


JOE O'BRIEN – O'BRIEN RANCH



April 1, 2022 (Rev from 3-29-22)

State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Re: 2022 Cooperative Solution – Joe O'Brien (O'Brien Ranch)

To Deputy Director:

As authorized by 23 CCR §§ 875(f)(4)(D), Joe O'Brien (O'Brien Ranch) is providing this letter to further describe its proposed local cooperative solution (LCS) for the 2022 irrigation season. O'Brien Ranch is included with Brian Heffernan of the H&H Land & Livestock Co., LLC Local Cooperative Solution (LCS).

My farm according to County records is 116 acres and divided into two parcels:

024-190-080-000 – 40 acres

024-200-100-000 – 80 acres

Water rights are Scott Valley Adjudication, Schedule B23, Sheet 7 of Plate 1, under former owner of farm, Bud and Thelma Cornellis, number 410.7. The acres described in this plan are irrigated from a ground water well. Surface water will not be used in place of the groundwater reduction described in the plan.

Introduction / Historical Irrigation Procedures

All of the approximately 116 acres ^[1] we own and irrigate at the above address has been cultivated primarily for alfalfa and seasonal pasture. As requested, included is map of the pivots, wheelline, and other irrigated equipment. Irrigation infrastructure for seasonal alfalfa and pasture include a single agriculture well that supply the following areas and equipment:

(i) Center Pivots (approximately 66 acres) – **See map.**

Two automated circular center pivots (installed 2021).

^[1] For purposes of this letter, all acreage estimates have been estimated in good faith using satellite imagery.

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(ii) **Wheelline** (approximately 26 acres) - **See map.**

Wheelline (i.e. long mobile pipe sets historically moved manually during irrigation season) service approximately 26 acres. Prior to installation of two center pivots, there were 3 wheellines, now there is only one. Generally, each wheelline is moved manually each day at approximately 6AM and 6PM resulting in two approximately 11-hour operation period during a 24-hour period. ^[2]

(iii) **Corners** (approximately 24.10 acres) - **See map.**

Since our property is irregularly shaped, certain areas of the property cannot be irrigated with circular pivots or rectangular wheellines. Remainder areas (i.e. "corners") are irrigated using a combination of methods including moveable big guns (i.e. movable high-pressure sprinklers) and handline (movable aluminum pipe).

- 1) Rebuilt 50hp turbine pump to improve electrical efficiency and reduce kilowatt hours.
- 2) Replaced entire mainline due to irregular pipe widths which caused friction losses.
- 3) Installed a VFD so that only the water needed is pumped and can vary PSI as needed.


Pivots – During 2021, installed 2 state-of-the-art Valley 7000 Pivots Low-Pressure System with a machine flow of 300 gpm and pivot pressure of 26 psi. Hose drops are 5-feet over alfalfa. Nozzles are Nelson Regulator Blue Acme 20 psi ¾ NPT. These nozzles do not atomize. Pivots are controlled manually, by laptop and smartphone. Full control and instant water usage and psi are accessible on-line. Two wheellines were removed permanently. J.W. Kerns estimates 30% improvement in efficiency. ***Both pivots will be turned off on September 1.***

Water Sensors – Installed 3 water sensors strategically placed by USDA-NRCS experts. These sensors are on-line accessible by laptop and smartphone. Daily reports are sent to me via email by WildEye. This was installed in 2021. Verification of sensors can be made by CE Inspection.

Wheelline – We changed out nozzles on the one remaining wheelline (formerly 3) from 7/32" (390 gpm) to 11/64" (240 gpm) resulting in a 38.46% savings. Resealed remaining wheelline to prevent leaks. Sets are targeted at 11 hours and a daily log will be instituted. We will present that log to the Cooperating Entity upon request. ***Wheelline will be turned off on September 1.***

^[2] Time is required for wheelline to drain fully and be moved, which can take an hour or so each move. No irrigation occurs during periods required to drain/move wheelline. Hence, the estimation of 11-hour sets.

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Corners – (anything not wheelline or pivot) We will reduce all sets from 11.5 hours to 10 hours each. Also, we will cease irrigation on the corners at the end of August. This will result in a material reduction in forage production in these areas during 2022. Verification of the above-described Forbearance can be directly verified by the Cooperating Entity in an on-site inspection. ***All corners will be turned off on September 1.***

All of these improvements made in 2021 (pump, pivots, mainline, water sensors, VFD) come at a considerable cost. Last year, I had a goal of reducing water usage and reducing energy costs, not knowing about possible water restrictions. My out-of-pocket expenses were approximately \$95,000. I have been working with a team from the USDA NRCS to accomplish these goals for the past two years and they were pleased with the results. My big concern now with the water restrictions, how am I going to get a payback. Because my farm is 116 acres, it is going to be tough.

While voluntary conservation and forbearance efforts may tend to improve river conditions (and we are certainly supportive of these efforts), unless snow pack improves soon, it seems clear that in a year like 2022 no amount of sacrifice by farmers and ranchers will improve river conditions this year. Nonetheless, we are undertaking voluntary conservation measures in good faith to provide an opportunity to improve watershed conditions and to create a more constructive and effective framework for water conservation than involuntary curtailment triggered by river flow standards that are not likely achievable and/or other involuntary regulation. Conservation efforts can create real financial burdens on farmers and ranchers, their families and this community as a whole, especially in a year where forage costs are historically high and costs are escalating on all other inputs from labor to fuel to equipment. We therefore hope you will thoughtfully and diligently consider these voluntary actions as you balance the interests of various stakeholders in our watershed.

Please note that this plan is offered in good faith in connection with the 2022 irrigation season only. All rights, claims and defenses with regard to the matters described herein are hereby expressly reserved. Moreover, and as this plan is offered voluntarily (without any current legal obligation to undertake the matters described herein), should any governmental or NGO funds later become available for any forbearance or improvement efforts to which the O'Brien Ranch would otherwise be entitled, nothing herein shall be construed to limit the availability of such funds to the O'Brien Ranch provided that we materially perform the 2022 undertakings described herein. Water saved under this proposal will not be transferred to parcels not included under the LCS and we will not knowingly or intentionally otherwise take actions outside of the LCS that diminish, in any material way, the overall thirty percent reduction established by this proposal.

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Please timely advise as to your decision on the acceptability of this plan in lieu of regulatory curtailment as contemplated by 23 CCR §§ 875 and thank you for your consideration in this matter.

Please feel free to contact me with any questions.

Regards,

Joe O'Brien, O'Brien Ranch

Joe O'Brien

Joe O'Brien, Owner

Attachments:

1 page - .pdf – Colored Map of Fields

4 pages – Excel – Conservation Plan

BINDING AGREEMENT



GROUNDWATER USE REDUCTION AND BINDING AGREEMENT FOR LOCAL COOPERATIVE SOLUTION

BACKGROUND

Under the 2021 drought emergency regulation establishing drought emergency minimum flows in the Scott River and Shasta River watersheds,¹ local cooperative solutions (LCS) by individuals or groups may be proposed by petition to the Deputy Director as an alternative means of reducing water use to meet or preserve drought emergency minimum flows, or to provide other fishery benefits (such as cold-water refugia, localized fish passage, or redd protection), in lieu of curtailment.

RECITALS

1. Section 875(f)(4)(D) of the drought emergency regulation provides a specific type of LCS that was determined to be sufficient for approval by the Deputy Director;
2. For overlying or adjudicated groundwater diversions for irrigated agriculture described in section 875.5(f)(4)(D)(i) – (ii) [Scott River], the Deputy Director may approve a groundwater basin-wide, groundwater sub-basin-wide, or any number of individual local cooperative solutions totaling at least 400 irrigated acres where:
 - (i) The proposal is based on a binding agreement. "Such binding agreement may be made with a coordinating entity with the expertise and the ability to evaluate and require performance of the agreement, for example with the California Department of Fish and Wildlife (CDFW), the National Marine Fisheries Service, the Scott Valley and Shasta Valley Watermaster District, a non-profit organization with expertise and experience in water-saving transactions, or similar qualified entity. "
 - (ii) For the Scott River: "The proposal provides at least: 1) a net reduction of water use of 30 percent throughout the irrigation

¹ California Code of Regulations, title 23, sections 875–875.9.

season (April 1 – October 31), as compared to the prior irrigation season; and 2) a monthly reduction of at least 30 percent in the July 1 through October 31 period, as compared to the prior year or to 2020. Such reduction may be demonstrated by evidence that provides a reasonable assurance that the change in farming practice or other action results in at least the relevant proportionate reduction. Such evidence may include but is not limited to: pumping reports; actions that will be taken to reduce water use; estimation of water saved from conservation measures or changes in irrigation or planting decisions; and electric bills.”

PROPOSED LOCAL COOPERATIVE SOLUTION

On March 29, 2022, Joe O'Brien, owner of O'Brien Ranch, (Landowner) proposed an LCS authorized by 23 CCR §§ 875(f)(4)(D) of the regulation for the 2022 irrigation season. It includes a final conservation plan, narrative, and field maps incorporated by reference. The proposal uses the year 2020 as the baseline; it includes detailed spreadsheets and a narrative that describes enhanced irrigation pivot efficiencies, installation of water sensors, irrigation wheel line upgrades, reduced irrigated “corner” acreage, and a fall irrigation forbearance plan. The specific conservation practices within the narrative offer concise and appropriate monitoring elements enabling the California Department of Fish and Wildlife to assume the role of a coordinating entity to implement a binding agreement described in “i” above. The mathematically calculated conservation plan accounts for a net reduction of approximately 37.11% to meet the requirement described in item “ii” above.


This proposal does not include the minimum 400 acres required under the emergency regulation, but this agreement is being entered in conjunction with Brian Heffernan's of the H&H Land & Livestock Co., LLC, Local Cooperative Solution with the understanding that their additional acres are under a separate binding agreement. As such, the total enrolled acreage exceeds the 400-acre minimum for State Water Resources Control Board (State Water Board) approval.

TERMS OF BINDING AGREEMENT

The Landowner is required to adhere to the proposed conservation plan, as submitted to CDFW and approved by the State Water Board. The Landowner has requested that CDFW serve as the coordinating entity. The Landowner and CDFW agree to the following:

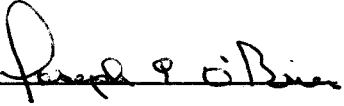
- For the duration of this binding agreement where CDFW is the coordinating entity, the Landowner shall give CDFW and CDFW agents the right to reasonably access the included parcels for the limited purpose of verifying execution of the conservation plan. Any individual not directly employed or contracted by CDFW shall provide pre-notification to, and shall obtain approval by, the Landowner.
- CDFW will strive to notify the Landowner a day in advance of visiting the parcels and shall provide the Landowner or a designee the ability to participate in the monitoring inspection.
- It is anticipated that CDFW representatives will visit the property approximately twice per month. A monitoring inspection may include verification of any or all the actions described in the conservation plan and may include inspection checklist/notes/report and photo verification.
- The written irrigation log described under the wheel line conservation practice, and any photos, logs, checklists, and other documentation for this conservation strategy incorporated by reference will be transmitted by the Landowner via email to the Klamath Watershed Program at klamathwatershed@wildlife.ca.gov. This information for each month shall be transmitted within the first 7 calendar days of each calendar month.
- CDFW will submit the Information regarding the verification materials and actions described in this agreement, and conservation plan incorporated by reference, to the State Water Board upon request, for the purposes of verifying compliance with the LCS.
- This binding agreement is not intended to preclude, harm, or otherwise interfere with the Landowner's ability to secure any funding to mitigate the financial impacts imposed by the emergency regulation or proposed conservation practices. CDFW supports use of funding programs to ameliorate the costs of implementing the conservation practices described in the proposed conservation plan: planning and cooperation under a voluntary LCS should not undermine the ability to receive such funding.
- This binding agreement may be terminated by either party with 30 days' notice. The Coordinating Entity will only terminate the agreement if the Landowner is not cooperating with the terms of this binding agreement (e.g., is not providing access, is not reporting, etc.). Both parties agree to take reasonable measures to resolve any concerns related to performance of the conservation plan, negative human interaction, or any other unforeseen circumstance prior to invoking termination.

- It is recognized that as the irrigation season unfolds, there may be reason to change the terms of the conservation plan or this agreement regarding its implementation and verification. Any such changes to the conservation plan or binding agreement will need to offer continued compliance with the drought emergency regulations and shall be agreed upon by both parties as well as the State Water Board.

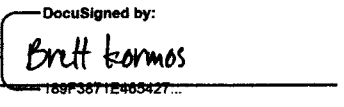
| Contact Information | |
|---|--|
| California Department of Fish and Wildlife Carmen Tull klamathwatershed@wildlife.ca.gov 916.203.1947 | O'Brien Ranch Joe O'Brien  |

This Binding Agreement is valid while the current drought emergency regulation is in place. By signature, both parties agree and memorialize CDFW as the coordinating entity for this binding agreement. The Landowner shall include one signed copy with its petition to the SWB, return one signed copy to CDFW and retain a signed copy of this binding agreement and have the conservation plan readily available at its residence in the event any questions arise from either party during implementation or monitoring.

Authorized Landowner Signature:

Sign Here:  Date Signed: 4-23-22

Authorized Coordinating Entity Signature:

Sign Here:  Date Signed: 4/22/2022

SUPPORTING INFORMATION



1000 ft

7031 Island Rd-Etna
O'BRIEN RANCH
Joe O'Brien / [REDACTED]

Grand Rd

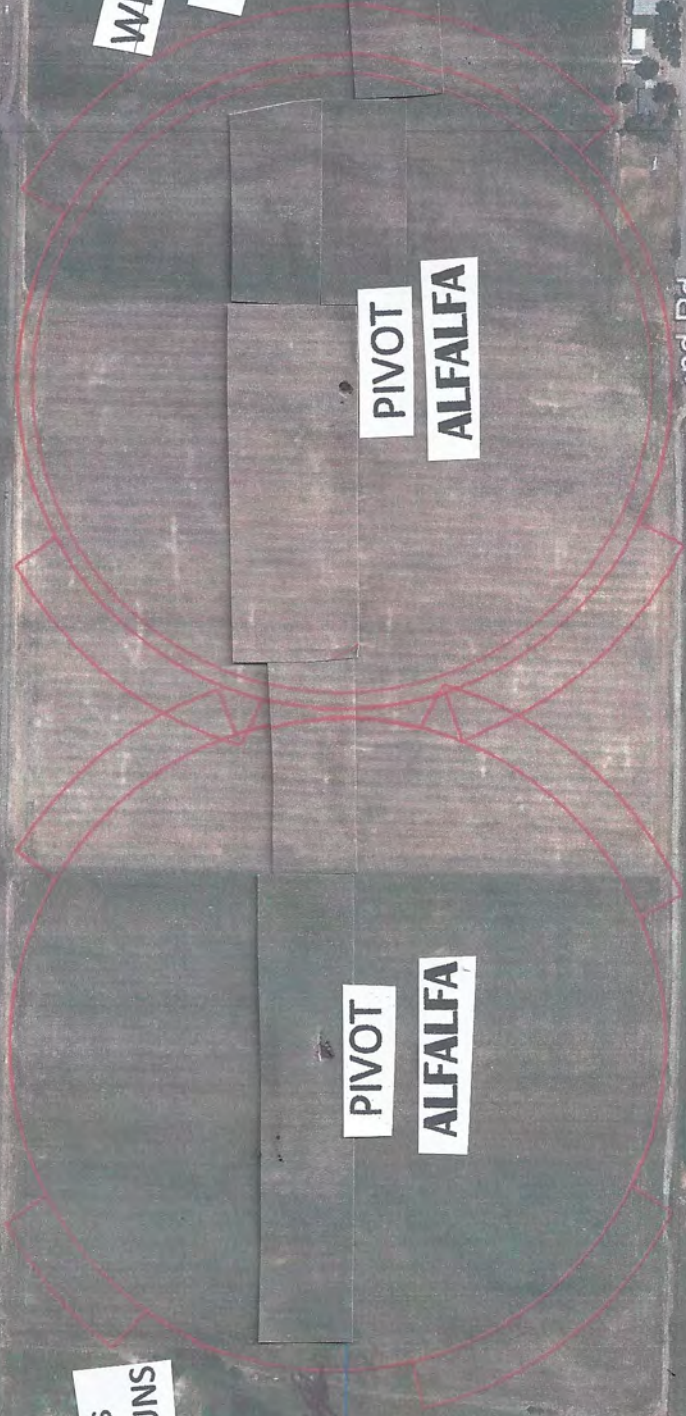
WHEEL LINE
ALFALFA

PIVOT
ALFALFA

PIVOT
ALFALFA

HANDLINE plus
MOVEABLE GUNS

PASTURE



| | | | |
|---|------------------------------------|---|---------------------------------------|
| | | O'Brien Ranch Joe O'Brien | |
| SUMMARY | | | Sheet #1 |
| Total Irrigated Seasonal Acreage: | 116 | | |
| Alfalfa Pivot Acreage: | 65.9 | | |
| Alfalfa Wheelline Acreage: | 26 | | |
| Corners: | 24.1 | | |
| | | | |
| Total AF 2020 All Acres: (NON BINDING BASELINE ESTIMATE FOR DISCUSSION PURPOSES ONLY) | 460.00 | | |
| | | | |
| Total Monthly AF (avg) 2020: | 76.67 | | |
| | | | |
| | Total 2020 Estimated Monthly (AF) | Total Estimated 2022 Monthly Reduction (AF) | Estimated Monthly Reduction % |
| April | 57.50 | 17.88 | 31.09% |
| May | 76.67 | 23.84 | 31.09% |
| June | 76.67 | 23.84 | 31.09% |
| July | 95.83 | 29.80 | 31.09% |
| August | 95.83 | 29.80 | 31.09% |
| September | 57.50 | 45.55 | 79.22% |
| October [No Irrigation] | | | |
| | | | |
| | Total Estimated 2020 Seasonal (AF) | Total Estimated 2022 Seasonal Reduction (AF) | Estimated Seasonal Reduction % |
| | 460.00 | 170.69 | 37.11% |
| | | | |
| | | | |

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|---|--|------------------------------|
| NEW ALFALFA PIVOTS (Formerly wheeline in 2020) | O'Brien Ranch Joe O'Brien [REDACTED] | Sheet #2 |
| Total Alfalfa Pivot Acres: | 65.90 | |
| Alfalfa Pivots % Total Acres: | 56.81% | |
| | | |
| Wheeline Gallons Per Minute 2020: | 920 | |
| Pivot Gallons Per Minute 2022: | 600 | |
| | | |
| Percent Savings: | 34.78% | |
| | | |
| | | |
| | 2020 Pivot AF (baseline) | 2022 Reduction AF |
| April | 32.67 | 11.36 |
| May | 43.55 | 15.15 |
| June | 43.55 | 15.15 |
| July | 54.44 | 18.94 |
| August | 54.44 | 18.94 |
| September* | 32.67 | 32.67 |
| October* | <u>0.00</u> | <u>0.00</u> |
| | 261.33 | 112.20 |
| | | |
| *No Fourth Cutting in 2022 | | |
| | | |
| | | |

| | | |
|---|--|--|
| | O'Brien Ranch Joe O'Brien [REDACTED] | |
| incre | | Sheet #3 |
| Total Alfalfa Wheelline Acres: | 26.00 | |
| Alfalfa Wheelline % Total Acres: | 22.41% | |
| | | |
| Wheelline Gallons Per Minute 2020: (7/32" nozzle-30 sprinklers) | 390 | |
| Wheelline Gallons Per Minute 2022: (11/64" nozzle-30 sprinklers) | 240 | |
| | | |
| Percent Savings: | 38.46% | |
| | | |
| | | |
| | 2020 Alfalfa Wheelline (baseline) | 2022 Alfalfa Wheelline Reduction AF |
| April | 12.89 | 4.96 |
| May | 17.18 | 6.61 |
| June | 17.18 | 6.61 |
| July | 21.48 | 8.26 |
| August | 21.48 | 8.26 |
| September* | 12.89 | 12.89 |
| October* | <u>0.00</u> | <u>0.00</u> |
| | 103.10 | 47.59 |
| | | |
| * No fourth cutting in 2022 | | |
| | | |
| | | |

| | | |
|--|--|---|
| | O'Brien Ranch Joe O'Brien | |
| CORNERS HANDLINE AND IRRIGATION GUN | | Sheet #4 |
| Total Corners Handline and Irrigation Gun Acres : | 24.10 | |
| Corners Handline and Irrigation Gun % Total Acres: | 20.78% | |
| | | |
| Corners Handline and Irrigation Gun Savings (%): (reduce all sets from 11.5 hours to 10 hours each) | 13.04% | |
| | | |
| | | |
| | 2020 Corners Handline and Irrigation Gun AF (baseline) | 2022 Corners Handline and Irrigation Gun AF Reduction |
| April | 11.95 | 1.56 |
| May | 15.93 | 2.08 |
| June | 15.93 | 2.08 |
| July | 19.91 | 2.60 |
| August | 19.91 | 2.60 |
| September* | 11.95 | 11.95 |
| October* | <u>0.00</u> | <u>0.00</u> |
| | 95.57 | 22.85 |
| *No Irrigation | | |
| | | |
| | | |