UTAH-NRCS PL-566 WATERSHED PROPOSAL
SANTA CLARA WATERSHED
WASHINGTON COUNTY, UTAH

July 18, 2019

1. General Eligibility

This project proposal lies within Santa Clara River Watershed in Washington County, Utah and includes the development of an authorized PL-566 Watershed Plan. The watershed area for this proposal is 243,000 acres. The proposed projects encompass the rural unincorporated communities of Dammeron Valley and Diamond Valley as well as stream restoration, irrigation, and riparian restoration to benefit the endangered Southwest Willow Flycatcher within the Shivwits band of Paiute's Reservation. The flood control measures for Dammeron and Diamond Valleys include channel routing and small flood and sediment control basins of less than 12,500 acre-feet individual structure capacity and 25,000-acre feet total capacity.

This project is sponsored by Washington County. The sponsor has been successfully involved with numerous Emergency Watershed Protection (EWP), Watershed Rehabilitation, and Watershed Operation projects and is committed to moving forward with the Plan EA. The sponsor had previously requested EWP funding for both the Dammeron Valley and Shivwits portion of the project but considered the more comprehensive approach of Watershed Operations provided the best long-term solution for the Shivwits and impacted rural communities. The proposal requires $550,000 in PL-566 funds to prepare the Watershed Plan-EA, $1,800,000 to develop the final design and $13,375,000 to implement and construct the project.

2. Project Overview

The proposed project consists of three projects areas: (1) The rural unincorporated community of Dammeron Valley, (2) The rural unincorporated community of Diamond Valley and (3) The Santa Clara River within the Shivwits Band of Paiutes Indian Reservation.

a. Abstract describing the issue, background, and solution

(1) *Dammeron Valley* – Dammeron Valley is a small unincorporated community consisting of 435 homes and approximately 1200 residents. Watershed impairments including recent fire and monsoonal storms have resulted in severe flooding and sediment flows causing damage to homes property and infrastructure. In May of 2019 Washington County commissioned a master plan study to address potential solutions. Recommendations from the study include construction of four flood and sediment basins and flood channels to safely detain and rout floodwater and sediment.

(2) *Diamond Valley* – Diamond Valley is a small unincorporated community consisting of 313 homes and approximately 900 residents. The valley has no natural drainage and is a closed basin. Monsoonal storms cause flooding and damage to homes and property. The general plan and recently prepared Washington County master plan include constructing two flood and sediment basins as well and channel improvements.

(3) *Shivwits Paiute Indian Reservation* – The Shivwits Paiute Indian Reservation consists of approximately 28,200 acres located generally Northwest of the cities of Santa Clara and Ivins and along the Santa Clara River. Flooding along this reach has caused severe erosion of historic agricultural fields and destroyed pipelines and ditches used for irrigation. Flooding has also degraded habitat for wildlife including the endangered Southwest Willow Flycatcher. The tribe is working with the local NRCS Soil Conservationist to prepare a conservation plan. This project would restore irrigation to the agricultural fields, provide stream restoration for wildlife and streambank protection for the agricultural fields.

b. The Sponsors participation and public engagement.

The sponsor has discussed this issue at numerous public meetings and has addressed citizen concerns about damages to properties in Dammeron Valley and Diamond Valley. The County received money from the NRCS through the Emergency Watershed Protection Program (EWP) to protect historic Shem Dam on the Shivwits Reservation and continues to discuss additional improvements on Tribal land. Stakeholders would be actively involved in providing input.

c. Proposed Action

1. *Dammeron Valley* – Construct four basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.
2. *Diamond Valley* – Construct two basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.
3. *Shivwits Paiute Indian Reservation* – Install irrigation mainlines and sprinklers to replace irrigation infrastructure destroyed by flooding. Install streambank protection to protect irrigated fields from further erosion. Restore the river to reduce erosion and improve wildlife habitat.

d. Purpose and Need for Action

The purpose of the project is:

(1) to prevent damage from erosion, floodwater and sediment. Flooding and sediment continue to damage property and erosion of the Santa Clara river continues to threaten agricultural lands and degrade wildlife habitat.

(2) to further the conservation, development, utilization and disposal of water. Water currently unable to be utilized on the Shivwits agricultural fields would be developed.

(3) to further the conservation and proper utilization of land. Irrigation of crops would be restored on agricultural lands and river and riparian areas would be restored.

e. Description of purposes for which the project is planned (should include one or more purposes listed in Title 390, National Watershed Program Manual (NWPM), Part 500, Subpart A, Section 500.3). Indicate which of the identified needs the project will address.

- Flood Prevention (Flood Damage Reduction): the proposed project would protect residents, homes, properties, and infrastructure within the three project areas.
- Agricultural Water Management: efficient irrigation systems would provide irrigation water supply.
- Watershed Protection: Erosion protection measures would be provided along the Santa Clara river. River restoration would provide fish and wildlife habitat.

f. Description of the need for action in terms of what problems needed to be solved and what opportunities need to be realized such as, erosion and sedimentation (downstream damage, loss of productivity), flood damage (agricultural, urban), water quality impairment (in terms of beneficial uses), and others.

The need for the project includes: Reducing flood damage and sedimentation to downstream communities of Dammeron and Diamond Valleys; reducing erosion of agricultural land on the Shivwits Reservation; Reducing degradation of wildlife habitat along the Santa Clara River; Restoring efficient irrigation to agricultural fields on the Shivwits Reservation.

g. Description of the proposed action (up to 5 lines):

(1) *Dammeron Valley* – Construct four basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.

(2) *Diamond Valley* – Construct two basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.

(3) *Shivwits Paiute Indian Reservation* – Install irrigation mainlines and sprinklers to replace irrigation infrastructure destroyed by flooding. Install streambank protection to protect irrigated fields from further erosion. Restore the river to reduce erosion and improve wildlife habitat.

h. Estimated Project Costs

Table 1
Estimated Project Cost – Proposed Action

Estimated Project Costs:	$$	Percentage
PL 83-566 funds Plan EA	550,000	100
PL-566 Funds Design	1,800,000	100
PL-566 Funds Construction	13,375,000	97
Other Funds	125,000	3
Total	**15,850,000**	**100**
Estimated Monetary Benefits	18,828,000	-
Estimated Benefit to Cost Ratio	1.19	

i. Estimated Monetary Benefits

Estimated monetary benefits were based on the number of homes in Dammeron Valley and Diamond Valley (748) times an average value ($250,000) times a damage factor (0.1). Agricultural values were determined using local yields and prices. A more detailed economic analysis will be included in the Plan/EA

j. Estimated Project Timeline

Table 2
Estimated Project Timeline

Estimated Project Timeline	Duration
Plan/EA	2 years
Final Design	1 Year
Construction	2 Years

3. Sponsor Request

See Attachment A

4. NRCS-CPA-52 Environmental Evaluation Worksheet

See Attachment B

5. Alternatives

See Attachment C

6. Partnership, Consultation, Coordination and Public Participation

Table 3 Roles, Resources and Contributions of Project Partners

Partner	Role	Resources	Contribution
Washington County	Sponsor	Cost-Share Funds, Admin,	Permits, Scoping, Public Meetings, Mailings
Shivwits Band of Paiutes	Partner	Staff	Public Outreach Assistance Tribal Coordination
BLM	Landowner, Permits, Review, Cooperating Agency	Staff	Design Review, Environmental Reviews, Permitting
Utah State Historic Preservation Office	Review	Staff	Review of project APE
USDA-NRCS	Lead Agency for Plan-EA, FA/TA, Reviews	Funding, Technical Reviews	Reviews for project location, inventory needs, Plan-EA Supplement
Army Corps of Engineers	Potential 404 Permit	Technical Reviews, Wetland-Waters of U.S. jurisdiction, Tribal Consultation	Permitting, technical review, alternative generation, tribal consultation and overall review.
Utah Division of Water Rights	Review	Stream Alteration Permit	Permit for work in Santa Clara River. Technical Review of Basin Design
US Fish and Wildlife	Consultation for project impacts.	Review of project APE	Review of project APE
Utah State Division of Water Qual.	WQ Permit - 401	Review for Permit	Review for Permit

7. Equal Opportunity

The project partners are diverse, consisting of tribal representatives, local government entities, state government entities and federal agencies.

Table 4
Race & Ethnicity – Ivins/Santa Clara

Population		
Population estimates, July 1, 2018, (V2018)	**8,913**	**7,871**
Population estimates base, April 1, 2010, (V2018)	6,757	6,145
Population, percent change - April 1, 2010 (estimates base) to July 1, 2018, (V2018)	31.9%	28.1%
Population, Census, April 1, 2010	6,753	6,003
Age and Sex		
Persons under 5 years, percent	⚠ 6.4%	⚠ 6.2%
Persons under 18 years, percent	⚠ 23.0%	⚠ 33.1%
Persons 65 years and over, percent	⚠ 24.8%	⚠ 14.4%
Female persons, percent	⚠ 48.6%	⚠ 47.2%
Race and Hispanic Origin		
White alone, percent	⚠ 95.3%	⚠ 94.4%
Black or African American alone, percent (a)	⚠ 0.7%	⚠ 0.0%
American Indian and Alaska Native alone, percent (a)	⚠ 2.2%	⚠ 0.0%
Asian alone, percent (a)	⚠ 0.0%	⚠ 1.2%
Native Hawaiian and Other Pacific Islander alone, percent (a)	⚠ 0.5%	⚠ 1.3%
Two or More Races, percent	⚠ 0.0%	⚠ 0.3%
Hispanic or Latino, percent (b)	⚠ 4.2%	⚠ 3.3%
White alone, not Hispanic or Latino, percent	⚠ 93.6%	⚠ 93.9%

8. The Potential or Preferred Alternative

a. Rationale for alternative preference
The proposed project (Alternative 2) will reduce potential peaks from flood flows, mitigate erosion, control sediment deposition, protect residents and agricultural areas

b. Proposed measures to be installed
(1) *Dammeron Valley* – Construct four basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.
(2) *Diamond Valley* – Construct two basins to store sediment and reduce flood flows. Improve the downstream channel to safely route flows from the basins.
(3) *Shivwits Paiute Indian Reservation* – Install irrigation mainlines and sprinklers to replace irrigation infrastructure destroyed by flooding. Install streambank protection to protect irrigated fields from further erosion. Restore the river to reduce erosion and improve wildlife habitat.

c. Estimated costs and cost sharing

Table 5
Estimated Project Cost – Proposed Action

Estimated Project Costs:	$$	Percentage
PL 83-566 funds Plan EA	550,000	100
PL-566 Funds Design	1,800,000	100

PL-566 Funds Construction	13,375,000	97
Other Funds	125,000	3
Total	**15,850,000**	**100**

d. Responsibilities
Washington County will be the sponsor. NRCS will be the lead agency for the Plan EA. BLM will have responsibility to permit occupancy of public lands. The U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service have regulatory responsibility for compliance with the Clean Water Act and Endangered Species Act.

e. Potential mitigation needs
Potential impacts to waters of the U.S., historic sites, or listed species may require mitigation.

f. Permits and Compliance requirements
Wetland 404-Army Corp of Engineers, SHPO, State Stream Alt Permit, State WQ-401 Permit, Tribal consultation, USFWS consultation.

g. Outcomes
(4) to prevent damage from erosion, floodwater and sediment. Flooding and sediment continue to damage property and erosion of the Santa Clara river continues to threaten agricultural lands and degrade wildlife habitat.
(5) to further the conservation, development, utilization and disposal of water. Water currently unable to be utilized on the Shivwits agricultural fields would be developed.
(6) to further the conservation and proper utilization of land. Irrigation of crops would be restored on agricultural lands and river and riparian areas would be restored.

h. Budget and Installation timeline
See section (c) above for estimated cost of the preferred Alternative. The project timeline is expected to occur over a five-year period

i. Leveraging of other funds
The projects will benefit past projects and studies.

Attachment A
Sponsor Request

WASHINGTON COUNTY
UTAH

Public Works | Ron Whitehead

July 19, 2018

Becky Ross
State Conservationist
Natural Resources Conservation Service
Wallace F. Bennett Federal Building
125 South State Street Room 4010
Salt Lake City, UT 84138-1100

Re: Watershed Flood Prevention Operations 2019 - Funding Assistance Request for Santa Clara River Watershed Project

Dear Mrs. Ross,

Congress has provided new funding to NRCS through the PL 83-566 Watershed Protection and Flood Prevention program (Watershed Act). Washington County requests Federal assistance under the provisions of this act, to construct a series of debris basins and flood channel for Dammeron Valley and Diamond Valley and install streambank protection and an irrigation system for the Shivwits Band of Paiutes in Washington County, Utah. This project is necessary to increase public protection and rural resiliency in the project areas. The proposed action would protect critical public and private property.

As an existing project sponsor, Washington County is committed to undertake all of the sponsor responsibilities for the project, including facilitating a public scoping meeting. Washington County is prepared to move quickly with the project should we be successful in obtaining funding. Once funded we intend to immediately begin the NEPA process for final site selection, with design to follow quickly. I will be the contact person for the County in handling the administrative and technical aspects of this project. Please contact me for any additional information that you might need in assessing our request.

Best Regards,

Ron Whitehead

cc: Washington County Commission
Bronson Smart

197 East Tabernacle | St. George, UT 84770 | P 435.634.5780 | F 435.634.5781 | washco.utah.gov

ron.whitehead@washco.utah.gov

Attachment B
NRCS CPA-52 Environmental Evaluation Worksheet

U.S. Department of Agriculture Natural Resources Conservation Service	NRCS-CPA-52 6/2010	**A. Client Name:**	**Washington County Water Conservancy District**
ENVIRONMENTAL EVALUATION WORKSHEET		**B. Conservation Plan ID #** (as applicable)**:** **Program Authority** (optional)**:**	Hurricane Canal/Virgin PL 83-566

D. Client's Objective(s) (purpose):
The three primary projects in this proposal are:
1) Modernization of the Hurricane Canal Company and Hurricane City water delivery systems that will allow better off- and on-farm water management, allow producers to convert to sprinkler irrigation, and yield water savings that will be directed to the Virgin River as an instream benefit.
2) Piping of the Y-drain system will yield more water efficient, safe, and direct return flows to the Virgin River to provide riparian and instream benefits.
3) Virgin River riparian and channel restoration above the Washington Fields Diversion will improve habitat for native and federally-listed species.

C. Identification # (farm, tract, field #, etc as required)**:**
Hurricane and Bench Lake farms, Virgin River above the Washington Dam Diversion.

E. Need for Action:
Improve water quantity in critically water-limited areas. Improve water quality on farms and in the Virgin River. Improve soil quality (reduced sediment) to improve water, carbon and nutrient holding capacity and farming economics. Improve river and riparian habitat through the construction of an efficient return flow system for two endangered fish species, and the endangered southwestern willow flycatcher. Increase safety and reduce flooding along the Y-drain

G. Alternatives

No Action √ if RMS ☐	***Alternative 1*** √ if RMS ☐	***Alternative 2*** √ if RMS ☐
On farm irrigation systems will continue to use water inefficiently. Return flows to the Virgin River will continue to impact both water quality and quantity. Reduced flows and invasive plant species will continue to impact wildlife habitat for six native fish including two endangered and the endangered Southwestern Willow Flycatcher	Construct de-silting ponds, replace the Hurricane canal with a pressurized pipe. Pipe the Y-drain to efficiently return flow to the Virgin River. Use the irrigation water savings and improved return flow to restore riparian habitat along 16 miles of the Virgin River benifiting four state sensitive fish species, two endangered fish species and the endangered Southwest Willow Flycatcher.	Lease water to restore riparian habitat along 16 miles of the Virgin River benifiting four state sensitive fish species, two endangered fish species and the endangered Southwest Willow Flycatcher.

Resource Concerns

In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process. (See FOTG Section III - Resource Quality Criteria for guidance).

F. Resource Concerns and Existing / Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	**H. Effects of Alternatives**					
	No Action		***Alternative 1***		***Alternative 2***	
	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC
SOIL						
Erosion (Irrigation Induced) existing irrigation is a mixture of sprinkle, controled flood and wild flood systems.	soil erosion from field runoff will continue	NOT meet ☐ QC	irrigation converted to sprinkle will reduce runoff from fields	NOT meet ☐ QC	irrigation erosion will be reduced as water for restoration will be leased from irrigators	NOT meet ☐ QC
Condition (Damage from Soil Deposition) the use of flood irrigation depsits silts on agricultural fields	Continued deposition of silts and clays	NOT meet ☐ QC	silts would be removed prior to application to the field.	NOT meet ☐ QC	continued silt deposition on fields not leasing water to the project	NOT meet ☐ QC
WATER						
Quantity (Inefficient Water Use on Irrigated Land) Water losses through canal, evaporation and runoff.	Continued water losses through inefficient delivery, evaporation and runoff	NOT meet ☐ QC	By improving the water delivery systems in Hurricane, UT the water will be more efficiently used by the agricultural community and water savings can be left instream to improve river habitat for the endangered fish - woundfin and Virgin River chub - and the riparian habitat for the southwestern willow flycatcher	NOT meet ☐ QC	leased water can be left instream to improve river habitat for the endangered fish - woundfin and Virgin River chub - and the riparian habitat for the southwestern willow flycatcher. Remaining water will continue to be lost through evaporation and runoff	NOT meet ☐ QC
Quantity (Insufficient Flows in Water Courses) Long term draught and diverted agricultural and municipal flows have severly reduced base flows for native and endangered fish.	Continued low flows in the Vrigin River.	NOT meet ☐ QC	Water saved from irrigation improvements and improved return flows would increase river base flows	NOT meet ☐ QC	Leased water would increase river base flows	NOT meet ☐ QC

F. Resource Concerns and Existing / Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	**H. (continued)**					
	No Action		***Alternative 1***		***Alternative 2***	
	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC
AIR						
Quality [Particulate Matter < 10µm diameter ("PM 10")]	No Effect	NOT meet ☐ QC	Short term: fugitive dust expected during construction activities - mostly from equipment accessing the site on gravel/dirt roads; Long term: no effect	NOT meet ☐ QC	No effect	NOT meet ☐ QC
PLANTS						
Condition (Productivity, Health, and/or Vigor)	Inefficient water application to fields will reduce potential yields	NOT meet ☐ QC	efficient and even distribution of applied water will improve crop productivivty, health and vigor.	NOT meet ☐ QC	No change on fields that continue to irrigate. Less or no production on fields leasing water to the project	NOT meet ☐ QC
Condition (Noxious and Invasive Plants) Tamerisk, Russian Olive	continued growth of invasive Tamerisk and Russian Olive	NOT meet ☐ QC	Riparian restoration will remove invasive and replace with native species	NOT meet ☐ QC	Riparian restoration will remove invasive and replace with native species	NOT meet ☐ QC
ANIMALS						
Fish and wildlife (Impacts to Endangered or Threatened Animals)	Continued poor habitat conditions for woundfin, Virgin River Chub and Southwestern Willow Flycatcher	NOT meet ☐ QC	Improved habitat for the endangered woundfin, Virgin River chub and southwestern willow flycatcher.	NOT meet ☐ QC	Improved habitat for the endangered woundfin, Virgin River chub and southwestern willow flycatcher.	NOT meet ☐ QC
HUMAN - Economic and Social Considerations						
Land Use	No change		improved water delivery infrastructure in Hurricane for more efficient use of limited water.		Land use of property leasing water to the project will change	
Public Health and Safety	Flooding of the Y-drain will continue to be a risk to life and property		by piping the Y-drain at Washington, a return flow system, the water will be more efficiently delivered to the Virrgin River and pipes will reduce the risk of flooding		No change	

Special Environmental Concerns: Environmental Laws, Executive Orders, policies, etc.

In Section "I" complete and attach applicable Environmental Procedures Guide Sheets for documentation. Items with a "●" may require a federal permit or consultation/coordination between the lead agency and another government agency. In these cases, effects may need to be determined in consultation with another agency. Planning and practice implementation may proceed for practices not involved in consultation.

I. Special Environmental Concerns (Document compliance with Environmental Laws, Executive Orders, policies, etc.)	**J. Impacts to Special Environmental Concerns**					
	No Action		***Alternative 1***		***Alternative 2***	
	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action
●Clean Air Act	Upon Review, No Action Needed	☐	Upon Review, No Effect	☐	Upon Review, No Effect	☐
●Clean Water Act / Waters of the U.S.	Upon Review, No Effect	☐	See Attached Documentation Permits will be completed by the sponsor	☑	See Attached Documentation Permits will be completed by the sponsor	☑
●Coastal Zone Management	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐
Coral Reefs	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐
●Cultural Resources / Historic Properties	Upon Review, No Action Needed	☐	See Attached Documentation An APE will be confirmed with funding for appropriate 106 consultation	☑	See Attached Documentation An APE will be confirmed with funding for appropriate 106 consultation	☑
●Endangered and Threatened Species woundfin, Virgin River chub, southwestern willow flycatcher	Upon Review, No Action Needed	☐	See Attached Documentation Updated Consult to be completed with USFWS before construction if funding approved.	☑	See Attached Documentation Updated Consult to be completed with USFWS before construction if funding approved.	☑
Environmental Justice	Upon Review, No Action Needed	☐	No Effect-see documentation	☐		☐
●Essential Fish Habitat	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐
Floodplain Management	Upon Review, No Action Needed	☐	No Effect-see documentation Disturbed areas will be replanted-reseeded per agency/partner consultation. To be addressed in further NEPA doc.	☐	No Effect-see documentation Disturbed areas will be replanted-reseeded per agency/partner consultation. To be addressed in further NEPA doc.	☐
Invasive Species reduce riparian invasives, i.e. tamarisk and Russian olive within southwestern wiloow flycatcher habitat.	No Effect-see documentation Bare channel bank areas may see increase of invasives over time.	☐	See Attached Documentation Disturbed areas will be replanted-reseeded per agency/partner consultation. To be addressed in further NEPA doc.	☑	See Attached Documentation Disturbed areas will be replanted-reseeded per agency/partner consultation. To be addressed in further NEPA doc.	☑
●Migratory Birds/Bald and Golden Eagle Protection Act Improve habitat for a number of neotropical migrants, including the SW willow flycatcher.	Upon Review, No Action Needed	☐	See Attached Documentation If work is required during the migratory bird breeding/nesting period, a site specific survey for nesting birds will be performed starting at least 2 weeks prior to vegetation treatments. If nesting birds are found during the survey, appropriate spatial buffers will be established around nests in coordination with USFWS and UDWR. Established nests with eggs or young will not be moved, and the birds will not be harassed until all young have fledged and are capable of leaving the nest site. Confirmation that all young have fledged will be made by a	☑	See Attached Documentation If work is required during the migratory bird breeding/nesting period, a site specific survey for nesting birds will be performed starting at least 2 weeks prior to vegetation treatments. If nesting birds are found during the survey, appropriate spatial buffers will be established around nests in coordination with USFWS and UDWR. Established nests with eggs or young will not be moved, and the birds will not be harassed until all young have fledged and are capable of leaving the nest site. Confirmation that all young have fledged will be made by a	☑
Prime and Unique Farmlands	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐	Upon Review, Not Applicable	☐
Riparian Area improvements to riparian area with restoration and improved	See Attached Documentation	☐	No Effect-see documentation	☑	No Effect-see documentation	☑
●Wetlands	No Effect-see documentation	☐	See Attached Documentation	☐	See Attached Documentation	☐

●Wild and Scenic Rivers	Upon Review, No Effect	☐	Upon Review, No Effect	☐	Upon Review, No Effect	☐
K. Other Agencies and Broad Public Concerns	***No Action***		***Alternative 1***		***Alternative 2***	
Easements, Permissions, Public Review, or Permits Required and Agencies Consulted.	None needed		USFWS: T&E species; UDivWildRes: Coord for other alternatives to protect road; UDWaterRts: Stream Alt Permit-contact C.Williamson; State Sp Status Species: See attached Table; UDNR: Aquatic Info - Matt Briggs-435-340-0140. Native American consultation. ACOE consultation & 401 WQ/NPDES Cert: To be completed before construction. BLM SF-299 and Special		USFWS: T&E species; UDivWildRes: Coord for other alternatives to protect road; UDWaterRts: Stream Alt Permit-contact C.Williamson; State Sp Status Species: See attached Table; UDNR: Aquatic Info - Matt Briggs-435-340-0140. Native American consultation. ACOE consultation & 401 WQ/NPDES Cert: To be completed before construction. BLM SF-299 and Special	

K. (continued) Other Agencies and Broad Public Concerns		*No Action*	*Alternative 1*	*Alternative 2*
Cumulative Effects Narrative (Describe the cumulative impacts considered, including past, present and known future actions regardless of who performed the actions)		Failure of streambanks adjacent to the River is likely without some kind of bank protection. The road would be impassable without some kind of repair and protection against streambank/roadbank erosion. Recreationists, Powerline O&M, Emergency Management/Search & Rescue, Ranchers would be affected.	Based on review of the Proposed Action, it is determined this action would not have a significant adverse cumulative effect on any resources.	Based on review of the Proposed Action, it is determined this action would not have a significant adverse cumulative effect on any resources.
L. Mitigation		Does not fit the purpose and need.		
M. Preferred Alternative	√ preferred alternative	☐	☐	☐
	Supporting reason			

N. Context (Record context of alternatives analysis)	local	local	local

The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.

O. Determination of Significance or Extraordinary Circumstances

Intensity: Refers to the severity of impact. Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

If you answer ANY of the below questions "yes" then contact the State Environmental Liaison as there may be extraordinary circumstances and significance issues to consider and a site specific NEPA analysis may be required.

Yes	No	
☐	☑	• Is the preferred alternative expected to cause significant effects on public health or safety?
☐	☑	• Is the preferred alternative expected to significantly effect unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?
☐	☑	• Are the effects of the preferred alternative on the quality of the human environment likely to be highly controversial?
☐	☑	• Does the preferred alternative have highly uncertain effects or involve unique or unknown risks on the human environment?
☐	☑	• Does the preferred alternative establish a precedent for future actions with significant impacts or represent a decision in principle about a future consideration?
☐	☑	• Is the preferred alternative known or reasonably expected to have potentially significant environment impacts to the quality of the human environment either individually or cumulatively over time?
☐	☑	• Will the preferred alternative likely have a significant adverse effect on ANY of the special environmental concerns? Use the Evaluation Procedure Guide Sheets to assist in this determination. This includes, but is not limited to, concerns such as cultural or historical resources, endangered and threatened species, environmental justice, wetlands, floodplains, coastal zones, coral reefs, essential fish habitat, wild and scenic rivers, clean air, riparian areas, natural areas, and invasive species
☐	☑	• Will the preferred alternative threaten a violation of Federal, State, or local law or requirements for the protection of the environment?

P. The information recorded above is based on the best available information:

In the case where a non-NRCS person (i.e. a TSP) assists with planning they are to sign the first signature block and then NRCS is to sign the second block as the responsible federal agency for the planning action.

Signature (TSP if applicable)	**Title**	**Date**
Signature (NRCS)	**Title**	**Date**

The following sections are to be completed by the Responsible Federal Official (RFO)		
Q. NEPA Compliance Finding (check one) **The preferred alternative:**		**Action required**
☐	1) is **not a federal action** where the agency has control or responsibility.	Document in "R.1" below. No additional analysis is required
☐	2) is a federal action that is **categorically excluded** from further environmental analysis **and** there are no extraordinary circumstances.	Document in "R.2" below. No additional analysis is required
☐	3) is a federal action that has been **sufficiently analyzed** in an existing Agency state, regional, or national NEPA document **and** there are no predicted significant adverse environmental effects or extraordinary circumstances.	Document in "R.1" below. No additional analysis is required.
☐	4) is a federal action that has been sufficiently analyzed in another Federal agency's NEPA document (EA or EIS) that addresses the proposed NRCS action and its' effects **and has been formally adopted by NRCS**. NRCS is required to prepare and publish the agency's own Finding of No Significant Impact for an EA or Record of Decision for an EIS when adopting another agency's EA or EIS document. **Note: This box is not applicable to FSA.**	Contact the State Environmental Liaison for list of NEPA documents formally adopted and available for tiering. Document in "R.1" below. No additional analysis is required
jx ☐	5) is a federal action that has **NOT** been sufficiently analyzed or may involve predicted significant adverse environmental effects or extraordinary circumstances and may require an EA or EIS.	Contact the State Environmental Liaison. Further NEPA analysis required.

R. Rationale Supporting the Finding	
R.1 Findings Documentation	Proposed action is planned to be carried out using the 2017 Consolidated Appropriations Act for Watershed and Flood Protection Operations (WFPO) as follows: "For necessary expenses to carry out preventive measures, including but not limited to surveys and investigations, engineering operations, works of improvement, and changes in use of land, in accordance with the Watershed Protection and Flood Prevention Act (16 U.S.C. 1001-1005 and 1007-1009) and in accordance with the provisions of laws relating to the activities of the Department". A Supplemental Plan-EA to the Warner Draw PL 566 Watershed is anticipated to be required for the proposed action.
R.2 Applicable Categorical Exclusion(s) (more than one may apply)	

I have considered the effects of the alternatives on the Resource Concerns, Economic and Social Considerations, Special Environmental Concerns, and Extraordinary Circumstances as defined by Agency regulation and policy.

S. Signature of Responsible Federal Official:

Lance Smith	Civil Engineer	8/28/2017
Signature	**Title**	**Date**

Additional notes

Summary and Comparison of Alternatives

Project Name	Virgin River Irrigation Improvements	ALTERNATIVES COMPARISON TABLE				
Purpose and need for actions		The three primary projects in this proposal are: 1) Modernization of the Hurricane Canal Company and Hurricane City water delivery systems that will allow better off- and on-farm water management, allow producers to convert to sprinkler irrigation, and yield water savings that will be directed to the Virgin River as an instream benefit. 2) Piping of the Y-drain system will yield more water efficient, safe, and direct return flows to the Virgin River to provide riparian and instream benefits. 3) Virgin River riparian and channel restoration above the Washington Fields Diversion will improve habitat for native and federally-listed species.				
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3	Alternative 4	
Description of Alternatives	Measures to address: - Flooding – Water Conservation – Watershed Protection	On farm irrigation systems will continue to use water inefficiently. Return flows to the Virgin River will continue to impact both water quality and quantity. Reduced flows and invasive plant species will continue to impact wildlife habitat for six native fish including two endangered and the endangered Southwestern Willow Flycatcher	Construct de-silting ponds, replace the Hurricane canal with a pressurized pipe. Pipe the Y-drain to efficiently return flow to the Virgin River. Use the irrigation water savings and improved return flow to restore riparian habitat along 16 miles of the Virgin River benifiting four state sensitive fish species, two endangered fish species and the endangered Southwest Willow Flycatcher.	Lease water to restore riparian habitat along 16 miles of the Virgin River benifiting four state sensitive fish species, two endangered fish species and the endangered Southwest Willow Flycatcher.		
Installation Cost	NRCS Contribution - SLO Contribution - Total	$0 $0 $0	$5,326,874 $6,666,874 $11,993,748	$0 Negotiated Annually $Unknown		
Environmental Impacts	*Soil Erosion*					

Summary and Comparison of Alternatives

Project Name	Virgin River Irrigation Improvements	ALTERNATIVES COMPARISON TABLE				
Purpose and need for actions		The three primary projects in this proposal are: 1) Modernization of the Hurricane Canal Company and Hurricane City water delivery systems that will allow better off- and on-farm water management, allow producers to convert to sprinkler irrigation, and yield water savings that will be directed to the Virgin River as an instream benefit. 2) Piping of the Y-drain system will yield more water efficient, safe, and direct return flows to the Virgin River to provide riparian and instream benefits. 3) Virgin River riparian and channel restoration above the Washington Fields Diversion will improve habitat for native and federally-listed species.				
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3	Alternative 4	
	Soil *- Stream bank* *– Sheet and Rill*	*Streambank erosion will continue.* *Continued sheet and rill erosion from field runoff*	*streambank will be stabilized and erosion reduced.* *Reduced runoff and erosion.*	*streambank will be stabilized and erosion reduced.* *No change*		
	Water Potable water supply forecast Surface- Quality Surface-Quantity Ground water-Quantity	 No Effect No changes in water quality are expected. Continued limited quantity of river base flow. Low base flow will continue to lower the water table	 No Effect Reduced sediment load and improved riparian area will improve water quality. Improved irrigation and return flow will increase river base flow. Increased river base flow will raise the water table	 No Effect Improved riparian area will improve water quality. Improved return flow will increase river base flow. Increased river base flow will raise the water table		

Summary and Comparison of Alternatives

Project Name	Virgin River Irrigation Improvements	ALTERNATIVES COMPARISON TABLE				
Purpose and need for actions		The three primary projects in this proposal are: 1) Modernization of the Hurricane Canal Company and Hurricane City water delivery systems that will allow better off- and on-farm water management, allow producers to convert to sprinkler irrigation, and yield water savings that will be directed to the Virgin River as an instream benefit. 2) Piping of the Y-drain system will yield more water efficient, safe, and direct return flows to the Virgin River to provide riparian and instream benefits. 3) Virgin River riparian and channel restoration above the Washington Fields Diversion will improve habitat for native and federally-listed species.				
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3	Alternative 4	
	Waters of US	No Change	Restoration of riparian areas	Restoration of riparian areas		
	Floodplain Mgt.	Continued fragmentation and degradation of the floodplain	Floodplain and riparian restoration and improvement	Floodplain and riparian restoration and improvement		
	Wetlands	No Change	Increased base flow will improve the hydrology of wetlands present	Increased base flow will improve the hydrology of wetlands present		
	Plants Invasive Species	No change to existing management.	Removal of tamerisk and Russian Olive. Restoration of native species.	Removal of tamerisk and Russian Olive		
	Riparian Areas	No Change	Restored riparian areas along 16 miles of river	Restored riparian areas.		
	Animals Fish Habitat	No Change	Restoration of riparian and in stream habitat for two endangered fish	Restoration of riparian and in stream habitat for two endangered fish		

Summary and Comparison of Alternatives

Project Name	Virgin River Irrigation Improvements	ALTERNATIVES COMPARISON TABLE				
Purpose and need for actions		The three primary projects in this proposal are: 1) Modernization of the Hurricane Canal Company and Hurricane City water delivery systems that will allow better off- and on-farm water management, allow producers to convert to sprinkler irrigation, and yield water savings that will be directed to the Virgin River as an instream benefit. 2) Piping of the Y-drain system will yield more water efficient, safe, and direct return flows to the Virgin River to provide riparian and instream benefits. 3) Virgin River riparian and channel restoration above the Washington Fields Diversion will improve habitat for native and federally-listed species.				
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3	Alternative 4	
	E&T Species	No effect	Restoration of riparian and in stream habitat for Woundfin, Virgin River Chub and Southwestern Willow Flycatcher.	Restoration of riparian and in stream habitat for Woundfin, Virgin River Chub and Southwestern Willow Flycatcher.		
	Flood Damages	Flood damage occurs	Reduce flood damage	Reduce flood damage		
	Historic, Cultural, and Scientific Resources	No sites recorded	No change	No change		
	Public Health and Safety	Risk of loss of life, property,	Risk of loss of life, property, and infrastructure damage protected for the 100 year storm.	Risk of loss of life, property, and infrastructure damage protected for the 100 year storm.		
	Tribal, religious, sacred, or cultural site	Not present	No change	No change		

Attachment C
Alternatives Comparison Table

Summary and Comparison of Alternatives

Project Name	Santa Clara Watershed	ALTERNATIVES COMPARISON TABLE		
Purpose and need for actions	The purpose of the project is: 1. to prevent damage from erosion, floodwater and sediment. Flooding and sedimen continue to damage property and erosion of the Santa Clara river continues to threaten agricultural lands and degrade wildlife habitat. 2. to further the conservation, development, utilization and disposal of water. Water currently unable to be utilized on the Shivwits agricultural fields would be develope 3. to further the conservation and proper utilization of land. Irrigation of crops would b restored on agricultural lands and river and riparian areas would be restored.			
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3
Description of Alternatives	Flood Prevention Agriculture water Management Watershed Protection	Continues to put life and property at risk	Install 6 detention / debris basins, river restoration and streambank protection, Irrigation system	Construct flood channels, lease irrigation water, install streambank protection
Installation Cost	NRCS Contribution - SLO Contribution - Total	$0 $0 $0		
Environmental Impacts	Soil Erosion - Stream bank Sedimentation	Stream continues to erode Large sediment loads continue	Streambank stabilized Sediment loads reduced	Streambank stabilized Large sediment loads continue
	Water Waters of US Wetlands	No impact	Temporary and permanent fills and impacts Temporary impacts	Temporary and permanent fills and impacts Temporary impacts

Summary and Comparison of Alternatives

Project Name	Santa Clara Watershed	ALTERNATIVES COMPARISON TABLE		
Purpose and need for actions	The purpose of the project is: 1. to prevent damage from erosion, floodwater and sediment. Flooding and sedimen continue to damage property and erosion of the Santa Clara river continues to threaten agricultural lands and degrade wildlife habitat. 2. to further the conservation, development, utilization and disposal of water. Water currently unable to be utilized on the Shivwits agricultural fields would be develope 3. to further the conservation and proper utilization of land. Irrigation of crops would b restored on agricultural lands and river and riparian areas would be restored.			
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3
	Plants Invasive Species Riparian Areas	 Invasive species prevalent Riparian area degradation	 Invasive Species controlled. Natives planted Riparian areas restored	Invasive species prevalent Riparian area degradation
	Animals Fish Habitat Wildlife Habitat E&T Species	Poor water quality and habitat Poor wildlife habitat Poor habitat	Improved fish habitat Improved wildlife habitat Improved habitat	Poor habitat improved water quality Poor habitat Poor habitat
	Flood Damages	Continued flood damage	Reduced flood damage	Reduced flood damage
	Historic, Cultural, and Scientific Resources	No impact	No impact	No impact
	Public Health and Safety	Public safety at risk	Public protected	Public protected

Summary and Comparison of Alternatives

Project Name	Santa Clara Watershed	ALTERNATIVES COMPARISON TABLE		
Purpose and need for actions		The purpose of the project is: 1. to prevent damage from erosion, floodwater and sediment. Flooding and sedimen continue to damage property and erosion of the Santa Clara river continues to threaten agricultural lands and degrade wildlife habitat. 2. to further the conservation, development, utilization and disposal of water. Water currently unable to be utilized on the Shivwits agricultural fields would be develope 3. to further the conservation and proper utilization of land. Irrigation of crops would b restored on agricultural lands and river and riparian areas would be restored.		
	Item or Concern	Alternative 1 (Future Without Project)	Alternative 2 (Potential/Preferred)	Alternative 3
	Tribal, religious, sacred, or cultural site	Loss of tribal agricultural lands	Preserved and restored agricultural lands	Preserved non-irrigated land

Attachment D
Maps

Santa Clara Watershed