



# CIA Ditch

## Operations & Maintenance Manual



Rancho Murieta Community Services District  
15160 Jackson Road  
Rancho Murieta, CA 9683

Updated March 2020

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## 1.0 Introduction

River Diversion through the CIA (Cosumnes Irrigation Association) ditch is utilized to convey water for downstream ranch uses. The CIA ditch is 2/3 owned by the Anderson Ranch and 1/3 by RMCS D, with the District performing the maintenance and billing the CIA for their share. There are 14 separate water rights that provide water to the area from the Cosumnes River, mostly for diversion during the winter months. Three of those pertain to the CIA ditch. Through Riparian and Appropriative rights the CIA Ditch conveys water from the diversion structure at Granlees for downstream uses. These uses include irrigation around Laguna Joaquin, 30 day storage of water in Laguna Joaquin for downstream use at the Anderson Ranch when requested, and irrigation at Anderson Ranch.

### 1.1 Agreements

The Agreement relating to the structures and canal used for diverting water out of the Cosumnes River is documented in the 1987/12/02 Agreement among CIA, RMPI and CSD Regarding Granlees Dam, CIA Canal and Water Rights Pertaining Thereto, Attachment A. It generally states that the CIA is a partnership 2/3 interest by the Anderson Ranch and 1/3 by the District. Operation and maintenance will be undertaken by the District with costs shared and reimbursed by CIA.

### 1.2 Water Rights

Water Rights related to the CIA ditch are Department of Water Rights Permits 1320 (license 2629) & 1030 (license 537), and riparian Statement 9696. Details on these documents can be found in the District's Water Rights binders.

Water Right Permit 1320 (license 2629) allows for 12 cfs to be diverted from March 1 – July 10<sup>th</sup> to a total of 3,272.8 each year on 893.9 acres at the Anderson Ranch.

Water Right Permit 1030 (license 537) allows for 0.28 cfs to be diverted March 15<sup>th</sup> – Sept. 1 for 22.5 acres.

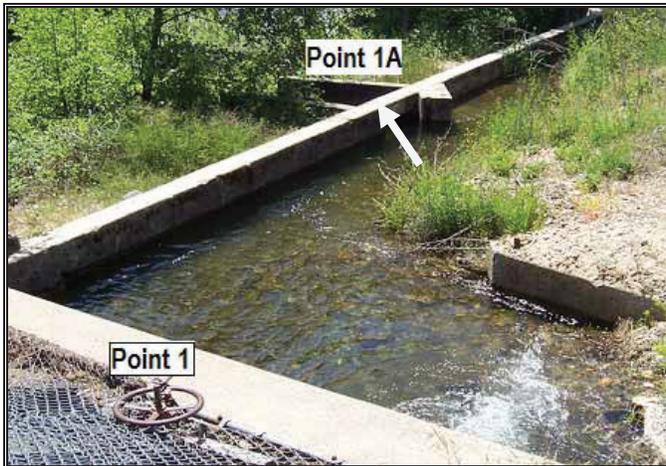
Statement 9696 is a riparian use right to move water down the CIA ditch into Laguna Joaquin, including 30 day "regulatory" storage there.

## 2.0 Diversions

There are several points of diversion in to and out of the CIA ditch. The main point of Diversion in to the CIA ditch occurs at the Granlees Diversion structure, noted by [Point 1](#) in figure 1. Water in the Cosumnes River behind the Granlees North side diversion dam flows through a bar screen into the Granlees diversion structure. [Point 1](#) is the hand operated valve that releases water from the Granlees diversion structure into the CIA ditch. It is kept locked with a short piece of chain and a District B-key. When opening this valve be sure to not open it too much so that downstream banks of the ditch do not overflow and wash out. After opening, periodically check downstream to ensure that the flow is not obstructed or too high. Also pay attention to the flow in the Cosumnes River as flow changes will significantly affect the flow into the ditch. Upstream of Granlees dam flow is measured at the USGS & DWR Michigan Bar Gauging station, whose flow can be found on the internet here: <http://cdec.water.ca.gov/cgi-progs/queryF?s=MHB>



Granlees Diversion Structure with arrow showing Point 1



**Point 1a** is an outlet structure containing batter boards which allows the top portion of the ditch to drain back into the River. The batter boards are usually removed during winter months to prevent high river flows from entering the ditch with the potential of washing it out or filling it with debris, mainly sand. **Point 1c** is another ditch outlet structure to release water back into the river to prevent washouts or maintenance. The boards there would not be removed during a normal rainy season. However, if there are substantial rains and rains forecasted, the boards there should be removed. Downstream from 1a is the staff gauge (*shown on right*) which is used to measure the depth of flow in the ditch. This is read daily when the ditch is flowing and recorded on a daily spreadsheet maintained by the Districts Operations staff. Shown below is a bubbler tube which is also used to measure the height of flow in the ditch as it flows over the calibrated weir to convert it to flow, recorded on the chart recorder inside the Granlees pump station.





At point 1b is a valve and diversion structure that may be used in times of drought to release water from Clementia into the ditch. A series of valves would need to be opened first.



*Valve vault to release water from Clementia*



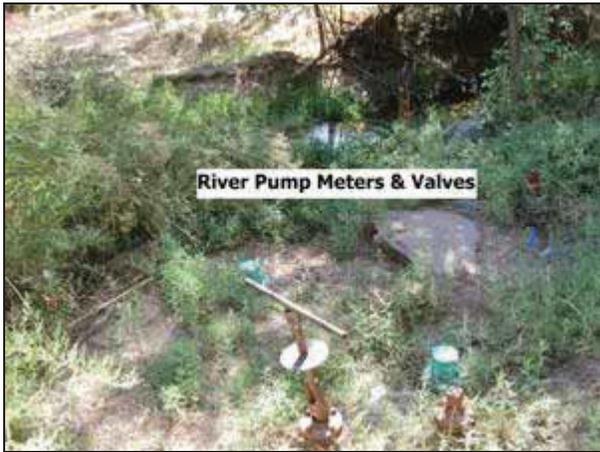
*Flow meter vault from Clementia & valves*



*Valves and Discharge structure at Point 1b*



*Discharge structure at Point 1b into CIA ditch*



At [point 2a](#) the ditch goes through a bar screen and into a pipe that runs under the Yellow Bridge. This screen needs to be checked periodically to ensure that debris are not backing up the ditch. This is particularly a problem when beavers are present in late summer when the Cosumnes River flow drops. They tend to go up into the ditch at that time and block up the ditch with sticks. If that is left unattended, the ditch could back up, spill over the bank and wash out the embankment.



At [point 2b](#) the ditch reemerges in a pipeline past the Yellow Bridge and there is a valve there to release water back into the River. It is used in late season when flows are low in the River to provide water to the downstream ranchers (Schneider & Hutchison ranches, among many more downstream). The ranchers prefer that we run water through the ditch and then release it there, as the river bed between the Granlees Diversion and the Yellow Bridge absorbs a lot more of the water flowing down it. Also, as we may be alternating water to the Anderson Ranch and the riparian ranchers, there is no delay in receiving water by releasing at Point 2b vs flowing down the river or filling up the ditch. Photo below shows water running from Point 2b back into the river between the Yellow Bridge and Jackson Highway Bridge.





The diversion structure at [Point 3](#) by the Country Store regulates flow into Laguna Joaquin and to the diversion structure at [Point 5](#) behind our Main Lift North sewer pumping station. [Point 4](#) is a valve that is left open all the time. If the valve at [Point 3](#) going to Laguna is left open, [Point 4](#) can back feed the ditch and partially drain Laguna. [Point 5](#) is a valved diversion structure to allow flow back into the CIA ditch behind the District's Main Lift North sewer pumping station, from either Laguna Joaquin or directly upstream on the ditch from [Point 3](#). At Points 3 & 5, experience will guide the ditch tender as how keep flows balanced between flow through Laguna Joaquin and the ditch. During warm weather, the Rancho Murieta Association irrigates areas of common ground with water from Laguna. Therefore, water must be diverted from the ditch into Laguna to satisfy this irrigation demand. Periodically check Laguna's spillway at [Point 4a](#) to make sure water does not drop below 18 inches of freeboard.





At [Point 6](#) a calibrated ultrasonic device measures the weir overflow at the Murieta Equestrian Center that is used to measure the downstream flow in the ditch. Operations staff checks it daily when in operation. Daily reads from the chart are backed up on the spreadsheet in the Treatment Public network area here: <T:\Treatment Public folder\CIA Ditch>

Point 7 allows water from the ditch to flow to a southern portion of the Anderson Ranch. This point is operated by the Ranch and has a solar powered metering system. Point 8 is also operated by the Anderson Ranch and is used to release ditch water either directly into their field next to the valve, or to another diversion point further east on their ranch.

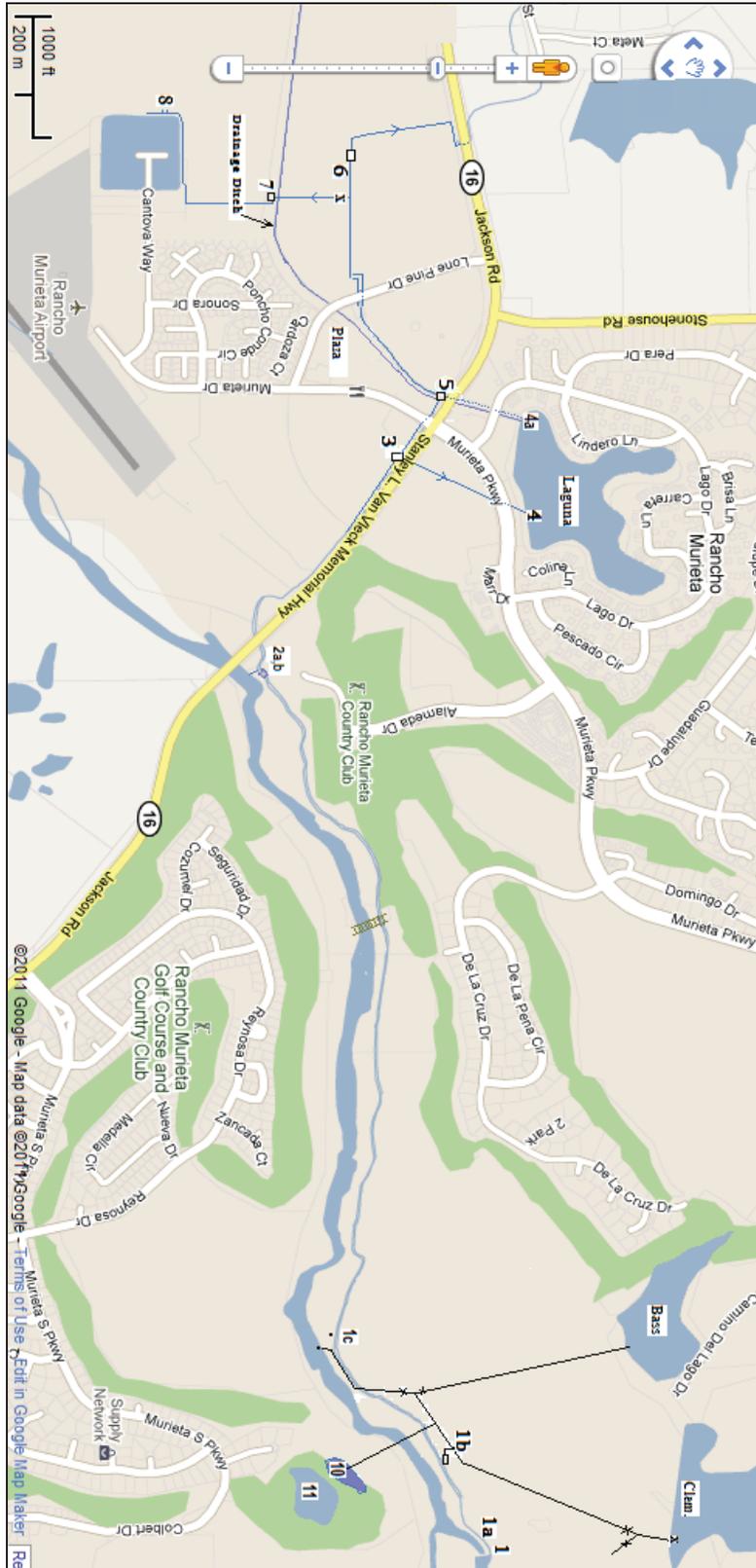






## 2.2 Points of Diversion

The points of diversion to and from the CIA Ditch are numbered in Figure 1 below.



## **3.0 Maintenance**

Periodic maintenance must be done to the ditch to keep water flowing without backups causing erosion and washouts. Also of concern are burrowing damage caused by raccoons and other animals, excessive vegetation growth in the ditch which may slow down and back up water flow, and erosion of the embankments. Several times a year the District will inspect the entire ditch looking for issues. While the ditch is in operation, known problem spots may need checked several times a week.

As maintenance costs are shared 1/3 by the District and 2/3 by the Anderson Ranch, as a courtesy the District will contact the Ranch to let them know of unusual pending maintenance costs prior to conducting the maintenance. The District conducts the maintenance activities upon approval and will note how much staff time has been allocated to the maintenance by documenting on a District Service Order, as well as the line item of CIA ditch on their timesheets.

Typically maintenance occurs during the winter months while the ditch is off for the season and in spring prior to starting the ditch up.

### ***3.1 Safety***

As with any waterway that runs in areas where people can get to them, safety precautions should be noted along it to prevent access that could lead to drowning. Periodically, staff should check to make sure the “Keep Off” labeling is clearly visible all around the Granlees Diversion structure, as well as at Points 2a, 3, and 5. Re-apply the in clearly visible white paint with stencils available at the District warehouse. Also, signage and chains around the Granlees Diversion structure and on valves should be periodically checked to make sure they have not been tampered with. If so, they should be replaced as soon as possible. Access hatches and screens should also be periodically checked to make sure they are adequately secured.

## 4.0 Easement for CIA Ditch

Corporation Grant Deed dated September 9, 1987. Excerpt from easement below:

DESCRIPTION

FOR C.I.A. IRRIGATION DITCH  
BEING A PORTION OF SECTIONS 2, 3 AND 4 OF TOWNSHIP 7 NORTH,  
RANGE 8 EAST, AND SECTION 33, TOWNSHIP 8 NORTH,  
RANGE 8 EAST, MOUNT DIABLO MERIDIAN:

All that certain real property situate in the County of Sacramento, State of California, being a portion of Parcels 3 and 9 of Parcel Map of Rancho Murieta, Book 12 of Parcel Maps, page 47, and Lots 10, "A", 9, 8 (also known as Murieta Drive), 7 and 1 of Parcel 14 of Parcel Map of Rancho Murieta, Book 103 of Maps, Map No. 16, filed in the Office of Sacramento County Recorder, described as follows:

An easement for the purpose of digging, constructing, reconstructing, repairing and forever maintaining thereon Cosumnes Irrigation Authority facilities, of such dimensions as grantee shall deem necessary for said utility purposes, together with all necessary appurtenances appertaining thereto, a perpetual right-of-way over, under, upon and across an easement in the land hereinafter described.

A strip of land the uniform width of forty (40.00) feet, measured at right angles lying twenty (20.00) feet on each side of the following centerline:

Commencing at the corner common to Sections 34 and 35, Township 8 North, Range 8 East and Sections 3 and 2, Township 7 North, Range 8 East, Mount Diablo Meridian; thence, from said point North 79°10'01" East 2898.43 feet to a point common to Parcel 3 per Book 12 of Parcel Maps page 47 and Granlees Forebay Pump Site per Book 86 10 29 of Official Records, page 1982; thence, South 15°28'26" West 16.25 feet; thence, South 10°15'23" East 136.88 feet to the TRUE POINT OF BEGINNING; thence, from said TRUE POINT OF BEGINNING South 35°37'38" West 7.90 feet;

For full easement, see Attachment 2.

Another easement exists between the Rancho Murieta Association and the District, dated November 22, 1987, for water storage, operation and maintenance. See Attachment 3.

## Gauging Stations

### Granlees

Chart recorder with digital readout read daily and recorded on CIA ditch spreadsheet in T: drive.

### Arena

Recorder read daily and recorded on CIA ditch spreadsheet in T: drive.

### Hay Barn

The Hay Barn gauging station was installed in May of 2013. The unit is a solar powered ultrasonic level sensor that stores the information for downloading to a thumb drive. The information captured is then moved to the CIA Ditch folder where the Granlees and Arena data is held.

### Yellow Bridge discharge

This valve was never metered until the District installed one in 2014. It has sustained repeated vandalism and damage and the downstream ranches requested it be removed as the meter restricts flow. Flow back to the river must be estimated when opened until it can be properly metered.

### Other Structures:



Laguna Joaquin drain valve to drainage channel

Updated: March 2020



Outlet box on Ranch by racetrack



Drainage catchment located on Anderson ranch

The Ranch also operates two lakes to store and use CIA water, but their operation is outside the District and not the District's responsibility.