



# **RESOLUTION No. 18-344**

## **OF THE BOARD OF SUPERVISORS OF THE COUNTY OF NEVADA**

### **APPROVAL OF APPLICATIONS TO THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) FOR COMMUNITY FACILITIES FINANCING TO HELP SUPPORT THE COSTS OF THE NORTH SAN JUAN FIRE FLOW PROJECT AND TO AUTHORIZE COUNTY STAFF TO REGISTER WITH USDA AND SUBMIT THE APPLICATIONS**

WHEREAS, Nevada County staff has been in discussions with the North San Juan Fire Protection District to help identify funding opportunities to construct a fire flow water system; and

WHEREAS, the County wishes to submit a pre-application to the United States Department of Agriculture (USDA) for grant funding and/or low interest loan opportunities; and

WHEREAS, the USDA requires the Board of Supervisors to authorize the submission of an application to USDA for further project eligibility determination; and

WHEREAS, the USDA requires the Board of Supervisors to authorize certain individuals access to the online application system; and

WHEREAS, County staff will bring back any funding decisions to the Board of Supervisors for consideration.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the Nevada County Board of Supervisors:

1. Approves the submittal of an application to the USDA for the North San Juan Fire Flow project.
2. Authorizes Daniel Chatigny, Chief Fiscal/Administrative Officer, to be a Registered User to create and modify USDA applications.
3. Authorizes Trisha Tillotson, Director of Public Works, to be a Registered User to sign and submit an application to the USDA.

PASSED AND ADOPTED by the Board of Supervisors of the County of Nevada at a regular meeting of said Board, held on the 10th day of July, 2018, by the following vote of said Board:

Ayes: Supervisors Heidi Hall, Edward Scofield, Dan Miller, Hank Weston and Richard Anderson

Noes: None.

Absent: None.

Abstain: None.

ATTEST:

JULIE PATTERSON HUNTER  
Clerk of the Board of Supervisors

By: 

  
Edward Scofield, Chair

7/10/2018 cc: DPW\*  
AC\*



Follow the steps in this guide to complete a pre-application package for the Community Facilities Program.

Applicable Programs: This guide is intended for applicants who want to apply for the Community Facility Direct Loan or Community Facility Direct Loan and Grant Program.

Deadlines: Pre-applications can be submitted at any time and will be processed on a first come, first served basis.

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For more information call or visit the USDA Rural Development office near you or visit our website at: <http://www.rd.usda.gov/ca>

You can also call our USDA State Office at (530) 792-5800 for help in finding your nearest local office.

**Rural Development • California State Office**  
430 G Street, AGCY 4169 • Davis, CA 95616  
Voice (530) 792-5800 • Fax (530) 792-5838  
TDD (530) 792-5848

USDA is an equal opportunity provider and employer.

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form (PDF), found online at [http://www.ascr.usda.gov/complaint\\_filing\\_cust.html](http://www.ascr.usda.gov/complaint_filing_cust.html), or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at [program.intake@usda.gov](mailto:program.intake@usda.gov).

## APPLICATION PROCESS

Applicants are encouraged to contact USDA Rural Development early in the project development process to discuss project financing on an informal basis. USDA Rural Development will typically conduct a site visit with the applicant to discuss the project.

USDA Rural Development advises prospective applicants against taking any actions or incurring any obligations which would either limit the range of the alternatives to be considered or have an adverse effect on the environment. USDA Rural Development is required to identify potentially significant environmental impacts on the human environment prior to approval of a loan or grant. An environmental review will be conducted by USDA Rural Development personnel to determine what environmental impacts the proposed project will have, if any.

USDA Rural Development uses a two-part application process for selecting projects to receive funding under the Community Facility Direct Loan program. First, a pre-application (See page 3, for Pre-application Contents) is used to assess the applicant's eligibility, priority to compete with similar pre-applications, and advises applicants of the availability of funds. This saves you time and money by allowing USDA Rural Development to review the proposed project and provide you with an eligibility determination at an early stage.

If the applicant's pre-application is determined eligible, an application conference is held and then the Agency will invite an application to be submitted. An application checklist will be provided at this meeting. The application will require more detailed information to be submitted. During this stage of the project, the preliminary architectural, feasibility and environmental components are heavily emphasized as they are critical to the development of the application and normally take the most time to complete.

Upon receipt of a complete application, USDA Rural Development will complete an overall review of the financial, environmental, and architectural/engineering components of the project. If the application is given further consideration by the approval official, USDA Rural Development will issue a Letter of Conditions outlining the conditions of approval that must be met prior to receiving funds. Once the applicant agrees to the conditions, funding is officially reserved for the project and a formal approval is delivered to the applicant.

Funds will be advanced once it has been determined that all of the conditions in the Letter of Conditions have been met.



## PRE-APPLICATION PROCEDURE

### **Send the original pre-application items and one copy to the appropriate USDA Rural Development office.**

Applicants must submit an original and one copy of the pre-application information required by this guide and any additional information that is requested. Send it to the USDA Rural Development office serving your area as shown on page 13. Note also that you can call in advance and get personal assistance from your local USDA Rural Development office.

## REQUIRED PRE-APPLICATION ITEMS

All of the following items need to be properly completed before being submitted to USDA Rural Development:

1. Standard Form (SF) 424, Application for Federal Assistance,

NOTE in block 8(c) of SF 424, DUNS stands for "Data Universal Numbering System." It is a unique nine character number that identifies your organization. It is a tool for the Federal Government to track how Federal money is distributed. Most large organizations that receive Federal funds already have a DUNS number. If your organization does not have a DUNS number, use the following Duns & Bradstreet (D&B) online registration website to receive one free of charge. <http://fedgov.dnb.com/webform/displayHomePage.do>

NOTE in block 11 of SF 424, insert Catalog of Federal Domestic Assistance (CFDA) number 10.766, Community Facilities Loans and Grants. This information can also be found at <https://www.cfda.gov/>

NOTE in block 19 of SF 424, Executive Order 12372, "Intergovernmental Review of Federal Programs," was issued with the desire to foster the intergovernmental partnership and strengthen federalism by relying on State and local processes for the coordination and review of proposed Federal financial assistance and direct Federal development. The Order allows each State to designate an entity to perform this function.

The answer for the Community Facility Program is always yes, as that program is under review. Insert the date that the required information was provide to the State and Local Clearinghouse(s). List is on page 12.

2. SF 424-C, Budget Information (Only for Construction Projects),
3. SF 424-D, Assurances-Construction Programs,
4. CF Pre-application Certification,

5. Financial Information,
6. Form RD 1942-54, Applicant's Feasibility Report (Narrative),
7. Loan Security to be offered,
8. Evidence that the State and Local Clearinghouses have been notified. You will need to file a Notice of Intent with the State Clearinghouse and Local Clearinghouse in your area by forwarding a copy of Form SF 424. A list of Clearinghouses is on page 12,
9. Entity's three most recent fiscal year audits and current year to date financial statements, current fiscal year operating budget and next year's proposed fiscal year budget. Form RD 442-2, "Statement of Budget, Income, and Equity," may be used for next fiscal year's proposed operating budget,
10. Go to [www.sam.gov](http://www.sam.gov) and register the entity. Provide proof of registration with the CAGE number and expiration date,
11. Map showing the service area boundary, and
12. List of Board/Council Members, their terms and résumé or CV's.

#### ADDITIONAL ITEMS TO BE SUBMITTED ONLY BY NON-PROFIT ORGANIZATIONS

13. Survey on Ensuring Equal Opportunity for Applicants (optional),
14. Form AD 3030, Representations Regarding Felony Conviction and Tax Delinquent Status for Corporate Applicants,
15. Form AD 3031, Assurance Regarding Felony Conviction or Tax Delinquent Status for Corporate Applicants, and
16. Copy of current By-laws (certified by Corporate Secretary) and Articles of Incorporation (with Secretary of State Reproduction Certification).

#### OPTIONAL PRE-APPLICATION ITEMS (Only if Available)

17. California Environmental Quality Act (CEQA) information, and/or
18. Preliminary Architectural Feasibility Report (or renderings).



## COMMUNITY FACILITIES PRE-APPLICATION CERTIFICATION

The undersigned certifies that:

1. The organization is aware of and in compliance with other Federal statute requirements including but not limited to:
  - a. Section 504 of the Rehabilitation Act of 1973.
  - b. Civil Rights Act of 1964.
  - c. The Americans with Disabilities Act (ADA) of 1990.
  - d. Age Discrimination Act of 1975.
2. The organization is unable to finance the proposed project from its own resources or through commercial credit at reasonable rates and terms.
3. The organization has no known relatives or close associates that are current USDA Rural Development employees.
4. Prior to USDA Rural Development approval, you will not take action (e.g., initiation of construction) or incur obligations which would limit the range of alternatives to be considered or which would have an adverse effect on the environment.

\_\_\_\_\_ County of Nevada  
\_\_\_\_\_ Name of Organization

\_\_\_\_\_  
Signature of Authorized Official

\_\_\_\_\_  
Date

## FINANCIAL INFORMATION

1. Attach a copy of your most recent annual audit or financial statements, (including balance sheet and income statement).
2. Provide the following information for all existing long-term debt (bonds, notes, contracts) on the facility:

Lender: \_\_\_\_\_

Original Principal:\$ \_\_\_\_\_ Original Date: \_\_\_\_\_

Current Principal Balance:\$ \_\_\_\_\_

Interest Rate: \_\_\_\_\_ Original Term: \_\_\_\_\_

Annual Payment:\$ \_\_\_\_\_ (principal and interest)

Lender: \_\_\_\_\_

Original Principal:\$ \_\_\_\_\_ Original Date: \_\_\_\_\_

Current Principal Balance:\$ \_\_\_\_\_

Interest Rate: \_\_\_\_\_ Original Term: \_\_\_\_\_

Annual Payment:\$ \_\_\_\_\_ (principal and interest)

Lender: \_\_\_\_\_

Original Principal:\$ \_\_\_\_\_ Original Date: \_\_\_\_\_

Current Principal Balance:\$ \_\_\_\_\_

Interest Rate: \_\_\_\_\_ Original Term: \_\_\_\_\_

Annual Payment:\$ \_\_\_\_\_ (principal and interest)

## LOAN SECURITY

Indicate the type of debt instrument that will be offered as security for the loan:

Public Bodies:

- ☐ General Obligation Bond
- ☐ Revenue Bond
- ☐ Special Assessment Bond
- ☐ Certificates of Participation (COP)

Nonprofits:

- ☐ Real Estate Mortgage
- ☐ Promissory Note
- ☐ UCC Financing Statement
- ☐ Assignment of Income
- ☐ Other

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## APPLICANT'S FEASIBILITY REPORT

**1. Existing Facility.** Briefly describe what facilities you currently have or how service is currently provided.

The North San Juan Fire Protection District ('District'), formed in 1862, serves the approximately 2500 permanent residents in the area and as many as 500,000 annual visitors. The District currently has three (3) Fire Stations in the community and is a Volunteer Fire Department.

The District relies upon a series of ponds and small residential tanks around the community. Water supply for the historic commercial area is limited to the water supplies carried on trucks, tenders and other apparatus.

**2. Proposed Facility.** Describe what you want to purchase or construct. Indicate what the facility will be used for, approximate size, and expected method of procurement. For buildings indicate location, basic materials or type of construction, and attach a sketch or working drawings. For items of major equipment, indicate new or used, existing or custom-built, and any special features.

The 2016 Feasibility Study proposed the construction of a water system to include the construction of a water well, water storage tanks and placement of a water pipeline and fire hydrants. Details of the system alternatives is in the Feasibility Study attached.

**3. Need for the Facility.** Indicate why the proposed facility is needed.

As described in item 1 above, the historic commercial area of the North San Juan community is not currently served with a fire suppression system except what is available on responding equipment. This proposed facility would be available to support fire fighting efforts in the area.

**4. Service Area.** Indicate what area the proposed facility will serve and, if known, the population or number of families served.

The project area is what is commonly referred to as the commercial corridor and is an area along Highway 49 between the North San Juan Community Center and the Post Office.

**5. Cost Estimate.**

Development and construction.....	\$	791,300.00
Land and rights.....		43,000.00
Legal fees.....		
Architect and Engineer.....		112,000.00
Equipment.....		
Refinancing.....		
Other (describe) .....		94,000.00
Total.....		

**6. Income.** List the sources and estimate the amount of expected revenue for a typical year.

Property Tax Assessments = \$136,000  
Proposition 172 = \$22,000  
Miscellaneous Revenue = \$130,500  
Fire Parcel Tax = \$40,000

**7. Other Funds.** List the sources and amount of funds that may be available other than from USDA, to fund part of the project (such as applicant's contributions, commercial loans, or loans or grants from other government agencies).

At this time, no other funding exists for this project.

**8. Operating History.** If you have operated a similar facility, attach audits, financial statements, or lists of income and expenses for the past five years.

9. Signature and Title of Applicant Official

Date

# SURVEY ON ENSURING EQUAL OPPORTUNITY FOR APPLICANTS

OMB No. 1890-0014 Exp. 02/28/09

**Purpose:** The Federal government is committed to ensuring that all qualified applicants, small or large, non-religious or faith-based, have an equal opportunity to compete for Federal funding. In order for us to better understand the population of applicants for Federal funds, we are asking nonprofit private organizations (not including private universities) to fill out this survey.

Upon receipt, the survey will be separated from the application. Information provided on the survey will not be considered in any way in making funding decisions and will not be included in the Federal grants database. While your help in this data collection process is greatly appreciated, completion of this survey is voluntary.

**Instructions for Submitting the Survey:** If you are applying using a hard copy application, please place the completed survey in an envelope labeled "Applicant Survey." Seal the envelope and include it along with your application package. If you are applying electronically, please submit this survey along with your application.

**Applicant's (Organization) Name:** \_\_\_\_\_

**Applicant's DUNS Number:** \_\_\_\_\_

**Federal Program:** \_\_\_\_\_ **CFDA Number:** \_\_\_\_\_

1. Has the applicant ever received a grant or contract from the Federal government?

☐ Yes ☐ No

2. Is the applicant a faith-based organization?

☐ Yes ☐ No

3. Is the applicant a secular organization?

☐ Yes ☐ No

4. Does the applicant have 501(c)(3) status?

☐ Yes ☐ No

5. Is the applicant a local affiliate of a national organization?

☐ Yes ☐ No

6. How many full-time equivalent employees does the applicant have? *(Check only one box).*

☐ 3 or Fewer ☐ 15-50  
☐ 4-5 ☐ 51-100  
☐ 6-14 ☐ over 100

7. What is the size of the applicant's annual budget?

*(Check only one box.)*

☐ Less Than \$150,000  
☐ \$150,000 - \$299,999  
☐ \$300,000 - \$499,999  
☐ \$500,000 - \$999,999  
☐ \$1,000,000 - \$4,999,999  
☐ \$5,000,000 or more



## **Survey Instructions on Ensuring Equal Opportunity for Applicants**

**Provide the applicant's (organization) name and DUNS number and the grant name and CFDA number.**

1. Self-explanatory.
2. Self-identify.
3. Self-identify.
4. 501(c)(3) status is a legal designation provided on application to the Internal Revenue Service by eligible organizations. Some grant programs may require nonprofit applicants to have 501(c)(3) status. Other grant programs do not.
5. Self-explanatory.
6. For example, two part-time employees who each work half-time equal one full-time equivalent employee. If the applicant is a local affiliate of a national organization, the responses to survey questions 2 and 3 should reflect the staff and budget size of the local affiliate.
7. Annual budget means the amount of money your organization spends each year on all of its activities.

### **Paperwork Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1890-0014. The time required to complete this information collection is estimated to average five (5) minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** The Agency Contact listed in this grant application package.



## Rural Development

Applicants must submit a copy of the front page of Form SF 424 along with a cover letter requesting a review under Executive Order 12372 to the appropriate Clearinghouse listed below:

California State Clearinghouse 1400 10 <sup>th</sup> Street Sacramento, CA 95814 Phone: (916) 445-0613	All Counties  Fax: (916) 323-3018	Merced County Association of Governments (MCAG) 369 W. 18 <sup>th</sup> St. Merced, CA 95340 Phone: (209) 723-3153	Merced  Fax: (209) 723-0322
Association of Bay Area Governments (ABAG) 101 8 <sup>th</sup> St. Metro Center Oakland, CA 94607 Phone: (510) 464-7900	Alameda, Marin, Santa Clara, Solano, Sonoma, San Mateo, Contra Costa, Napa Fax: (510) 464-7985	Sacramento Area COG 1415 L St., Ste. 300 Sacramento, CA 95814 Phone: (916) 321-9000	El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba Fax: (916) 321-9551
Association of Monterey Bay Area Governments (AMBAG) P.O. Box 809 Marina, CA 93933-0809 Phone: (831) 883-3750	Monterey, Santa Cruz, San Benito  Fax: (831) 883-3755	San Diego Association of governments 401 B St., Ste. 800 San Diego, CA 92101 Phone: (619) 699-1900	San Diego  Fax: (619) 699-1905
Council of Fresno County Governments 2035 Tulare St., Ste. 201 Fresno, CA 93721 Phone: (559) 233-4148	Fresno  Fax: (559) 233-9645	San Joaquin County COG 555 E. Weber Ave. Stockton, CA 95202 Phone: (209) 235-0600	San Joaquin  Fax: (209) 235-0438
Kern Council of Governments 1401 19 <sup>th</sup> St., Ste. 300 Bakersfield, CA 93301 Phone: (661) 861-2191	Kern  Fax: (661) 324-8215	Santa Barbara County Association of Governments 260 N. San Antonio Rd., Ste. B Santa Barbara, CA 93110 Phone: (805) 961-8900	Santa Barbara  Fax: (805) 961-8901
Southern California Association of Governments (SCAG) 818 West 7 <sup>th</sup> St., 12th Fl. Los Angeles, CA 90017 Phone: (213) 236-1800	Imperial, Orange, Los Angeles, San Bernardino, Riverside, Ventura Fax: (213) 236-1963	Sierra Planning Organization 560 Wall St., Ste. F Auburn, CA 95603  Phone: (530) 823-4703	Sierra, Nevada, Yolo El Dorado, Lassen, Placer, Plumas, Modoc, Sacramento Fax: (530) 823-4142
Tulare County Association of Governments (TCAG) 210 N. Church St., Ste. B Visalia, CA 93291 Phone: (559) 623-0450	Tulare  Fax: (559) 733-6720	Stanislaus Area Association of Governments (SAAG) 1111 I St. Ste. 308 Modesto, CA 95354 Phone: (209) 525-4600	Stanislaus  Fax: (209) 558-7833
Kings County Community Development Agency 1400 W. Lacey Blvd., Bldg. #6 Hanford, CA 93230 Phone: (559) 852-2670	Kings  Fax: (559) 584- 8989		

# Community Facilities Programs

## About the Programs

USDA Rural Development offers a variety of **loan and grant programs** to help develop and improve public services and facilities in rural communities with populations of 20,000 or less. Applications are accepted year-round by any of our local staff listed below.

## Meet the California Team

We have a committed group of staff across the state ready to help make deals happen. Find your county representative and learn how Rural Development can help support your community facility project.

### Anita Lopez, Community Facilities Program Director

*anita.lopez@ca.usda.gov | (530) 792-5822*

### Katie Schmitt, Community Facilities Senior Specialist

*kaitlin.schmitt@ca.usda.gov | (530) 792-5827*

Lassen, Modoc, Plumas, Shasta & Tehama Counties

#### Mike Colbert, Alturas

*mike.colbert@ca.usda.gov | (530) 233-4137 ext.112*

#### Angela Cross, Alturas

*angela.cross@ca.usda.gov | (530) 233-4137 ext.113*

Siskiyou & Trinity Counties

#### Kevin DeMers, Yreka

*kevin.demers@ca.usda.gov | (530) 572-3126*

Butte, Colusa, Glenn & Sutter Counties

#### Colleen Crowden, Davis

*colleen.crowden@ca.usda.gov | (530) 792-5833*

Alameda, Alpine, Amador, Contra Costa, Mono, San Mateo,  
Santa Clara & Santa Cruz Counties

#### Andy Jacobs, Davis

*andrew.jacobs@ca.usda.gov | (530) 792-5824*

El Dorado, Sacramento, San Joaquin, Solano & Yolo Counties

#### Doug Colucci, Woodbridge

*doug.colucci@ca.usda.gov | (916) 212-5088*

#### Tenna Hungate, Davis

*Tenna.Hungate@ca.usda.gov | (530) 792-5815*

Nevada, Placer, Sierra & Yuba Counties

#### Michael Velez, Auburn

*michael.velez@ca.usda.gov | (530) 885-6505 ext. 101*

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa &  
Sonoma Counties

#### Reef Atwell, Santa Rosa

*reef.atwell@ca.usda.gov | (707) 536-0246*

#### Quinn Donovan, Santa Rosa

*quinn.donovan@ca.usda.gov | (707) 536-0248*

Calaveras, Mariposa, Merced, Stanislaus &  
Tuolumne Counties

#### Jose Guardado, Modesto

*jose.guardado@ca.usda.gov | (209) 538-3783*

#### Tonja Galentine, Modesto

*tonja.galentine@ca.usda.gov | (209) 491-9320 ext.101*

Fresno County

#### Sally Tripp, Fresno

*sally.tripp@ca.usda.gov | (559) 490-8029*

Inyo, Kern & Madera Counties

#### Antonio Ybarra, Fresno

*antonio.ybarra@ca.usda.gov | (559) 490-8035*

Kings & Tulare Counties

#### Lisa Butler, Visalia

*lisa.butler@ca.usda.gov | (559) 754-3146*

San Luis Obispo, Santa Barbara & Ventura Counties

#### Al Correale, Santa Maria

*al.correale@ca.usda.gov | (805) 928-9269 ext.119*

Imperial, Orange, Riverside & San Diego Counties

#### Daniel Cardona, Imperial

*daniel.cardona@ca.usda.gov | (760) 355-2208 ext. 107*

Monterey & San Benito Counties

#### Esther De La Cruz, Salinas

*Esther.DeLaCruz@ca.usda.gov | (831) 975-7736*

Los Angeles & San Bernardino Counties

#### Christina Swegles, Phelan

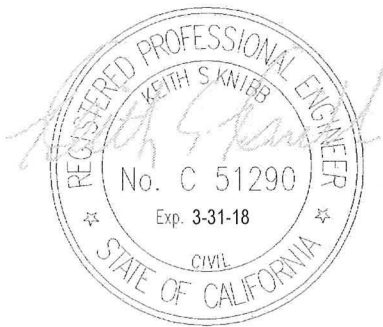
*Christina.Swegles@ca.usda.gov | (760) 948-4138*

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**COUNTY OF NEVADA**  
**HEALTH AND HUMAN SERVICES AGENCY**  
950 Maidu Drive  
Nevada City, CA 95959

**NORTH SAN JUAN  
FIREFLOW FEASIBILITY STUDY**

August 24, 2016



**Sauers Engineering, Inc.**  
Civil & Environmental Engineers

440 Lower Grass Valley Rd., Suite A  
Nevada City, CA 95959  
Tel. 530-265-8021

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**COUNTY OF NEVADA  
HEALTH AND HUMAN SERVICES AGENCY  
NORTH SAN JUAN  
FIREFLOW FEASIBILITY STUDY**

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## INTRODUCTION

### Background

The community of North San Juan is an approximately 480-acre historic townsite located in western Nevada County on State Highway 49, 15 miles northwest of Nevada City and is the only rural center on the larger San Juan Ridge. Fire protection services are provided by the North San Juan Fire Protection District, an all volunteer fire department that includes three fire stations, one located in North San Juan.

Because there is no public water supply, the North San Juan area relies on groundwater wells for the provision of water for both domestic and fire protection uses. Fire protection operations currently rely on a series of ponds and small residential water tanks in various locations around the community for provision of water for fire fighting. This limits firefighting efforts in the commercial core of North San Juan in that the only water available for structure fires must be carried on the fire trucks, water tenders, and other fire fighting apparatus.

In 2015, the County of Nevada was awarded a Community Development Block Grant (CDBG) to fund a feasibility study to look into the provision of a fire protection water system that would provide water storage and pressurized hydrants to the commercial core area consistent with the requirements of the National Fire Protection Standards and the California Fire Code. In February 2016, the County contracted with Sauers Engineering, Inc. of Nevada City to prepare the feasibility study.

### Project Kick-off Meeting

A project meeting was held on March 10, 2016 at the North San Juan FPD Station #1. Participants included representatives of the North San Juan FPD, Nevada County Health and Human Services Agency, Planning Department, and Public Works Department, and the feasibility study consultant team. Topics discussed included:

- Definition of the Study Area,
- Fire system requirements including storage, pressure, and flow rate,
- Potential tank and well locations,
- Encroachment permits for both County roads and State Highway 49,
- Easements and rights-of-way on private lands,
- BLM Use Permit for possible use of the transfer station property,
- California Fire Code requirements,
- Fire hydrant locations, spacing,
- Fire system ownership and operation responsibilities,
- Funding sources for construction and operation,
- Existing documents including the North San Juan Rural Center Area Plan 2010,
- North San Juan Fire Protection Plan 2009, Official Survey Map of North San Juan 1874, Assessor's Parcel Maps, various Record of Survey maps, and
- Caltrans Right Of Way maps.

## **PROJECT STUDY AREA**

The project study area is along the Highway 49 corridor between the North San Juan Community Center to the west and the Post Office to the east. This is considered the commercial corridor and is generally consistent with what is described in the County's North San Juan Area Plan as the North San Juan Rural Center. Although there are undeveloped commercially zoned parcels outside the project study area, for purposes of this study it is intended that new development would extend the system as necessary in the future to accommodate additional development.

## **FIRE SYSTEM REQUIREMENTS**

### Required Fire Flow

The required design fire flow rate and duration are based on the single largest fire flow demand. Fire flow demands for structures are determined by California Fire Code and National Fire Protection Association standards and are based on building type, construction materials, occupancy, size, exposure, and other factors.

According to Tom Browning, NSJFPD Battalion Chief, in working with the Insurance Services Office (ISO), the structure used in determining the fire flow requirements is the combination of historic buildings at the northwest corner of Highway 49 and Flume Street. These are considered Non-Rated Buildings under California Fire Code fire flow calculations, with no fire rated walls between the separate structures. The total area of the combined buildings is 11,200 square feet, and the calculated fire flow demand is 2,750 gallons per minute for a duration of 2 hours.

### Required Fire Storage

The amount of fire storage required is based on the required fire flow and duration. In order to provide 2,750 gpm for 2 hours, the minimum required storage would be 330,000 gallons.

### Minimum System Pressure

In order to provide an acceptable level of fire protection in a pressurized water system, a minimum pressure is necessary to allow firefighting equipment to maintain continuous operation and avoid delays while on-board tanks attempt to refill. The minimum accepted hydrant pressure during maximum flow conditions is 20 pounds per square inch.

## **PRELIMINARY FIRE PROTECTION SYSTEM DESIGN**

### Hydraulic Modeling

In order to determine basic design parameters including minimum tank floor elevation and pipeline diameter, a hydraulic model was created to test various system scenarios. The system was modeled using the Bentley WaterCAD V8i modeling program. The model was used to predict the available fire flow and system pressures for various tank locations and elevations and various diameters of distribution piping.



### Tank Base Elevation

Based on the results of the hydraulic modeling, the minimum tank base elevation needed to provide the design fire flow and hydrant pressure is approximately 2,175 feet. This is approximately 53 feet higher in elevation than the highest elevation fire hydrant proposed near the intersection of Highway 49 and Flume Street, which, after accounting for pipeline head losses during a fire flow event, would result in the minimum 20 psi at each of the proposed hydrants.

### Pipeline and Fire Hydrant Layout

In order to provide fire protection along the commercial corridor, fire hydrants should be placed along Highway 49 at a maximum spacing of 1,000 feet between hydrants. Hydrants should be placed in locations that are accessible to firefighting apparatus, but that do not pose a hazard to vehicular traffic. Recommended fire hydrant locations include sites adjacent to Highway 49 near the intersections of Flume Street, Sweetland Road, and Oak Tree Road. A single pipeline would be constructed between the hydrants either along the Highway 49 shoulder, or within an easement along the various parcels abutting the highway. In addition, a pipeline would be constructed connecting the Highway 49 pipeline to the water storage tank. Due to the possibility of more favorable consideration for future grant funding, it is recommended that the pipeline and fire hydrant facilities be installed along the south side of Highway 49.

### Preliminary Tank Design

In order to meet the required design fire flow and duration, a minimum 330,000 gallon water storage tank will need to be constructed at a base elevation of at least 2,175 feet. For a tank in this size range, the recommended materials for construction would be either welded steel or bolted steel. The water tank would be designed and constructed in accordance with NFPA requirements and American Water Works Association standards, AWWA D-100 for welded steel or AWWA D-103 for bolted steel. Typical dimensions for a tank with a working volume of 330,000 gallons would be 51 feet diameter by 26 feet high tank wall, with the full tank water surface at 24 feet above the floor. The tank would include accessories including a lockable exterior ladder, screened vents, overflow and drain, level indicator, and top and side access hatchways. The tank would be installed on a concrete ring footing and gravel pad, and would be anchored to provide protection during a seismic event. The Preliminary Plans at the end of this report shows the preliminary design for the fire storage tank.

### Water Supply Well

As with all other water services in North San Juan, source water for the fire protection system will require a groundwater well. County records of Well Completion Reports for various parcels in North San Juan indicate that well production ranges between 8 gpm and 25 gpm. Well depths typically range between 100 feet and 360 feet.

Once the tank has been filled, the well would typically only be used to keep water in the storage tank topped off. There is an issue with the length of time, depending on the output of the well, it would take to refill the tank if it is emptied due to a fire incident.



Table 1 shows the time required to refill the tank at half empty and empty for various well outputs.

Table 1  
Tank Refill Rates for Various Well Outputs

Well Output	Tank Half Empty (165,000 gallons)	Tank Empty (330,000 gallons)
8 gpm	14.3 days	28.6 days
15 gpm	7.6 days	15.3 days
20 gpm	5.7 days	11.5 days
25 gpm	4.6 days	9.2 days

Given the likely frequency of major fires in the project study area, this may or may not pose any real issues, however, NFPA standards would typically require water sources be capable of refilling a fire tank in 8 hours, which in this case would require a source of 690 gpm. This is clearly not practical, so it should be understood that this aspect of the fire system would not meet NFPA standards.

## PROJECT ALTERNATIVES

The fire protection system being studied for this report consists of three primary components; a fire storage tank, a groundwater well source of supply, and a pipeline and fire hydrant distribution system. A total of three tank sites, three pipeline alignments, and multiple well sites were analyzed.

### Tank Sites

Tank Site Alternative A – Tank Site Alternative A is the Bureau of Land Management (BLM) parcel that is currently the site of the transfer station operated by Waste Management. This site sits at an elevation of 2,176 feet which puts it at the minimum elevation suitable for a tank site.

Tank Site Alternative B – Tank Site Alternative B is located at the south end of Cherokee Street beyond the County maintained road. This site, which is on private property and on a hill, has suitable elevation for a tank site.

Tank Site Alternative C – Tank Site Alternative C is located on Oak Tree Road south of Clarks Road. This site, which is also on private property and on a hill, has suitable elevation for a tank site.

### Pipeline Routes

Each of the tank site alternatives has a corresponding pipeline route to connect with the pipeline and hydrants along Highway 49. In addition, three alignments along Highway 49 have been considered.

Pipeline Route Alternative A – From the transfer station tank site, this alignment would follow Flume Street south from the tank to the pipeline along Highway 49.

Pipeline Route Alternative B – From the Cherokee Street tank site, this alignment would follow a privately owned section of Cherokee Street north from the tank, then onto the County maintained section of Cherokee Street to the east, then north along Reservoir Road to the pipeline along Highway 49.

Pipeline Route Alternative C – From the Oak Tree Road tank site, this alignment would follow Oak Tree Road north and west from the tank to the pipeline along Highway 49.

Highway 49 Pipeline Alternatives – Alternatives for the alignment of the pipeline and hydrants along Highway 49 included construction along the north shoulder within the Caltrans right-of-way, construction along the south shoulder within the Caltrans right-of-way, and construction along the south side of the highway in a combination of private property and, where necessary due to obstructions such as buildings, Caltrans right-of-way.

#### Well Sites

Groundwater wells can be located at the tank site or located anywhere along the pipeline such that it can be connected to the pipeline and pump into the pipeline and tank system. For purposes of this report, it is assumed that for ease of operation and maintenance, and for increased security, the well would be placed on the tank site.

#### Preferred Alternatives

Two preferred alternatives were to be presented as a result of this report. Of the three tank sites, the Oak Tree Road site, which offers no real advantages over the other two sites, is the furthest site from the North San Juan commercial corridor and would require construction of additional pipeline to reach from the tank to the Highway 49 pipeline. Therefore, Tank Site Alternative C and Pipeline Route Alternative C were eliminated from consideration.

Of the three Highway 49 pipeline alignments, construction along the north side of the highway was considered more difficult due to potential conflicts with the existing buildings and businesses. Also, the portion of the North San Juan community that lies to the south of Highway 49 has been identified as being more favorable in terms of potential future grant funding for projects of this type. Therefore, the alignment along the north shoulder of Highway 49 has been eliminated.

Preliminary Plans at the end of this report shows a preliminary layout of the two preferred alternatives.

## **EVALUATION OF TANK SITES AND PIPELINE ALIGNMENTS**

#### Alternative A - Transfer Station Tank and Flume Street Pipeline

The Transfer Station Tank would be located on property owned by BLM and currently used through a lease with Waste Management as a refuse and recycling transfer station. According to Heather Daniels, Realty Specialist with the BLM Mother Lode Field Office, placement of a water storage tank and well for fire protection would be an appropriate use on BLM property. BLM would lease the land on a 30 year term, renewable at the end of the 30 years, and would likely qualify for a waiver of fees. If any financing was involved in the construction of the facilities, the lease would at a minimum match the term of the financing. The request for the permit/lease would take 3 to 6 months to process at a minimal cost, likely less than \$2,000.

The pipeline alignment along Flume Street would be constructed under an encroachment permit from Nevada County Department of Public Works. The pipeline and road restoration would be designed and constructed in conformance with Nevada County Improvement Standards.

#### Alternative B – Cherokee Street Tank and Cherokee Street/Reservoir Road Pipeline

The Cherokee Street Tank would be located on what is currently private property. The site is on a sloping hillside and would require some amount of grading to create a level tank site. Property for the tank site could be acquired as an easement or through purchase in fee title. A fee title purchase would be preferable as it would provide clear permanent ownership of the site and relieve the underlying owner of any liability associated with the operation of the tank and well. It is recommended that a minimum of a quarter of an acre be acquired for the tank and well site.

An easement for the construction and maintenance of the pipeline and for permanent access to the tank site would be required on the private road between the tank site and the County maintained road. The pipeline alignment along Cherokee Street and Reservoir Road would be constructed under an encroachment permit from Nevada County Department of Public Works. The pipeline and road restoration would be designed and constructed in conformance with Nevada County Improvement Standards.

#### Highway 49 Pipeline and Hydrants

**Caltrans ROW** – The central roadway through North San Juan is operated and maintained by Caltrans as State Highway 49. After a cursory review of right-of-way plats provided by Caltrans District 03, it appears that the State confined their improvements to Main Street in the original Townsite Map, completed in 1874 by surveyor D. B. Merry. The townsite map is light on details and dimensions, but a review of private surveys in town have shown the narrowest parts of the right-of-way to be about 59 feet. All other roadways shown on the townsite map are considered public roads owned by the County, whether improved or not. In deeding the townsite lots out to private parties, there was never any known deed out for the road rights-of-way and they are understood now to be owned by the public under County government.

Construction along and across Highway 49 within the State's right-of-way would require an encroachment permit issued by the Caltrans District 03 Encroachment Permit Office in Marysville. This section of highway 49 is considered a conventional highway, as compared to a freeway or expressway. The underground facilities would be subject to State-Required Relocation meaning the facility owner would be responsible for identifying and locating, by potholing if necessary, the facilities when requested, and for relocating the facilities should they ever be in conflict with any future Caltrans construction project such as a road widening, turn lane, or signal installation.

For transverse encroachments (crossings perpendicular to the highway), Caltrans requires that new installations under existing roadways be by bore and jack, directional drilling, or other trenchless technology. For pressurized pipelines, Caltrans also requires encasement of the pipeline in a steel carrier pipe.

For longitudinal encroachments, Caltrans requires the facilities to be as close as possible to the right-of-way line and a minimum of 20 feet outside of the clear zone (fog line) if possible. Caltrans typically requires utilization of trenchless technologies for longitudinal encroachments, however they would consider open cut construction in certain circumstances. As with transverse encroachments, Caltrans will require encasement of the pressure pipeline in a steel carrier pipe. For purposes of this study, it is assumed that longitudinal encroachments outside of the travelled way or paved shoulder would be constructed by open trench and encased.

**Easements on Private Property** – In order to avoid having to obtain a Caltrans encroachment permit for the Highway 49 pipeline, an alternative would be to obtain easements from the properties that abut the State right-of-way. There are as many as 11 parcels, depending on the locations of the fire hydrants, that would be crossed in order to construct the pipeline outside of the Caltrans right-of-way. This is complicated by the fact that one of the properties along the alignment may not be suitable for pipeline construction. The front of the old Toki's building is so close to the highway it would likely force the pipeline into the right-of-way and under the paved shoulder.

Acquisition of property or easements by a public entity for each of the parcels would typically involve the following steps:

- Preliminary discussions with the land owner(s) to hopefully arrive at a design and placement of facilities that are mutually agreeable,
- Design and survey of the parcels and easements based on the facilities design requirements, including legal descriptions,
- Obtaining preliminary title reports on the proposed parcel and easement areas to verify ownership and to identify lien holders that would also have to sign grant deeds or easement deeds to the public entity ( holders of mortgages, judgments, mechanic's liens, etc) ,
- It may be prudent to have the jurisdiction's planning department file a "Notice of Exemption" under the California Environmental Quality Act, in case any questions arise,

- Obtaining appraisals of the easements/parcels to be acquired by the public entity,
- Negotiating a sales price with the land owner after the appraisal.
- Only if necessary, eminent domain proceedings to force the sale of the necessary easements or parcels by court order, a process that is typically avoided in Nevada County if at all possible.

## PROJECT COST ESTIMATES

Cost estimates were prepared for the construction of the various project alternatives. These estimates include the cost of purchase and installation of materials and equipment under a public works contract, project design, survey, right-of-way acquisition, engineering services during construction, construction inspection, and contingency. Tables 2 through 5 show cost estimates for the various project alternatives

Table 2  
Alternative A – Transfer Station Tank and Flume Street Pipeline

Item	Estimated Cost
330,000 gal. Water Storage Tank	\$ 305,000
Tank Site Preparation	\$ 10,000
Well Construction, 300 ft @ \$70/ft	\$ 21,000
Well Pump, Motor, Controls	\$ 15,000
12" PVC C-900 Pipeline, 1,050 ft @ \$120/ft	\$ 126,000
Connection to PG&E	\$ 25,000
<b>Construction Sub-total</b>	<b>\$ 502,000</b>
BLM Lease Permit Application	\$ 2,000
Design Engineering	\$ 40,000
Survey	\$ 15,000
Construction Engineering/Inspection	\$ 15,000
Contingency, 10% of above	\$ 57,000
<b>Total Cost Estimate</b>	<b>\$ 631,000</b>

Table 3  
Alternative B – Cherokee Street Tank and Cherokee Street/Reservoir Road  
Pipeline

Item	Estimated Cost
330,000 gal. Water Storage Tank	\$ 305,000
Tank Site Preparation	\$ 25,000
Well Construction, 300 ft @ \$70/ft	\$ 21,000
Well Pump, Motor, Controls	\$ 15,000
12" PVC C-900 Pipeline, 1,250 ft @ \$120/ft	\$ 150,000
Connection to PG&E	\$ 25,000
<b>Construction Sub-total</b>	<b>\$ 541,000</b>
Property/Easement Acquisition	\$ 37,000
Design Engineering	\$ 43,000
Survey Including Parcel/Easements	\$19,000
Construction Engineering/Inspection	\$15,000
Contingency, 10% of above	\$ 65,000
<b>Total Cost Estimate</b>	<b>\$ 720,000</b>

Table 4  
Highway 49 Pipeline – Caltrans ROW

Item	Estimated Cost
12" HDPE Pipeline, 1,440 ft @ \$60/ft	\$ 86,400
24" Steel Carrier Pipe, 1,440 ft @ \$200/ft	\$ 288,000
Fire Hydrants, 3 @ \$7,500 each	\$ 22,500
Bore and Jack, 60 ft @ \$400/ft	\$ 24,000
Traffic Control	\$ 15,000
<b>Construction Sub-total</b>	<b>\$ 435,900</b>
Caltrans Encroachment Permit Application	\$ 5,000
Design Engineering	\$35,000
Survey	\$14,000
Construction Engineering/Inspection	\$10,000
Contingency, 10% of above	\$ 50,000
<b>Total Cost Estimate</b>	<b>\$ 549,900</b>



Table 5  
Highway 49 Pipeline – Private Property Easements

Item	Estimated Cost
12" HDPE Pipeline, 1,440 ft @ \$120/ft	\$ 172,800
24" Steel Carrier Pipe, 200 ft @ \$ 200/ft	\$ 40,000
Fire Hydrants, 3 @ \$7,500 each	\$ 22,500
Bore and Jack, 60 ft @ \$400/ft	\$ 24,000
Traffic Control	\$ 5,000
<b>Construction Sub-total</b>	<b>\$264,300</b>
Caltrans Encroachment Permit Application	\$ 5,000
Easement Acquisitions	\$ 36,000
Design Engineering	\$ 21,000
Survey Including Easements	\$ 36,000
Construction Engineering/Inspection	\$ 10,000
Contingency, 10% of above	\$ 37,000
<b>Total Cost Estimate</b>	<b>\$ 409,300</b>

Depending on the combination of projects implemented, the total project cost estimate for the construction of a water storage tank, well, and pipeline and hydrant distribution system would range from \$1,040,300 to \$1,269,900.

### ONGOING OPERATION AND MAINTENANCE COSTS

Along with the cost of construction, the fire protection system owner will have ongoing monthly and annual costs associated with the operation and maintenance of the system. The primary cost of operation will be purchase of electrical power to operate the well. According to PG&E, an electrical service of this type would be billed at an A-1 Rate which is a non-residential small general use rate with a time of use/peak day use rate structure. The basic customer charge for this type of account, not including energy costs, is about \$10 per month. Once the tank has been filled, well usage should be relatively low. The system owner should budget \$20 per month or \$240 per year for electrical service.

Other costs associated with the system include maintenance activities such as exercising of valves, hydrant flushing and testing, repair/replacement of damaged hydrants, and periodic replacement of system components such as the well pump, motor, and pump controls.

### FIRE PROTECTION SYSTEM CONSTRUCTION AND OWNERSHIP RESPONSIBILITIES

The local public agency in charge of the construction, ownership, and operation of the fire protection system will have a number of responsibilities. These include:

**Project Funding** - Typically, the local agency benefitting from a publically funded project would be the party responsible for the funding application and funding agreement. Grants are available for these types of projects, especially in what are considered rural, disadvantaged communities, however, funding for a project of this magnitude would likely come from a combination of grant and loan funds. The agency would be responsible for grant and loan applications including any required planning and preliminary engineering reports, financial reports, legal review, public hearings, environmental review, and other information as may be required by the funding agency. These costs may be considered reimbursable expenses, however they would have to be fronted by the local agency until final funding is secured.

**New Revenue Source for Ongoing Expenses** – Currently, there is no source of revenue for the ongoing operation of a fire protection system. This is especially true if the project funding included any loan financing. In order for a local agency to qualify for loan funding, there needs to be a verifiable long-term source of funds to guarantee repayment of principal and interest for the term of the loan, as well as to show adequate funds for the ongoing operation, maintenance, and repair of the system. This includes accounting for and saving for future replacement of major system components such as the well pump, motor, pump controls, tank coatings, and fire hydrants. Also, depending on the funding agency, there may be a requirement for additional financial auditing and reporting. Potential funding sources could include some form of parcel charge for those parcels benefitting from the fire protection system such as voter-approved assessment or parcel tax.

**Encroachment Permit Applications** – Both the contractor and the local agency will be included on encroachment permit applications with Caltrans and Nevada County. The contractor's responsibility will end at the completion of construction, while the local agency will be the permanent permittee for the underground facilities.

**BLM Use Permit/Lease** – For the Transfer Station site, the local agency would be responsible for obtaining the BLM Use Permit and would be the lessee for the term of the lease.

**CEQA Lead Agency** – In most cases, when a local agency takes on a project such as this, they will be required to comply with CEQA. That agency would assume the Lead Agency role and be responsible for the preparation of the environmental review documents and completion of the environmental review process.

**Property and Easement Acquisitions** – The local agency will be responsible for negotiations with property owners and will be the grantee for easements and deeds.

**PG&E Customer** – The local agency will be the PG&E customer for the electric service at the well and will be responsible for payment of the monthly bill.

**Public Works Contract** – Construction of this type of project, especially if it is publically funded, would be under a public works contract. The local agency would be considered



as the Owner under the contract and would be responsible to assure all aspects of the design and construction were in compliance with the State's Public Contract Code.

**Ongoing Ownership, Operation, Maintenance, and Repair of the System** – The local agency owning the system will be responsible for operation, maintenance, and repair of the fire system facilities. This may be accomplished by their own forces or by hiring a contractor.

It would appear that the logical local agency to own the fire protection system would be the North San Juan Fire Protection District, however, because they are an all-volunteer organization, there are concerns as to whether they have the financial or administrative resources to take on a project of this magnitude. NSJFPD has expressed an interest in having another local agency such as Nevada County act on their behalf for purposes of construction and operation of the system. Both the Nevada County Departments of Transportation and Sanitation operate in North San Juan but because their funding sources are restricted, gas tax for Transportation and sewer fees for Sanitation, the County would be legally prohibited from using these forces for the fire protection system. Utilizing County forces would require a new funding source, and because of the County's overhead costs for labor and materials, it would likely be much more cost effective to hire a contractor for periodic maintenance and repairs.

## **PRELIMINARY PROJECT PLANS**

Preliminary plans have been prepared for the Alternative A Transfer Station Tank and Flume Street Pipelines, the Alternative B Cherokee Street Tank and Cherokee Street/Reservoir Road Pipeline, and the Highway 49 Pipeline and Fire Hydrants. Preliminary plans have also been prepared for the water storage tank and well. Preliminary plans are included at the end of this report.

## **RECOMMENDED PROJECT**

Based on the results of this evaluation, the recommended project would be the combination of Alternative A – Transfer Station Tank and Flume Street Pipeline and the Highway 49 Pipeline Private Property Easements. Advantages include:

The long term lease of the BLM property and pipeline construction along Flume Street would avoid having to go through the process of negotiation and purchase of property and easements for the tank site and pipeline, especially considering there is no guarantee the property owner would be cooperative.

Having as much of the Highway 49 pipeline as possible outside of Caltrans right-of-way would significantly reduce construction cost by avoiding having to encase the pipeline, and would also avoid the possibility of having to relocate the pipeline should Caltrans require it in the future.

This would be the lowest cost of construction of the various combinations.



REV	DATE	REVISIONS

North San Juan  
Fireflow Feasibility Study  
ALTERNATIVES A & B  
TANK SITES & PIPELINE LAYOUT

County of Nevada  
Nevada County  
California

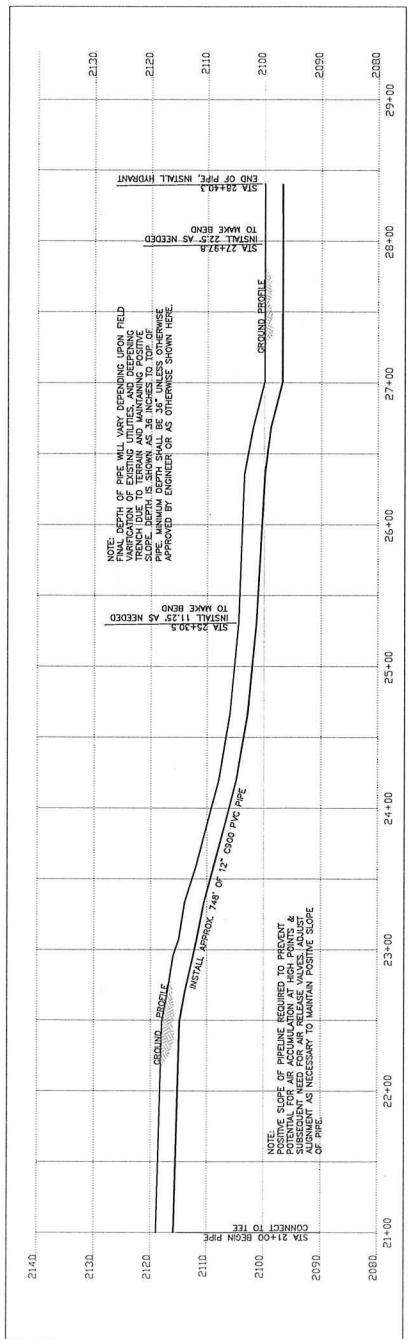
**Sauers**  
Engineers, Inc.  
Civil & Environmental Engineers  
4626 Locust Court, Valley View, Nevada, 89453  
Tel: (530) 755-9321 www.sauerseng.com

DATE: 10/08/21	SCALE: AS SHOWN
PROJECT NUMBER: 10480-21	DESIGNED BY: J.S.M.
DRAWN BY: J.S.M.	CHECKED BY: J.S.M.
APPROVED BY: J.S.M.	DATE: 10/08/21
SHEET: 10480-21	













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North San Juan  
Fireflow Feasibility Study

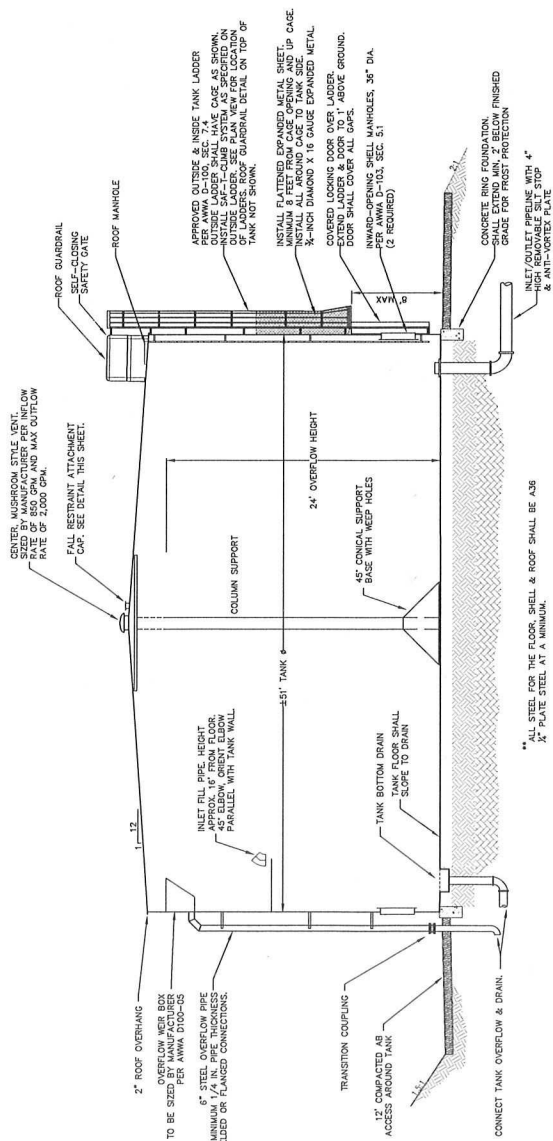
County of Nevada



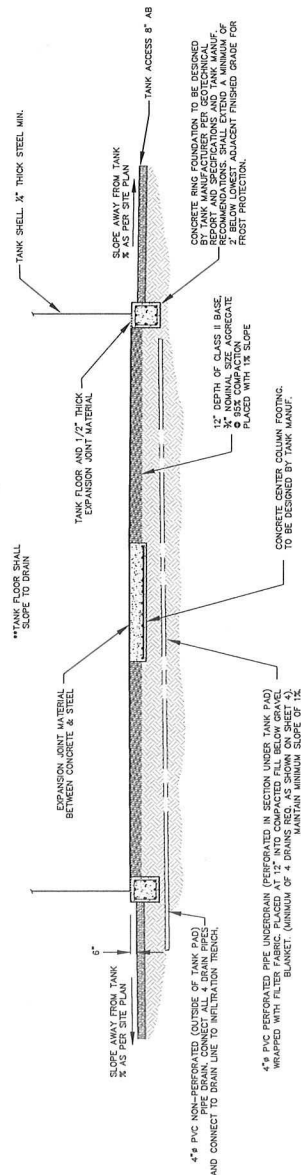
**Sauer's  
Engineering, Inc.**  
Civil & Environmental Engineers  
4404 Tower Grass Valley Road, Nevada City, CA 95959  
tel (530) 265-9021    www.sauerseng.com

 BAR IS ONE INCH ON ORIG. DRAWING BAR DOES NOT MEASURE ONE INCH. ADJUST SCALES ACCORDINGLY		13-001-31 K.S.K. K.E.M. P.D.M.
SUBJECT NUMBER: SURVEY BY: SURVEY DATE: DESIGN BY: DRAFTING BY: CHECKED BY:		PATH:

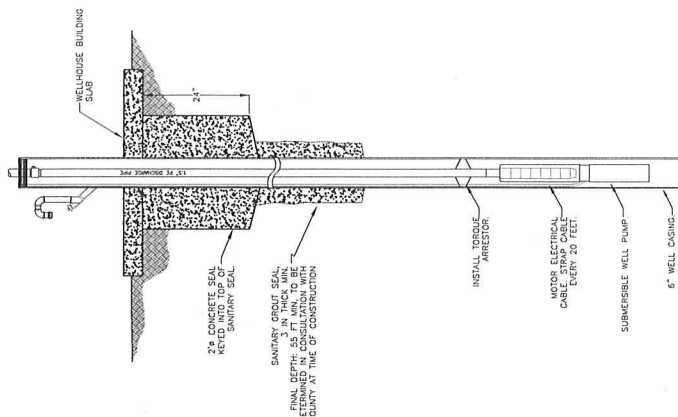
C1  
SHEET 2 of 22



±330,000 GALLON WORKING VOLUME WELDED STEEL TANK



① TANK FOOTING & PAD DETAIL  
⑤ SCALE 1"=5'



3 WELL DETAIL  
Scale: N.T.S.