

RESOLUTION OF THE  
RESOURCES AND DEVELOPMENT COMMITTEE  
23<sup>rd</sup> Navajo Nation Council --- Fourth Year, 2018

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT COMMITTEE; APPROVING A  
TEMPORARY CONSTRUCTION EASEMENT FOR THE TERM OF ONE YEAR TO THE  
NAVAJO NATION WATER RESOURCES DEPARTMENT FOR THE PURPOSE OF  
REPLACING THE BITSUI STEEL SIPHON THAT BENEFITS NENAHNEZAD AND  
SAN JUAN CHAPTER FARMERS

BE IT ENACTED:

**Section One. Authority**

- A. Pursuant to 2 N.N.C. §500, the Resources and Development Committee is established as a standing committee of the Navajo Nation Council.
- B. Pursuant to 2 N.N.C. §500 B 2(a), the Resources and Development Committee grants final approval for all, non-mineral leases, permits, licenses, rights of ways, and surface easements on Navajo Nation lands and unrestricted (fee) land.

**Section Two. Findings**

- A. The Navajo Nation Department of Water Resources has requested a temporary construction easement, endorsed by the Nenahnezad Chapter, to enable the replacement of the Bitsui Siphon serving Nenahnezad and San Juan Chapter farmers. See **Exhibit A**.
- B. The Navajo Nation Department of Water Resources Technical Construction and Operations Branch is responsible for the operation and maintenance of the Fruitland Canal.
- C. Bitsui Siphon is a 36-inch steel siphon on Fruitland Canal that serves approximately 2, 632 acres of permitted farmland located in Nenahnezad Chapter and San Juan Chapter.
- D. Bitsui Siphon has failed in recent years including twice in 2015 disrupting irrigation water delivery to Nenahnezad and San Juan Chapter farmers.


- E. An engineering assessment of the siphon in 2003 concluded the steel pipe has exceeded its life expectancy and requires replacement.
- F. The Navajo Nation Department of Water Resources has received \$7.7 million authorization from Congress to rehabilitate the Fruitland-Cambridge Irrigation Project.
- G. The Navajo Department of Water Resources has contracted Keller-Bliensner engineering, LLC to complete the design for replacing the Bitsui Siphon.
- H. The request for a temporary construction easement has been reviewed by the appropriate Departments and Divisions and found legally sufficient by the Department of Justice. See **Exhibit B**.
- I. The Resources and Development Committee finds it to be in the best interest of the Navajo Nation to grant a temporary easement for a period of one year, subject to the Terms and Conditions as found at Exhibit C, to the Navajo Nation Department of Water Resources to enable the replacement of the Bitsui Siphon.

### **Section Three. Approval**

- A. The Resources and Development Committee of the Navajo Nation hereby approves the request for a temporary construction easement to the Navajo Nation Department of Water Resources, for the replacement of the Bitsui Siphon, for a term of one year and subject, but not limited to, the Terms and Conditions attached hereto and incorporated herein as found at **Exhibit C**.
- B. The Resources and Development Committee of the Navajo Nation hereby waives the requirement for a bond, insurance or alternative form of security pursuant to 25 CFR § 169.103 (f) (2).
- C. The Resources and Development Committee hereby waives the assessed consideration as found at Item #2, Terms and Conditions.
- D. The Resources and Development Committee of the Navajo Nation Council hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to affect the intent and purpose of this resolution.

**CERTIFICATION**

I, hereby, certify that the following resolution was duly considered by the Resources and Development Committee of the 23<sup>rd</sup> Navajo Nation Council at a duly called meeting at the Twin Arrows Navajo Casino Resort, Leupp, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 3 in favor, 0 opposed, 1 abstained on this 20<sup>th</sup> day of June 2018.



Alton Joe Shepherd, Chairperson  
Resources and Development Committee  
of the 23<sup>rd</sup> Navajo Nation Council

Motion: Honorable Walter Phelps  
Second: Honorable Leonard Pete



# FINAL BITSUI SIPHON CONCEPTUAL DESIGN REPORT

Prepared for

Navajo Nation Department of Water Resources

P.O. Box 678

Ft. Defiance, AZ 86504

Prepared by

Keller-Bliesner Engineering, LLC

78 East Center

Logan, UT 84321

May 24, 2016



Keller-Bliesner Engineering, LLC  
78 East Center  
Logan, Utah 84321  
435-753-5651 (435-753-6139 Fax)

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## INTRODUCTION

The purpose for the project is to replace the 775 ft long Bitsui Siphon pipe with new pipe and to add a self-cleaning automated trash rack over the inlet to the siphon. The project is required to securely deliver irrigation water to approximately 260 Navajo Nation farm permits totaling 2,447 acres.

### Project Background

Bitsui Siphon is a 40-inch painted steel siphon with coal tar enamel lining that is approximately 775 feet long. The siphon is located just upstream of Nenahnezad Chapter on Fruitland Canal. The descending and ascending sections of the siphon are buried while the portion crossing the unnamed wash is above ground supported by concrete supports (Figure 1).

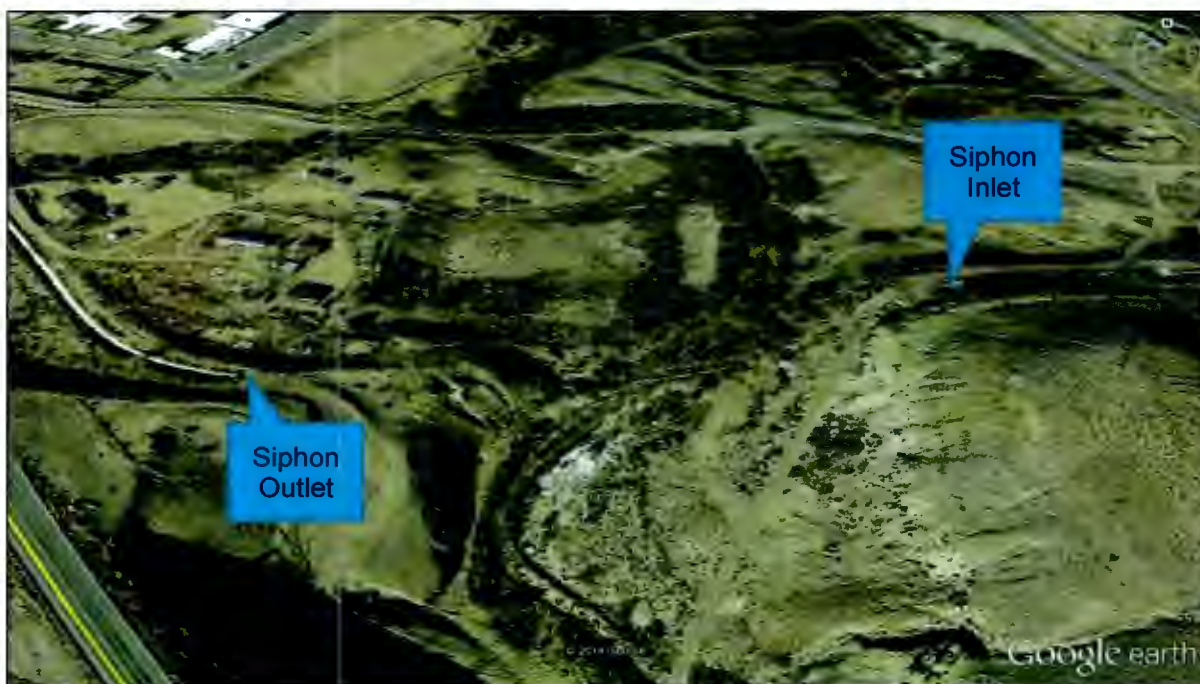


Figure 1. Aerial View of Bitsui Siphon

### Bitsui Siphon Deficiencies

Deficiencies for Bitsui Siphon include:

- The steel pipe has failed. This was the conclusion of the assessment completed in 2003<sup>1</sup>. Since then, the Navajo Nation Department of Water Resources (NNDWR) is

<sup>1</sup> Keller-Bliesner Engineering, LLC *San Juan Irrigation System Rehabilitation Plan*. United States Bureau of Reclamation. 2003.

utilizing salvage steel pipe to keep the siphon operable for the past five years. However, each failure and subsequent temporary repair takes approximately two weeks which is devastating for irrigated crops. NNDWR management and their consultant, Keller-Bliesner Engineering, LLC have determined that the siphon pipe needs to be replaced. Major repairs and pipe replacements are required every year for the past five years.

- The siphon acts as a weir on Bitsui Wash inundating about ½ acre with storm water runoff. Invasive species have been introduced in these marginalized areas.
- The trash rack requires frequent cleaning each day and plugs easily. This accumulation of debris on the trash rack restricts flow to downstream chapters.

### **Alternatives and Selection**

NNDWR has purchased 42-inch HDPE pipe to replace the siphon based on a conceptual plan outlined in the 2003 report<sup>2</sup>. The amount of pipe purchased by NNDWR may be seen in Appendix G. The only reason the siphon has not been replaced is because there has not been a design. NNDWR requires a design to show how the pipe is to be laid and how it will transition into the canal on each end. NNDWR also requires a design for the trash screen on the siphon inlet side.

During startup last year in April, the siphon piping failed in several places. In fact, the siphon is always experiencing some type of leakage. Closer inspection by Shiprock Irrigation and Keller-Bliesner in 2003 revealed that the siphons walls are “paper” thin demonstrating that the steel pipe has reached the economic life for steel pipe. The siphon failed once again in May due to steel corrosion. NNDWR was able to repair these breaks, but it is uncertain how the repairs and the siphon will perform in 2016. It is critical that the siphon be replaced as soon as possible in order to safeguard irrigation water supply to 2,447 acres of farmland.

Because of the work already completed by NNDWR (2003 Rehabilitation Plan), four alternatives were evaluated:

1. Do Nothing
2. Replace the steel siphon with an above ground 40-inch steel pipe and install an automated trash rack
3. Replace the steel siphon with a 42-inch buried HDPE pipe and install an automated trash rack on the inlet side.
4. Replace with a buried concrete pipe and install an automated trash rack on the inlet side

In 2003, these options were evaluated<sup>3</sup> using an annualized cost comparison. Alternative 3 was selected because if the pipe material is not corrodible, it could be buried, and it has higher capacity due to having a lower friction factor. Furthermore, NNDWR purchased 42-inch HDPE pipe several years ago and needs to install this pipe. Since the 42-inch HDPE pipe is sufficient for the design of Bitsui Siphon, it can be used in this application. NNDWR will only have to purchase a few fittings to complete the siphon. NNDWR concurs with this decision today. Nenahnezad Chapter was presented this option in a chapter planning meeting held on August 6, 2015 where the chapter approved of this design option.

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<sup>2</sup> Ibid, pg 75

<sup>3</sup> Ibid, pg 76



## CONCEPTUAL DESIGN

In 2003, NNDWR and Keller-Bliesner derived a conceptual design to correct the identified deficiencies. First, the drainage problem with the wash should be corrected. This work is accomplished by cleaning out the wash so that the area drains. This will allow Shiprock Irrigation crews to complete operation and maintenance on the siphon again by accessing the siphon.

With no interior lining, Bitsui Siphon is essentially a bare steel pipeline. Because of this, Bitsui Siphon has reached its economic life and requires replacement. Bitsui Siphon should be replaced with a buried 42-inch HDPE pipeline. HDPE was chosen as the piping material because HDPE is non-corrosive. The 42-inch HDPE pipeline is sufficient in size to convey the design flow to meet downstream demand.

The design should utilize the existing inlet and outlet structures as much as possible. This can be accomplished by installing flanges on the HDPE pipe and casting them into a concrete wall with the existing pipe.

The existing pipeline would be cut and removed and salvaged. The new pipeline route would then be trenched followed by HDPE pipe installation. Dewatering may be required in the wash area. Pea gravel would be used to bed the HDPE pipe in saturated areas.

An automatic trash screen would be installed on the inlet side of the siphon to continuously remove debris from the canal. There should be sufficient room for placing the trash screen between the sluice and the inlet. Power can be obtained by either installing a new powerline from the south or installing a solar panel near the inlet.

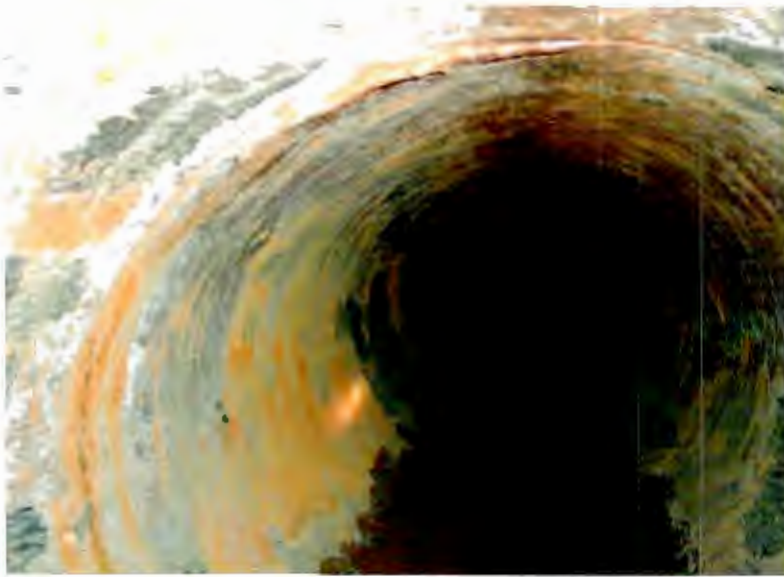
## INVESTIGATIONS

The following investigations were completed:

1. Original pipe investigation by Keller-Bliesner Engineering, LLC - 2003<sup>4</sup>. See Figure 2.
2. Topographic survey by the Navajo Nation Department of Water Resources in June, 2015. See Appendix C.
3. Legal easement survey by Johnson Surveying and Mapping in July, 2015. See Appendix F.
4. Soil augers to assess sub-surface soil and identify water table in June, 2015. See Appendix D
5. NTUA electrical power applications in August, 2015. See Appendix H
6. 30% Design review in August, 2015. See Appendix G.

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<sup>4</sup> Keller-Bliesner Engineering, LLC *San Juan Irrigation System Rehabilitation Plan*. United States Bureau of Reclamation. 2003. Pg 75



**Figure 2. 2003 Interior view of Bitsui Siphon showing the extension of corrosion.**

The design review completed in August 2015 revealed that the outlet structure is not suitable to irrigation due to having to utilize the steel pipe and to concrete erosion quite visible on the ground surface (Figure 3). It was decided to replace this structure with a new structure. The inlet structure was observed during the August review to still be satisfactory but in need of a new sluice gate. The inlet gate still has a concrete pipe cast into the concrete wall that is in reasonable shape.



**Figure 3. Bitsui Siphon Outlet Structure.**

**San Juan River Navajo Irrigation Projects  
Fruitland-Cambridge Irrigation Project  
Bitsui Siphon Replacement**

**DESIGN, BUILD SPECIFICATIONS**

**Prepared for**

**Navajo Nation Department of Water Resources  
Technical Construction and Operations Branch  
P.O. 678  
Ft. Defiance, AZ 86504**

**Prepared by**

**Keller-Bliesner Engineering, LLC  
78 East Center  
Logan, Utah 84321  
(435) 753-5651**

**May 10, 2016**

# **PART 1 – GENERAL**

## **1.01 WORK INCLUDED**

- A. This scope of work covers all design, material, and workmanship required to replace the Bitsui Siphon and to install a trash screen in front of the Siphon.
- B. General. The Bitsui Siphon is an aging 40-inch steel pipe siphon that is still in use on the Fruitland Canal. It is on the south side of the San Juan River, approximately one mile southwest of the town of Fruitland, New Mexico.
- C. This project removes the current partly buried, partly elevated, steel and concrete pipe siphon and replaces it with a new buried 42-inch HDPE pipe.
- D. Scope. Work covered includes all design, design approval, demolition, disposal, earthwork, excavation, dewatering, handling, installation, mechanical work, electrical work, concrete work, structural work, backfill, and final grading to complete the work as shown in the conceptual design report and described in these specifications. All material, unless specified, are furnished by the Contractor.

## **1.02 GENERAL**

- A. All design work shall be completed under the direction of a Professional Engineer currently licensed to provide engineering services in the state of New Mexico and qualified to complete the scope of work.
- B. All materials, unless otherwise noted, shall be of new, first-quality manufacture, free from defects and suitable for the intended use. Where manufacture's names are used in the Specifications it is for the purpose of establishing the standard for quality and general configuration. Products of other manufacturers will be considered, provided they meet the same standards and the manufacture's name and product specifications are submitted to the Engineer for approval.
- C. The Owner has secured National Environmental Policy Act (NEPA) compliance for this project and exemptions from the Clean Water Act Section 401 and 404 permits. The Contractor shall comply with all the contract specifications to ensure compliance with the NEPA.
- D. The Contractor shall be responsible for submitting a Notice of Intent (NOI) with the United States Environmental Protection Agency and be responsible for preparing and implementing a Storm Water Pollution Prevention Plan.
- E. The Contractor shall be responsible for complying with New Mexico one-call requirements prior to completing any excavation work.
- F. The Contractor shall provide all other permits, fees, materials, labor, and equipment necessary to complete the work.
- G. All workmanship shall be of the highest quality.
- H. All work shall be performed in strict accordance with these Specifications, and the



applicable national, state and tribal law, codes and regulations. In addition, manufacturer's instructions for all materials shall be strictly followed. In the event of disagreement between national and tribal codes and these Specifications, the codes shall prevail. Such situations shall be discussed with the Engineer prior to proceeding with the work in question.

- I. In the event of conflicts between Specifications, Drawings and field conditions, the Engineer shall be consulted. No changes in the design or construction method shall occur without the review and approval of the Owner. If changes in the Drawings or Specifications are deemed necessary by the Contractor, details of such changes shall be submitted to the Owner for review as soon as practical to allow time for review before installation.
- J. Materials damaged in the course of installation shall be repaired or replaced at the approval of the Engineer. The Contractor shall be liable for damage during handling or installation of all materials, whether provided as a part of this Contract or provided by others, and shall repair or replace the material at the option of the Engineer at the Contractor's expense.
- K. Proper handling and storage of all materials and equipment prior to installation shall be the responsibility of the Contractor.
- L. Cost. The cost of all materials furnished by the Contractor and the cost of all work performed by the Contractor necessary to complete the project as described by the drawings and these specifications and the material specifications shall be included in the prices listed in the Bid Schedule.

### **1.03 WARRANTY**

- A. **Contractor warranty.** Contractor shall warrant the work to be free from defects for a period of one year after completion of the project. Warranty shall cover all work performed by the Contractor and all materials provided by the Contractor.
- B. **Manufacturer warranties.** All manufacturer warranties for materials furnished by this scope of work shall be transferred to:  
Navajo Nation Department of Water Resources  
Technical Construction and Operations Branch  
P.O. 678  
Ft. Defiance, AZ 86504
- C. **Costs.** All costs associated with warranting the scope of work as described in the drawings and specifications shall be included in the bid schedule for each item applicable to the warranty.

## PART 2 – DESIGN

### 2.01 GENERAL

- A. **Objective.** The Contractor shall complete final design of the conceptual design approved by the Owner for replacing Bitsui Siphon. The conceptual design is described in the Conceptual Design Report.
- B. **Existing Material.** The Contractor shall utilize all of the 42-inch HDPE pipe material furnished by the Owner in the design as possible. The pipe inventory available for this project is located in Appendix G of the Conceptual Design Report.
- C. **Qualifications.** All work shall be completed under the direction of a Professional Engineer currently licensed in the state of New Mexico and qualified to complete the scope of work. All design documents completed for this scope of work shall be stamped by the Professional Engineer.
- D. **Geotechnical Investigation.** The Owner has completed some geotechnical investigation of the site. This investigation is located in Appendix D of the conceptual design report. All additional geotechnical work shall be the responsibility of the Contractor.
- E. **Survey Data.** The Owner has completed a topographical survey of the project area. This may be found in Appendix C of the conceptual design report. All additional survey data shall be the responsibility of the Contractor.
- F. **Design Review.** The Contractor shall submit to the Owner a design review schedule that includes reviews at:
- thirty percent completion
  - sixty percent completion
  - ninety percent completion
- Each review shall consist of a meeting between the Contractor, the Owner, and the Bureau of Indian Affairs.
- G. **Approval.** The Contractor shall obtain approval of the design by the Owner prior to any construction.
- H. **Design Standards.** The Contractor shall comply with the following design standards or approved equivalent:
- I. **Minimum Documents.** The Contractor shall furnish six (6) copies of the drawings, specifications, and the standard operation manual.
- J. **As Built Drawings.** The Contractor shall furnish as-built drawings for the replacement within 30 days after construction completion.
- K. **Payment.** The Contractor shall submit all costs associated with the design for the project in Bid Item 1.

## PART 3 – SITE CONDITIONS, PREPARATION & RESTORATION

### 3.01 GENERAL

- A. ***During construction, disturbance of the area shall be minimized.*** Construction activity shall be kept to the right-of-way at all times. Activity outside the construction boundary shall be by permission from the owner only. Keep project area neat and orderly at all times, free of rubbish and excess construction materials.
- B. ***Prevent contamination of the project area.*** Do not dump waste oil, fuel, rubbish or other similar contaminants on the ground or in any streambed. The Contractor shall avoid contamination of the aquifer, soil or streams with any contaminant and shall be liable for containment and cleanup of any such contamination at his own expense.

### 3.02 ENVIRONMENTAL QUALITY PROTECTION

- A. ***Landscape Preservation.*** The Contractor shall be responsible for restoring any land disturbed by construction activities. This includes preserving the natural landscape by keeping construction impacts to a minimum, limiting all activity within the designated construction boundaries, cleaning the construction area during construction and after completion of the project, re-grading disturbed lands so natural contours are restored, and providing proper drainage to prevent erosion during and after construction. The remediation plan must be submitted and approved by the Engineer.
- B. ***Vegetation Preservation.*** The Contractor shall preserve and protect existing vegetation which is not required to be removed by construction activity
- C. ***Water Quality Management.*** The Contractor shall be responsible for any sediment and erosion control, wastewater control, and storm water management for all land within the construction boundary and any drainage to and from the construction boundary during the duration of the project. All Federal, State, and Tribal requirements for maintaining water quality during construction activity shall be met. The Contractor shall prepare and submit a storm water pollution prevention plan and a Notice of Intent as required by the Clean Water Act section 402 permit 14 days prior to construction. The contractor shall submit a weekly inspection sheet of any measures implemented by the storm water pollution prevention plan.
- D. ***Air Quality Management.*** The Contractor shall comply with any applicable Federal, State, or Tribal regulations governing air quality for construction activity for the duration of the project. This includes all equipment emissions and dust abatement.
- E. ***Cultural Preservation.*** The Contractor shall protect any sites identified by the Navajo Nation as having any historical, religious, scientific, pre-historical, or archeological significance warranting preservation. No such areas are currently known to be within the construction boundaries. Should the Contractor discover any additional historical, religious, scientific, pre-historical, or archeological findings, all work involving that site

shall cease until clearance is obtained. Expenses incurred by the delay shall be negotiated between the Owner and the Contractor. Any excess disturbances by the Contractor or any individual associated with the Contractor as judged by the Navajo Nation shall be subject to the full extent of the law.

- F. **Submittals.** The Contractor shall submit to the Owner a copy of any required permit to complete the scope of work two days prior to any construction activity.
- G. **Payment.** All material and labor costs associated with preserving environmental quality shall be included in the bid schedule for the applicable items. The costs for preparing, submitting, and complying with a storm water pollution prevention plan shall be included in Bid Item 2.

### 3.03 SAFETY

- A. **General.** The Contractor shall fully comply with all Federal, State and Tribal safety regulations.
- B. **Safety Program.** The Contractor shall establish and maintain a safety program during the duration of the project. The Contractor shall submit the safety program to the Owner for approval 14 days prior to any construction activity. Minutes of weekly safety meetings shall be submitted to the Owner for the duration of the project
- C. **Payment.** The costs for establishing and maintaining a safety program shall be included in Bid Item 2.

### 3.04 STAGING AND EQUIPMENT SERVICE AREA

- A. The Owner will designate a suitable equipment staging and service area for the Contractor within 1/4 mile of the project area. The staging and service area may be used for parking of equipment and storage of materials prior to installation. The Contractor shall be responsible for security at the staging area. Servicing of equipment and vehicles will be allowed only at the designated service area, except in cases where the repair must be performed on site before the equipment can be moved.
- B. Care shall be taken to avoid fuel and oil spills. All waste material, packaging and unused material shall be removed from the site upon completion of the Contract.
- C. The staging area shall be free of debris and re-graded to its original surface contour upon completion of the Contract.
- D. Costs associated with establishing and maintaining a staging area for the duration of the project shall be Bid Item 2.

### 3.05 UTILITIES

- A. **General.** Existing utilities may be located at the site. The Contractor shall identify all utilities, mark them during the duration of the project, and protect them from all construction activity. Any damage to existing utilities by the Contractor or their sub-contractors shall be repaired as directed by the utility owner at the Contractor's expense.



- B. **NM One Call.** The Contractor or any sub-contractor shall submit a confirmation number to the Owner at least two days prior to any excavation at the site. The Contractor shall maintain the confirmation number for the duration of the excavation.
- C. **NTUA.** Navajo Tribal Utilities Authority (NTUA) has power service poles near the project site. The Owner is hiring NTUA to provide electrical service to the inlet of Bitsui Siphon which will be used to power the trash screen. The Contractor shall be responsible for all electrical work necessary to tie-in to NTUA electrical service. Any work associated with the utility must be coordinated with NTUA.
- D. **Electricity.** The Contractor is responsible for all required electrical requirements necessary to complete construction of the project.
- E. **Water.** The Contractor is responsible for all required water requirements necessary to complete the project.
- F. **Payment.** The costs for working with utilities shall be included in Bid Item 2



Mr. Christopher R. Wrbas  
U.S. Army Corps of Army Engineers  
Durango Regulatory Office  
1970 East 3<sup>rd</sup> Avenue, Suite 109  
Durango, CO 81301

June 26, 2015

Dear Chris:

There are three existing steel irrigation siphons that require replacement due to age. Two of these siphons are on the Fruitland-Cambridge Irrigation Project and are named Bitsui Siphon and Yellowman Siphon. The third siphon, Salt Creek Siphon, is located on the Hogback-Cudei Irrigation Project.

Bitsui Siphon is a 775 foot long, 40-inch steel pipe located on Fruitland Canal which is on the south side of the San Juan River approximately one mile southwest of Fruitland. It has failed several times and may not make it through the 2015 irrigation season. It will be replaced with 42-inch buried HDPE pipe. Figure 1 shows the location of the Bitsui Siphon. The current siphon acts as a weir on the existing arroyo. The new buried design will enable the arroyo to naturally flow. Figure 2 shows a picture of the existing siphon.

Yellowman Siphon, is a 9000 foot long 36-inch steel pipe located on Fruitland Canal located along the south side of the San Juan River. The inlet is approximately 1.7 miles west of Fruitland. Ten years ago, the Navajo Nation Department of Water Resources replaced half of the pipe with new pipe but were unable to complete total replacement. As with the Bitsui Siphon, the old portion of the Yellowman Siphon has failed several times and may not make it through the 2015 irrigation season. NNDWR plans to replace the remaining portions of Yellowman Siphon. Figure 1 shows the location of the Yellowman Siphon.

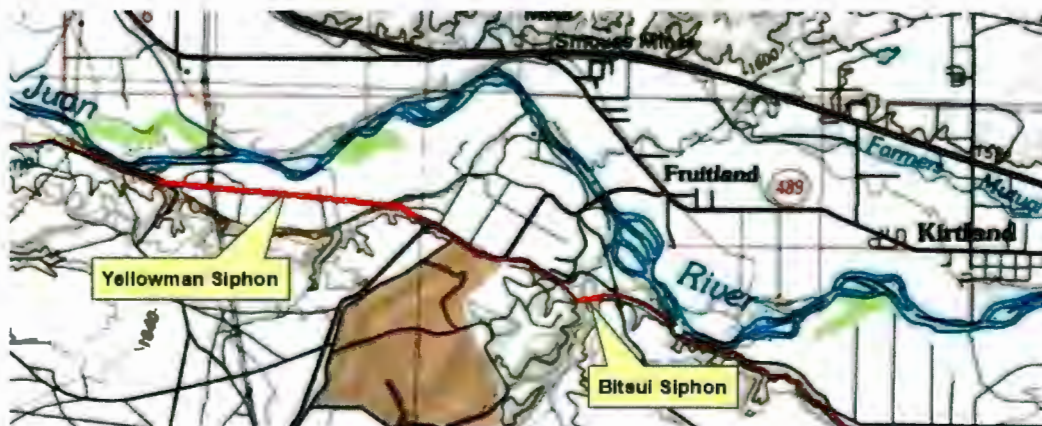


Figure 1. Location of Yellowman Siphon and Bitsui Siphon



**Figure 2. Picture of Bitsui Siphon. Water seen is due to pipe leak.**

Salt Creek Siphon (Figure 3) is a 1,125 foot long, 73-inch steel pipe, on Hogback Canal. It is located on the north side of the San Juan River, approximately three miles north-northwest of Shiprock. It is in fair condition, but it has reached its economic life of over fifty years and has sediment accumulated in the bottom. It has also recently failed (Figure 4) resulting in disruptions to irrigation delivery. The replacement pipe has yet to be designed but will be so this coming fall.



**Figure 3. Location of Salt Creek Siphon**





**Figure 4. Recent failure of Salt Creek Siphon.**

The Navajo Nation Department of Water Resources Shiprock Irrigation respectfully requests that the U.S. Corps of Army Engineers provides an exemption to the Section 404 permit of the Clean Water Act for these three locations for the following reasons:

1. Existing irrigation structure replacement qualifies for an exemption under implementing regulation 33 CFS 323.4(a).
2. The work intended is part of the regular maintenance of both Hogback and Fruitland Canal.

We appreciate your consideration of these exemption requests. Please let me know if you have any questions or require additional information

Sincerely,

Michael Isaacson, PE

Cc: Marlin Saggboy, Shiprock Irrigation  
David Tallman, NNDWR  
Rudy Keedah, BIA-Navajo Region





Michael Isaacson <mi@kelbli.com>

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**RE: [EXTERNAL] Section 404 permit exemption for Bitsui Siphon, Yellowman Siphon, and Salt Creek Siphon (UNCLASSIFIED)**

1 message

---

Wrbas, Christopher R SPA <Christopher.R.Wrbas@usace.army.mil>  
To: Michael Isaacson <mi@kelbli.com>

Mon, Jun 29, 2015 at 6:40 AM

Classification: UNCLASSIFIED  
Caveats: NONE

Hey Mike,

If the maintenance work is being done on existing irrigation ditches or lines then it appears it is exempt and you would not need anything further from us. I would check with Navajo Nation EPA to make sure you are not needing anything from them.

Thanks Chris

Christopher Wrbas  
Durango Regulatory Office  
1970 East 3rd Ave. Suite 109  
Durango, CO 81301  
(970)259-1947

Please take our Customer Service Survey and let us know how we're doing!  
[http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0)

For more information about the Regulatory Program please visit: <http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits.aspx>

—Original Message—

From: Michael Isaacson [mailto:[mi@kelbli.com](mailto:mi@kelbli.com)]  
Sent: Friday, June 26, 2015 6:37 PM  
To: Wrbas, Christopher R SPA  
Cc: David Tallman; Marlin Saggboy; Rudy Keedah; Michele T  
Subject: [EXTERNAL] Section 404 permit exemption for Bitsui Siphon, Yellowman Siphon, and Salt Creek Siphon

Chris,

Shiprock Irrigation has three siphons that they would like to replace this coming winter. Please see the attached letter requesting an exemption from the 404 permit due to these being existing irrigation structures. If you would like to visit the sites, please feel free to contact us and we can arrange to meet you at the site and explain the project.

Please let me know if you have any questions regarding this.

Thanks,  
Mike Isaacson, PE  
Keller-Bliesner Engineering, LLC

Classification: UNCLASSIFIED  
Caveats: NONE

# Bitsui Siphon Replacement

30% Design Review

August 17, 2015

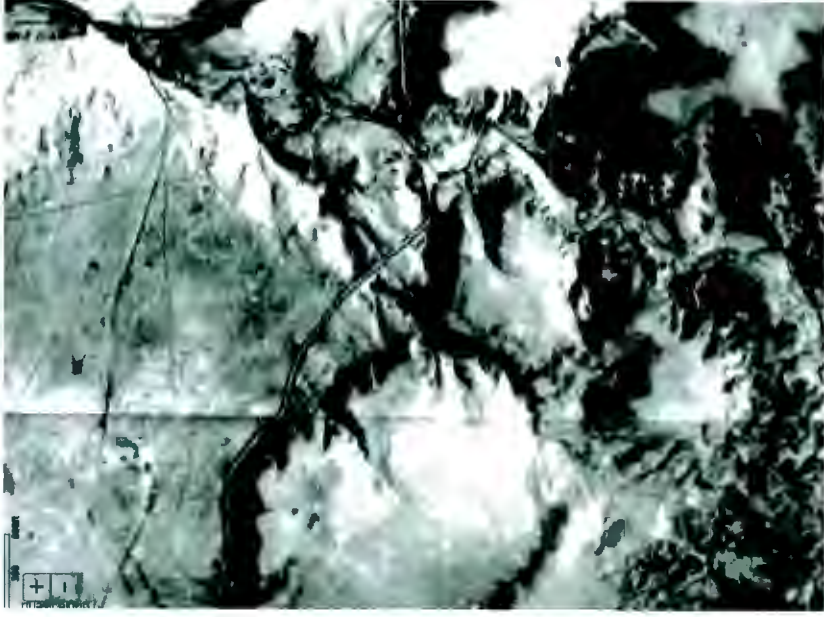


Keller-Bliesner Engineering, LLC.



# History

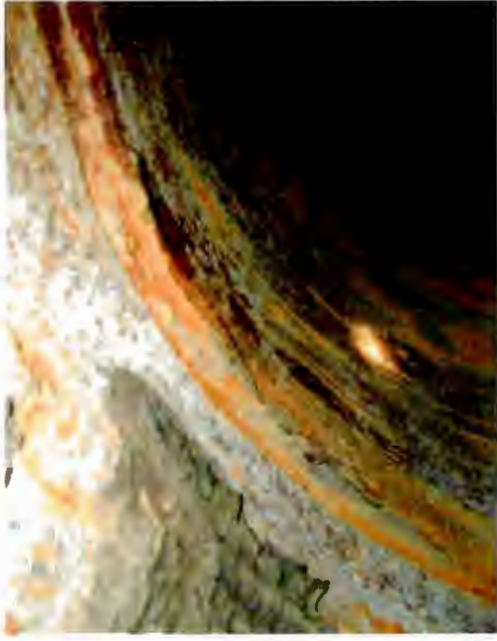
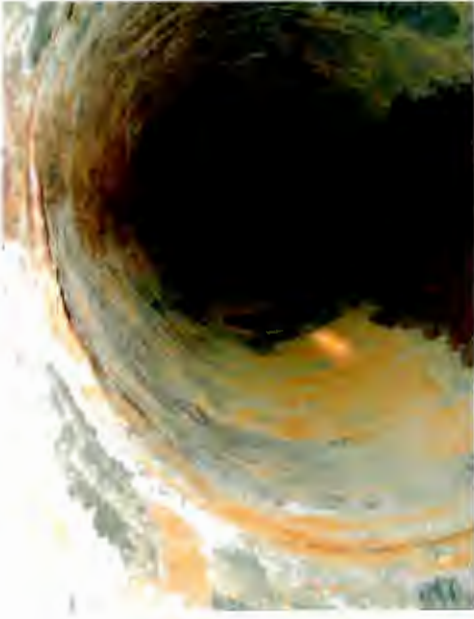
- Built in 1934
- Transferred to Navajo Nation in 1962
- 40-inch diameter steel siphon 775 ft long
- Serves approximately 2,600 acres
- Was originally an elevated siphon



1935 Imagery of Siphon.  
Notice land above is not  
developed yet

# 2003 Assessment

- Completed by KB and Shiprock Irrigation
- Heavy corrosion through length of pipe
- Numerous failures on concrete pipe section and steel pipe section
- Pipe partially buried and blocking free flow of Bitsuie Wash





# 2003 Alternatives

## **Do Nothing**

- Siphon continues to fail
- Spills impact on community safety
- Shiprock Irrigation can't guarantee water delivery to 2,600 acres
- Siphon continues to impound water in area

## **Replace – Selected as Preferred**

- Bury Siphon to allow free flow of Bitsui Siphon
- Use HDPE pipe because of pressure requirements and because it is not corrosion
- HDPE pipe also is flexible to mitigate vibrations caused by nearby mine blasting
- Try to use existing transitions to simplify construction

# 2008 Pipe Purchase

- NNDWR using USBR Native American Funding Purchased Pipe from Precision Pipe
- 42-inch SDR 32.5 3408 HDPE pipe
- 748.5 ft of pipe
- One 42-inch x8-inch Tee
- Two 42-inch HDPE Flange Ends



# Recent Issues

- Two failures in 2015
- Shiprock Irrigation slowly replacing original steel pipe with surplus steel pipe they can use
- Pipe continues to leak in certain locations

# Investigations

## Topographic Survey

- Completed by TCOB Shiprock Crew

## Legal Survey

- Being completed by KB subcontractor Johnson Mapping

## Geo-technical

- Bottom is sandy clay loam
- Sides have soft coal and shale 3 to 4 ft below
- Groundwater elev at 5,143 ft

## Hydrology

- Watershed area = 23.5 sq miles
- 25 year storm = 1,740 cfs
- Wash at Siphon is not cutting



# Design Flow

## Demand Calculation

- Crop Mix
  - 60% Alfalfa
  - 25% Corn
  - 10% Pasture
  - 5% Garden

- Efficiency 60%
- Assume 15% fallow ground
- Design flow 8.8 gpm/acre or 51 acres/cfs

## Command Area

- 2446 acres
- 215 permits
- Nenahnezad Chapter and San Juan Chapter

## Design Flow

- 2446 acres x 51 acres/cfs = 48 cfs
- Added safety factor of 15% so design is 54 cfs

# Verify 42-inch HDPE

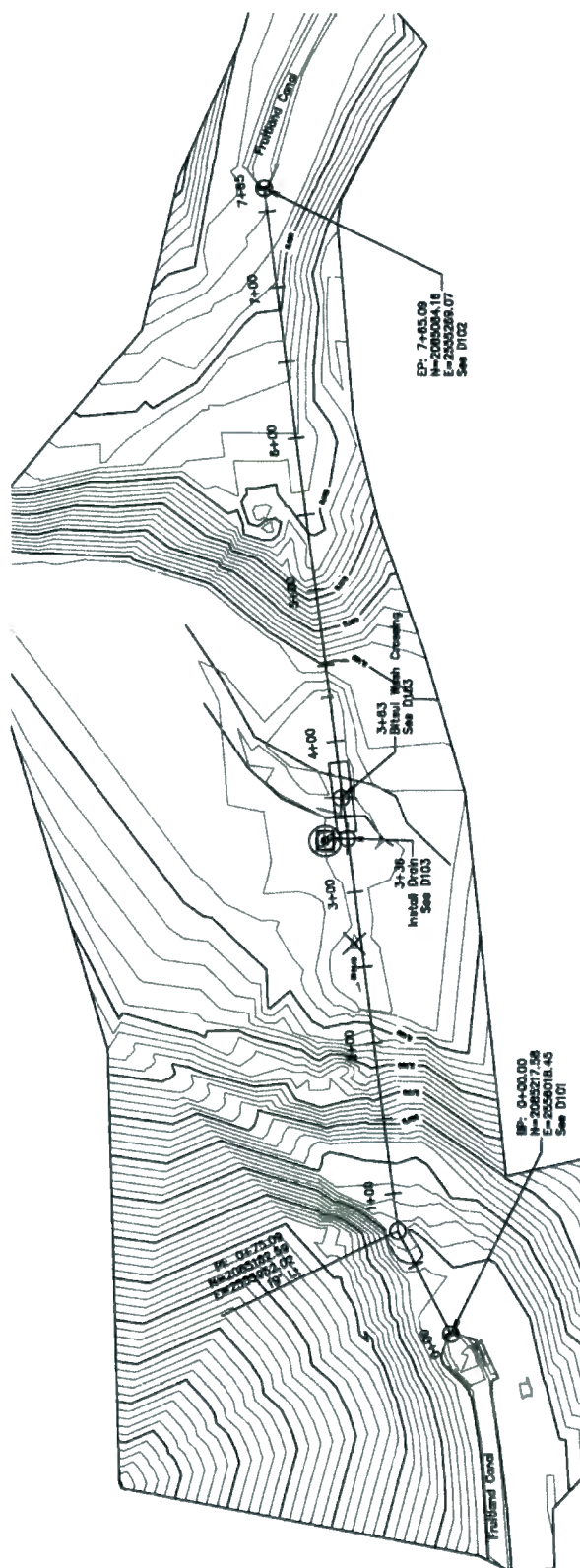
## Pipe Size

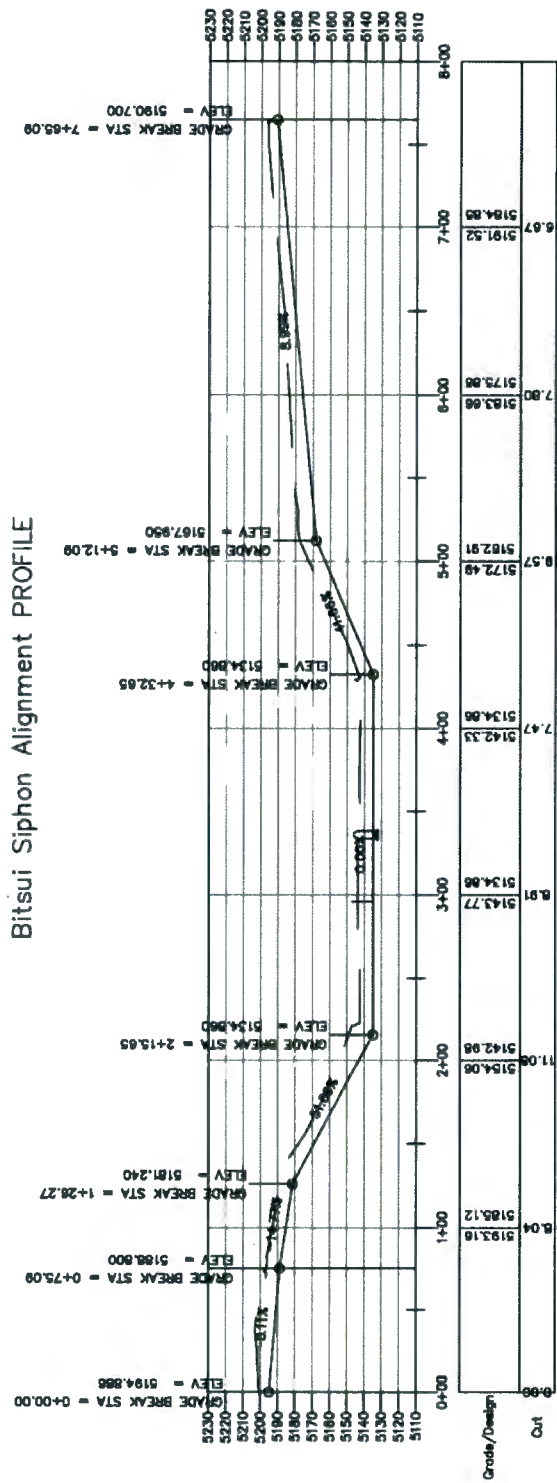
## Wall Thickness

Hazen-Williams	
l = length of pipe (ft)	765.05
c = Hazen-Williams roughness constant	140
q = volume flow (gal/min)	24,237
dh = inside or hydraulic diameter (inches)	42
Calculated Pressure Loss	
f = friction head loss in feet of water per 100 feet of pipe (ft H2O per 100 ft pipe)	<u>0.19</u>
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	<u>0.08</u>
Head loss (ft H2O)	<u>1.43</u>
Head loss (psi)	<u>0.61</u>
Calculated Flow Velocity	
v = flow velocity (ft/s) ~ 5 fps	<u>5.62</u>

- SDR 32.5 Pressure rating = 50 psi + 75 psi surge
- Static Internal Pressure = 25.8 psi
- Estimated max surge = 32 psi
- Hoop Stress Calculation = 374 psi < PE3450 stress 595
- Dead Load (4 ft) = 1666 lb/ft
- Live Load (30,000 lbs) = 552 lb
- Pipe Deformed = .12 inches or 0.56%. This is less than 7.5% allowable deformation

## PIPE EXCEEDS MINIMUM REQUIREMENTS



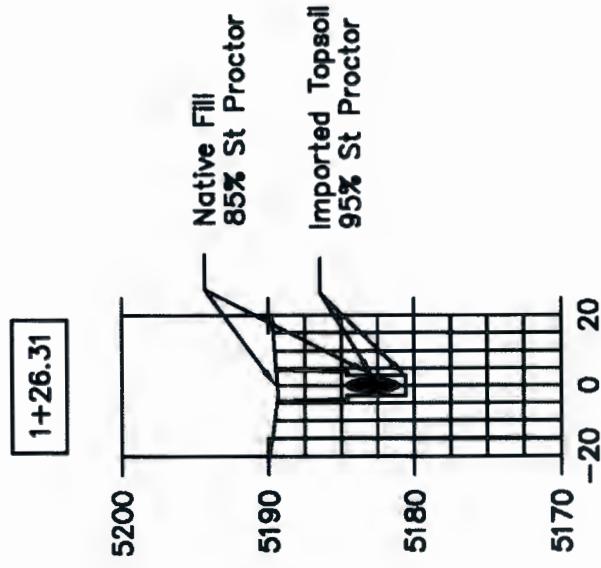


Elevation

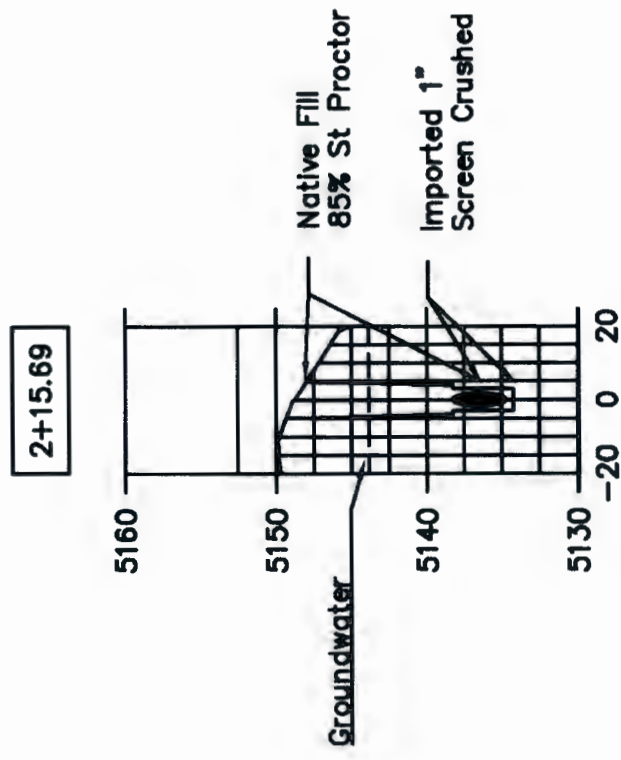


# Trench Design

Regular

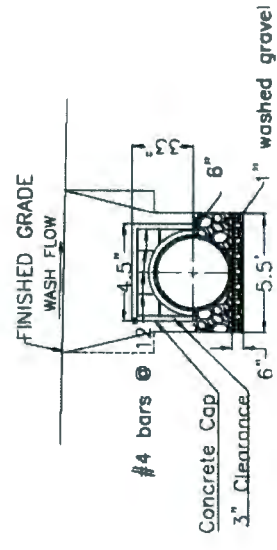
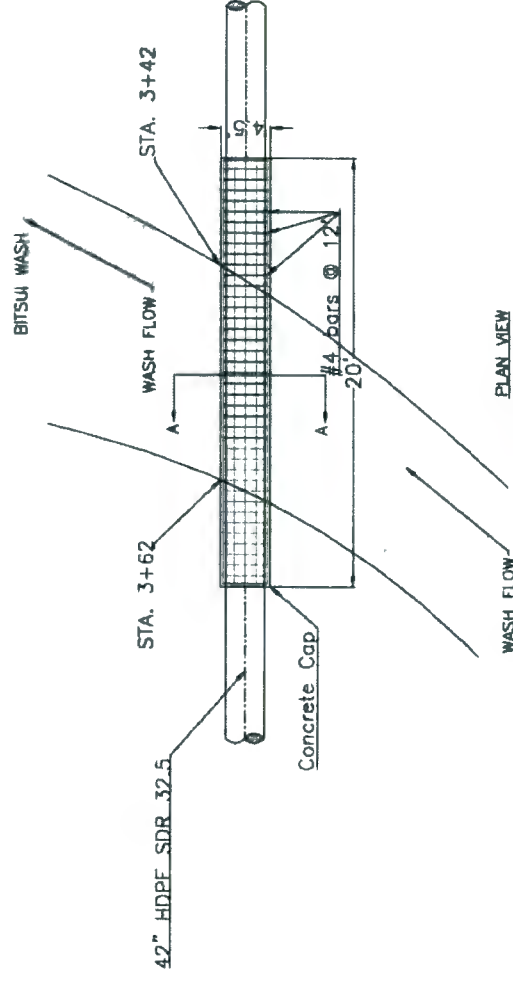


Saturated Areas





# Creek Crossing

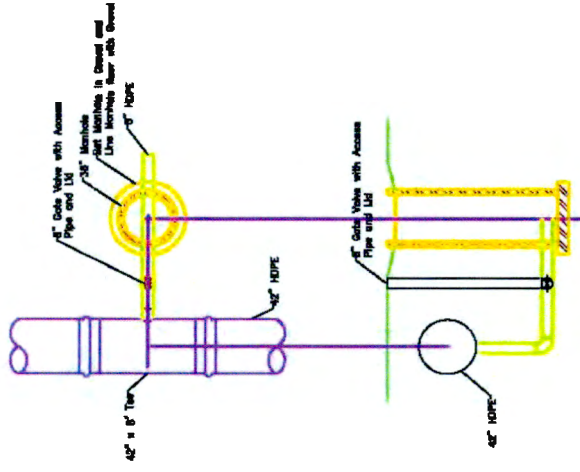


SECTION A-A

# Misc. Fittings

## Drain

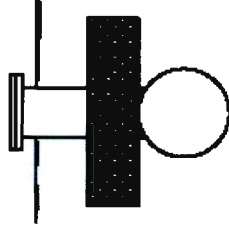
DRAIN MANHOLE STATION  
1. Station 3+53



D4- Line Drain in 36" Concrete Manhole

## Manhole

ACCESS MANHOLE STATION  
1. Station 2+96





# Outlet

- Replace Outlet with new structure
- Tie-into downstream canal



# Specifications

- HDPE Pipe – ASTM 3350. PE 3408
- HDPE Fittings. AWWA C906
- Concrete ACI 212.2, AS
  - 28-day minimum compressive strength  $f'_c = 4000$  psi
  - Maximum water/cement ratio = 0.45 (by weight)
  - Total entrained air = 5% (-1% to +1%)
  - Maximum size of aggregate = 3/4-inch
  - Minimum slump = 2-inch and maximum slump = 4-inch
- Electrical – NEMA, NEC

# Trash Screen Options

**NAPI Style Rake**



**Conveyor type screen**



# Power

NTUA Electric

Solar



# Implementation

- Cost approximately \$450,000
  - Shiprock Irrigation \$50,000
  - San Juan River Navajo Irrigation Project \$400,000
- Model 108 funding \$60,000
- Sub-part J funding \$390,000
- Implementation Plan
  1. Pursuing Categorical Exclusion
  2. Pursuing Temporary Construction Easement
  3. Design in progress
  4. Bid held this fall for general contractor
  5. Construction scheduled for February-March

# Questions?





To: David Tallman, NNDWR  
From: Mike Isaacson, Keller-Bliesner Engineering, LLC  
Date: January 28, 2016  
RE: Bitsui Siphon January 26, 2016 Design Review Minutes

**Attendance:**

David Tallman, NNDWR  
Marlin Saggboy, NNDWR  
Jackie Natonabah, NNDWR  
Pearl Chamberlain, BIA  
Rudy Keedah, BIA  
Mike Isaacson, Keller-Bliesner Engineering, LLC

1. Introductions were made and the meeting convened about 9:30AM in Room 224 BIA-Gallup Office.
2. Review of the design review held on August 17, 2016. The slide presentation (see enclosed) was reviewed. Emphasis was placed on the first slides providing background information. Discussion focused on the decision to replace the existing siphon with a buried HDPE pipeline.
3. Reviewed Drawing P101. Edits required include:
  - a) Need of location drawing, general layout drawings, and demolition drawing
  - b) Place trench detail on detail drawings for both saturated and non-saturated conditions
  - c) Specify vertical elbow data on drawing
  - d) Designate dewatering section on drawing
  - e) Add legend for profile lines, add title to Plan View
  - f) Add hydraulic grade line to profile (may want to just have it on the design version and not construction)
4. Reviewed Drawing D102. Edits required include:
  - a) Add note to drill and dowel connection wall to new wall
  - b) Check structural integrity of existing wall with new features installed
  - c) Add safety boom and ladder steps upstream of screen.
5. Reviewed Drawing D103. Edits required include:
  - a) Discussion on need and safety issues of manhole. Thought 36-inch diameter access manhole would allow for ladder to be placed in manhole. The manhole or access port needs to be in compliance with OSHA requirements.
6. Reviewed Drawing D104. Edits required include:
  - a) Add an isolation gate on the downstream side of the outlet to prevent access to the siphon during the off-season. This will safeguard the public from entering a confined, hazardous area.



7. Discussion on how to finalize designs. NNDWR staff and consultant, KB, is operating under the impression that the conceptual design of a buried HDPE pipeline has been accepted due to the fact the pipe has already been purchased by NNDWR. BIA has no documentation of this decision and requested a letter from NNDWR concurring to this decision be submitted. It was agreed by NNDWR staff and consultant to reconvene in Ft. Defiance with senior management to see how to complete this process by submitting a letter of approval.
8. Discussion on contracting and how Model 108 planning funds tie-in to later Subpart J activities and how it relates to the current contract between NNDWR and KB.
9. Scheduled next progress meeting on February 4, 2016 in Shiprock, NM.



## Comments from April 18th Design Review

	COMMENT	KB RESPONSE
F-L100		
1	Add north arrow	Added
2	Add scale	added
3	Label roads	Added
4	Label wash	Added
5	Label school	Added
6	Include powerline extension in corridor area	By Others (NTUA)
7	Label staging area as Shiprock Irrigation Yard	Complete
8	Add title to the top of drawing	Complete
F-L101		
8	Make north arrow larger	Complete
9	Add plan view	Complete
10	Add survey coordinates to the alignment	Complete
11	Change contour size	Complete
12	Make everything north	Complete
13	Alignment should be beginning of the project to the end	Complete
14	Add title to the top of drawing	Complete
F-L102		
15	Make north arrow larger	Complete
16	Add plan view	Complete
17	Add survey coordinates to the alignment	Complete
18	Change contour size	Complete
19	Make everything north	Complete
20	Alignment should be beginning of the project to the end	Complete
21	Add elevation to the drain	On P101
22	Add cut & fill calculations for the drain bottom	on P101
23	Add title to the top	Complete
F-P101		
24	Put details on a different sheet & make larger	See D103
25	Add elevation to start and end of alignment	See Profile View
26	Add elevation to drain	Added to Profile View
27	Add See D103 to the saturated zone	Added
28	Check scale	scale matches drawing
29	Label datum	done
30	Add title to the top	See title block
D102		
31	Add title	Complete
32	Change flow direction	Complete
33	Add stainless steel sheet to top view	note added
34	Show safety bouy and ladder	note added
35	Create same angle & truss on the steel sheet to create an offset of the c	Not part of scope (ie. design-build)
36	Add gauge to the steel	Complete
37	Show the anchor	Added note
38	Calculate shear stress & normal stress for the traveling screen	Not part of scope (ie. design-build)
39	Show angle on the incline	Complete
D103		

40	Add title	Complete
41	Change station to concrete cap	Complete
42	Consider riprap for erosion control	Not Required
43	Indicate 6" base in plan view	Complete
44	Lighten the hatch for the gravel details	Complete
45	Remove ledger on plan view	Complete
46	Call out elevation in the drain details	Complete

#### D104

47	Add title	Complete
48	May need to adjust the flashboard slots details	OK
49	Identify wall in detail C	added outlet wall

#### D105

50	Add labels to the trash screen	Complete
51	An eddy current may occur at the bottom causing more debris	Sluice will flush it out
52	Add angle iron to the sides of the trash screen to be supported by the wall	Not part of scope (ie. design-build)
53	Show calculations of the mechanics of the flat plate section	Not part of scope (ie. design-build)

#### Specifications Review Comments

1	Add page numbers	Added
---	------------------	-------

#### Part 1

1.021	Add- All changes must be approved by the Owner.	Added
-------	---	-------

## Howard Draper

---

**From:** Chery James <james\_chery@outlook.com>  
**Sent:** Thursday, January 18, 2018 4:35 PM  
**To:** howarddraper@frontiernet.net  
**Subject:** Bitsui Siphon  
**Attachments:** Cover Page Bitsui Siphon.pdf; Table Contents & Intro.pdf

Good Noon,

Let me know if this works best for the TCE. Call me I'm here in the office

Cherylena James - Senior Engineering Technician  
Department of Water Resource - Rehabilitation Project  
Division of Natural Resource  
Phone 505.368.1016  
Fax 505.368.1066

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Lorenzo Bates  
Council Delegate

## NENAHNEZAD CHAPTER

P.O. BOX 438  
FRUITLAND, NEW MEXICO 87416  
Ph 505/960-9702 Fax 505/960-6657  
www.nenahnezad@navajochapters.org

NZC-52-15

Norman C. Begaye  
President

Philbert Johnson  
Vice President

Juanita Begay  
Secretary/Treasurer

Harold Dodge  
Grazing Committee Member

Tracy Raymond  
Farm Board Member

### SUPPORTING RESOLUTION FOR SHIPROCK IRRIGATION REPLACEMENT OF BITSUI SIPHON THAT BENEFITS NENAHNEZAD AND SAN JUAN CHAPTER FARMERS

#### WHEREAS:

1. Pursuant to 26 N.N.C §. (A), the Nenahnezad Chapter was certified on November 10, 1955 as a chapter of the Navajo Nation as listed and under 11 N.N.C. Part 1, § (B), the Nenahnezad Chapter is delegated the governmental authority to make decisions over local matters consistent with Navajo Laws including custom, tradition, and fiscal matters; and
2. Shiprock Irrigation is a section of the Navajo Nation Department of Water Resources Technical Construction and Operations Branch and is responsible for the operation and maintenance of Fruitland Canal, and
3. Bitsui Siphon is a 36-inch steel siphon on Fruitland Canal that serves approximately 2,632 acres of permitted farmland located in Nenahnezad Chapter and San Juan Chapter, and
4. Bitsui Siphon has failed in recent years including twice in 2015 disrupting irrigation water delivery to Nenahnezad Chapter farmers, and San Juan Chapter farmers; and
5. Shiprock irrigation conducted an engineering assessment of the siphon in 2003 that concluded the steel pipe has exceeded its life expectancy and requires replacement; and
6. The Navajo Nation Department of Water Resources has received a \$7.7 Million authorization from Congress to rehabilitate the Fruitland – Cambridge Irrigation Project; and
7. The Navajo Department of Water Resources has contracted Keller-Bliesner Engineering, LLC to complete design for replacing Bitsui Siphon; and
8. Keller-Bliesner Engineering, LLC has presented the design and plan to the Nenahnezad Chapter in a chapter meeting held on August 9, 2015.

#### NOW, THEREFORE BE IT RESOLVED THAT:

1. The Nenahnezad Chapter hereby supports Shiprock Irrigation to replace Bitsui Siphon before April, 2016, to insure irrigation water is delivered to the communities of Nenahnezad and San Juan Chapters.
2. The Nenahnezad Chapter directs the Community Coordinator, Chapter Officials and Council Delegate to carry out the intent of this resolution.

#### CERTIFICATION

We hereby certify that the foregoing certification was duly considered by the Nenahnezad Chapter at a duly called meeting at Nenahnezad (New Mexico) Navajo Nation. A motion was made by **Larry Lowe** and seconded by **Chris King** and the same was passed by a vote of 69 in favor, 0 opposed, 1 abstained, this 9<sup>th</sup> Day of August 2015.

CONCURRED:

LoRenzo Bates, Council Delegate

*Norman C. Begaye*  
Norman Begaye, President

*Philbert Johnson*  
Philbert Johnson, Vice-President

*Juanita Begay*  
Juanita Begay, Secretary/Treasurer



Document No. 009610

Date Issued: 01/25/2018

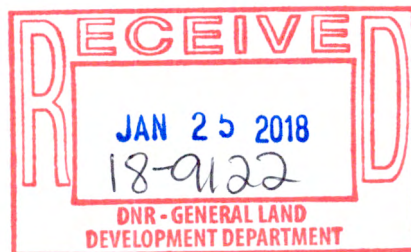
**EXECUTIVE OFFICIAL REVIEW**

Title of Document: Bitsui Siphon-TCE Irrigation Rep NENANHN Contact Name: YAZZIE, ELERINA B

Program/Division: DIVISION OF NATURAL RESOURCES

Email: e\_yazzie@navajo-nsn.gov Phone Number: 928-871-6447

<input type="checkbox"/>				Sufficient	Insufficient
<input type="checkbox"/>	<b>Business Site Lease</b>				
	1. Division:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Controller:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	(only if Procurement Clearance is not issued within 30 days of the initiation of the E.O. review)				
	3. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Business and Industrial Development Financing, Veteran Loans, (i.e. Loan, Loan Guarantee and Investment) or Delegation of Approving and/or Management Authority of Leasing transactions</b>				
	1. Division:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Fund Management Plan, Expenditure Plans, Carry Over Requests, Budget Modifications</b>				
	1. Office of Management and Budget:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Controller:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	3. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Navajo Housing Authority Request for Release of Funds</b>				
	1. NNEPA:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Lease Purchase Agreements</b>				
	1. Office of the Controller:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	(recommendation only)				
	2. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Grant Applications</b>				
	1. Office of Management and Budget:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Controller:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	3. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Five Management Plan of the Local Governance Act, Delegation of an Approving Authority from a Standing Committee, Local Ordinances (Local Government Units), or Plans of Operation/Division Policies Requiring Committee Approval</b>				
	1. Division:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<b>Relinquishment of Navajo Membership</b>				
	1. Land Department:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	2. Elections:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
	3. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>



☐ **Land Withdrawal or Relinquishment for Commercial Purposes**

Sufficient      Insufficient

1. Division:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>

☐ **Land Withdrawals for Non-Commercial Purposes, General Land Leases and Resource Leases**

1. NLD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. F&W	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. HPD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
4. Minerals	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
5. NNEPA	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
6. DNR	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
7. DOJ	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>

☐ **Rights of Way**

1. NLD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. F&W	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. HPD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
4. Minerals	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
5. NNEPA	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
6. Office of the Attorney General:	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
7. OPVP	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>

☐ **Oil and Gas Prospecting Permits, Drilling and Exploration Permits, Mining Permit, Mining Lease**

1. Minerals	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. OPVP	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. NLD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>

☐ **Assignment of Mineral Lease**

1. Minerals	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. DNR	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. DOJ	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>

☒ **ROW (where there has been no delegation of authority to the Navajo Land Department to grant the Nation's consent to a ROW)**

1. NLD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. F&W	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. HPD	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
4. Minerals	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
5. NNEPA	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
6. DNR	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
7. DOJ (fic)	✓ Blackhat	Date: 4/12/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. OPVP	P	Date: 4/17/18	<input checked="" type="checkbox"/>	<input type="checkbox"/>

☐ **OTHER:**

1. _____	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
2. _____	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
3. _____	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
4. _____	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>
5. _____	_____	Date: _____	<input type="checkbox"/>	<input type="checkbox"/>





# NAVAJO NATION DEPARTMENT OF JUSTICE

## DOCUMENT REVIEW REQUEST FORM



DOJ
04-05-18 @ 156pm
DATE / TIME
<input type="checkbox"/> 7 Day Deadline
DOC #: 009610
SAS #:
UNIT: NRW

☐ RESUBMITTAL

\*\*\* FOR NNDOJ USE ONLY - DO NOT CHANGE OR REVISE FORM. VARIATIONS OF THIS FORM WILL NOT BE ACCEPTED. \*\*\*

### CLIENT TO COMPLETE

DATE OF REQUEST:	4/5/2018	DIVISION:	Division Natural Resources
CONTACT NAME:	Michelle Hoskie or Stevie Hudson	DEPARTMENT:	General Land Development Department
PHONE NUMBER:	871-6447 or 6423	E-MAIL:	michellehoskie@frontier.com

TITLE OF DOCUMENT: BITSUI SIPHON - TCE IRRIGATION REPLACEMENT

### DOJ SECRETARY TO COMPLETE

DATE/TIME IN UNIT:	4.5.18 2:20p	REVIEWING ATTORNEY/ADVOCATE:	Travis Chee 4.16.18
DATE TIME OUT OF UNIT:	4.12.18 1020am		

### DOJ ATTORNEY / ADVOCATE COMMENTS

- Document is legally sufficient.

REVIEWED BY: (Print)	Date / Time	SURNAMED BY: (Print)	Date / Time
Travis Chee	4/11/18	✓ Blackhat	4/12/18 8:07am

DOJ Secretary Called: Stevie Hudson for Document Pick Up on 4.12.18 at 1020am By: PJ

PICKED UP BY: (Print)






DATE / TIME:

NNDOJ/DRRF-July 2013

# COMPLETED



## Tier 1 Document Voting Results

User Name (Facility)	Job Title	Department	Vote Cast	Comments	Replies	Vote Date	Signature
Eugenia Quintana EPA (Navajo Land Title Data System - Windowrock AZ)	Air and Toxics - Reviewer	Navajo Nation Environmental Protection Agency	Approved	1. As instructed by our Division Administration for all reviews, I have voted "sufficient". However, this package is insufficient due to the lack of an EA. Please provide a copy of the EA for our review.	1. No Reply	21-Feb-2018	
Lee Anna Martinez EPA (Navajo Land Title Data System - Windowrock AZ)	Water Quality - Reviewer	Navajo Nation Environmental Protection Agency	Approved	1. ** 401 Certification Needed** Please contact our office concerning a CWA Section 401 for the future project within the San Juan River Watershed area. (928) 871-7690. Thank you.	1. No Reply	08-Mar-2018	
Najamh Tariq (Navajo Land Title Data System - Windowrock AZ)	Approver	Department of Water Resources	Approved	1. Resolution need editing.	1. No Reply	08-Feb-2018	
Pam Kyselka F&W (Navajo Land Title Data System - Windowrock AZ)	Technical Review	Fish and Wildlife	Approved	1. #15em105fc	1. No Reply	06-Feb-2018	
Pam Maples EPA (Navajo Land Title Data System - Windowrock AZ)	Storage Tanks Program - Reviewer	Navajo Nation Environmental Protection Agency	Approved	1. With Conditions	1. No Reply	08-Mar-2018	
Patrick Antonio EPA (Navajo Land Title Data System - Windowrock AZ)	Water Quality - Supervisor	Navajo Nation Environmental Protection Agency	Approved	1. Land surface disturbance greater than 1.0 acre requires coverage under the federal Construction General Permit for storm water	1. No Reply	07-Feb-2018	

discharges  
from  
construction  
sites. A  
Notice of  
Intent (NOI)  
must be  
submitted to  
USEPA 14  
days prior to  
earthmoving.  
A storm water  
pollution  
prevention  
plan must be  
developed  
prior to NOI  
submission.

Robert Allan Deputy  
DNR Director  
(Navajo Land DNR  
Title Data  
System -  
Windowrock  
AZ)

DNR  
Administration

Approved

no  
comments

No  
Reply

03-Apr-2018

Robert O. Allan

Tamara Billie HPD  
NNHP Reviewer  
(Navajo Land  
Title Data  
System -  
Windowrock  
AZ)

Historic  
Preservation  
Department

Approved 1.

HPD-16-  
485. Follow  
stipulations  
outlined on  
CRCF.

1. No  
Reply

07-Feb-2018

Tamara Billie

Yolanda Public  
Barney EPA Water  
(Navajo Land System  
Title Data Supervision  
System - Agency  
Windowrock  
AZ)

Navajo Nation  
Environmental  
Protection  
Agency

Approved


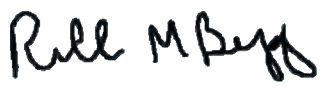
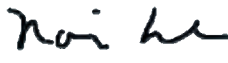



no  
comments

No  
Reply

06-Feb-2018

Yolanda

## Tier 2 Document Voting Results

User Name (Facility)	Job Title	Department	Vote Cast	Comments	Replies	Vote Date	Signature
Bidtah N. Becker (FBFA)	FBFA Users	FBFA Action Team	Pending	no comments	No Reply		
Richard Begay NNHP (Navajo Land Historic Title Data System - Windowrock AZ)	Navajo Nation Preservation Officer	Historic Preservation Department	Pending	no comments	No Reply		
Ronnie Ben EPA (Navajo Land Control - Title Data System - Windowrock AZ)	Underground Injection Control - Reviewer	Navajo Nation Environmental Protection Agency	Approved	no comments  2. Conditional Approval contingent on compliance with all NNEPA and USEPA environmental laws. Also, requesting an Environmental Assessment for the proposed document., Conditional Approval contingent on compliance with all NNEPA and USEPA environmental laws. Also, requesting an Environmental Assessment for the proposed document.	No Reply  2. No Reply	05-Apr-2018	
Sam Diswood (Navajo Land Review Title Data System - Windowrock AZ)	Technical Reviewer	Fish and Wildlife	Approved	no comments	No Reply	04-Apr-2018	
Steven Prince MIN (Navajo Land Title Data System - Windowrock AZ)	Technical Reviewer	Navajo Nation Minerals Management	Pending	no comments	No Reply		
W. Mike Halona (Navajo Land Department Title Data System - Windowrock AZ)	Manager III Navajo Land	NLD Administration	Approved	no comments	No Reply	04-Apr-2018	



Navajo Nation Environmental Protection Agency  
P. O. Box 339, Window Rock, AZ 86515  
Phone: 928-871-7690 • Fax: 928-871-7996



Russell Begaye,  
President

Jonathan Nez,  
Vice-President

July 27, 2015

Michael Isaacson, P.E.  
Keller-Bliesner Engineering, LLC  
78 East Center  
Logan, UT 84321

Re: Three Existing Steel Irrigation Siphons that Require Replacement, Bitsui Siphon, Yellowman Siphon and Salt Creek Siphon, New Mexico

Dear Mr. Isaacson,

Navajo Nation Environmental Protection Agency (NNEPA) Water Quality has reviewed your document requesting consultation for Clean Water Act (CWA) § 401 for the above mentioned siphons. According to the Topo Maps and photographs submitted of the project area it has been determined, that a CWA § 401 Certification application **will not be required** for Bitsui Siphon and the Yellowman Siphon based on the information submitted to our Water Quality Office.

I will need coordinates for the Salt Creek Siphon or a more distinct topo map submitted to our office, due to the broad topo that was submitted for that particular area, a determination was not made just yet for that particular siphon. Please submit to our office and another determination will be made for this specific area. Thank you.

Please be aware of the Storm Water Construction General Permit required for construction activities that result in land disturbance of equal to or greater than once acre. In addition, all Navajo Nation environmental Laws and regulations should be adhere to.

Thank you for contacting our office with your project. Should you have any questions please contact me at (928) 871-7700.

Sincerely,

Lee Anna Martinez- Silversmith  
401 Coordinator/Sr. Environmental Specialist  
Water Quality Program  
Navajo Nation Environmental Protection Agency

Cc: Chris Wrbas, USACOE  
File

## **APPENDIX F – LEGAL EASEMENT**

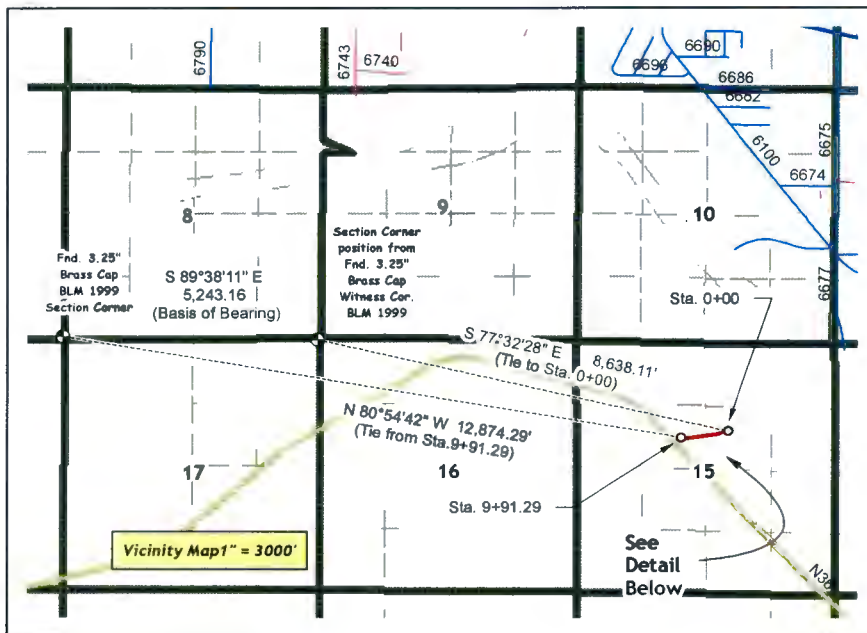


**FRUITLAND DITCH - BITSUI SIPHON  
T.C.E. SURVEY NAVAJO NATION LANDS**

LOCATED IN PORTIONS OF  
SECTION 15 TOWNSHIP 29 NORTH, RANGE 15 WEST,  
NEW MEXICO PRINCIPAL MERIDIAN, SAN JUAN COUNTY, NEW MEXICO

**Basis of Bearing**

AS MEASURED BY GPS BETWEEN  
THE SOUTHWEST CORNER AND  
THE SOUTHEAST CORNER OF  
SECTION 8, T-29-N, R-15-W,  
N.M.P.M.,  
LINE BEARS S 89°38'11" E A  
DISTANCE OF 5,243.16 FEET.



**CERTIFICATION**

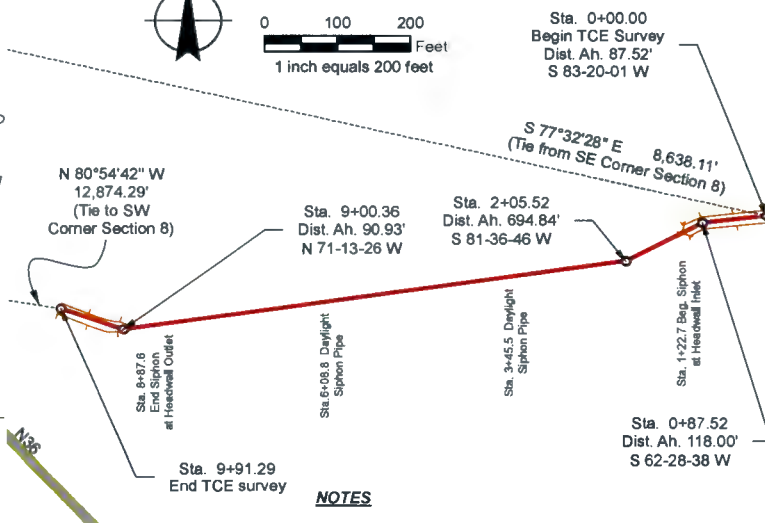
I, DAVID A. JOHNSON, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, CERTIFY THAT THIS SURVEY PLAT WAS PREPARED FROM AN ACTUAL GROUND SURVEY PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, AND THAT THIS PLAT AND THE FIELD SURVEY UPON WHICH IT IS BASED CONFORM TO THE "MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO".



DAVID A. JOHNSON  
NEW MEXICO LICENSE NO. 14827



0 100 200 Feet  
1 inch equals 200 feet



**NOTES**

- 1- Date of Survey July 17-July 23, 2015
- 2- Reference BLM dependent resurvey, approved April 20, 2000.
- 3- The locations of underground utilities depicted are approximate, actual locations of underground utilities must be field verified prior to construction.

**LEGAL DESCRIPTION**

A strip of land fifty feet (50') in width, located in portions of Section 15 of Township 29 North, Range 15 West of the New Mexico Principal Meridian, San Juan County, State of New Mexico, said strip of land lying twenty-five feet (25') on either side of the following centerline:

COMMENCING at the Southeast Corner of Section 8, Township 29 North, Range 15 West, from which a 3.25" Brass Cap found for a witness monument bears S 89°26' E a distance of 10.23 feet from said Section Corner, THENCE S 77°32'28" E a distance of 8,638.11 feet to a point in said Section 15, Township 29 North, Range 15 West, and being the TRUE POINT OF BEGINNING of this description and Survey Station 0+00.00, THENCE S 83°20'01" W a distance of 87.52 feet to Survey Station 0+87.52, THENCE S 62°28'38" W a distance of 118.00 feet to Survey Station 2+05.52, THENCE S 81°36'46" W a distance of 694.84 feet to Survey Station 9+00.36, THENCE N 71°13'26" W a distance of 90.93 feet to Survey Station 9+91.29,

which is the terminus of this description and from which point a 3.25" Brass Cap found for the Southwest Corner of said Section 8, Township 29 North, Range 15 West, bears N 80°54'42" W a distance of 12,874.29 feet.

Totals: 991.29 feet 60.08 rods 0.19 miles 1.14 acres +/-

16024 1cBt5a.mxd 20150825





United States Department of the Interior  
BUREAU OF INDIAN AFFAIRS  
Navajo Regional Office  
P.O. Box 1060  
Gallup, New Mexico 87301

FEB 01 2018

IN REPLY REFER TO:  
465: Branch of Environmental Quality Act Compliance and Review

Ms. Kate Wright  
NEPA Specialist  
Ecosystem Management, Inc.  
3737 Princeton Drive NE, Suite 150  
Albuquerque, NM 87107

Dear Ms. Wright:

The Environmental Assessment (EA), EA-17-18537, received June 19, 2017, for the **Proposed San Juan River Navajo Irrigation Project**, was reviewed in the Branch of Environmental Quality Act Compliance and Review, Navajo Regional Office.

The Navajo Nation Department of Water Resources (NNDWR) proposed to rehabilitate and improve two existing irrigation systems; the Fruitland-Cambridge Unit (22 miles long with 120 miles of laterals) and the Hogback-Cudei Unit (26 miles long with 135 miles of laterals). In addition to the proposed irrigation system rehabilitation and improvement, restoration of a secondary channel of the San Juan River is proposed. The proposed project has been named the San Juan Navajo Irrigation project. The rehabilitation and improvements to the SJRNIP are funded through a federal \$23.7 million Bureau of Indian Affairs (BIA) 638 contract. The restoration of the secondary channel is funded through a federal grant program administered by the Bureau of Reclamation called the Colorado River Salinity Program. The SJRNIP is located within the Navajo Nation on Tribal Trust lands, near the cities of Farmington and Shiprock, in San Juan County, New Mexico.

In accordance with Section 102 (2) (c) of the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council of Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations (CFR) Parts 1500-1508), the Bureau of Indian Affairs, Navajo Regional Office, finds that the Proposed Action is not a major federal action that will significantly impact the quality of the human environment. Therefore, an Environmental Impact Statement is not required for implementing the Proposed Action. This Finding of No Significant Impact (FONSI) is supported by the Environmental Assessment (EA) and the supporting appendices and documents.

If you have questions, you may contact Ms. Harlene Yazzie, Supervisory Environmental Protection Specialist at (505) 863-8287.

Sincerely,

Regional Director, Navajo

Enclosure:

Final Biological Opinion for the San Juan River Navajo Irrigation Rehabilitation and Improvement Project – Fruitland-Cambridge and Hogback-Cuedi Irrigation Units – and Colorado River Salinity Program Habitat Replacement Consultation No. 02ENNM00-2016-F-0131

**FINDING OF NO SIGNIFICANT IMPACT  
ENVIRONMENTAL ASSESSMENT EA-17-18537  
PROPOSED SAN JUAN RIVER NAVAJO IRRIGATION PROJECT**

**NAVAJO NATION DEPARTMENT OF WATER RESOURCES**

**Location: Chimney Rock, Waterflow, Fruitland, Kirtland, Hogback North, Sallies Spring,  
Canal Creek, Skinney Rock, Rattlesnake, Shiprock, NM Quadrangle USGS 7.5 Minute  
Series Map**

**Section 18, T29N, R13W  
Sections 13, 14, 15, 19, 20, 21, and 22, T29N, R14W, NMPM  
Sections 7, 8, 9, 14, 15, 16, 23 and 24, T29N, R15W, NMPM  
Sections 1, 2, 5, 6-9, 10, 11, 12 and 17, T29N, R16W, NMPM  
Sections 1, 2, 3, and 12, T29N, R17W, NMPM  
Section 31, T30N, R16W, NMPM  
Sections 27-32, 34, 35, and 36, T30N, 17W, NMPM  
Sections 2, 3, 4, 5, 9-16, 21-28, 24-36, T30N, R18W, NMPM  
Sections 18-21, 28-34, T31N, R18W, NMPM  
Sections 4, 8, 9, 10, 11, 13-15, 17-19, 21-23, 25, and 36, T31N, R19W, NMPM  
Sections 12, 13, and 14, T31N, R20W, NMPM**

**San Juan County, New Mexico**

The Navajo Nation Department of Water Resources (NNDWR) proposed to rehabilitate and improve two existing irrigation systems; the Fruitland-Cambridge Unit (22 miles long with 120 miles of laterals) and the Hogback-Cudei Unit (26 miles long with 135 miles of laterals). In addition to the proposed irrigation system rehabilitation and improvement, restoration of a secondary channel of the San Juan River is proposed. The proposed project has been named the San Juan Navajo Irrigation project. The rehabilitation and improvements to the SJRNIP are funded through a federal \$23.7 million Bureau of Indian Affairs (BIA) 638 contract. The restoration of the secondary channel is funded through a federal grant program administered by the Bureau of Reclamation called the Colorado River Salinity Program. The SJRNIP is located within the Navajo Nation on Tribal Trust lands, near the cities of Farmington and Shiprock, in San Juan County, New Mexico.

The BIA's deliberation as to whether a Finding of No Significant Impact (FONSI) is appropriate, or, whether an Environmental Impact Statement (EIS) should be prepared, took into consideration, the following issues, which are addressed in the environmental assessment (EA).

1. **Beneficial and adverse environmental impacts:** The EA demonstrates that there will be no significant adverse or beneficial impacts on the quality of the human environment, including: land resources, water resources, air quality, living resources, cultural resources, socioeconomics, environmental justice, resource use patterns, and other values.
2. **Public health and safety:** Primary activities that could pose a risk to public health and safety



from implementing the proposed action are related to construction traffic and the operation of heavy equipment near public roadways. Direct and indirect effects to public health and safety would be minor and short term with adherence to Occupation Safety and Health Administration regulations and implementing best management practices (EA Section 4.8.3 Public Health and Safety – Proposed Action).

3. **Clean Water Act (CWA) Compliance:** When a project spans, crosses or results in work in a river bed, stream bed or wetland, permits from the U.S. Army Corps of Engineers (ACOE) and/or the Navajo Nation Environmental Protection Agency, Water Quality Program may be required, including: Section 401, Water Quality Certification; Section 402(p), Storm Water Pollution Prevention Plan, if the project activity will disturb surfaces of ½ acre or more; and Section 404, Permit for Discharge of Dredge or Fill Material into Waters of the US. The applicant shall submit and obtain approval for all required applications prior to construction. The applicant shall adhere to all mitigation measures and strategies developed with the U.S. Army Corps of Engineers and the Navajo Nation Environmental Protection Agency: Based on the EA, this project will cross or span any waters of the U.S. A Clean Water Act Section 402 National Pollutant Discharge Elimination System General Construction Permit Storm Water Pollution Prevention Plan would be acquired to assure that impacts to water quality during construction are minimized. A hazardous spill plan would be prepared and implemented (EA Section 4.2 Water Resources – Proposed Action).
4. **Unique characteristics of the geographic area:** The project area is not unique within its geographical setting and is similar to other areas in the region. There are no prime farmlands, wild and scenic rivers, wilderness areas, refuges, park lands, unique ecological areas, or other unique or rare characteristics of the land and aquatic environs that will be significantly affected.
5. **Degree to which the effects on the quality of the human environment are likely to be highly controversial:** There are no known scientific controversies over the effects of the proposed project on the human environment.
6. **Degree to which the effects are highly uncertain or involve unique or unknown risks:** There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks.
7. **Degree to which this action will establish a precedent for future actions with significant effects:** This project will not set a precedent for similar projects that may be implemented by the BIA or other agencies.
8. **Relationship to other actions with cumulatively significant impacts:** There are no known incremental effects of the action that become significant when added to other past, present, or reasonably foreseeable future actions that have affected, or will affect, the project area.
9. **Degree to which the action may affect districts, sites, objects, or structures listed on, or eligible for, the National Register of Historic Places, or may cause loss of significant**

**cultural resources:** The Navajo Nation Historic Preservation Department (NNHPD) issued two Cultural Resources Compliance Forms (CRCFs) for the proposed action. Please see tables below.

<b>CRCF NNHPD No.</b>	<b>Date Issued</b>	<b>Conditions?</b>
HPD-16-485	November 22, 2016	Yes

Effect/Conditions of Compliance: No historic properties affected with the following conditions:

**Sites NM-H-21-237, NM-H-2-15, NM-H-14-72, NM-H-21-236:**

1. Site boundaries will be flagged by a qualified archaeologist prior to ground disturbing activities.
2. Sites will be avoided by a minimum of 50-feet from the site boundaries.

**Sites NM-H-14-70, NM-H-14-71**

1. Site boundaries will be flagged by a qualified archaeologist prior to ground disturbing activities.
2. Sites will be avoided by a minimum of 50-feet from the site boundaries.
3. Sites were unevaluated, however, if sites cannot be avoided, a testing program will be implemented with consultation with NNHPD.

**Jischaa:**

Will be avoided by all ground disturbing activities by a minimum of 100-feet.

<b>CRCF NNHPD No.</b>	<b>Date Issued</b>	<b>Conditions?</b>
HPD-16-981	April 19, 2017	No

In the event of a discovery of a previously unidentified or incorrectly identified cultural resource(s), all operations in the immediate vicinity of the discovery must cease, and the NNHPD must be notified.

10. **Degree to which the action may affect threatened, endangered, or sensitive species or their habitat:** Three Biological Resources Compliance Forms (BRCFs) were issued by the Navajo Nation Department of Fish and Wildlife (NNDFW). Please see the tables below:

<b>NNDFW Review No.</b>	<b>Date Issued</b>	<b>Conditions?</b>	<b>Avoidance/Mitigation Measures?</b>
15em105fc	October 5, 2016	No	Yes

*Avoidance/Mitigation Measures:* Mitigation measures outlined in Section 9.0 will be implemented to avoid impacts on species and habitat.

<b>NNDFW Review No.</b>	<b>Date Issued</b>	<b>Conditions?</b>	<b>Avoidance/Mitigation Measures?</b>
15em105hc	October 5, 2016	Yes	Yes



*Avoidance/Mitigation Measures:* Mitigation measures outlined in Section 9.0 will be implemented to avoid impacts on species and habitat.

*Conditions of Compliance:* A biological monitor shall be onsite during construction where Mesa Verde Cactus and habitat was identified in the project area (see Table 5 in Biological Assessment submitted). The biological monitor shall ensure that the construction crew avoids damage to cacti and undisturbed cactus habitat.

<b>NNDFW Review No.</b>	<b>Date Issued</b>	<b>Conditions?</b>	<b>Avoidance/Mitigation Measures?</b>
16doe1107	March 24, 2017	Yes	Yes

*Avoidance/Mitigation Measures:* The NNDFW concurs with the mitigation recommendations outlined in Section 8. The breeding season for the Burrowing Owl is 01 MAR – 15 AUG.

*Conditions of Compliance:* SJRDWU will ensure that project construction and vegetation removal will be scheduled outside the Migratory Bird breeding season of 01 MAR – AUG. If the breeding season cannot be avoided, surveys will precede construction activity. The NNDFW recommends a survey buffer of 165 feet for non-endangered migratory birds. Removal or disturbance of nesting habitat (i.e. trees and shrubs) shall not be allowed within 50 meters of an active nest during incubation to fledging.

**Formal Section 7 Consultation with United States Fish and Wildlife Services: Final Biological Opinion for the San Juan River Navajo Irrigation Rehabilitation and Improvement Project – Fruitland-Cambridge and Hogback-Cuedi Irrigation Units – and Colorado River Salinity Program Habitat Replacement Consultation No. 02ENNM00-2016-F-0131 (attached).**

Section 7 Consultation was initiated with the United States Fish and Wildlife Services (The Service) on the San Juan River Navajo Irrigation Project. A Biological Opinion (BO) was issued on January 2, 2018 from USFWS. In the Biological Assessment that was submitted to the Service, BIA determined the Proposed Action may affect and is likely to adversely affect the endangered Colorado Pikeminnow (*Ptychocheilus Lucius*) and Razorback Sucker (*Xyrauchen texanus*) and designated critical habitat for both species. BIA also determined the Proposed Action is not likely to adversely affect proposed critical habitat for the yellow-billed cuckoo (*Coccyzus americanus*) (cuckoo) and threatened Mesa Verde cactus (*Sclerocactus mesae-verdae*). The service agreed with the may affect, not likely to adversely affect determination for proposed cuckoo critical habitat based on the fact that the Primary Constituent Elements (Service 2014) are not present within the action area. Specifically, riparian woodlands greater than 100 meters (325 feet) in width and 81 hectares (200 acres) in extent have one or more groves with above average canopy closure (greater than 70 percent) with a cooler and more humid environment that the surrounding riparian and upland habitats are not present within the action area. Instead, habitat within the action area consists of sparse invasive species that lacks the height to accommodate cuckoo nesting activity.

The Service agrees with the determination that the proposed action may affect but is not likely to adversely affect the Mesa Verde Cactus (provided in the BA) based on the

conservation measures stated below:

- 1) Where the canal construction areas cross the "Biological Preserve", any Mesa Verde cactus individuals detected during construction activities would be marked with a Global Positioning System (GPS), flagged and avoided. A monitor would be assigned and these areas would be avoided and/or fenced off with a minimum buffer of 60.9 meters (m) (200 feet [ft]) from construction activities to avoid direct impacts.
- 2) Where the canal construction areas cross the "Biological Preserve" any staging or equipment areas must be located within the existing Right of Way (ROW) and not within the "Biological Preserve". However, in the rare case where construction may impeded on the 200 foot buffer for the Mesa Verde cactus, the buffer may be reduced to 100 feet to accommodate construction activities (100 feet on each side of the cactus).

Ultimately, the Service found that the proposed action will not jeopardize the continued existence of the Colorado Pikeminnow and Razorback Sucker. In addition, the proposed action is not likely to adversely modify or destroy critical habitat for both species.

Working with BIA, Reclamation and others, the Service developed conservation measures within the proposed action, Reasonable and Prudent Measures (RPM) and Terms and Conditions that can be implemented in a manner consistent with the intended purpose of the proposed action, and that can be implemented consistent with the scope of the Federal agencies' legal authorities and jurisdiction. The RPMs are economically and technologically feasible and the Service believes implementing them would minimize the effect of incidental take of Colorado Pikeminnow and Razorback Sucker as a result of the Proposed Action. This project will adhere to all of the Reasonable and Prudent Measures and Terms and Conditions that are outlined in the BO. Please see the attached Biological Opinion titled: Final\_Biological Opinion for the San Juan River Navajo Irrigation Rehabilitation and Improvement Project – Fruitland-Cambridge and Hogback-Cuedi Irrigation Units – and Colorado River Salinity Program Habitat Replacement Consultation No. 02ENNM00-2016-F-0131 for all Reasonable and Prudent Measures and Terms and Conditions.

As required by 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; 4) a new species is listed or critical habitat designated that may be affected by the action; or 5) if the SJRRIP ceases to exist or if funding levels are reduced so that critical deadlines for specified recovery actions are not met.

11. **Whether the action violates Federal or local laws or requirements imposed for the protection of the environment:** The proposed project will not violate any Federal or Tribal environmental laws or requirements.

12. **Indian Trust Assets:** The proposed project area does not contain any Indian Trust Assets in the form of perennial water resources, fisheries, saleable timber, paleontology resources or agricultural resources. The proposed project area is not part of any right-of-way avoidance and exclusion areas, wilderness area, special management area, area of critical environmental concern, or other protected area.
13. **Climate Change, its effects on the proposed action and its environmental impacts:** No impacts to climate change would be expected from the implementation of the proposed action. A relatively small amount of greenhouse gases (GHG) would be produced when considered on a global scale. The anticipated increase in GHG emissions would not produce climate change impacts that differ from the no action. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth's atmosphere. The incremental contribution to the global GHGs from the proposed alternatives cannot be translated into effects on climate change globally or locally. It is currently not feasible to predict with certainty the net impacts from the proposed alternatives on global or regional climate (EA Section 4.8.4 Climate Change – Proposed Action).

## CONCLUSION

The proposed action is the Preferred Alternative. It does not constitute a major federal action, which normally requires preparation of an environmental impact statement (EIS).

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

  
Regional NEPA Coordinator

1/31/18  
Date



THE NAVAJO NATION



RUSSELL BEGAYE PRESIDENT  
JONATHAN NEZ VICE PRESIDENT

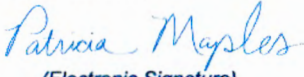


ENVIRONMENTAL PROTECTION AGENCY  
WASTE REGULATORY COMPLIANCE DEPARTMENT  
P.O. BOX 3089, WINDOW ROCK, NAVAJO NATION, AZ 86515  
TEL (928) 871-7993 ~ FAX: (928)871-7783



MEMORANDUM

To : NLTDS Reviewers

From :   
(Electronic Signature)  
Patricia Maples, Environmental Specialist  
NNEPA Leaking Storage Tank Program

Date : March 8, 2018

**Ref: Navajo Land Title Data System Electronic 164 Process Review  
Rights of Way**

Project # 005\_U002\_00009610\_TCE\_Bitsui\_Siphon\_Irrigation\_Replacement\_zip\_17\_26\_43

To Whom It May concern

Navajo Nation Environmental Protection Agency Leaking Storage Tank Program (NNEPA/LSTP) would like the developer to be aware that leaking petroleum contaminated sites may be present within the proposed areas.

NNEPA/LSTP must be notified immediately if petroleum contamination is discovered during any activities anywhere within the specified Right of Way area(s).

If you have any questions, please call the program at 928-871-7993.

C: Diane Malone, Department Manager, NNEPA WRCD  
Warren Roan, Environmental Specialist NNEPA  
Ms. Rebecca Jamison, USEPA Region IX Project Officer  
NNEPA Files



Navajo Nation Temporary Construction Easement Standard Terms and Conditions  
3/12/14

## EXHIBIT D

### NAVAJO NATION TEMPORARY CONSTRUCTION EASEMENT TERMS AND CONDITIONS

Navajo Nation Water Resources Department (GRANTEE)

1. The term of the temporary construction easement (TCE) shall be for one ( 1 ) years, beginning on the date the TCE is granted by the Secretary of Interior.
2. Consideration for the TCE is assessed at \$ 17,196.50 and shall be paid in full to the Controller of the Navajo Nation, in lawful money of the United States, and a copy of the receipt for such payment provided to the Navajo Nation Minerals Department, or its successor, within 10 days of approval of and consent to the grant of the TCE by the Navajo Nation.

Consideration for the grant of the TCE is hereby waived.

☐ NO ☐ YES

If consideration has been waived, then the Navajo Nation contributes the amount listed above to the project because the project serves a public purpose and will benefit Navajo residents.

3. The Grantee may develop, use and occupy the TCE for the purpose(s) of replacing 36" steel siphon with 42" HDPE siphon. The Grantee may not develop, use or occupy the TCE for any other purpose, nor allow others to use or occupy the TCE for any other purpose, without the prior written approval of the Navajo Nation and the Secretary of the Interior. The approval of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation. The Grantee may not develop, use or occupy the TCE for any unlawful purpose.
4. In all activities conducted by the Grantee within the Navajo Nation, the Grantee shall abide by all laws and regulations of the Navajo Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:
  - a. Title 25, Code of Federal Regulations, Part 169;
  - b. All applicable federal and Navajo Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/traditional beliefs or practices;
  - c. The Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., and the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq.; and
  - d. The Navajo Nation Water Code, 22 N.N.C. § 1101 et seq. Grantee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.
5. The Grantee shall ensure that the air quality of the Navajo Nation is not jeopardized due to violation of applicable laws and regulations by its operations pursuant to the TCE.



6. The Grantee shall clear and keep clear the lands within the TCE to the extent compatible with the purpose of the TCE, and shall dispose of all vegetation and other materials cut, uprooted or otherwise accumulated during any surface disturbance activities.
7. The Grantee shall reclaim all surface lands disturbed related to the TCE, as outlined in a restoration and revegetation plan, which shall be approved by the Navajo Nation Environmental Protection Agency (NNEPA) prior to any surface disturbance. The Grantee shall comply with all provisions of such restoration and revegetation plan and shall notify the Director of the NNEPA immediately upon completion of the surface disturbance activities so that a site inspection can be made.
8. The Grantee shall at all times during the term of the TCE and at the Grantee's sole cost and expense, maintain the land subject to the TCE and all improvements located thereon and make all necessary and reasonable repairs.
9. The Grantee shall obtain prior written permission to cross existing TCEs, if any, from the appropriate parties.
10. The Grantee shall be responsible for and promptly pay all damages when they are sustained.
11. The Grantee shall indemnify and hold harmless the Navajo Nation and the Secretary of the Interior and their respective authorized agents, employees, landusers and occupants, against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of TCE by the Grantee.
12. The Grantee shall not assign, convey, transfer or sublet, in any manner whatsoever, the TCE or any interest therein, or in or to any of the improvements on the land subject to TCE, without the prior written consent of the Navajo Nation and the Secretary of the Interior. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation.
13. The Navajo Nation may terminate the TCE for violation of any of the terms and conditions stated herein. In addition, the TCE shall be terminable in whole or part by the Navajo Nation for any of the following causes:
  - a. Failure to comply with any term or condition of the grant or of applicable laws or regulations;
  - b. A non-use of the TCE for the purpose for which it is granted for a consecutive two year period; and
  - c. The use of the land subject to the TCE for any purpose inconsistent with the purpose for which the TCE is granted.
  - d. An abandonment of the TCE.
14. At the termination of this TCE, the Grantee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request of the Navajo Nation, the Grantee shall provide the Navajo Nation, at the Grantee's sole cost and expense, with an environmental audit assessment of the premises at least sixty (60) days prior to delivery of said premises.

15. Holding over by the Grantee after the termination of the TCE shall not constitute a renewal or extension thereof or give the Grantee any rights hereunder or in or to the land subject to the TCE or to any improvements located thereon.
16. The Navajo Nation and the Secretary of the Interior shall have the right, at any reasonable time during the term of the TCE, to enter upon the premises, or any part thereof, to inspect the same and any improvements located thereon.
17. By acceptance of the grant of TCE, the Grantee consents to the full territorial legislative, executive and judicial jurisdiction of the Navajo Nation, including but not limited to the jurisdiction of the Navajo Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Grantee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Navajo Nation.
18. By acceptance of the grant of TCE, the Grantee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Navajo Nation on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare) over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the TCE or to the Navajo Nation.
19. Any action or proceeding brought by the Grantee against the Navajo Nation in connection with or arising out of the terms and conditions of the TCE shall be brought only in the Courts of the Navajo Nation, and no such action or proceeding shall be brought by the Grantee against the Navajo Nation in any court of any state.
20. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Navajo Nation.
21. Except as prohibited by applicable federal law, the law of the Navajo Nation shall govern the construction, performance and enforcement of the terms and conditions contained herein.
22. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Grantee, and the term "Grantee," whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.
23. There is expressly reserved to the Navajo Nation full territorial legislative, executive and judicial jurisdiction over the TCE and all lands burdened by the TCE, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the TCE; and the TCE and all lands burdened by the TCE shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.
24. The Navajo Nation reserves the right to grant temporary construction easement within the temporary construction easement referenced herein for utilities, provided that such temporary construction easement do not interfere with the Grantee's use of the temporary construction easement.

**RESOURCES AND DEVELOPMENT COMMITTEE**

**Regular Meeting**

**June 20, 2018**

**ROLL CALL**  
**VOTE TALLY SHEET:**

**Legislation # 0187-18:** An Action Relating to Resources and Development; Approving a Temporary Construction Easement for the Term of One Year to the Navajo Nation Water Resources Department for the Purpose of Replacing the Bitsui Steel Siphon that Benefits Nenanzhezad and San Juan Chapter Farmers. *Sponsor: Honorable Lorenzo C. Bates; Co-Sponsor: Honorable Jonathan Perry*

**MAIN MOTION:** Walter Phelps S: Leonard Pete V: 3-0-1 (CNV)

**ROLL CALL VOTE TALLY:**

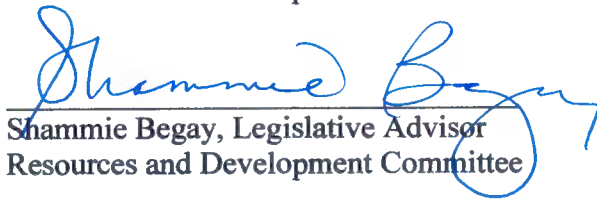
**YEAS:** Walter Phelps, Leonard Pete, and Jonathan Perry

**NAYS:**

**EXCUSED:** Davis Filfred and Benjamin Bennett



Alton Joe Shepherd, Chairperson  
Resources and Development Committee



Shammie Begay, Legislative Advisor  
Resources and Development Committee