



CABY INTEGRATED REGIONAL WATER MANAGEMENT PLAN
PROPOSITION 84, ROUND 2 IMPLEMENTATION GRANT



WATER EFFICIENCY,
WATER QUALITY
4 AND SUPPLY RELIABILITY
IN THE CABY REGION

GENERAL INFORMATION	
Project Title	Water Efficiency, Water Quality and Supply Reliability in the CABY Region
Organization	Nevada Irrigation District and Placer County Water Agency
Abstract	The Nevada Irrigation District (NID) and Placer County Water Agency (PCWA) both serve raw and treated water to homes, farms and businesses in Nevada and Placer counties in the foothills of Northern California's Sierra Nevada mountains. Both agencies rely on canals, ditches, flumes and reservoirs, many of which were built in the Gold Rush era and which need updating and repair, in order to attain the CABY IRWM's water supply, water quality and water efficiency goals. This project will install critically needed interties between agencies' systems to ensure emergency backup water supply and fire flows, line four miles of canals to conserve water and improve water quality and install gauging stations to better monitor water losses and leakages. NID and PCWA will also collaborate in a coordinated water conservation education effort to customers.
Partner Organizations	N/A
Disadvantaged Community	The DAC of North Auburn is directly affected by this project but the project is not claiming a DAC waiver.
Grant Funds Requested	\$997,500
Non-State Match	\$1,017,987 (103%)
Total Budget	\$2,015,487
Watershed	Bear, Yuba, American
County	Nevada, Placer
Status of Project Design	Interties: 40% design completed Canal Lining: 10% Gaging Stations: 10% Water Efficiency Education: 0%

<p>Existing Data and Studies</p>	<p>Interties: PCWA has prepared a Water Shortage Contingency Plan which is Appendix B -4 to PCWA's <i>Urban Water Management Plan</i>. An excerpt from PCWA's <i>Urban Water Management Plan</i>, pertains to the Bear River Canal failure and sites a case study of the need for interties with NID. NID has also prepared a water shortage, Drought Contingency Plan and it is incorporated into its <i>2010 Urban Water Management Plan</i>, Appendix G.</p> <p>Canal Lining: Initial annual water loss estimates are derived from a 2009 DWR grant-funded study <i>Canal and Reservoir Feasibility Study</i>. Several inflow/outflow measurements have also been performed on the proposed canals by PCWA and NID staff to further quantify actual water losses. NID's <i>2012 Agricultural Water Management Plan</i> addresses the need for canal lining under the Efficient Water Management Practices, Chapter 6.</p> <p>Gaging Stations: NID's <i>2012 Agricultural Water Management Plan</i> addresses the need for improved water measurement and additional gaging stations under the Efficient Water Management Practices, Chapter 6.</p> <p>Water Efficiency Education: N/A</p>
<p>Status of CEQA, NEPA, and other environmental laws</p>	<p>Interties: NID and PCWA anticipate preparation of a mitigated negative declaration to comply with CEQA for the intertie projects to be completed by February 2014. Depending on the acreage and any soil disturbance, a Stormwater Pollution Prevention Plan or a Water Pollution Control Plan may be prepared for the project.</p> <p>Canal Lining: PCWA and NID anticipate filing a categorical exemption from CEQA in December 2014.</p> <p>Gaging Stations: NID will comply with CEQA by preparing and filing a Notice (or Notices) of Categorical Exemption for the new gaging stations in August 2013. No permits will be required.</p> <p>Water Efficiency Education: N/A</p>
<p>Work that will be completed prior to October, 2013 (assumed contract date)</p>	<p>Interties: PCWA will conduct a reconnaissance level survey of the area prior to the grant award date.</p> <p>Canal Lining: Both NID and PCWA have completed a prioritization plan for canal lining. As part of this plan, five miles have already been completed between the two agencies at strategic locations.</p> <p>Gaging Stations: NID has developed a priority plan that identifies the canals with the greatest need for improvements such as canal lining and the installation of staff gages and gaging stations.</p>

	<p>Water Efficiency Education: Agencies have developed some literature but this will be enhanced to increase awareness and achieve regional water conservation goals.</p>
<p>Procedures for coordination with partner agencies and organizations</p>	<p>NID and PCWA will coordinate a minimum of three meetings to develop a MOU between the two agencies on the operational details of the emergency interties. Regular meetings will occur throughout the life of the project.</p>
<p>Description of synergies or linkages between other CABY IRWMP projects</p>	<p>This project is a keystone project with respect to distribution system infrastructure efficient enhancement. In conjunction with other projects that seek to generate conservation and efficiency in natural and man-made systems, this project also constitutes a meaningful contribution to achieving adaptive operational and system capacity issues associated with climate change and to alleviate emergency stresses on the water systems of rural communities.</p> <p>This project also supports the following CABY linkages and synergies objectives, articulated in the Introduction to the Proposal: selection of projects at multiple elevations: developing a mix of localized projects that address clear single-location needs with projects that have a regional impact; inclusion of pilot, demonstration or model projects whose benefits can then be expanded through implementation of similar projects across the region; siting of projects across all of the primary CABY watersheds; including projects that directly address the resiliency of natural and infrastructure systems; inclusion of projects which result in direct water conservation and/or use efficiencies; creation of implementation actions/projects that represent adaptive management options in response to climate change; pairing projects that create synergies of impact internally and between projects; balancing infrastructure and natural resource projects within each implementation package; and creating a balance of project sponsors across all stakeholder groups, including DAC, governmental agencies and non-profit organizations.</p>
<p>Status of acquisition of land or rights of way if applicable.</p>	<p>All projects: The project team will prepare and process applications for encroachment permits from Placer County as applicable for proposed construction activities. NID is working to secure a small easement for the Locksley Lane emergency intertie.</p>
<p>If project is part of a multi-phased project, describe how the project can operate as a stand-alone project</p>	<p>Interties: Each emergency intertie project is a stand-alone project.</p> <p>Canal Lining: This project is a continuation of existing canal lining efforts that are part of a prioritization plan. The proposed projects are the result of a system prioritization to address critical areas to minimize losses and improve efficiency, supply and water quality.</p> <p>Gaging Stations: This project is a continuation of existing installation efforts. Each gaging station is a standalone functional facility that does not rely on</p>

	<p>other gaging stations for the measurement of flows; however, in order to accurately measure losses in a canal, two gaging stations are needed – one upstream (head) and one downstream (end). Of the six (6) new gaging stations needed, five (5) will be installed at the ends of canals paired with existing gaging stations located at the heads, and one (1) will be installed at the head of a canal. These locations are the result of a system prioritization to identify those of critical need. In addition, one hundred staff gages will be purchased and installed along canal segments to better identify points of leakage and water losses.</p> <p>Water Efficiency Education: Many parts of the education program can be implemented as standalone pieces that build towards the goal; brochures, outreach events, and equipment for events, such as soil probes, WaterWise kits, etc. can be acquired as time and funds become available.</p>
SPECIFIC GOALS AND OBJECTIVES OF THE PROJECT	
Project/CABY Goals and Issues	Measurable Objectives
Ensure adequate and reliable water supply that can be adapted to climate change and can meet the needs of the region: Conservation; Aging Infrastructure; Interties	<ul style="list-style-type: none"> • 2 emergency interties built • 4 miles of canal lining and reduce water losses by at least 200 acre feet per year • Installation of 6 Gaging Stations, and installation of 100 staff gauges •
Ensure sufficient water quality to support healthy ecosystems and dependent organisms: Sedimentation Management	<ul style="list-style-type: none"> • 4 miles of canal lining to provide bank stabilization, reduce sediment, reduce system losses and improve efficiency which will improve water quality.
Integrate outreach and education into all CABY projects and programs	<ul style="list-style-type: none"> • Common (unified) message to customers in Placer and Nevada Counties regarding water conservation. • 3 outreach events and three workshops
Overarching Objective: Share useable data and information across the region	<ul style="list-style-type: none"> • Regular data updates to CABY website and state and all other relevant databases and agencies.
Overarching Objective: All planning in region to be coordinated to ensure communication and shared solutions.	<ul style="list-style-type: none"> • Regular communication with CABY partners to share project progress, lessons learned and applicability of project as a model to other partners in region.

PURPOSE AND NEED OF THE PROJECT

The Nevada Irrigation District (NID) and Placer County Water Agency (PCWA) both serve raw and treated water to homes, farms and businesses in Nevada and Placer counties in the foothills of Northern California's Sierra Nevada mountains. NID supplies water to nearly 25,000 homes, farms and businesses in Nevada and Placer counties while PCWA serves more than 38,000 accounts in several water service zones in Placer County. NID and PCWA have a total of approximately 600 miles of canals used to convey and distribute water. Water originates from high mountain elevations and is conveyed by gravity to both NID's and PCWA's service areas. Both agencies rely on canals, ditches, flumes and reservoirs, many of which were built in the Gold Rush era and which need updating and repair, in order to attain the CABY IRWM's water supply, water quality and water efficiency goals.

Canal Interties

Recent emergency incidents, namely the Hwy 49 Fire of 2010 and the Pacific Gas and Electric Bear River Canal failure of 2011 demonstrated the lack of back-up supply options to many of the area's homes, businesses, municipal treatment plants and critical facilities such as hospitals, medical and law enforcement services.

The catastrophic Hwy 49 fire, which occurred in 2010 destroyed 63 homes and burned 343 acres near NID's North Auburn water treatment plant. The fire cutoff power to the treatment plant limiting the plant's ability to meet critical fire flow demands. This nearly depleted the water in storage and without power it was difficult to supply water to residents and local businesses in the North Auburn DAC. An emergency intertie will provide necessary water and pressure to meet ordinary fire flow demands and also to ensure a reliable supply for drinking water and household use such as toilet flushing, washing and showering.

PG&E's Bear River Canal failure is another example of the critical need for this project. The Bear River Canal is the primary source of water to PCWA's Zone 1 system. It completely failed due to a landslide on April 19, 2011. It took PG&E 48 days working 24 hours, seven days a week to make repairs and return to normal water service on June 5, 2011. For those 48 days PCWA operated under severe water shortage conditions. Given the time of year, this amounted to a 90% reduction in normal deliveries from PG&E.

Canal Lining

NID and PCWA operate and maintain over 600 miles of mostly open, earthen canals, which have an estimated loss of efficiency between 10-20% due to evaporation, seepage and other factors. Both water agencies have identified canal lining as a priority measure to reduce losses from seepage and failing canal banks to improve water quality and reduce system losses, improving water efficiency and increasing available water supply throughout their systems.

Gaging Stations

NID also proposes to install critically needed gauging stations in prioritized locations along its raw water distribution system. These gauging stations will calculate hydrologic data which will enable NID to more effectively measure water use, improve water conservation and efficiency through accurate water measurement, increase the ability to detect and locate leaks and reduce spills of non-recoverable water and waste.

Water Efficiency Education: The Conservation Act of 2009 (aka SBX 7-7) also requires both urban water suppliers as well as agricultural water suppliers to implement demand management measures and efficient water

management practices. Urban water suppliers are required to achieve a 20% reduction in water consumption by the year 2020. By providing customers with an opportunity to learn and implement conservation measures, they can achieve greater water savings while reducing the cost of their water bills.

DESCRIPTION OF THE PROJECT

Canal Interties

In the face of emergency situations such as those described above, the RWMG's goal is to provide NID and PCWA the ability to move water from one system to the other to alleviate shortages experienced during similar situations.

NID and PCWA serve adjacent customers with water delivery systems that are geographically isolated from each other. This project will complete the design and fund construction of water system emergency interties between NID and PCWA's treated water systems. PCWA and NID have prioritized two locations to meet the project goals; Locksley Lane and Mt. Vernon locations.

The Locksley Lane and Mt. Vernon interties will ensure water supply reliability for disadvantaged residents and consumers and provide emergency fire flows for the north Auburn DAC community. In an emergency situation, the interties will ensure a reliable water source and help protect the health and safety of the residents.

Canal Lining

In this project, NID and PCWA propose to coordinate their work to design, and engineer the lining of four miles (21,120 lf) of strategic portions of earthen canals used for raw water conveyance using previously used and successful shotcrete (air blown mortar) techniques.

Gauging Stations

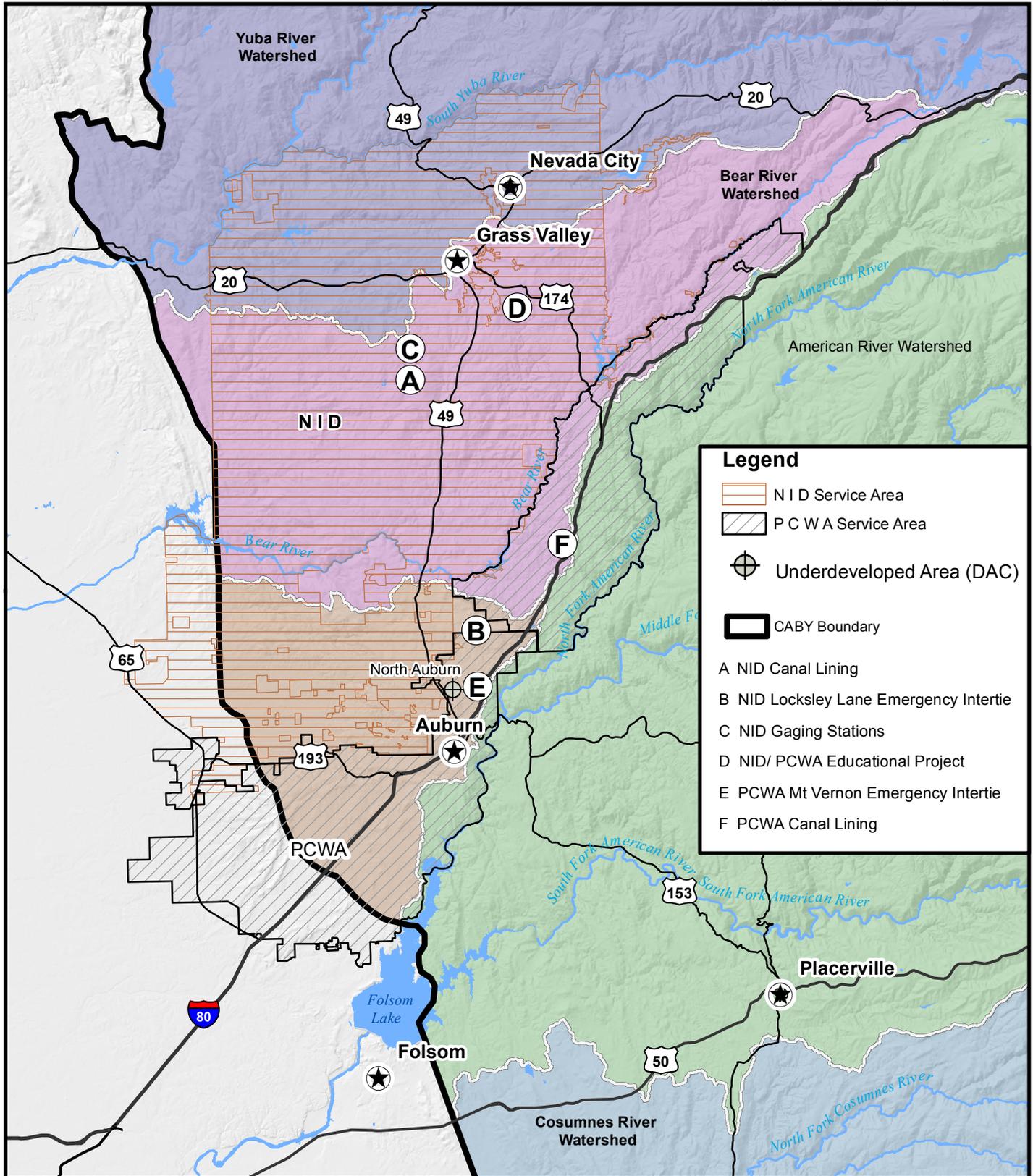
One hundred staff gauges will be purchased and installed to provide better measurement along canal segments to better address points of leakage and water losses.

Water Efficiency Education

The project also includes an educational component as part of the goal of achieving the 20% reduction in water use by 2020. The education program will target residential, commercial, institutional and agricultural water users. Specifically, the project will:

- Increase awareness of the importance of water conservation among consumers in the region.
- Increase awareness among the region's landowners of water conservation tools and Best Management Practices for conserving water.
- Increase the success rate of water conservation practices region-wide.
- Develop regional outreach materials, events, seminars and workshops that focus on the practices of local consumers.

All these actions will reduce operational losses and improve water use efficiency. These best management practices also help the region reach the State of California's mandated 20% reduction in water use by 2020.



Legend

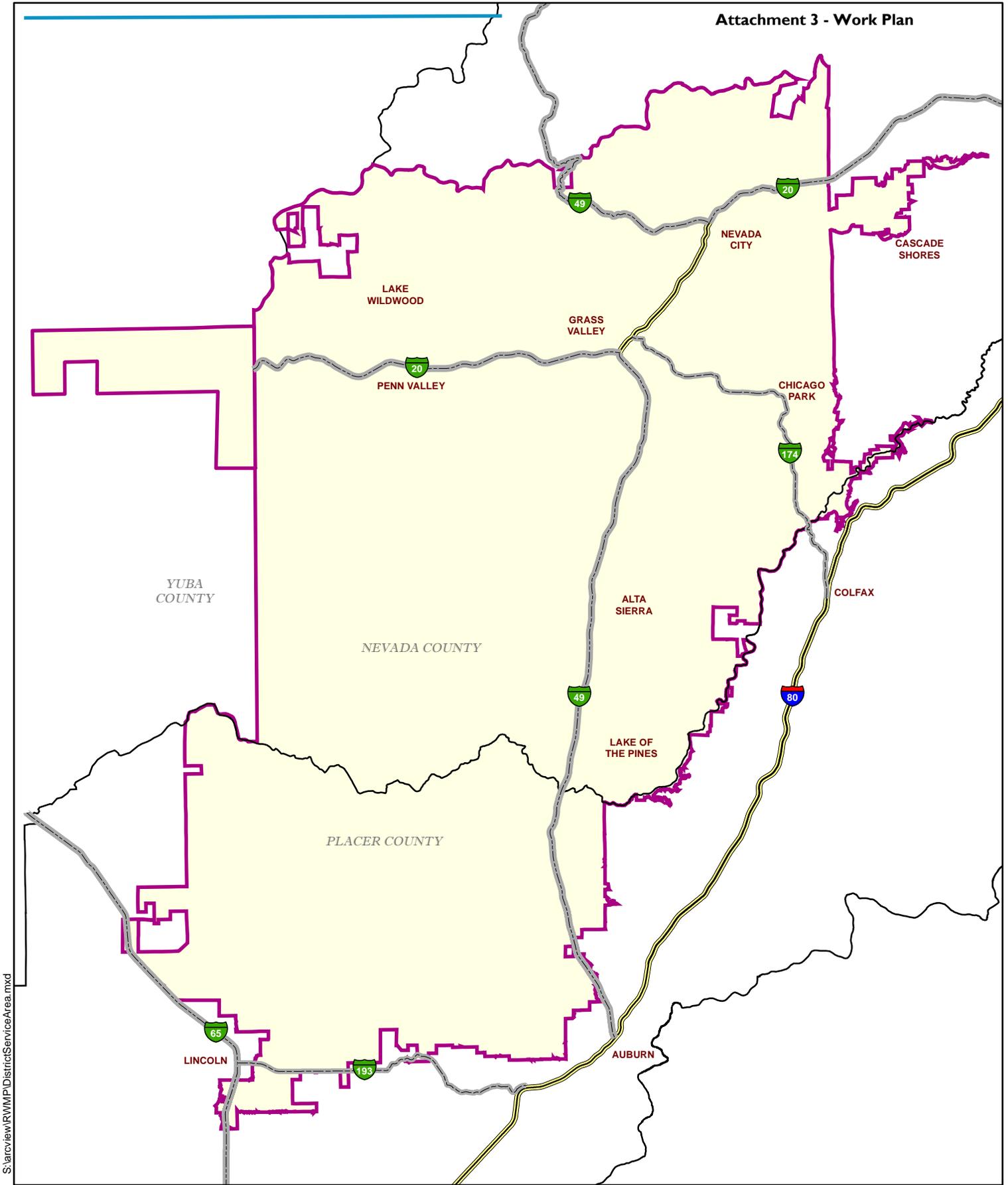
- N I D Service Area
- P C W A Service Area
- Underdeveloped Area (DAC)
- CABY Boundary
- A NID Canal Lining
- B NID Locksley Lane Emergency Intertie
- C NID Gaging Stations
- D NID/ PCWA Educational Project
- E PCWA Mt Vernon Emergency Intertie
- F PCWA Canal Lining



Cosumnes, American, Bear & Yuba River
Integrated Regional Water Management

Project 4 Water Efficiency, Water Quality and Supply Reliability in the CABY Region





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Date: 11/6/2012
 Drawn By: D. HUNT

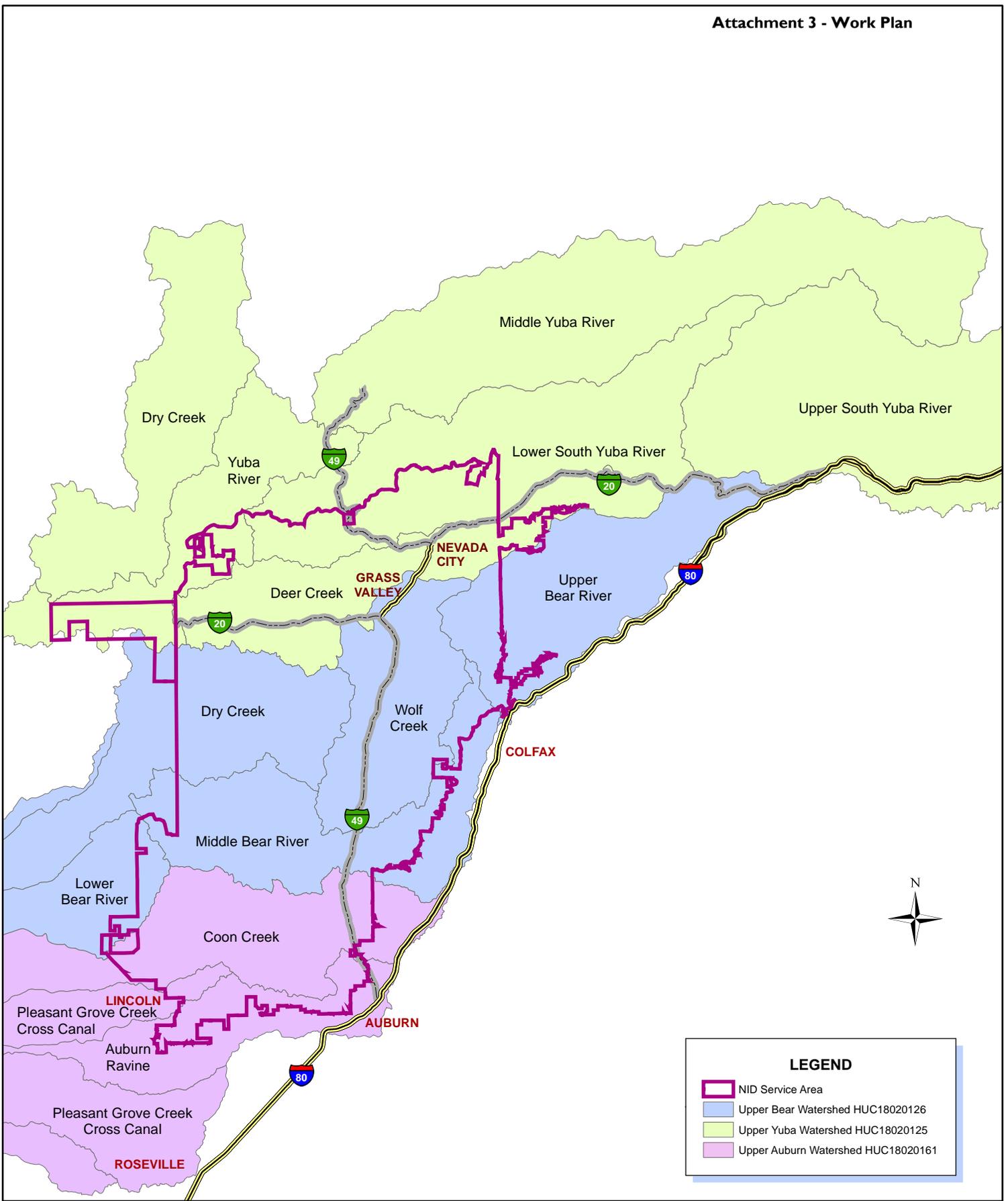
NID SERVICE AREA BOUNDARY

NEVADA IRRIGATION DISTRICT

NEVADA COUNTY -- PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

FIGURE 2.5

Scale: NO SCALE



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WATERSHED BOUNDARIES AND NID SERVICE AREA

FIGURE 2.3

NEVADA IRRIGATION DISTRICT

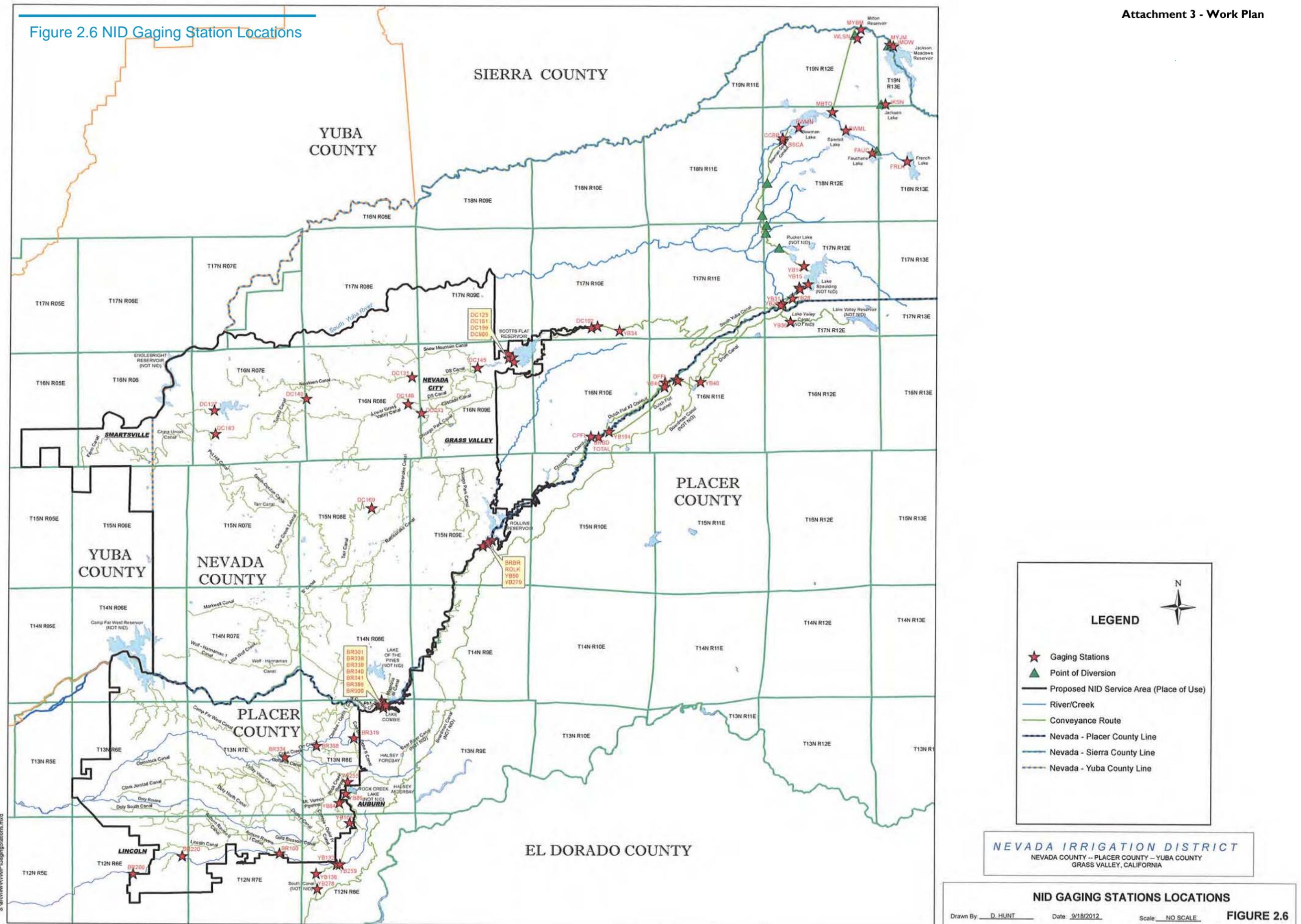
NEVADA COUNTY -- PLACER COUNTY
GRASS VALLEY, CALIFORNIA

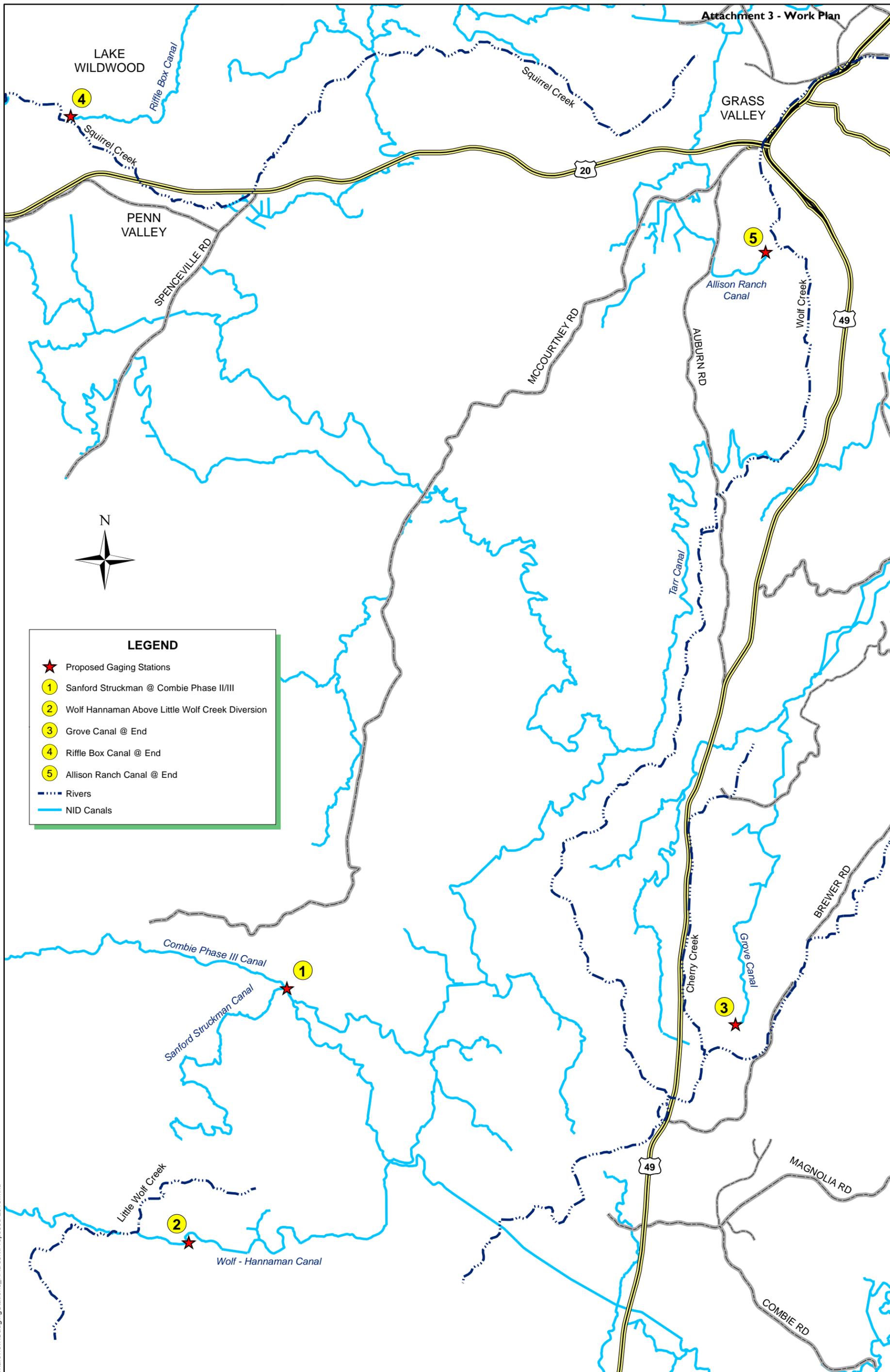
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Date: 9/17/2012
Drawn by : Dean Hunt

Figure 2.6 NID Gaging Station Locations





LEGEND

- ★ Proposed Gaging Stations
- ① Sanford Struckman @ Combie Phase II/III
- ② Wolf Hannaman Above Little Wolf Creek Diversion
- ③ Grove Canal @ End
- ④ Riffle Box Canal @ End
- ⑤ Allison Ranch Canal @ End
- Rivers
- NID Canals

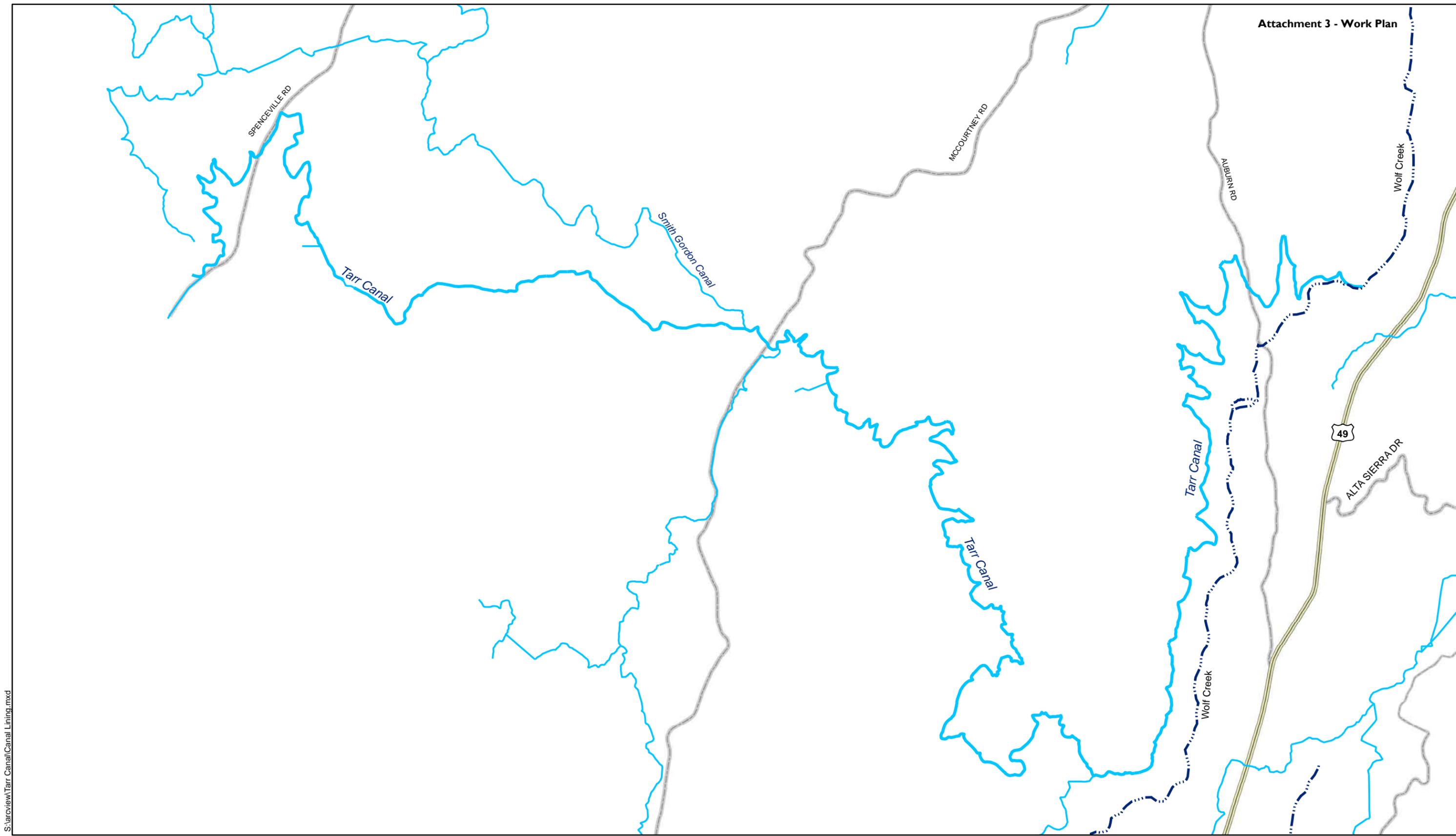
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NEVADA IRRIGATION DISTRICT
 NEVADA COUNTY -- PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

NID PROPOSED GAGING STATIONS

Drawn By: D. HUNT Date: 3/21/2013 Scale: 1" = 5000' @ 11x17 Sheet: 1 of 1



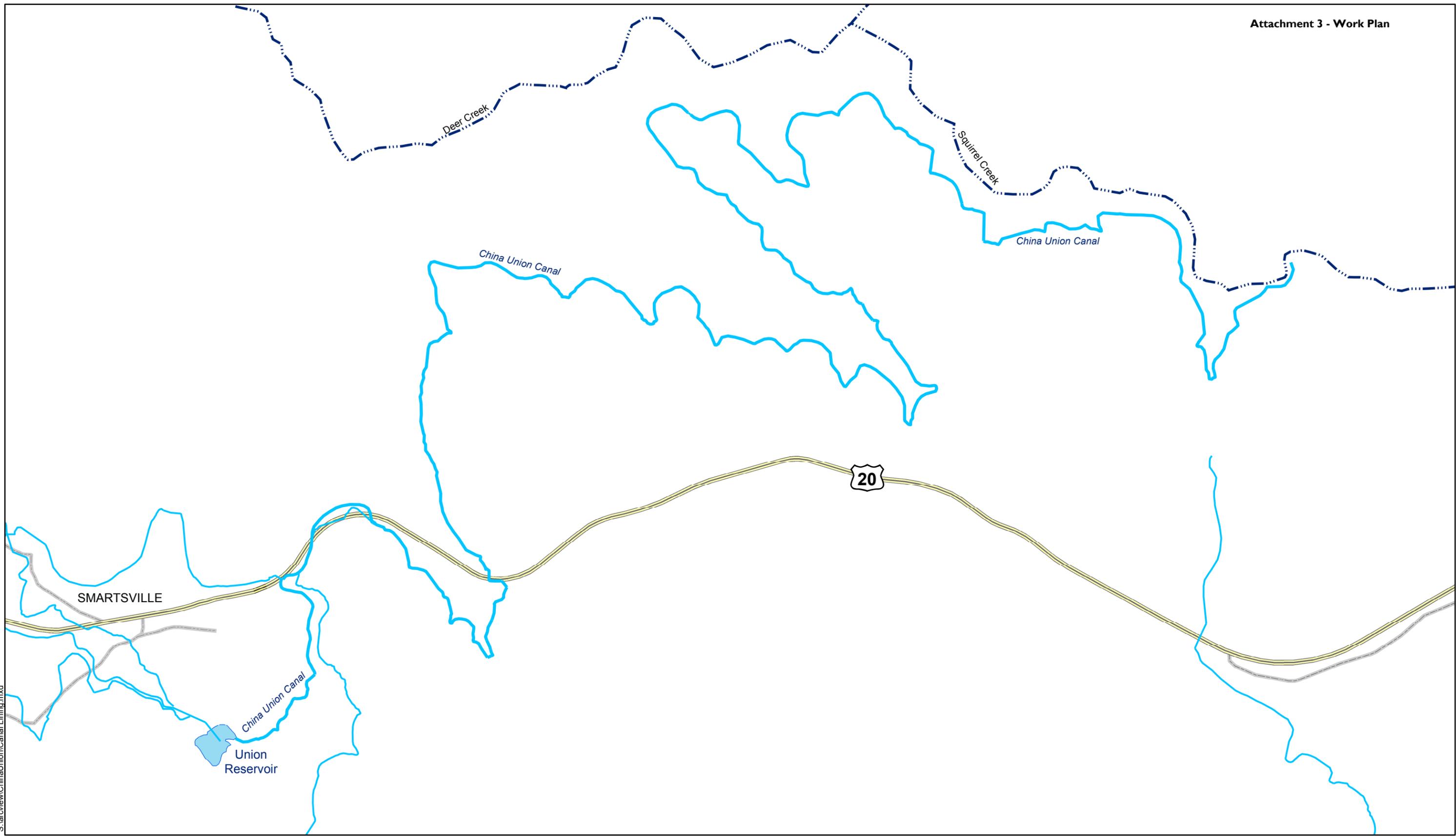
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NEVADA IRRIGATION DISTRICT
 NEVADA COUNTY -- PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

**NID PROPOSED CANAL LINING PROJECTS
 TARR CANAL**

Drawn By: D. HUNT Date: 3/21/2013 Scale: 1" = 3000' @ 11x17





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NEVADA IRRIGATION DISTRICT
 NEVADA COUNTY -- PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

NID PROPOSED CANAL LINING PROJECTS
CHINA UNION CANAL

Drawn By: D. HUNT Date: 3/21/2013 Scale: 1" = 3000' @ 11x17



Mount Vernon Road Intertie

NID

~990 FT.

Proposed Intertie



~1,340 FT.

PCWA

PROJECT WORK TASKS

Budget Category (A) DIRECT PROJECT ADMINISTRATION

TASK 1: DIRECT PROJECT ADMINISTRATION

Subtask 1.1: Administration and Management

Description: The objective of this task is to keep the project on time and within budget, keep all participants informed of project progress and status of deliverables, establish and maintain reliable and accurate billing and recordkeeping ensure that all requirements of the agreement with the DWR are met, and generally ensure smooth project implementation. The tasks for this budget category will comprise all non-construction project administration activities performed by the NID, PCWA and CABY staff throughout the duration of the project and will include: development and completion of contractual paperwork, maintenance and reporting of expense documentation, oversight of project scheduling and contract/agreement compliance, preparation of monthly invoices, and completion of the final invoice.

Subtask 1.2: Reporting

Description (quarterly progress reports, invoices, final reports, and post-construction completion reports): PCWA and NID will both develop project invoicing and reporting within the terms of the grant award. The tasks for this budget category will include all activities necessary to support invoicing, associated status reports including percent complete of project activities , quarterly status reporting to the CABY IRWMP-RWMG, and submittal of the final report. These activities will include: tracking of the specific status of each project task, documentation of task status in an easy-to-understand format and any other reporting details as stipulated in the DWR Grant Agreement.

Subtask 1.3: Performance Measures and Monitoring Plan

Description: The goal of this task is to describe the performance measures that will be used to quantify and verify project performance. A discussion of the monitoring system to be used to verify project performance with respect to the project benefits or objectives identified in the Proposal will be provided. A discussion of how monitoring data will be used to measure the performance in meeting the overall goals and objectives of the IRWM Plan will be included. Attachment 7 Monitoring, Assessment and Performance Measures, presents the planned project monitoring, assessment, and performance measures that will demonstrate that the Proposal will meet its intended goals, achieve measurable outcomes, and provide value to the State of California.

Subtask 1.4: Coordination with partner agencies and organizations

Description: PCWA and NID will continue to meet and coordinate projects through a minimum of bi-monthly meetings and communicate with CABY for informational meetings and reports.

Subtask 1.5: Labor Compliance:

NID and PCWA adhere to all Labor Compliance regulations.

Task	Task Title	Deliverables
1	Direct Project Administration	
1.1	Administration and Management	<ul style="list-style-type: none"> • Invoices as required • Accessible and Accurate records
1.2	Reporting	<ul style="list-style-type: none"> • Reports as required • Maps and photos of completed projects
1.3	Reporting, Performance Measures and Monitoring Plan	<ul style="list-style-type: none"> • Project Specific Performance Measures and Monitoring Plan
1.4	Coordination with partner agencies	<ul style="list-style-type: none"> • Meeting minutes and agendas
1.5	Labor Compliance	<ul style="list-style-type: none"> • Adherence to Labor Code Compliance through Board policies, administrative regulations and contracting procedures and documents.

Budget Category (B)
LAND PURCHASE/EASEMENT

TASK 2: LAND PURCHASE/EASEMENT: The Locksley Emergency Intertie and Mt Vernon Emergency intertie project will both need to acquire small easements to place the pipeline and have operational access. The process for acquiring the easements has begun.

Budget Category (C)
PLANNING/ DESIGN/ ENGINEERING/ ENVIRONMENTAL DOCUMENTATION

TASK 3: PLANNING/DESIGN/ENGINEERING/ENVIRONMENTAL DOCUMENTATION

Subtask 3.1 Obtain Necessary Permits

Description: The project team will prepare and process applications for encroachment permits from Placer County as applicable for proposed construction activities.

- **Interties:** PCWA anticipates preparation of a mitigated negative declaration to comply with CEQA for the interties project to be completed by February 2014. Depending on the acreage of soil disturbance, a Stormwater Pollution Prevention Plan or a Water Pollution Control Plan will be prepared for the project.
- **Canal Lining:** PCWA anticipates filing a categorical exemption from CEQA in December 2014.
- **Gaging Stations:** NID will comply with CEQA by preparing and filing a Notice (or Notices) of Categorical Exemption for the new gaging stations in August 2013. No permits will be required.
- **Education Program:** No permits will be required.

Subtask 3.2: Finalize Intertie Memorandum of Understanding

While NID and PCWA have coordinated extensively regarding the Mt.Vernon and Locksley Lane Interties, further discussions are needed to prepare final Memorandum of Understanding (MOU). The MOU will establish policies, procedures, administrative and billing systems, and protocols for use of the emergency interties. Prior to initiation of the final discussion, PCWA and NID staff will perform a field reconnaissance. As part of these meetings, design criteria for the intertie will be developed based on previous projects of the same nature already completed by NID and PCWA.

Subtask 3.3: Final Design and Engineering for Mt. Vernon and Locksley Lane interties

PCWA and NID staff will work together to prepare the final design, specifications, and engineering drawings for the emergency interties and ensure that the final plans and specifications are consistent with both agencies standards. Plans will include all items of work, including, but not limited to, the following: site plan, grading plan, pipe installation plan, structural plans (if required), site and pavement restoration plans, and detail plans.

Subtask 3.4: Final Design and Engineering for Canal Lining

PCWA and NID will have engineers coordinate the proposed work and make any necessary changes, if any. All construction and materials will conform to PCWA and NID standard designs and specifications.

Subtask 3.5: Design & Engineering of Gaging Stations

The design for each Gaging Station will be performed by NID Engineering Staff, using adopted district best professional standards and specification, based on the operational and physical characteristics of the canal and the master planned flow criteria. A separate plan, or set of plans, will be prepared for each Gaging Station. Each set of plans may include: site plan, demolition plan, structural details and sections, canal transition details (if needed), and electrical and telemetry plan and details (where applicable).

Subtask 3.6 Education Program Development

NID and PCWA water agency staff will review program materials and resources used by both agencies, and identify the components that provide the best educational benefits to customers (irrigation and treated water). The District will collaborate and draft a single program for use by both agencies. NID and PCWA will pool resources to reduce duplicative efforts and increase media impressions to its customers. Seminars and workshops will be developed, coordinated and information presented to customers for hands on learning about water conservation practices. (See Subtask 4.5)

Task	Task Title	Deliverables
3	Planning, Design, Engineering, Environmental Documentation	
3.1	Obtain Necessary Permits	<ul style="list-style-type: none"> • Project specific encroachment permits • Filed CEQA documentation • Stormwater Pollution Prevention Plan or a Water Pollution Control plan (Interties) • Acquire signed agreements with landowners as applicable
3.2	Finalize Intertie MOU	<ul style="list-style-type: none"> • Field verification of site characteristics and design parameters.

		<ul style="list-style-type: none"> • Final Memorandum of Understanding between PCWA and NID. • Final operational procedures and protocols for utilization of the interties. • Final design criteria for the project.
3.3	Final Design and Engineering - Interties	<ul style="list-style-type: none"> • Final drawings and specifications for the Locksley Land and Mt. Vernon interties
3.4	Final Design and Engineering – Canal Lining	<ul style="list-style-type: none"> • PCWA Standards for Gunite mixture and placement
3.5	Final Design and Engineering – Gaging Stations	<ul style="list-style-type: none"> • Field surveys, including area topography, and canal profile and alignment • Design plans and specifications for each site
3.6	Educational Program Development	<ul style="list-style-type: none"> • NID/PCWA Water Efficiency Education Program Plan • Program outline of educational materials and activities

Budget Category (D)
CONSTRUCTION/IMPLEMENTATION

TASK 4: CONSTRUCTION/IMPLEMENTATION

Subtask 4.1: Advertise and Award Construction Contract

Both PCWA and NID have established procedures and protocols for advertising, opening, and evaluating bids for construction services, as well as for awarding and developing contracts with construction companies. These policies and procedures will be used to hire the construction company that will install the intertie infrastructure. These activities include, but are not limited to: publication of the bid materials, a pre-bid meeting to respond to contractor questions (as required), review of submitted materials for completeness and qualifications/experience, award of the contract in accordance with the applicable Public Contract Codes, and execution of the contract agreement. The contractor chosen to place the lining for the PCWA canals is determined by the competitive bid process on an annual basis. NID will design and construct the canal lining and gaging stations with District personnel and equipment; construction contracts are not anticipated for the Canal Lining, Gaging Stations or Water Efficiency Education program.

Subtask 4.2: Mobilization

Generally, mobilization will include: preparing a safety plan and other contract submittals, establishment of a staging area for materials and equipment posting signage, establishment of temporary utilities or facilities required to assist construction and mobilizing equipment and materials, and other work required prior to contractor beginning construction work. .

Subtask 4.3: Project Construction

Interties: Project construction will include: traffic control, excavation, installation of approximately 2,300 linear feet of pipeline and appurtenances, and installation pressure regulating station consisting of a concrete vault structure, piping, valves, flow meter, gages, and other appurtenances, minor grading, and pavement

and site restoration.

Canal Lining: Prior to lining, access roads will be improved and entry points created to allow crews and equipment access to the canal. Construction and installation of the canal lining will include notification of all affected customers and public and private water treatment plants. The canal will then be prepared by reshaping the canal with off road construction equipment and hand tools to create an optimal depth and width. Reinforcing wire will then be placed on the sides and bottom of the canal. As the gunite is shot into place, the reinforcing wire will be lifted to insure that the wire will reside in the middle of the gunite. Gunite will be shot in place to a minimum thickness of four inches. The gunite will then be allowed to dry/cure for a minimum of 8 hours before water flows are restored.

Gaging Stations: Project Construction will include: demolition of canal section, excavation, timber forms and placement of hardware, installation of reinforcing bars, casting concrete, stripping forms, installation of air-blown mortar, electrical and telemetry (where applicable), finish grading, and restoration. One hundred staff gages will be placed along strategic canal segments to better identify points of leakage and water losses. Licensed operators will place the gages to ensure proper measurement of flow.

Education: No construction will be done.

Subtask 4.4: Demobilization and Operational Testing

Interties: Operational testing will be accomplished by both the PCWA and NID to determine flow rates and provide training on procedures and protocols. The construction areas at interties, canal lining and gaging station installations will be cleared of all equipment, materials, and debris. The site will be returned to pre-project conditions or better.

Canal Lining: Inflow/outflow measurements will be taken before and after construction to quantify reductions in water loss due to seepage and active leaking. Meter readings at the Gold Run Pipe metering station will also be compared pre and post project to further quantify reductions in water loss. (The Gold Run Metering Station is upstream of the project canal and provides rate of flow readings that are recorded by the PCWA SCADA system.)

Education: None.

Subtask 4.5: Education Program Implementation

NID and PCWA staff will coordinate program resources, such as brochures, literature, workshops and events. Where appropriate, District staff will jointly conduct educational training seminars and workshops to farmers, school districts, and private institutions within in the Placer/Nevada region with “area relevant” information about water and conservation.

Task	Task Title	Deliverables
4	Construction/Implementation	
4.1	Advertise and Award Construction Contract	<ul style="list-style-type: none"> • Advertisement for bids; pre-bid contractors meeting; evaluation of bids; award contract and execute contract. • Notice to proceed.

4.2	Mobilization	<ul style="list-style-type: none"> • All mobilization activities complete.
4.3	Project Construction	<ul style="list-style-type: none"> • Installation, sanitization, and testing of all required infrastructure. • Locksley Lane and Mt Vernon Interties completed, including repaving. • Final performance testing. • Implementation of policies and procedures for utilizing the emergency intertie. • Calibration Tables for all Gaging Stations • Pictures before and after construction of canal lining areas • Maps of completed canal segments • Pictures of installed gaging stations • Maps of locations of new gaging stations
4.4	Demobilization and operational Testing	<ul style="list-style-type: none"> • Operational Testing by PCWA and NID • Interties and canal lining contractors demobilized • NID crews and equipment de-mobilized from canal lining and gaging station locations.
4.5	Educational Program Implementation	<ul style="list-style-type: none"> • Literature developed and report of numbers disseminated • Advertising and information developed for events, seminars and workshops • Attendance reports from events, seminars and workshops • Pictures of workshops

Budget Category (E)

ENVIRONMENTAL COMPLIANCE/ MITIGATION/ ENHANCEMENT

TASK 5: ENVIRONMENTAL COMPLIANCE/MITIGATION/ENHANCEMENT

Because project impacts or associated project compliance conditions will be included in Task 3.1 Obtaining environmental documentation and permits, there are no tasks associated with this budget category.

Budget Category (F)
CONSTRUCTION ADMINISTRATION

TASK 6: CONSTRUCTION ADMINISTRATION**Subtask 6.1 Direct Construction Administration**

Senior water agency staff will serve as construction managers for the process, as they have for similar projects successfully completed by the agencies. Supervision activities will include: on-site observations and inspections, inspection of materials prior to installation, conducting construction progress meetings as required, review of project status (percent complete versus percent spent), inspection of work through all phases of construction, preparation and processing of change orders (where applicable), review and approval of progress payments and recommendations for payment (where applicable and as required), in-field problem solving during construction in response to unexpected field or system conditions, etc.

Task	Task Title	Deliverables
6	Construction Administration	
6.1	Direct Construction Administration	<ul style="list-style-type: none"> • Supervision of all project construction activities • Completion of Final Report

Budget Category (G)
OTHER COSTS

TASK 7: OTHER COSTS**Subtask 7.1: Post-Project Performance Measures**

NID and PCWA will prepare Annual Reports, beginning after the first year of operation, and will include the following:

- The time period for the report;
- A brief project description;
- A brief discussion of benefits to water quality, water supply and the environment;
- A presentation of pertinent quantitative measurements for the period and an assessment explaining any differences between expected versus actual project benefits.
- A summary of any additional costs or benefits deriving from the project since completion;
- A report on the continued task of meeting performance measurements;
- Any additional relevant information

Subtask 7.2 Develop and Maintain CABY Project-Specific Webpage

The goal of this task is to ensure that all CABY members and members of the public have access to updated and thorough information about the implementation and characteristics of the project. CABY staff or contractors will provide this information through the maintenance of a webpage on the CABY website. CABY

staff or contractors will post project progress reports, status updates, and other similar materials (or link them) to this webpage. The webpage will be designed and brought online activated within the first quarter after contract agreement. The page will be updated periodically.

Subtask 7.3: Data Management

The goal of this task is to ensure that all data gathered and developed as a result of the project is made available to state databases as well as CABY members and the interested public using data management and monitoring deliverables that are consistent with the IRWM Plan Standards and Guidance (as stipulated in the August 2010 IRWM Guidelines, page 20). In this case, the appropriate approach is identified in the CABY Updated Plan, which will direct the IRWMP data collection efforts. Data will be made available to all CABY members and the general public through the existing CABY SWIM Database. Material will be uploaded as it becomes available, however most of the data will be posted upon completion of the primary project activities. The CABY technical committee will evaluate project-related data to determine its appropriateness for upload to relevant state databases.

Task	Task Title	Deliverables
7	Other Costs	
7.1	Post-Project Performance Measures	<ul style="list-style-type: none"> • Annual Report
7.2	Develop and Maintain CABY specific Webpage	<ul style="list-style-type: none"> • Complete and updated webpage
7.3	Data Management	<ul style="list-style-type: none"> • Complete and submitted data set

<p>Budget Category (H) CONSTRUCTION/IMPLEMENTATION CONTINGENCY</p>

TASK 8: CONSTRUCTION/IMPLEMENTATION CONTINGENCY

Sub-task 8.1 Contingency amounts for Project Construction