

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Application Withdrawn 2/7/22

Water Plan**Water Project Summary**

Name of Applicant	Terrace Irrigation Company
Name of Water Project	Project-01855 Terrace Irrigation Water Efficiency
Grant Request Amount	\$463,094.00
Primary Category	\$463,094.00
<i>Agricultural Projects</i>	
Total Applicant Match	\$555,705.00
<i>Applicant Cash Match</i>	\$539,300.00
<i>Applicant In-Kind Match</i>	\$16,405.00
Total Other Sources of Funding	\$555,705.00
<i>NRCS EQIP Program</i>	\$499,300.00
<i>Terrace Irrigation Company</i>	\$40,000.00
<i>NRCS</i>	\$16,405.00
Total Project Cost	\$1,574,504.00

Applicant & Grantee Information

Name of Grantee: Terrace Irrigation Company
Mailing Address: PO Box 109 Monte Vista CO 81144
FEIN: 840,412,531

Organization Contact: Nikita Cooper
Position/Title:
Phone: (719) 849-8710

Email: nikita@notes-numbers.com

Organization Contact - Alternate: Virginia Christensen
Position/Title: Secretary/Treasurer
Phone: 719-5802562

Email: forage1@gojade.org

Grant Management Contact: Nikita Cooper
Position/Title:
Phone: (719) 849-8710

Email: nikita@notes-numbers.com

Grant Management Contact - Alternate: Virginia Christensen
Position/Title: Secretary/Treasurer
Phone: 719-5802562

Email: forage1@gojade.org

Description of Grantee/Applicant

No description provided

Type of Eligible Entity☐ Public (Government)

- ☐ Public (District)
- ☐ Public (Municipality)
- ☒ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☐ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☒ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☐ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude 37.302143
 Longitude -106.147974
 Lat Long Flag
 Water Source
 Basins Rio Grande
 Counties Conejos
 Districts 21-Alamosa La Jara

Water Project Overview

Major Water Use Type Agricultural
 Subcategory Construction
 Scheduled Start Date - Design 4/30/2022
 Scheduled Start Date - Construction 11/1/2023
 Description

This project is to increase water efficiency through the Terrace Irrigation system as the area continues to find new solutions to decrease pumping and mitigate pumping effects on the confined aquifer. Increased system wide efficiency and increased on-farm efficiency throughout the area is important to the stakeholders involved. Water efficiency will be improved through two sites: Site 1 (Alamosa Creek Canal) and Site 2 (Lateral on Terrace Main Canal). Site 1 will have 3,050 feet of 36", 80 psi PVC Pipe installed and Site 2 will have 2,820 feet of 21", 80 psi PVC Pipe installed. Preliminary cost estimates have been provided by NRCS engineers and planners.

Engineering and planning costs will be provided as an in-kind match by NRCS. NRCS EQIP funding will be used for 50% of the pipeline project. CWP funding is being requested for the remaining 45% of total project costs. 4% of the funding would be applicable Cash Match and 1% Inkind Match.

These two sites carry direct flow water and storage water from the Terrace Reservoir on the Alamosa River. These sites need to be modernized and upgraded to meet current demands and drought pressure. This project will decrease water loss and improve agricultural efficiency in an over pumped basin. The economy of this basin is directly supported with agriculture with the majority of crops being alfalfa, barley, seed canola, oats, and other small grains and forage crops.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
1,450	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity

Water Project Justification

Terrace Irrigation Company was incorporated in the 1940's. The company is a 501-C-12 nonprofit irrigation corporation with approximately 24 shareholders and about 9,000 acres of farmland under irrigation. Terrace Irrigation Company, Inc. is the owner of Terrace Reservoir which was built in the early 1900's on the main stem of the Alamosa River. At that time, it was the largest earthen dam in the U.S.

Terrace Irrigation Company delivers surface water to the shareholders from two sources: 1.) direct flow from the Alamosa River with various priorities; and 2.) stored winter flows and peak runoff during the irrigation season. This stored water is appropriated to each shareholder according to their number of shares. Each shareholder can call for their water as needed for each individual farming operation.

This project supports the Rio Grande Basin Implementation Plan in the following ways.

Rio Grande Basin Implementation Plan and Education Action Plan (rgbri.org/funding-opportunities)

Number 3. Sustain the confined and unconfined aquifers in accordance with Senate Bill 04-222 and operate within the State Engineer's new Rules and Regulations for the San Luis Valley.

The Terrace Irrigation system lays within the boundary of Sub-District 6 which is continuing their efforts to decrease pumping and mitigate effects on the confined aquifer. This project will increase surface water delivery efficiency allowing farms to better utilize their surface water to decrease pumping. Higher priorities are used at very low efficiency currently as those priorities are delivered through a dirt ditch system. This project would allow the system to better utilize higher priorities during high water run off periods.

Number 4. Operate, maintain, rehabilitate, and create necessary infrastructure to meet the Basin's long-term water needs, including storage.

The basin's primary water needs are agriculture irrigation. This project helps to improve water efficiency to deliver water to the farms.

Number 5. Manage water use to sustain optimal agricultural economy through the Basin's communities. The basin's current economy and communities are extremely stressed due to drought conditions that persist. These types of new solutions are needed to sustain the aquifer and meet Ground Water rules in order to keep farms in business and agricultural support-businesses operating.

This water activity supports the goals of the Colorado Water Plan:

D. Agriculture: Maintain Agricultural Viability: Maintain Colorado's agricultural productivity, support of rural economies, and food security.

CRITICAL AGRICULTURE ACTIONS

3. Provide grants, loans, and technical support to update and improve Colorado's aging agricultural infrastructure, especially where improvements provide multiple benefits. 6.5, 6.3.4 CWCB, BRTs, agricultural partners, other stakeholders.

Related Studies

Under contract to the Colorado Water Conservation Board, the Alamosa River Watershed Restoration Master Plan Environmental Assessment Final Report was produced. The incentive for the Master Plan was provided by a legal settlement over impacts of the Summitville Mine Superfund Site. That settlement also provided funding for the study and mitigation measures to be developed by the Master Plan. The scope of the Master Plan includes the entire watershed and covers a broad array of natural resources and watershed functions and values. The result is a multi-disciplinary approach to watershed assessment that has produced a prioritized plan for watershed restoration and enhancement. Specific projects are identified, along with potential financing sources, including funds from the Summitville legal settlement. The Master Plan is available at:

<http://mountainprairie.fws.gov/nrda/summitvilleColo/Summitville.htm>.

Taxpayer Bill of Rights

No Tabor Issues.

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that: (1) Summarizes the project and how the project was completed. (2) Describes any obstacles encountered, and how these obstacles were overcome. (3) Confirms that all matching commitments have been fulfilled. (4) Includes photographs, summaries of meetings and engineering reports/designs. The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB

staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions. Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following: (a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in the Budget & Schedule Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment. (b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment. (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary. (d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.



Last Updated: May 2021

Water Plan Grant - Exhibit A

Statement Of Work

Date:	11/20/2021
Name of Grantee:	Terrace Irrigation Company
Name of Water Project:	Terrace Irrigation Water Efficiency Project
Funding Source:	CWP Grant and NRCS EQIP Program
Water Project Overview:	
<p>This project is to increase safety and efficiency within the Terrace Irrigation System along the Creek Canal and a lateral on a Terrace Main Canal. The project will work to improve the infrastructure by installing 5880 feet total pipeline to increase efficiency. The efficiency gained in this project will allow water users to better utilize surface water and decrease pumping in an over pumped region. The region is extremely stressed and new projects like this will increase the viability of agriculture within the Terrace system which is approximately 9,000 acres of irrigated farmland. The pipeline installation on the Creek Canal will allow all the Creek Canal priorities to be delivered to farmers without putting pressure on current infrastructure which causes sections to be washed out. It will also prevent the use of low efficiency dirt ditches. If all priorities can be used to their fullest on each day of the irrigation season, pumping will be decreased. The other benefit of this project is increasing safety along the Creek Canal where it runs through a rural residential area.</p> <p>The lateral on the Main Canal is currently a dirt ditch which has extremely high ditch loss due to evapotranspiration. Vegetation management is difficult and costly due to overgrown vegetation and invasive plants. Installing pipe on this lateral will reduce ditch loss and will make shrink more equitable for all farmers on the Main Canal.</p> <p>The Creek Canal (Site 1) project will include 3,050 feet of 36" 80 psi PVC Pipe, inlet structure, and outlet structure.</p> <p>The Main Canal Lateral (Site 2) project will include 2,820 feet of 21" 80 psi PVC Pipe, inlet structure, outlet structure as well as a measuring device.</p>	



Last Updated: May 2021

Project Objectives:

The main objective of this project is to increase efficiency within the Terrace Irrigation System to enable Family Farms to better use surface water ultimately decreasing pumping throughout the area. The aquifer and river system in this watershed is under stress due to the prevailing drought in the area. Changes in the climate have caused melt off changes within the basin. One of the objectives of this project is to enable the ditch company to fully utilize every drop of this valuable resource when it is available during the irrigation season.

Being able to fund new solutions like this project to this area is key to being able to meet the Basin Implementation Goals including: "Manage water use to sustain optimal agricultural economy throughout the Basin's communities". Sustaining the confined and unconfined aquifers is key objective to this project that falls under the BIP Goals.

Tasks

Task 1 – Pipeline Planning

Description of Task:

The pipeline will be planned and engineered by the NRCS engineer and planner. NRCS staff will also survey both sites, draw plans and oversee construction as an in-kind task and matching expense. NRCS Staff have provided preliminary costs which include a pipeline for site 1 which will carry a maximum of 36.5 cfs. Site 2 includes a pipeline which will carry a maximum of 10 cfs.

Method/Procedure:

NRCS staff will use standard survey tools as well as AutoCAD to develop plans for project.

Deliverable:



Last Updated: May 2021

Detailed plans of project to ensure that construction standards are met and that the highest efficiency possible is gained.
Task 2 – Site Preparation and Earthwork
Description of Task:
This task will prepare the site which will include clearing and grubbing of the site. This will also include earthwork for the trench. Trash racks, inlet structures and outlet structures will be installed for both sites.
Method/Procedure:
Heavy equipment including an excavator, trencher and other equipment would be used for clearing, grubbing and trenching.
Deliverable:
Prepared site for installation of pipeline at site 1 and site 2. This will include a prepared pipe pad as designed by NRCS.

Tasks
Task 3 – Install, Concrete and Reinforcement
Description of Task:



Last Updated: May 2021

Site 1 will have 3,050 feet of 36" 80psi PVC Pipe installed along with inlets and outlets. The structure will be concreted and reinforced per NRCS guidelines and engineering standards.

Site 2 will have 2,820 feet of 21" 80 PVC Pipe installed along with inlets and outlets. This structure will also be reinforced and concreted.

Method/Procedure:

Prepare the pipe bed, remove large rocks, grade the bed and lay pipe. The pipe will be bedded with suitable stone free backfill. The pipe and trench will be buried using heavy equipment. The inlet and outlet structures will also be installed using concrete to secure the structures including measurement device on site 2.

Deliverable:

This task will complete the project by providing two complete pipelines laid to deliver water with better efficiency. The task will reinforce the inlet structure, outlet structure and pipeline to ensure that no issues arise with the new system during the irrigation season.

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements



Last Updated: May 2021

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit C. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.



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(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

Last Updated: May 2021



Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate

Fair and Reasonable Estimate

Prepared Date:

11/15/2021

Name of Applicant:

Terrace Irrigation Company

Name of Water Project:

Terrace Irrigation Water Efficiency Project

Sub-task	Unit	Quantity	Unit Cost	Total Cost	CWCB Funds	Matching Funds
Task 1 - Pipeline planning						
Engineering and Planning (Inkind Match)	Hrs	219	27	\$ 5,913		\$ 5,913
Engineering and Planning (Inkind Match)	Hrs	244	43	\$ 10,492		\$ 10,492
Task 2- Site Preparation & Earthwork						
Clearing & Grubbing Site 1	AC	0.95	\$ 1,000	\$ 950	\$ 437	\$ 513
Clearing & Grubbing Site 2	AC	1	\$ 1,000	\$ 880	\$ 405	\$ 475
Pollution Control	JOB	2	\$ 1,000	\$ 2,000	\$ 920	\$ 1,080
Seeding, Sprigging, Mulching	JOB	2	\$ 1,000	\$ 2,000	\$ 920	\$ 1,080
Mobilization & Demobilization	JOB	2		\$ 8,000	\$ 3,680	\$ 4,320
Excavation-Pipe inlet & outlet @ site 1	CY	100	\$ 5	\$ 500	\$ 230	\$ 270
Excavation - Pipe inlet & outlet @ site 2	CY	75	\$ 5	\$ 375	\$ 173	\$ 203
Excavation-Pipe trench @ site 1	CY	3390	6	\$ 20,340	\$ 9,356	\$ 10,984
Excavation-Pipe trench @ site 2	CY	1862	6	\$ 11,172	\$ 5,139	\$ 6,033
Earthfill - around pipe structure @site 1	CY	25	7	\$ 175	\$ 81	\$ 95
Earthfill - around pipe structure @site 2	CY	20	7	\$ 140	\$ 64	\$ 76
Earthfill - pipe pad for site 1 Trencher	CY	3050	7	\$ 21,350	\$ 9,821	\$ 11,529
Earthfill - pipe pad for site 2 Trencher	CY	2820	7	\$ 19,740	\$ 9,080	\$ 10,660
Drainfill	CY	30	25	\$ 750	\$ 345	\$ 405
Task 2 - Install of Pipe, Concrete and Reinforcement						
Pipe inlet & outlet @ Site 1	CY	50	1100	\$ 55,000	\$ 25,300	\$ 29,700
Pipe inlet & outlet@ Site 2	CY	38	1100	\$ 41,800	\$ 19,228	\$ 22,572
36" 80 psi PVC Pipe ~3050 feet	LB	191561	3	\$ 551,696	\$ 253,780	\$ 297,916

21" 80 psi PVC Pipe ~ 2820 feet	LB	53621	3	\$	154,428	\$	71,037	\$	83,391
Screw Gate @ Site 1	IN	36	65	\$	2,336	\$	1,075	\$	1,262
Screw Gate @ Site 2	IN	21	65	\$	1,363	\$	627	\$	736
Metal Fabrication @ Site 1	LB	1500	3	\$	4,245	\$	1,953	\$	2,292
Metal Fabrication @ Site 2	LB	1500	3	\$	4,245	\$	1,953	\$	2,292
Measuring Device @ Site 2	LB	1500	3	\$	4,500	\$	2,070	\$	2,430
Contingency 10%				\$	90,719	\$	41,731	\$	48,988

Task 3 - Administration and Management									
Administer Grant, Complete Progress Reports &	hrs.	32	45	\$	1,440	\$	1,440		
Secure bids, monitor and complete project	hrs.	45	50	\$	2,250	\$	2,250		
TOTAL				\$	1,018,799.46	\$	463,094	\$	555,705

[illegible]



United States Department of Agriculture

Natural Resources Conservation Service
Alamosa Agricultural Service Center
101 S Craft Drive Suite A
Alamosa, Colorado 81101
Ron.Riggenbach@usda.gov

719-992-3668 - Office

719-588-2917 - Cell

11/30/2021

Cole Bedford, Agricultural Projects
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Dear Cole Bedford,

I am writing this letter in reference to the Terrace Irrigation Company that is applying for potential funding for an irrigation pipeline project. The ditch will be applying for this funding under the NRCS'S EQIP funding program. If they rank high enough and are chosen to be funded, they could receive between 50-60% funding for the total cost of the project. The estimate that our Field Engineer, Laurie Clark, came up with is a total cost of \$997,899. The purpose of the project is to install a 36' PVC pipe along 3050 feet of the Alamosa Creek Canal to allow for more efficient delivery of the upper priorities on the canal also to install 21' PVC pipe along 2820 feet of a dirt lateral on the Main Canal. I have attached a preliminary cost estimate Laurie Clark made to this letter if you would like to reference it.

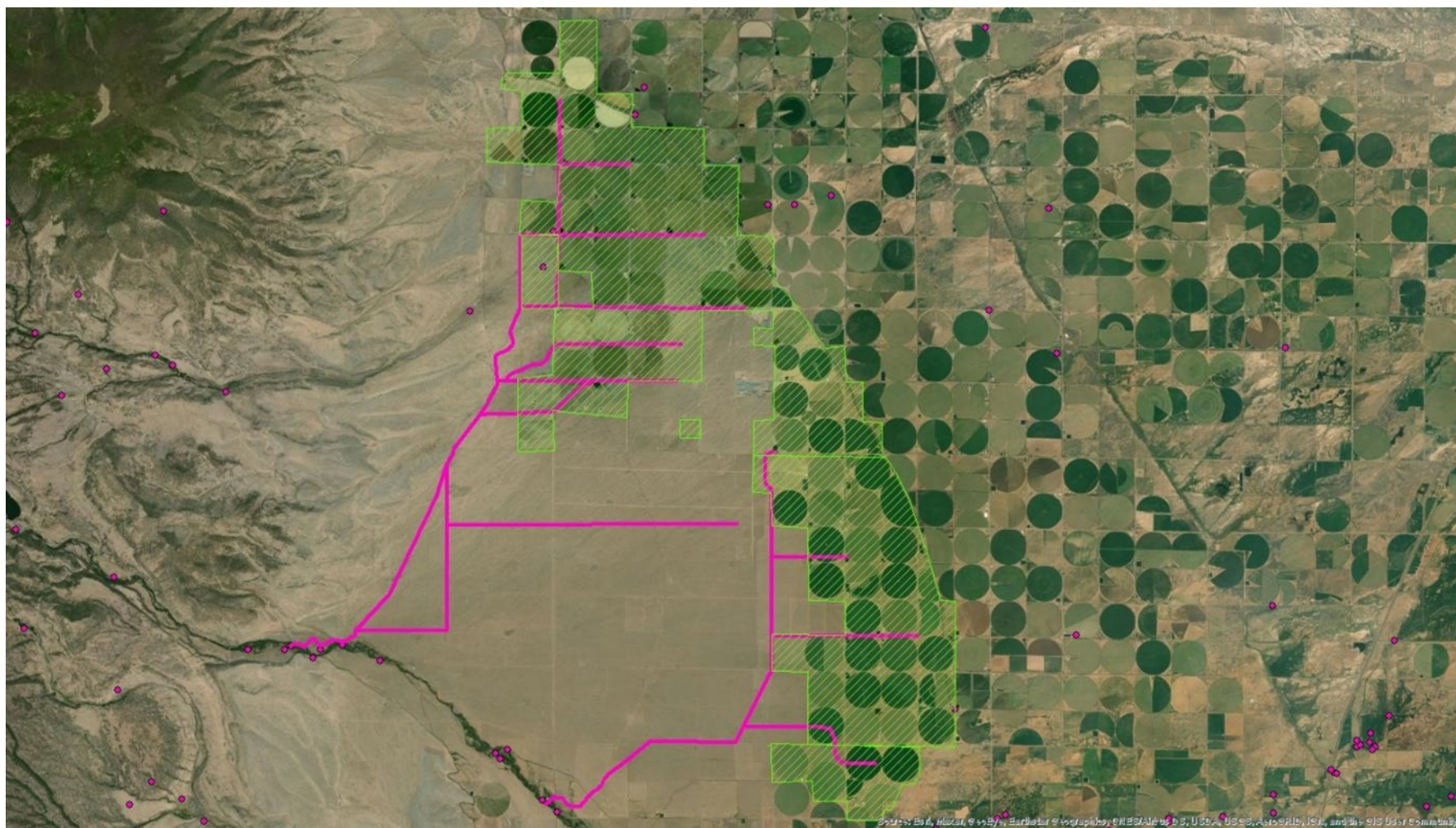
Thank you for including us in the decision and If you have any questions, please feel free to contact me.

Sincerely,

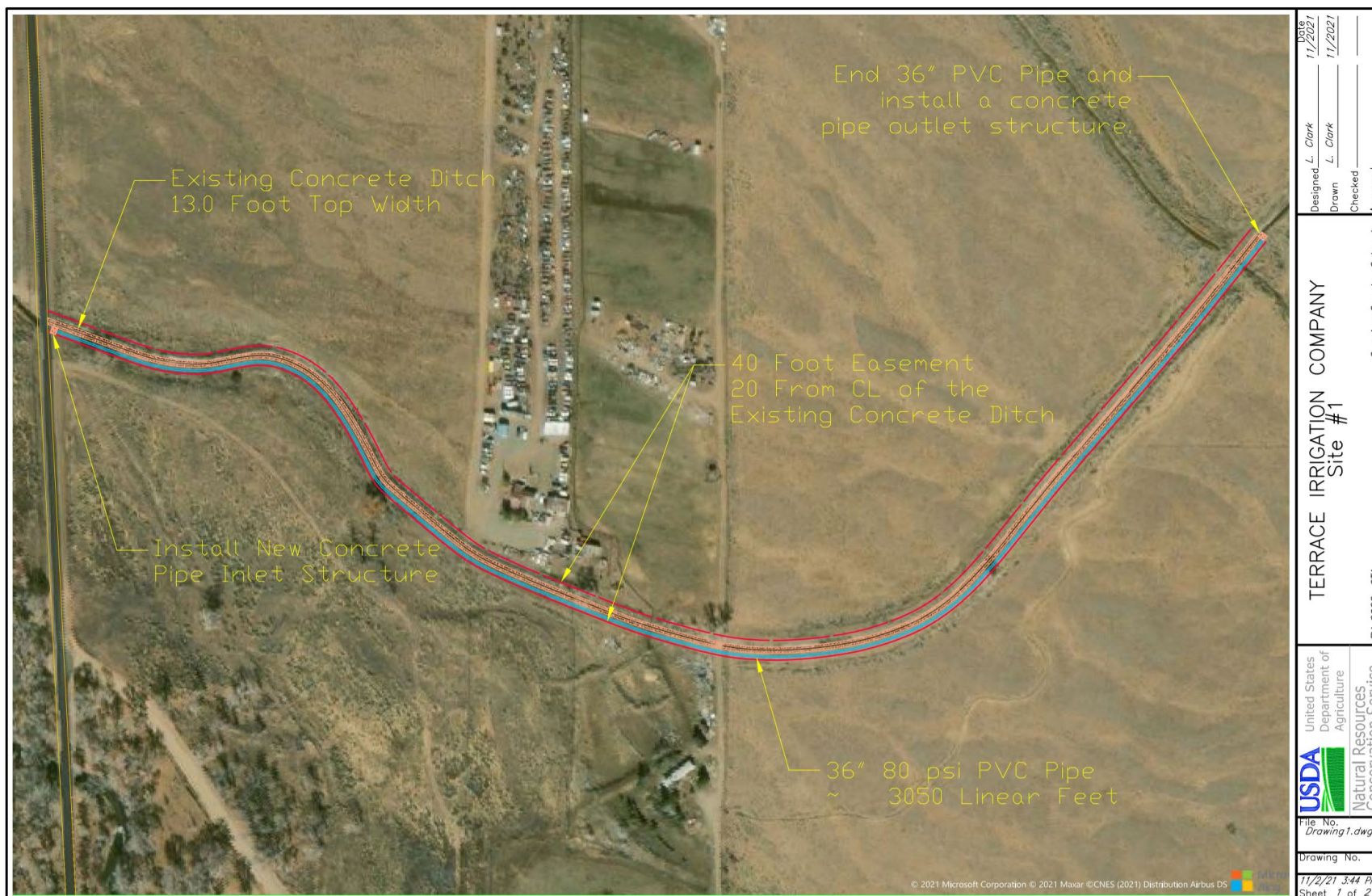
Ronald Riggenbach
District Conservationist
Alamosa NRCS Service Center

Helping People Help the Land

USDA is an equal opportunity provider, employer, and lender.



NRCS Map of Terrace Irrigation Company Service Area



NRCS Map of Terrace Irrigation Water Efficiency Project Site 1



NRCS Map of Terrace Irrigation Water Efficiency Project Site 2