done in areas adjacent (within 100 feet) to sensitive habitat, and endangered or threaten species have been determined to be present, or there is a high probability for them to be

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present. If frac-out occurs during boring, the Biological Monitor will order the equipment to be shut down. When boring activity is being conducted under dry streambeds (no ponded or flowing water present) or other sensitive habitats the Biological Monitor shall conduct periodic daily site visits during boring activity to assure that no frac-out has occurred, and that flagging at the equipment site is in place and no impacts to adjacent sensitive habitats are occurring due to the boring activities.

- The Biological Monitor shall inspect all built-up road embankments within the stream(s) to assure frac-out does not occur on the road embankments. In addition, when boring under streams confined to concrete flood control, seams, cracks, and weep holes will be inspected to assure boring material does not frac-out into channels. The Biological Monitor's duties shall include: approving boring site set-up locations, verifying that the perimeter of the work site is adequately flagged prior to equipment set-up to prevent damage to adjacent riparian and other sensitive habitat, inspecting the site during and after break-down and equipment move-off to assure that the conditions of the agreement are implemented and to prevent non-permitted actions subject to Fish and Game code 1600 *et al.* from occurring. In addition, the Biological Monitor will direct any frac-out clean-up activity that occurs in sensitive habitat, so that clean-up activities minimize impacts to sensitive biological resources. The Biological Monitor shall be authorized to modify or direct installation activity as necessary to comply with noise limitations.
- A Construction Inspector certified through either California Department of Transportation or as identified in the Notification package shall be retained by the Operator(s), and shall be on-site during all borings under wet channels/streams. The Construction Inspector shall have the authority to make recommendations to the drill operators and, if necessary, shut down operations if the drill operators are not following procedures which minimize frac-outs. The Construction Inspector shall consult with the Department before allowing the Operator(s) to resume boring operations.
- Pressure levels shall be monitored randomly by the Construction Inspector and recorded. Pressure levels shall be set at an adequate level to prevent frac-outs. The Department shall be provided such records within 10 days of making a request for such records.
- The Operator(s) shall submit evidence to the Department that boring contractors that will be operating within those streams identified within this Agreement have at least two years of experience in conducting boring operations.
- Drilling muds shall only contain benign material to avoid contamination of any water or habitat.
- The perimeter of the work site shall be adequately flagged to prevent damage to adjacent riparian habitat.
- The Operator(s) shall drill a minimum of thirty (30) feet below the lowest point of the streambed or bottom of a wetland area when crossing stream channels or wetland areas where water is present. The minimum depth shall be ten (10) feet at dry crossings. If the minimum depth is not possible at a specific site, the Operator(s) shall contact the Department and request, in writing, a site specific variance. The variance request shall include site location information and a brief statement as to why the minimum drill depth can not be obtained. The drilling operation may not commence until the variance has been approved in writing by the Department and the Operator(s) has/have a copy of the approved variance at the drill site.

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Construction change that avoids an impact or potential impact to a authorized stream crossing (pursuant to this Agreement) by boring under or over a protected culvert, is not subject to the above minimum depth conditions.

- The Operator(s) agrees to design and direct the drilling operation in such a way as to prevent spills of all types and frac-outs. In substrates where frac-outs are likely to occur, the Operator shall operate in such a manner as to reduce the potential for a frac-out, such as using lower pressure and nontoxic leak sealants (peat, mica, etc.).
- Boring operations shall not occur adjacent to instream structures, such as pilings, because frac-outs tend to occur where the structures interface with the substrate. If instream structures are present, the bore shall be deep enough to minimize frac-out.
- Water containing mud, silt, or other pollutants from aggregate washing, trenching, drilling, boring, settling ponds, water treatment facilities, or other project-related activities shall not be allowed to enter a flowing stream or placed in locations where they may be washed by flows or precipitation into State waters.
- Silty/turbid water shall not be discharged into the stream or into storm drains. Such water shall be settled, filtered, or otherwise treated prior to discharge back into the stream channel. The Operator's plan to minimize siltation/turbidity may require that the work site be isolated and/or may require the construction of silt catchment basins, so that silt, or other deleterious materials are not allowed to pass to downstream reaches. The placement of any structure or materials in the stream for this purpose, not included in the original project description, shall be coordinated with the Department prior to construction.
- The Operator(s) shall install adequate control devices to ensure that turbidity or siltation resulting from the project related activities does not constitute a threat to aquatic life.
- Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter waters of the State. At no time shall silt laden runoff be allowed to enter the stream or directed to where it may enter the stream.
- Prior to the onset of any storm event that may impact the project site, a sediment barrier, properly constructed of straw bales, earthen berms, or silt filter fabric fencing, shall be installed where necessary to prevent silt laden water from the project site from entering the stream or lake. Passage of sediment beyond the sediment barrier(s) is prohibited. The sediment barrier(s) shall be maintained in good operating condition throughout the period of construction of the project. This includes, but is not limited to, removal of accumulated silt and/or replacement of damaged bales and fabric fencing.
- The Operator(s) shall place and maintain silt barriers, such as sand/gravel bags, around the storm drain inlets until the threat of erosion from surrounding drainage ceases. The Operator(s) shall remove silt collected around the silt barriers on an as needed basis to prevent silty/turbid water from flowing around the silt barriers during storm events. The Operator(s) shall remove silt after each one-inch of rainfall until the threat of erosion ceases.
- All turbid water from the boring and/or project activities shall be pumped into a holding facility or into a settling pond located in flat stable areas outside of the stream channel or lake and either recycled, or properly disposed of according to law. At no time shall

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turbid water from settling ponds be allowed to enter back into the stream channel or lake until the water is at or below stream/lake background turbidity levels. If polymers or other clarifiers are used in settling ponds, pH shall be adjusted equal to the level of receiving waters prior to discharge.

- If an off-stream/lake siltation pond(s) is/are used to control sediment, pond(s) shall be constructed in a location, and shall be designed, such that discharges of turbid or silt-bearing water into the stream during periods of high water levels/flow shall not occur.
- Upon Department determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective Department approved control devices are installed, or abatement procedures are initiated.
- Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed or banks of the stream/lake except as otherwise addressed in this Agreement.
- No castings or spoil from the boring, or other project related operations shall be placed on/in the stream/lake. Spoil sites shall not be located within a stream, where spoil could be washed back into a stream, or where it could cover aquatic or riparian vegetation.
- The Operator(s) shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.
- Stream velocities shall not be altered by project activities.
- Areas of soil disturbed by the project which slope toward a stream or lake shall be stabilized to reduce erosion potential. Plantings of vegetation native to the area, seeding, and mulching with straw is conditionally acceptable. Mulches shall be applied so that not less than 85% of the disturbed area is covered. Straw mulch shall be applied in a layer not less than three inches deep. Straw mulch shall be machine punched into slopes to avoid wind loss. Hydromulches shall be applied according to the mulch manufacturer's specifications for the site conditions. Rock rip-rap, or geo-synthetic erosion protection shall be placed in areas where vegetation cannot reasonably be expected to become re-established.
- No equipment shall be operated within the dripline of riparian oaks, except in those specific areas where the dripline extends over paved surfaces or "hardened" road shoulders. Pursuant to this Agreement, the riparian oak zone is all the area "from top of stream bank to top of stream bank (including flood terrace(s) when applicable)," as well as those areas adjacent to the stream channel where the riparian oak tree canopy extends beyond the edge of the stream bank. Protective fencing shall be placed around the dripline of riparian oaks to prevent compaction of the root zone.
- A written oil/toxic materials spill contingency plan shall be developed prior to commencement of operations. The plan shall identify the location of on-site containment and abatement materials, the list of telephone numbers for agencies required to be notified in the event of an oil or toxic/hazardous waste spill, a list of preferred spill clean-up companies, and clean-up procedures to be followed by Operator(s) in the event of a spill.

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- During project activities, the Operator(s) shall not dump, or allow to be dumped, any litter, construction debris, raw concrete or washings thereof, bentonite, trash, or refuse on the site. All such debris and waste shall be properly disposed of at an appropriate site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- The clean-up of all spills shall begin as soon as it is safe to do so. The Department shall be notified immediately by the Operator(s), or an agent thereof, of any spills and shall be consulted regarding clean-up procedures.
- Raw (uncured) cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, bentonite, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities, shall be prevented from contaminating the soil and/or entering the waters of the State. Any of these materials, placed within or where they may enter a stream, lake, or wetland by Operator(s) or any party working under contract, or with the permission of Operator(s), shall be removed immediately.

**Fill and Spoils:**

77. Fill length, width, and height dimensions shall not exceed those of the original installation or the original naturally occurring topography, contour, and elevation. Fill shall be limited to the minimal amount necessary to accomplish the agreed activities. Except as otherwise specified in this Agreement, fill construction materials other than on-site alluvium shall consist of clean silt-free gravel or river rock.

78. Fill activities associated with new construction shall not impact any downstream areas.

79. Spoil sites shall not be located within a stream/lake, where spoil shall be washed back into a stream/lake, or where it will cover aquatic or riparian vegetation.

80. Temporary fills shall be constructed of nonerodible materials and shall be removed immediately upon work completion.

81. Fill material shall be heavily compacted and constructed of nonerodible materials approved by the Department prior to construction. If fills are temporary they shall be removed immediately upon completion.

82. Fills shall not be steeper than 2 to 1 slope unless it is substantially armored and construction has been specifically approved by the Department. Armoring will consist of rock or native vegetation.

83. Rock, rip-rap, or other erosion protection shall be placed in areas where vegetation cannot reasonably be expected to become reestablished. This condition shall be approved by the Department prior to project commencement.

84. Spoil shall not be placed on the stream side of slopes or where it could enter the stream. Spoil shall not be placed over vegetation except as specifically noticed to and accepted by the Department.

85. Areas of disturbed soils with slopes toward a stream or lake shall be stabilized to reduce erosion potential. Planting, seeding and mulching is conditionally acceptable. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials shall be used for such stabilization. Any installation of non-erodible materials not described in the

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original project description shall be coordinated with the Department. Coordination may include the negotiation of additional Agreement provisions for this activity.

86. Fill materials may come from on-site sources or be imported. All fill material shall be free from contaminants such as trash, debris, or any other material deleterious to aquatic life or water quality. All fill shall be heavily compacted. Any fill within the normal high water mark shall be protected against erosion by armoring or re-establishment of native riparian vegetation. If armoring is used, the armor shall be keyed in place.

**Turbidity and Siltation:**

87. Silty/turbid water shall not be discharged into the stream. Such water shall be settled, filtered, or otherwise treated prior to discharge. The Operator's ability to minimize turbidity/siltation shall be the subject of pre-construction planning and feature implementation.

88. Precautions to minimize turbidity/siltation shall be taken into account during project planning and shall be installed prior to construction. This may require that the work site be isolated and that water be diverted around the work area by means of a barrier, temporary culvert, new channel, or other means approved by the Department. Precautions may also include placement of silt fencing, straw bales, sand bags, and/or the construction of silt catchment basins, so that silt or other deleterious materials are not allowed to pass to downstream reaches. The method used to prevent siltation shall be monitored and at a minimum cleaned/repared weekly. The placement of any structure or materials in the stream for this purpose, not included in the original project description, or Department approved water pollution/water diversion plan shall be coordinated with the Department. Coordination shall include the negotiation of additional Agreement provisions.

89. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

90. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a lake or flowing stream or placed in locations that may be subjected to high storm flows.

91. If an off-stream siltation pond(s) is/are used to control sediment, pond(s) shall be constructed in a location, or shall be designed, such that potential spills into the stream/lake during periods of high water levels/flow are precluded.

92. If silt catchment basin(s) is/are used, the basin(s) shall be constructed across the stream immediately downstream of the project site. Catchment basins shall be constructed of materials which are free from mud and silt. Upon completion of the project, all basin materials along with the trapped sediments shall be removed from the stream in such a manner that said removal shall not introduced sediment to the stream.

93. Silt settling basins shall be located away from the stream or lake to prevent discolored, silt bearing water from reaching the stream or lake during any flow regime.

94. Upon Department determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation, shall be halted until effective Department approved control devices are installed, or abatement procedures are initiated.

**GENERAL CONDITIONS WHICH APPLY TO ALL PROJECTS**

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**Equipment and Access:**

95. No equipment shall be operated in ponded or flowing areas. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around the work area by a barrier, temporary culvert, new channel, or other means approved by the Department. Location of the upstream and downstream diversion points shall be approved by the Department. Construction of the barrier and/or the new channel shall normally begin in the downstream area and continue in an upstream direction, and the flow shall be diverted only when construction of the diversion is completed. Channel bank or barrier construction shall be adequate to prevent seepage into or from the work area. Diversion berms shall be constructed of onsite alluvium of low silt content, inflatable dams, sand bags, or other approved materials. Channel banks or barriers shall not be made of earth or other substances subject to erosion unless first enclosed by sheet piling, rock rip-rap, or other protective material. The enclosure and the supportive material shall be removed when the work is completed and removal shall normally proceed from downstream in an upstream direction. The Operator shall obtain all written approvals from the Department prior to initiation of construction activities.

96. Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed or banks of the stream except as otherwise addressed in this Agreement.

97. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

98. Temporary fills shall be constructed of nonerodible materials and shall be removed immediately upon work completion, and shall be approved by the Department prior to implementation.

99. Equipment shall not be operated in the lake or its margin except as approved by the Department during excavation and as may be necessary to construct barriers or fills. If work in the lake is unavoidable, a curtain enclosure to prevent siltation of the lake beyond the immediate working area shall be installed. The enclosure and any supportive material shall be removed when the work is completed.

100. If operations require moving of equipment across a flowing stream, such operations shall be conducted without increasing stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-fill crossing as specified in Conditions contained within this Agreement, and approved by the Department prior to placement.

101. If a stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to pre-project conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area. If a lake margin has been altered, it shall be returned as nearly as possible to pre-project conditions without creating a future bank erosion problem. The gradient of the streambed or lake margin shall be returned to pre-project grade unless such operation is part of a restoration project, in which case, the change in grade must be approved by the Department prior to project commencement.

102. Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.

103. Spoil sites shall not be located within a stream/lake, where spoil shall be washed back into a stream/lake, or where it will cover aquatic or riparian vegetation.

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104. Staging/storage areas for equipment and materials shall be located outside of the stream.

105. Access to the work site shall be via existing roads and access ramps.

106. No equipment maintenance shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.

107. Vehicles shall not be driven or equipment operated in water covered portions of a stream or lake, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed.

108. The work area shall be secured from trespass when (as determined by the Department) fish or wildlife resources are vulnerable to damage from unsupervised public access.

**Pollution, Sedimentation and Litter:**

109. 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 and/or entering the waters of the state. These materials, placed within or where they may enter a stream/lake, by Operator(s) or any party working under contract, or with the permission of the Operator(s), shall be removed immediately.

110. Any use of a concrete type product, the area poured shall be bermed to prevent all and any concrete or concrete wash water from entering the water. The berm shall be constructed from plastic lined sand bags and shall be water tight. Wet concrete may have a pH of 13 and is highly toxic to aquatic species. The berm/water diversion shall not be removed and water shall not be allowed to contact the fresh concrete for a minimum of 15 days. The concrete mix shall be as thick as possible and shall contain a quick set product to ensure the shortest drying time.

111. The Operator's activities within the stream course shall be limited to the dry period of the year from May 1 to December 1 **and** when the stream is not actively flowing and no measurable rain is forecasted within 72 hours. If measurable rain is predicted within 72 hours during construction, all activities shall cease and protective measures to prevent siltation/erosion shall be implemented/maintained. No concrete product may be used if measurable rain is forecasted within 15 days.

112. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

113. The Operator(s) shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Operator(s) to ensure compliance.

114. Any equipment or vehicles driven and/or operated within or adjacent to the stream/lake shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

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115. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream/lake shall be positioned over drip pans.

116. The clean-up of all spills shall begin immediately. The Department shall be notified immediately by the Operator(s) of any spills and shall be consulted regarding clean-up procedures.

117. Structures and associated materials not designed to withstand high water flows shall be moved to areas above high water before such flows occur.

118. Any materials placed in seasonally dry portions of a stream or lake that could be washed downstream or could be deleterious to aquatic life shall be removed from the project site prior to inundation by high flows.

119. If a stream's low flow channel, bed or banks/lake bed or banks have been altered, these shall be returned as nearly as possible to their original configuration and width, without creating future erosion problems.

120. Construction activities shall comply with Regional Water Quality Control Board standards.

121. All provisions of this Agreement remain in force throughout the term of the Agreement. Any provisions of the Agreement may be amended or the Agreement may be terminated at any time provided such amendment and/or termination is agreed to in writing by both parties. Mutually approved amendments become part of the original Agreement and are subject to all previously negotiated provisions.

**Other:**

122. The Operator may request one extension of this Agreement, if the Operator requests the extension prior to the expiration of its original term. The Department shall grant the extension unless it determines that the Agreement requires modification because the measures contained in the agreement no longer protect the fish and wildlife resources that the activity may substantially adversely affect. In the event the Department makes that determination, the Department shall propose measures intended to protect those resources.

If the Operator disagrees with the Department's determination that the Agreement requires modification to protect fish and wildlife resources or with the measures proposed by the Department, the disagreement shall be resolved pursuant to the procedures described in subdivision (b) of Section 1603. The Department may not extend an agreement for more than five years. The original Agreement shall remain in effect until the Department grants the extension request, or new measures are imposed to protect fish and wildlife resources by agreement or through the arbitration process, however, the original Agreement may not remain in effect for more than one year after its expiration date. If the Operator fails to submit a request to extend an agreement prior to its expiration, the Operator shall submit a new notification before commencing or continuing the activity covered by the Agreement. Any activities conducted under an expired agreement constitute a violation of Fish and Game Code Section 1600 *et seq.*

123. The Operator(s) shall provide a copy of this Agreement to all contractors, subcontractors, project resident engineers, project engineers, project inspectors and the Operator's project supervisors, and shall abide by the terms and conditions of this agreement. Copies of the Agreement shall be readily available at work sites at all times during periods of active work and

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must be presented to any Department personnel, or personnel from another agency upon demand.

124. If the Operator(s) or any of the individuals mentioned above violate any of the terms or conditions of this agreement, all work shall terminate immediately and shall not proceed until the Department has taken all of its legal actions.

125. The Department reserves the right to enter the project site at any time to ensure compliance with terms/conditions of this Agreement.

126. All provisions of this Agreement remain in force throughout the term of the Agreement. Any provisions of the Agreement may be amended or the Agreement may be terminated at any time provided such amendment and/or termination is agreed to in writing by both parties. Mutually approved amendments become part of the original Agreement and are subject to all previously negotiated provisions.

127. If the Operator(s) or any of the individuals mentioned above, violate any of the terms or conditions of this agreement, all work shall terminate immediately and shall not proceed until the Department has taken all of its legal actions.

128. The Operator(s) shall notify the Department, in writing, at least five (5) days prior to initiation of construction (project) activities and at least five (5) days prior to completion of construction (project) activities. Notification shall be sent to the Department at 4949 Viewridge Avenue, San Diego, California 92123, SAA No. 1600-200X-XXX-R5.

129. It is understood the Department has entered into this Streambed Alteration Agreement for purposes of avoiding potential and mitigating substantial adverse effects to fish and wildlife resources in the event that an activity or project is implemented. The decision to proceed with an activity or project is the sole responsibility of the Operator(s), and is not required by this Agreement. It is further agreed that all liability and/or incurred cost related to or arising out of the Operator's activity or project and the Mitigation Measures for the protection of fish and wildlife set forth by this Agreement remain the sole responsibility of the Operator(s). The Operator(s) agree(s) to hold harmless and indemnify the State of California and the Department of Fish and Game against any claim relative to this Agreement made by any party or parties for personal injury or property damage resulting from the Operator's intentional misconduct or negligence. Nothing in this section is intended to prohibit the Operator(s), or any other person or entity, from requesting and/or receiving assistance or funding from the Federal Emergency Management Agency.

**Additional Mitigation Conditions:**

130. Mitigation for areas of temporary disturbance—The Operator shall mitigate with the restoration of \_\_\_\_\_. Mitigation ratios shall be based on the guidelines set forth by the SAMP for calculation of mitigation ratios.

131. Mitigation for areas of permanent disturbance—The Operator shall mitigate with the enhancement/restoration of \_\_\_\_\_. The location and type of restoration shall be approved by the Department within 30 days of execution of this agreement. Mitigation shall be completed by \_\_\_\_\_. Mitigation ratios shall be based on the guidelines set forth by the SAMP for the calculation of mitigation ratios.

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132. Prior to initiation of construction activities, a plant palette and planting plan, prepared by a biologist familiar with restoration of native plants, shall be submitted to the Department for approval by \_\_\_\_\_. This plan shall include plantings of both overstory and understory vegetation and shall be consistent with any recommendation by \_\_\_\_\_.

133. To provide protection from erosion, the Operator shall plant willow or mulefat cuttings (obtained from nearby plants or salvaged willow or mulefat from the site prior to construction activities) on 6-8 ft centers, on the restored slope. These shall be planted during the willows dormant season, and shall be augered/dug into the groundwater or wetted soil.

134. Planting, maintenance, monitoring and reporting activities shall be overseen by a specialist familiar with restoration of native plants.

135. **Cover requirements for use in areas outside of Aquatic Resource Integrity Areas and/or major streams outside of Aquatic Resource Integrity Areas – applicable for level 1 SAA only** - All planting shall attain 55% cover after 3 years and 75% cover after 5 years for the life of the project. Prior to the mitigation site(s) being determined successful, they shall be entirely without supplemental irrigation for a minimum of 2 years. No single species shall constitute more than 50% of the vegetative cover, no woody invasive species shall be present, and herbaceous invasive species shall not exceed 5% cover. If the survival and cover requirements have not been met, the Operator is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting.

136. The Operator shall have a qualified wildlife biologist survey the restoration site to monitor the recovery of wildlife and aquatic resources in the area following construction. Survey techniques and scheduling shall be approved by the Department. Recovery shall be based on the presence/absence of "indicator" species which shall be proposed by the biologist and approved by the Department. Monitoring of wildlife and aquatic resources shall be done in summer and winter of each year, through the term of restoration, and the results and analysis shall be submitted with the report specified above.

137. The Operator shall provide irrigation when natural moisture conditions are inadequate to ensure survival of plants. Irrigation shall be provided for a period of at least two years from planting. Irrigation shall be phased out during the fall/winter of second year unless unusually severe conditions threaten survival of plantings. All plants must survive and grow for at least three years without supplemental water for the restoration phase of the project to be eligible for acceptance by the Department.

138. Plant material for revegetation shall be derived from cuttings, materials salvaged from disturbed areas, and/or seeds obtained from randomly selected native trees and shrubs occurring locally within the same drainage.

139. Any replacement tree/shrub stock, which cannot be grown from cuttings or seeds, shall be obtained from a native plant nursery, be ant free and shall not be inoculated to prevent heart rot. The Operator shall provide a list of all materials which must be obtained from other than onsite sources.

140. Operator shall remove all non-native aquatic animals from the work area as part of

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the restoration of the site. Target animals include bullfrog, African clawed frog, non-native turtles, and crayfish. Compliance with this condition may be subject to a sportsfishing license from the Department.

**Additional Resource Protection:**

141. The Operator shall annually inspect and photo-documentation of the stability of the slope and fill covering the Uniaxial geogrid to monitor for exposure of the geogrid to the streambed. This long-term inspection is necessary to ensure that aquatic species (fish and frogs) are not or do not have the potential to be trapped within the geogrid fabric.

142. The Operator certifies by signing this agreement that the project site has been surveyed and shall not impact any rare, threatened or endangered species; or the Operator certifies that such a survey is not required for the proposed project. If rare, threatened or endangered species occur within the proposed work area, or could be impacted by the work proposed, the Operator shall consult with the Department and obtain any required State and/or Federal permits.

143. Be advised, migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918(50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

144. Prior to any construction during the raptor nesting season, January 31st to September 1st, a qualified biologist shall conduct a site survey for active nests two weeks prior to any scheduled development. If an active nest is located, then no construction work shall be conducted within a 500 foot radius from the nest until the young have fledged and are independent of the adults.

145. The Operator's activities shall be limited to the period of daylight hours.

146. The Operator's activities within the stream course shall be limited to the dry period of the year from May 1 to October 1 and/or when the stream is not actively flowing and no measurable rain is forecasted within 72 hours. If measurable rain is predicted within 72 hours during construction, all activities shall cease and protective measures to prevent siltation/erosion shall be implemented/maintained.

147. A qualified biological monitor with all required collection permits shall be on site during operations and shall survey for species prior to construction. If any life stages of any native vertebrate species are found in the path of construction, the monitor shall relocate the species to a safe location. Exclusionary devices shall be erected to prevent the migration into or the return of species into the work site.

148. The Operator shall install and use fully covered trash receptacles with secure lids (wildlife proof) to contain all food, food scraps, food wrappers, beverage and other miscellaneous trash.

149. The Operator shall ensure that no guns/or other weapons are on-site during

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construction, with the exception of the security personnel and only for security type functions. No hunting shall be authorized/permitted during construction.

150. The Operator shall not permit pets on or adjacent to the construction site.

151. Tarps shall be hung from the structure to prevent debris, etc. from entering the streambed.

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152. The work area shall be secured from trespass when (as determined by the Department) fish or wildlife resources are vulnerable to damage from unsupervised public access.

153. The application of a primer or final paint coat shall not be completed during predicted rain. The Operator shall monitor the 7-day forecast; painting or the application of primer and final coat shall only be conducted if a 3-day clear window is predicted (less than a 40% chance of rainfall).

154. All work sites shall be surveyed for rare plants prior to any ground disturbing activities. Rare plant surveys shall be conducted following the *Guidelines for Assessing Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities* (Department 2000). The guidelines may be obtained from DFG (see condition 33 for contact information) or at: [http://www.dfg.ca.gov/hcpb/species/stds\\_gdl/survmonitr.shtml](http://www.dfg.ca.gov/hcpb/species/stds_gdl/survmonitr.shtml)

**Fisheries Specific Protection:**

155. Any structure/culvert placed within a stream where fish do/may occur, shall be designed, constructed and maintained such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. If any aspect of the proposed project results in a long term reduction in fish movement, the operator shall be responsible for all future activities and expenditures necessary (as determined by the Department) to secure passage of fish across the structure.

156. No work shall be conducted within the flowing or ponded water within the river, which has potential to support steelhead. Adult steelhead are expected to be in the area during periods of high flow (January through March) and smolt are likely to be in the area during periods of receding flows (March to July). The Operator shall not work during these times. National Marine Fisheries Biologist shall be contacted to coordinate additional fish salvage and avoidance measures.

157. Permanent structures shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish migration. If any aspect of the proposed project results in a long term reduction in fish movement, the Operator shall be responsible for all future activities and expenditures necessary (as determined by the Department) to secure passage of fish across the structure.

158. The owner of any dam shall allow sufficient water at all time to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by the Department to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam, to keep in good condition any fish that may be

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planted or exist below the dam, when, in the judgment of the Department, it is impracticable or detrimental to the owner to pass the water through the fishway (FG Code 5937).

159. If flowing or ponded water is within the proposed work limits, the Operator shall telephone the fishery biologist, \_\_\_\_\_, prior to commencing activities within the bed, bank, and channel. The Operator shall leave his/her name, date and time called, telephone number, the stream name, work location, nature of planned activities and proposed schedule.

160. If flowing or ponded water is within the proposed work limits, the Operator shall have a qualified fisheries biologist survey the proposed work area to verify presence/absence of the any sensitive fish species and any other species of special concern which may occur within the area. Survey methods shall conform to the current U. S. National Marines Fisheries Service and the California Department of Fish and Game. If any T/E species are found, the Operator shall cease all work within a mile radius of the sighting and in all water (flowing or impounded) and shall contact the Department within 24 hours of the sighting and shall request an onsite inspection by the Department representative (to be done at the discretion of the Department) to determine if work shall proceed. The results of the surveys shall be provided to the Department, along with copies of all field notes, prior to the completion of work or as otherwise specified. The survey techniques shall be approved by the Department, in writing, and the researcher shall have the required State and federal permits.

161. The Department believes that permits/certification may be required from the Corps of Engineers/Regional Water Quality Control Board for this project, should such permits/certification be required, a copy shall be submitted to the Department. The Operator shall report all fish mortality immediately to the Departments Fisheries Biologist, \_\_\_\_\_. The Operator shall report all rainbow trout/southern steelhead trout to \_\_\_\_\_.

**Other General Conditions:**

162. The Department believes that permits/certification may be required from the Corps of Engineers/Regional Water Quality Control Board for this project, should such permits/certification be required, a copy shall be submitted to the Department.

163. All resident engineers, project engineers, project inspectors, contractors, and subcontractors, participating in this project, must read and understand all terms and conditions of this agreement and shall abide by the terms and conditions stated herein.

164. If the Operator or any employees, agents, contractors and/or subcontractors violate any of the terms or conditions of this agreement, all work shall terminate immediately and shall not proceed until the Department has taken all of its legal actions.

165. The Operator shall provide a copy of this Agreement, and all required permits and supporting documents provided with the notification or required by this Agreement, to all contractors, subcontractors, and the Operator's project supervisors. Copies of this Agreement and all required permits and supporting documents, shall be readily available at work site at all times during periods of active work and must be presented to any

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Department personnel, or personnel from another agency upon demand. All contractors shall read and become familiar with the contents of this agreement.

166. A pre-construction meeting/briefing shall be held involving all the contractors and subcontractors, concerning the conditions in this Agreement.