



Standard Operating Guideline

Vegetation and Weed Control

District Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Prepared: Date Revised:

OBJECTIVE:

* Ensure effective system-wide preventive and predictive maintenance actions.
* Ensure periodic task accomplishment.
* Identify potential/actual system problems.
* Ensure legal, safe, and consistent handling of hazardous materials.
* Maintain canal/ditch water delivery.
* Protect adjacent property.
* Minimize evapotranspiration.

RATIONALE/PURPOSE:

* Ensure mission capability.
* Ensure system reliability.
* Develop predictive maintenance programs.
* Determine capital improvement budgeting.
* Develop loss trend analysis.
* Reduce property, liability, and injury/illness loss exposures.
* Reduce revenue loss and/or O&M cost.
* Ensure compliance with applicable governmental regulations.

METHODS/PROCEDURES:

**(Note: Listed procedures are intended as guidelines only and may not be applicable for all districts or situations).**

**This model form/template must be customized to meet your Agency’s needs.**

General

* Reform ditch banks periodically to reduce rodents and weeds.
* Clear debris from the bottom or it will make a dam.
* Eradicate weeds to observe bank conditions.
* Remove trees as soon as possible to avoid root intrusion in the canal bank.
* Mow ditch banks/levees (as opposed to weed spraying). Some vegetation helps with erosion control.
* Where applicable keep grasses cut low instead of bare earth, to allow more percolation and soil stability.
* Where allowable, keep native undisturbed ground with weeds that tend to maintain soil stability. Also, these areas usually have fewer tumbleweeds, which are more of a nuisance.
* Use post and pre-emergent weed spraying to control weeds.
* Pre-emergent effectively depends on rain to set in the ground. Water trucks may need to be used where feasible.
* Only persons properly trained or under the direction of certified applicators (QAC) may perform herbicide applications.
* All personnel involved in herbicide application must have a complete understanding of the application amounts and locations.
* When transporting herbicides to and from the application site, use the most direct travel route and avoid populated areas, if possible. Note: Any amount of product 1000-lbs. and over requires a HazMat endorsement.
* Ensure all unauthorized and/or non-essential personnel are not in the immediate area of application.
* Confine the spray to the target weeds. Avoid overspray and drift to other crops, people, animals, and waterways. Be cognizant of wind speed and direction.
* Only use herbicide products and procedures appropriate for the application.
* Properly maintain and calibrate spray equipment according to the manufacturers’ specifications.
* Be aware of potentially Harmful Algae Blooms (HAB), report suspected blooms to California Water Resources Board.

Inspection

* Inspect banks and levees regularly for weed growth.
* Do a complete inspection at end of the season and set priorities for maintenance before the next water season.

Clean-up Procedures

* Dispose of any spilled product according to the product label and applicable regulations.
* The completely empty product containers will be disposed of in accordance with the product label.
* Keep appropriate spill cleanup/containment equipment available, as necessary.
* Personnel and equipment clean up shall be in accordance with the product label, MSDS, and other applicable regulations.
* Store herbicides/pesticides in a locked and posted area.
* Triple rinse and properly dispose of all empty containers (as indicated on labels and/or SDS, previously known as MSDS). Do not reuse.

Usage Reporting

* Maintain records of product used and storage inventory.
* Properly fill out Daily Weed Report and/or Transfer Slip (including product and amount used, location, and time of day).
* Submit usage reports to appropriate agencies as may be required.

INCIDENT RESPONSE**:** See Canal Failure Response SOG

* Call 911 for major exposures or injuries.
* Administer CPR and first aid.

SAFETY CONSIDERATIONS:

An effective maintenance program can help prevent damage to property, environment, and injury to the public and employees by:

* Preclude system and equipment damage.
* Preclude property and environmental damage.
* Facilitate operations and maintenance personnel safety.

Identification of safe work practices among employees should include:

* Training on Harmful Algae Blooms
* Hazardous material handling:
* First Aid/CPR procedures and supplies
* Poison Control Procedures
* Eyewash and decontamination supplies
* Spill and containment equipment
* Fall protection.
* Read SDS before starting the job. Have a copy of the SDS and label in the vehicle for emergencies.
* Follow established safe handling and operations procedures (as specified on SDS and informational sheet/label).
* Wear all safety equipment (as specified on MSDS and informational sheet/label). Use rubber gloves when handling bait, coveralls, dust cover, measuring cup, and funnel as appropriate.
* Keep all poison in a closed container.
* Before smoking or eating, wash your hands with detergent and water.
* Only trained personnel shall handle hazardous materials.
* Watch your step on uneven ground.
* Watch out for snakes.
* Have contact information and communication means available onsite.

COST/ BENEFIT:

* Reduce revenue losses.
* Avoid costly liability, property, and injury/illness losses.
* Preventive maintenance and loss trend data would reduce facility, equipment, system failures.

INSPECTION FORMS/CHECKLISTS/DOCUMENTATION:

* Training Record
* Daily Weed Control Report
* Pesticide Safety Training Record

REFERENCES:

* [U.S Bureau of Reclamation, Canal Operation and Maintenance: Vegetation, November 2017](https://www.usbr.gov/assetmanagement/docs/Canal_Vegetation.pdf)
* [U.S. Army Corps of Engineers, Levee Owner’s Manual for Non-Federal Flood Control Works,March 2006, Section 2.6.](https://www.nae.usace.army.mil/Portals/74/docs/Emergency%20Operations/USACE_NonFed%20Levee%20Owner's%20Manual_Mar06.pdf)
* [Report Form for Harmful Algae Bloom](https://mywaterquality.ca.gov/habs/do/bloomreport.html)
* [Harmful Algal Bloom Field Guide](https://www.mywaterquality.ca.gov/habs/resources/field.html)