California Regional Water Quality Control Board
North Coast Region

AMENDMENT

TO

ORDER NO. R1-2005-0043

WAIVER OF WASTE DISCHARGE REQUIREMENTS

FOR

CIRCUIT RIDER PRODUCTIONS
GIANT REED REMOVAL AND HABITAT RESTORATION
IN THE RUSSIAN RIVER WATERSHED
MENDOCINO AND SONOMA COUNTIES

The California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) finds that:

1. On June 22, 2005, the Regional Water Board adopted Order No. R1-2005-0043, Waiver of Waste Discharge Requirements (Waiver) for Circuit Rider Productions (hereinafter Discharger) Giant Reed Removal and Habitat Restoration in the Russian River Watershed (hereinafter Project). *Arundo donax,* also known as giant reed or elephant grass, is an invasive bamboo-like grass that is spreading throughout the Russian River watershed, displacing native riparian plant communities along streambanks and floodplains, absorbing significant amounts of water, and degrading aquatic habitat. The Project goal is to remove the *Arundo* and to restore previously displaced native riparian vegetation typically found throughout the watershed.

2. Under Order No. R1-2005-0043, the Discharger was authorized to use, with conditions, three methods alone or in combination to kill/remove *Arundo* infestations, including: 1) physical removal with hand tools or heavy equipment, 2) placement of tarps over cut stems and exposed roots, and 3) hand application of glyphosate-based herbicide products to cut stems. These treatment methods have been relatively successful in eradicating *Arundo* in smaller infestations. However, these methods are considered extremely laborious and not cost-effective, and have proven to be infeasible for the larger–scale infestations. The Discharger has conducted aerial surveillance and analysis of *Arundo* distribution over multiple years; current estimates of the riparian areas that are now infested with *Arundo* have grown to approximately 5,000 acres.

3. The Discharger has requested an amendment to the Waiver to allow application of imazapyr-based herbicide formulations registered for aquatic use in California, such as Habitat®. Imazapyr has been shown in research trials in other parts of the state to be more effective than glyphosate-based products in

killing *Arundo,* and requires approximately 20% spray cover to kill the plant, as compared to the 100% coverage required by glyphosate. Furthermore imazapyr is capable of extirpating giant reed in one year of treatment, as compared to up to three years of treatment necessary with glyphosate.

4. Imazapyr works by inhibiting the enzyme that synthesizes branched-chain amino acids, a process only occurring in plants. The herbicide is considered to be non-toxic to birds, mammals, fish, honeybees, aquatic invertebrates, and non-vascular aquatic plants, as determined through toxicity testing conducted by the EPA as part of its re-registration. It does not appear to bioaccumulate in these species.

5. The Discharger has proposed conservative treatment methods and best management practices to prevent or minimize the potential for the introduction of any herbicides into surface waters. In addition, the Discharger conducted a pilot study in the Summer of 2006 to evaluate the persistence of imazapyr residues on *Arundo* leaves following application. Treated *Arundo* leaves were submerged in sample jars and sent to North Coast Laboratories over the course of several weeks. All samples showed a significant decrease in persistence of imazapyr residue over time, suggesting that the proposed timeframes for application (June to October) will further minimize the likelihood of mobilization during the winter period.

6. On October 15, 2004, the Sotoyome Resource Conservation District (RCD) certified a mitigated negative declaration (MND) for the Project, in compliance with the California Environmental Quality Act (CEQA) (Calif. Pub. Resources Code §21000 et seq.). On January 1, 2007, the RCD certified an addendum to the MND to include the use of imazapyr-based products. The addendum concluded that the use of imazapyr would not result in new or increased environmental impacts. The mitigations proposed as part of the addendum have been included into this amendment to the Waiver (listed below).

IT IS HEREBY ORDERED that Waiver Order No. R1-2005-0043 be amended as follows– additions are underlined, deletions are in strikeout:

Finding 4: “The project will consist of removal of giant reed physically, through the use of tarps, and through application of glyphosate or imazapyr-based herbicides.”

Finding 6C: “For plants or infestations where tarping or physical removal are either not, or not expected to be, effective at removing giant reed, the Discharger proposes to apply glyphosate or imazapyr-based herbicides to cut stems and/or to cut and spray *Arundo* regrowth with imazapyr-based herbicides. Herbicide application activities ~~will only occur between August and October~~ shall be limited to the summer period, between June and October, with a minimum of four days’ buffer before and after rain events. Foliar application of imazapyr shall not take place within 25 feet of active water channels, in order to further reduce exposure risks to aquatic vascular plants.

Treatment shall only occur during appropriate weather conditions that preclude drift to native vegetation, watercourses, animals, human habitations, or other resources of concern.

Certification:

I, Catherine Kuhlman, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on June 14, 2007.

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Catherine Kuhlman
Executive Officer

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