NAVAJO NATION DEPARTMENT OF JUSTICE
OFFICE OF THE ATTORNEY GENERAL

ETHEL B. BRANCH
Attorney General

HEATHER CLAH
Deputy Attorney General

DEPARTMENT OF JUSTICE
INITIAL ELIGIBILITY DETERMINATION
FOR NAVAJO NATION FISCAL RECOVERY FUNDS

RFS/HK Review #: HK 0631

Date & Time Received: 08/02/23 at 13:52

Date & Time of Response: 08/08/2023 at 17:00

Entity Requesting FRF: Tse' Ch'Izhi Chapter

Title of Project: Tse' Ch'Izhi Community Culvert Installation

Administrative Oversight: Navajo Division of Transportation

Amount of Funding Requested: $195,000.00

Eligibility Determination:

- [x] FRF eligible
- [ ] FRF ineligible
- [ ] Additional information requested

FRF Eligibility Category:

- [ ] (1) Public Health and Economic Impact
- [ ] (2) Premium Pay
- [ ] (3) Government Services/Lost Revenue
- [x] (4) Water, Sewer, Broadband Infrastructure

U.S. Department of Treasury Reporting Expenditure Category:
5.6, Clean Water: Stormwater

Returned for the following reasons (Ineligibility Reasons/Paragraphs 5.E.(1)-(10) of FRF Procedures):

- ☐ Missing Form
- ☐ Supporting documentation missing
- ☐ Project will not be completed by 12/31/2026
- ☐ Ineligible purpose
- ☐ Submitter failed to timely submit CARES reports
- ☐ Additional information submitted is insufficient to make a proper determination
- ☐ Expenditure Plan incomplete
- ☐ Funds will not be obligated by 12/31/2024
- ☐ Incorrect Signatory
- ☐ Inconsistent with applicable NN or federal laws

Other Comments: We have modified the requested expenditure code from 6.1 (Provision of Government Services) to 5.6 (Clean Water: Stormwater). 5.6 is a more favorable category because it is not limited to the amount of the Nation's lost revenue.

Name of DOJ Reviewer: Erika Pirotte

Signature of DOJ Reviewer: _____

Disclaimers:

If additional information has been requested and you wish to provide it, please resubmit all the required forms updated to include the additional information. Full resubmission will expedite the Initial Eligibility Determination process. Therefore, please include a new RFS form indicating resubmission, revised Appendix A, Budget Form 1, and other supporting documents. **Please email your resubmission to arpa@nndoj.org.** Please be aware that under Resolution BFS-31-21 a Project or Program can only be reviewed twice, therefore it is critical that you include all the requested additional information for your second submission.

An NNDOJ Initial Eligibility Determination is based on the documents provided, which NNDOJ will assume are true, correct, and complete. Should the Project or Program change in any material way after the initial determination, the requestor must seek the advice of NNDOJ. An initial determination is limited to review of the Project or Program as it relates to whether the Project or Program is a legally allowable use – it does not serve as an opinion as to whether or not the Project or Program should be funded, nor does it serve as an opinion as to whether or not the amount requested is reasonable or accurate.

APPENDIX A

THE NAVAJO NATION
FISCAL RECOVERY FUNDS **REQUEST FORM & EXPENDITURE PLAN**
FOR **NON-GOVERNANCE CERTIFIED CHAPTERS**

Part 1. Identification of parties.

Non-Governance Certified Chapter requesting FRF: TSE CH'IZHI CHAPTER Date prepared: 3/18/23

Chapter's mailing address: PO BOX 4344, CHINLE, AZ 86503 phone/email: (928) 728-3361 website (if any): roughrock@navajochapters.org

This Form prepared by: SYLVIA HADLEY, SECRETARY/TREASURER (CONTACT PERSON'S name and title) phone/email: (928) 206-9356 shadley@navajochapters.org (CONTACT PERSON'S info)

Title and type of Project: TSE' CH'IZHI' COMMUNITY CULVERT INSTALLATION

Chapter President: BETTY DAILEY phone & email: (505) 408-3292, daileyb628@gmail.com

Chapter Vice-President: JAY R. NEZ phone & email: (505) 908-7773, jrnez@naataanii.org

Chapter Secretary: SYLVIA HADLEY phone & email: (928) 206-9356, shadley@navajochapters.org

Chapter Treasurer: SAME AS ABOVE phone & email:

Chapter Manager or CSC: VACANT phone & email:

DCD/Chapter ASO: CHINLE/EDGERTON GENE phone & email: (928) 674-2251, egene@nndcd.org

List types of Subcontractors or Subrecipients that will be paid with FRF (if known):

☐ document attached

Amount of FRF requested: $195,000 FRF funding period: 4/1/23 - 12/13/26 (indicate Project starting and ending/deadline date)

Part 2. Expenditure Plan details.

(a) Describe the Program(s) and/or Project(s) to be funded, including how the funds will be used, for what purposes, the location(s) to be served, and what COVID-related needs will be addressed:

The Tse Ch'izhi Chapter will use the funds to install culverts on community roads, in partnership with Apache County. During the pandemic, it was more apparent that the residents living on these routes were severely impacted and had to forego basic care, needs and daily activities away from the roads. With these culverts installed in specific areas, the residents will be able to have access to basic needs, the ability to travel for appointments, schools, purchasing food, wood and other items needed to ensure they have adequate supplies on hand. The Chapter will ensure that the funds expended will address public challenges that partly caused the unequal impact on the Navajo Nation.

☐ document attached

(b) Explain how the Program or Project will benefit the Navajo Nation, Navajo communities, or the Navajo People:

Within the Tse Ch'izhi Chapter, the residents had to wait for heavy equipment machinery to clear and ensure safe roads to travel out; having the roads safe will allow easier access to healthcare, less stress and students would attend school regularly. The Tse Ch'izhi Chapter residents will directly benefit from the road improvements.

☐ document attached

(c) Provide a prospective timeline showing the estimated date of completion of the Project and/or each phase of the Project. Disclose any challenges that may prevent you from incurring costs for all funding by December 31, 2024 and/or fully expending funds and completing the

Program(s) or Project(s) by December 31, 2026:

This project estimates successful installation of the culverts by September 30, 2026 and will obligate the funds no later than December 31, 2024 and will fully expend the funds no later than December 13, 2026.

[ ] document attached

(d) Identify who will be responsible for implementing the Program or Project:

DCD will be the oversight of the sub-recipient agreement with Tse Ch'izhi Chapter and Apache County to complete the culvert installations.

[ ] document attached

(e) Explain who will be responsible for operations and maintenance costs for the Project once completed, and how such costs will be funded prospectively:

The maintenance will be done by the Chapter and the responsible Agency that these are installed in.

[ ] document attached

(f) State which of the 66 Fiscal Recovery Fund expenditure categories in the attached U.S. Department of the Treasury Appendix 1 listing the proposed Program or Project fall's under, and explain the reason why:

6.1 Provision of Government Services. The road improvements addresses the conditions that contributed to poor public health and economic outcomes during the pandemic, namely concentrated areas with limited economic opportunity.

[ ] document attached

Part 3. Additional documents.

List here all additional supporting documents attached to this FRF Expenditure Plan (or indicate N/A):

Resolution
MOU with Apache County
Pictures of areas needing culverts.

[x] Chapter Resolution attached

Part 4. Affirmation by Funding Recipient.

Funding Recipient affirms that its receipt of Fiscal Recovery Funds and the implementation of this FRF Expenditure Plan shall be in accordance with Resolution No. CJY-41-21, the ARPA, ARPA Regulations, and with all applicable federal and Navajo Nation laws, regulations, and policies:

Chapter's Preparer: _____ Approved by: _____
signature of Preparer CONTACT PERSON

Approved by: VACANT _____ Approved by: _____
signature of CSC signature of Chapter ASO

Approved to submit for Review: _____ 8/1/2023
signature of DCD Director

FY 2023

THE NAVAJO NATION
PROGRAM BUDGET SUMMARY

PART I. Business Unit No.: NEW Program Title: Tse Ch'izhi Chapter - Culvert Installation Project Division/Branch: DCD/Executive

Prepared By: Sylvia Newman Phone No.: (928) 206-9356 Email Address: shadley@navajochapters.org

PART II. FUNDING SOURCE(S)	Fiscal Year /Term	Amount	% of Total
NN Fiscal Recovery Funds	4/1/23 - 12/13/26	195,000.00	100%
	TOTAL:	$195,000.00	100%

PART III. BUDGET SUMMARY	Fund Type Code	(A) NNC Approved Original Budget	(B) Proposed Budget	(C) Difference or Total
2001 Personnel Expenses				
3000 Travel Expenses				
3500 Meeting Expenses				
4000 Supplies				
5000 Lease and Rental				
5500 Communications and Utilities				
6000 Repairs and Maintenance	6		195,000	195,000
6500 Contractual Services				
7000 Special Transactions				
8000 Public Assistance				
9000 Capital Outlay				
9500 Matching Funds				
9500 Indirect Cost				
TOTAL		$0.00	195,000.00	195,000

PART IV. POSITIONS AND VEHICLES	(D)	(E)
Total # of Positions Budgeted:	0	0
Total # of Vehicles Budgeted:	0	0

PART V. I HEREBY ACKNOWLEDGE THAT THE INFORMATION CONTAINED IN THIS BUDGET PACKAGE IS COMPLETE AND ACCURATE.

SUBMITTED BY: Patricia Begay, Delegated Program Manager
Program Manager's Printed Name

Patricia D Begay 08/02/2023
Program Manager's Signature and Date

APPROVED BY: Calvin Castillo, Executive Director
Division Director / Branch Chief's Printed Name

8/1/2023
Division Director / Branch Chief's Signature and Date

FY 2023

THE NAVAJO NATION
PROGRAM PERFORMANCE CRITERIA

PART I. PROGRAM INFORMATION:

Business Unit No.: NEW Program Name/Title: Tse Ch'izhi Chapter - Culvert Installation Project

PART II. PLAN OF OPERATION/RESOLUTION NUMBER/PURPOSE OF PROGRAM:

PART III. PROGRAM PERFORMANCE CRITERIA:

	1st QTR		2nd QTR		3rd QTR		4th QTR	
	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual
1. Goal Statement: Utilize ARPA funding to install culverts in specific areas within Tse Ch'izhi Chapter boundaries.								
Program Performance Measure/Objective: Successful installation of culverts.					1		1	
2. Goal Statement:								
Program Performance Measure/Objective:								
3. Goal Statement:								
Program Performance Measure/Objective:								
4. Goal Statement:								
Program Performance Measure/Objective:								
5. Goal Statement:								
Program Performance Measure/Objective:								

PART IV. I HEREBY ACKNOWLEDGE THAT THE ABOVE INFORMATION HAS BEEN THOROUGHLY REVIEWED.

Patricia Begay, Delegated Program Manager
Program Manager's Printed Name

Patricia D Begay 08/02/2023
Program Manager's Signature and Date

Calvin Castillo, Executive Director
Division Director/Branch Chief's Printed Name

8/1/2023
Division Director/Branch Chief's Signature and Date

PART I. PROGRAM INFORMATION:

Program Name/Title: Tse Ch'izhi Chapter - Culvert Installation Project Business Unit No.: NEW

PART II. DETAILED BUDGET:

(A)	(B)	(C)	(D)
Object Code (LOD 6)	Object Code Description and Justification (LOD 7)	Total by DETAILED Object Code (LOD 6)	Total by MAJOR Object Code (LOD 4)
6500	CONTRACTUAL SERVICES		195,000
6960	SUBCONTRACTED SERVICES	195,000	
	6990 Subcontracted Services- Apache County to install culverts		
	TOTAL	195,000	195,000

THE NAVAJO NATION
PROJECT BUDGET SCHEDULE

PROJECT FORM

PART I. Business Unit No.: NEW

Project Title: Tsé Ch'izhí Culvert Installations

Project Description Purchase and have culverts installed in collaboration with Apache County

Check one box: ☑ Original Budget ☐ Budget Revision ☐ Budget Reallocation ☐ Budget Modification

PART II. Project Information

Project Type:	Culvert Installations
Planned Start Date:	4/1/2023
Planned End Date:	12/13/2026
Project Manager:	Sylvia Hadley

PART III. List Project Task separately; such as Plan, Design, Construct, Equip or Furnish.

PART IV. Use Fiscal Year (FY) Quarters to complete the information below. O = Oct.; N = Nov.; D = Dec., etc.

	FY 2023												FY 2024												Expected Completion Date if project exceeds 8 FY Qtrs.					
	1st Qtr.			2nd Qtr.			3rd Qtr.			4th Qtr.			1st Qtr.			2nd Qtr.			3rd Qtr.			4th Qtr.			12/13/2026					
	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M
4/1/23 - 12/31/23 Complete agreement with Apache County for services										x	x	x	x	x	x															
7/1/23 - 9/30/26 Start the road improvements & Reinforcements for Chapter																x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10/1/26 - 12/13/26 Site touchups from Apache County Closeout of financial documents																														
PART V. Expected Quarterly Expenditures	$			$			$			$			$			$ 27,857.00			$ 27,857.00			$ 27,857.00			PROJECT TOTAL $83,571.00					

FOR OMB USE ONLY: Resolution No: _____ FMIS Set Up Date: _____ Company No: _____ OMB Analyst: _____

THE NAVAJO NATION
PROJECT BUDGET SCHEDULE

PROJECT FORM

PART I. Business Unit No.: NEW

Project Title: Tsé Ch'izhí Culvert Installation

Project Description Continued from previous page

Check one box: ☑ Original Budget ☐ Budget Revision ☐ Budget Reallocation ☐ Budget Modification

PART II. Project Information

Project Type:	Culvert Installations
Planned Start Date:	4/1/2023
Planned End Date:	12/13/2026
Project Manager:	Sylvia Hadley

PART III. List Project Task separately; such as Plan, Design, Construct, Equip or Furnish.

PART IV. Use Fiscal Year (FY) Quarters to complete the information below. O = Oct.; N = Nov.; D = Dec., etc.

	FY 2024												FY 2025												Expected Completion Date if project exceeds 8 FY Qtrs.					
	1st Qtr.			2nd Qtr.			3rd Qtr.			4th Qtr.			1st Qtr.			2nd Qtr.			3rd Qtr.			4th Qtr.								
	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M
4/1/23 - 12/31/23 Complete agreement with Apache County for services																														
7/1/23 - 9/30/26 Start the road improvements & Reinforcements for Chapter	x	x	x	x	x	x	x	x	x	x	x	x																		
10/1/26 - 12/13/26 Site touchups from NDOT													x	x	x															

PART V.	$	$	$	$	$	$	$	$	PROJECT TOTAL
Expected Quarterly Expenditures	27,857.00	27,857.00	27,857.00	27,858.00					$111,429.00

FOR OMB USE ONLY: Resolution No: _____ FMIS Set Up Date: _____ Company No: _____ OMB Analyst: _____

Tse'chi'zhi' Chapter
P. O. Box 4344
Chinle, AZ 86503
Navajo Route 59
928.728.3361 • Fax: 928.728.3362

Resolution #2023-0427-3

RESOLUTION OF THE TSE'CHI'ZHI' (ROUGH ROCK) CHAPTER OF THE NAVAJO NATION

Rough Rock Chapter ("Chapter") affirms that the Chapter will only use awarded Fiscal Recovery Funds and implement this FRF Expenditure Plan in compliance with the ARPA. ARPA Regulations, and with all applicable federal and Navajo Nation laws, regulations, and policies.

WHEREAS:

1. The Tse'ch'izhi' (Rough Rock) Chapter is duly called a certified Chapter of the Navajo Nation and is delegated the authority and responsibility to promote projects which benefits the local community pursuant to 26 N.N.C. Section 3 and pursuant to 11 N.N.C. Part 1, Section 10; and pursuant to 11 N.N.C. Part 1, Section 10; and

2. Pursuant to 2 N.N.C., Section 4028 (a), the Rough Rock Chapter is vested with the authority to review all matters affecting the community and make appropriate recommendations to the Navajo Nation, Federal, State, and local agencies for appropriate actions; and

3. The Rough Rock Chapter received confirmation from its Navajo Nation Council Delegate Carl R. Slater that the five Chapters under his leadership will equally distribute the $8,802,340.00, with Rough Rock Chapter allocation of $1,760,468 for projects using the ARPA funds with budget amounts as follows; and

	PROJECT DESCRIPTION	CATEGORY	AMOUNT
1	Housing Support - Bathroom Addition: 70 homes x $15,000	1.14	$1,050,000 ✓
2	Septic Tank Clean-Out: 200 homes x $425 each	5.5	$ 85,000
3	Home Weatherization/Rehabilitation: 160 homes x $1300	1.10	$ 208,000
4	Culverts for community residential roads	2.22	$ 96,898
5	Water Delivery to 20-homes lacking water: 24 mos. x $5824	5.3	$ 139,776
6	Trash Bin for Community Use: 48 mos. x $1700 per month	6.1	$ 81,600 ✓
7	Spiritual Wellness Center: Hogan structure with earth floor	2.22	$ 99,194 ✓
	Grand Total		$1,760,468

NOW THEREFORE BE IT RESOLVED THAT: The Rough Rock Chapter ("Chapter") affirms that the Chapter will only use awarded Fiscal Recovery Funds and implement this FRF Expenditure Plan in compliance with the ARPA. ARPA Regulations, and with all applicable federal and Navajo Nation laws, regulations, and policies.

CERTIFICATION: We hereby certify that the foregoing resolution was considered at a duly called Chapter Meeting at Rough Rock Chapter, Navajo Nation, at which a quorum was present ant that the same was passed by a vote of 17 in favor, 4 abstained, and 0 opposed, this 27th day of April 2023.

Motioned By: Joselene Tsosie-Jones Seconded By: Jackson Begay

Betty Dailey, President

Jay R. Nez, Vice-President

Sylvia Hadley, Secretary/Treasurer

Tse'chi'zhi' Chapter

Chinle, AZ 86503
Navajo Route 59

Betty Dailey, President
Jay R. Nez, Vice-President
Lorene Yazzie, Grazing Representative
Carl R. Slater, Council Delegate

Resolution # RRCH 2022-

0911-05

RESOUTION OF THE TSE'CH'I'ZHI' (ROUGH ROCK) CHAPTER OF THE NAVAJO NATION

Rough Rock Chapter hereby requesting and approving Apache County District One to establish a Low Water Crossing structure on C579 Arrow Loop Bus Route thru cost-sharing partnership project with Rough Rock Chapter Government to improve the transportation mobility for Rough Rock Community.

WHEREAS:

1. Pursuant to the "Local Governance Act" 26 NNC Chapter 1., Section 3 (A) the Tse'Chi'I'Zih' (Rough Rock) Chapter would like to follow Navajo Nation Infrastructure & Capital Improvement Policies and Procedures; AND

2. Pursuant to Chapter 1, Subchapter 1 Section, (3), (1), (2) of the same "Act" the Chapter has the responsibility and authority to promote, protest. Preserve the interest and general welfare including the safety of its community people, programs, property; AND

3. Pursuant to the Intergovernmental Agreement (IGA) between the three separate entities; Apache County, the Navajo Nation and Bureau of Indian Affairs, Apache County has a continuous, ongoing commitment to roadway maintenance of school bus routes; AND

4. Rough Rock Chapter has a responsibility to its constituents to address concerns of safety and wellbeing that impacts the safe transportation mobility of Apache County District One, C579 Arrow Loop Bus Route which daily serves Rough Rock Community School, Many Farms Community School, Chinle and Kayenta Unified School District students and numerous service providers; AND

5. Rough Rock Chapter will utilize some of their Chapter funds and any available funds to cost share on C579 Low Water Crossing structure project through Chinle Agency Administration Service Center's technical assistance and support and with procurement process as it is codified in the Navajo Nation Local Governance Act; AND

6. The Rough Rock Chapter funds will be utilized for archeological clearance, environmental assessment, culvert pipes and structure material cost and Apache County District One will provide the equipment machinery, personnel cost and hydrology/hydraulic study, EPA Clean Water Act permit on C579 project.

NOW, THEREFORE, BE IT RESOLVED THAT: Tse'Chi I'Zhi' (Rough Rock) Chapter hereby approves Apache County District One to establish a Low Water Crossing structure on C579 Arrow Loop Bus Route thru cost-sharing partnership project with Rough Rock Chapter Government to improve the transportation mobility for Rough Rock Community.

CERTIFICATION: We, the undersigned hereby certify that the foregoing resolution was duly considered at a duly called authorized meeting held at Tse'Chi'I'Zih', Navajo Nation (Arizona) at which a quorum was present and that the same was passed by a vote of 5 in favor, and 0 opposed and 2 abstaining this 11th day of September, 2022.Motioned By: Lorene Yazzie Seconded By: Sylvia Hadley

Betty Dailey, Chapter President

Jay R. Nez, Vice President

Sylvia Hadley, Secretary/Treasurer

Lorene S. Yazzie, Grazing Official

Apache County Engineering

Memo

To: County Engineer Ferrin Crosby, P.E.

From: Robert Toy, P.E., CMI Engineering

cc: Floodplain Administrator

Date: June 11th, 2022

Re: Clean Water Act, Section 401/404 Compliance, 2022 C-579 Burro Wash Crossing Project

Summary

This memo documents the County's efforts toward compliance with Clean Water Act, Section 401 certification, and Section 404 permitting, in construction of the proposed 2022 C-579 Burro Wash Crossing Project. The conclusion of the County's analysis takes into consideration potential Jurisdictional Waters, and finds that under the most conservative calculations, the project's impact does not exceed Corps of Engineers requirements for Pre-Construction Notification (PCN) under Nationwide Permit 14, Linear Transportation Features. This memo includes exhibits and calculation attachments demonstrating the compliance findings, and documents the County's objective to propose a crossing which restores the natural hydraulic conditions, which were obstructed as a result of roadway embankment placed in the watercourse, that serves as approaches.

Background

Historic flooding has occurred in the project vicinity, at Burro Wash, damaging C-579, and limiting use. In 2021, the County began studies to mitigate the impacts through improvement to the existing crossing, and other mitigation measures, which may impact Proposed Jurisdictional Waters of the U.S. (WOTUS.) In June, 2022, in concert with the Section 404 Clean Water Act permitting, County Engineering submitted to Navajo Nation EPA for a Section 401 Water Quality Certification, using the proposed design.

This memo addresses the impact to the proposed crossing at Burro Wash ephemeral watercourse, with respect to the Clean Water Act Section 404 and 401 compliance. The project design minimizes the upstream impacts which occur in undeveloped land, as well as the downstream impacts where the watercourse returns to natural, sinusoidal patterns. The project seeks to match existing channel incision, provide minimum cross-sectional impediment to flow,

and match slope and direction, with the goal of ensuring stability of the watercourse, and minimizing sediment transport. The impact analyzes both discharge of material into Proposed WOTUS and connectivity of flows through the proposed flood mitigation constructed features.

No Jurisdictional Delineation (JD) has been performed for this watershed, because only the Corps of Engineers is capable of establishing the JD. The calculations are based on a proposed JD, which employs Corp established procedures, identifies the Ordinary High Water Mark (OHWM), and documents the conservative nature of the proposed JD.[1] Given the remote nature of the area, the County's consult with the Corps indicates that no formal JD has been defined for the project area. Although the initial environmental review presumes this portion of Burro Wash to be an ephemeral watercourse (potentially exempting the watercourse from 401/404 considerations), the County is taking the conservative approach of reviewing the impacts with a presumption that if found to be jurisdictional, the proposed mitigation efforts will fall within the criteria for the NWP-14. Furthermore, the impact area is less than the Pre-Construction Notification threshold.

The County's conservative approach and treatment of the project area as potential WOTUS is consistent with the objectives of its partner the Navajo Nation, which in 2021 through litigation reversed the 2020 federal agencies redefinition of the NWPR, which *"categorically excludes all ephemeral streams...from the definition of WOTUS and thus protection under the CWA."*

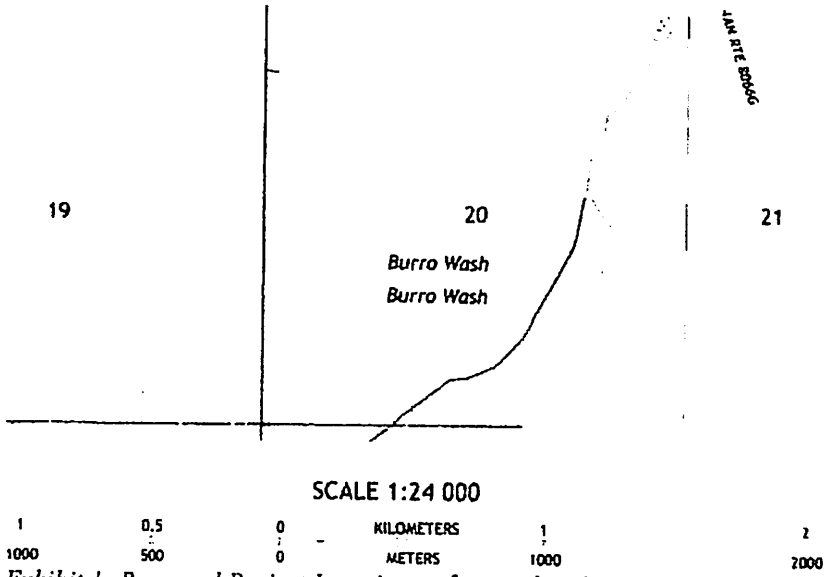

Exhibit 1: Proposed Project Location, referenced to the SE quarter of the USGS 7.5-minute "2021 Rough Rock, Arizona" quadrangle map. The Area of Potential Effect (APE) is shown in red, as C-579 crosses Burro Wash. The project is located in the SE4 of Section 4, Township 35N, Range 22E of the Salt River Base and Meridian.

[1] *The OHWM is identified through field photographs, and found to be consistent with survey breaklines and aerial photographs. The photographic evidence identifies clear overbank breaklines, and the presence of hydrophiitic vegetation in support of the County's assertion that the portion of the watercourse impacted could be found to be jurisdictional.*

Determination of Proposed JD

A JD has not been performed for the watercourse, and it is not known if the watercourse would be considered jurisdictional. However, to demonstrate the conservative nature of the County's efforts towards 404 compliance, it is assumed for the purpose of this analysis that the entire watercourse would be found jurisdictional. Therefore, a width must be assumed. High resolution aerial photographs and site visits document a well-defined riverine incision upstream of the proposed embankment of approximately 63' wide, and downstream incision of approximately 65' wide. The Proposed JD width of 65' US and DS is based upon a right-channel embankment of approximately 4' deep. The clearly defined channel section in the aerial photograph was calibrated against recent field photographs to ensure consistency. The resulting cross-sectional area of approximately 50.1 SF in the trapezoidal-shaped cross-section, and a computed velocity of 2.6 FPS, resulting in 128 CFS is consistent and conservative for the low recurrence-interval, flow expected as "ordinary" flow.[2]

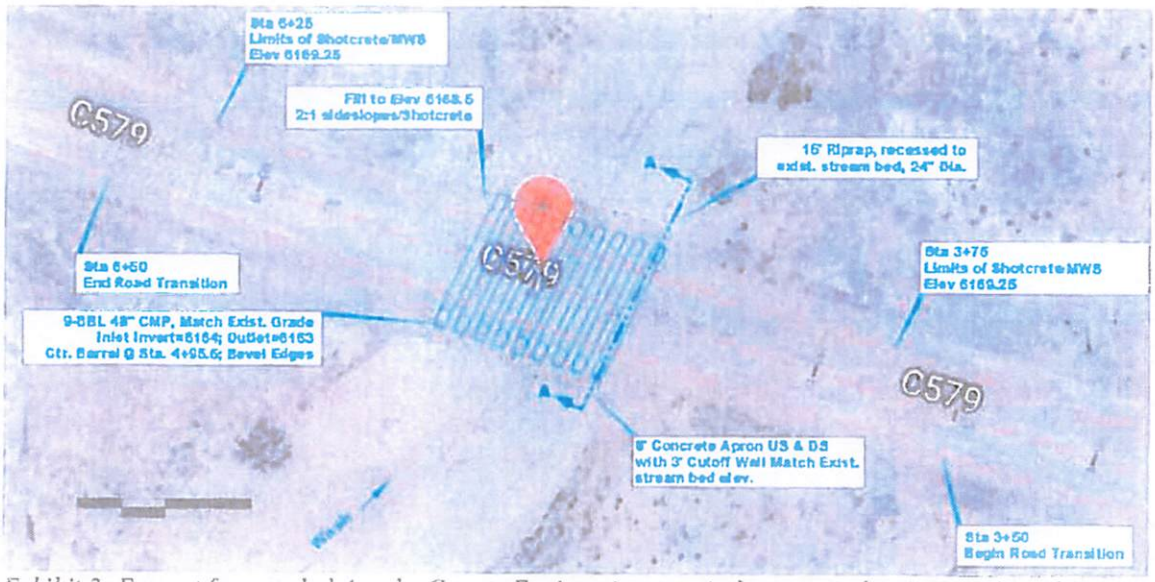

Exhibit 2: Excerpt from sealed Apache County Engineering permit documents showing overlay of proposed constructed features onto existing roadway and Google Maps aerial photo. Areas were scaled from this drawing to determine Impact Areas and volumes of discharge, as detailed in the attached "Design and 404 Permit Calcs" spreadsheet.

Impact Area and Discharge Within the Proposed JD

The Proposed JD was delineated using aerial photographs, and calibrated to 2019 site visit photographs where channel incisement consistent with vegetation changes were observed. Calculations using scaled areas from the design CAD drawings resulted in accurate computation of areas within the proposed JD. The summary of material proposed to be discharged within the Proposed JD is provided in the supporting "Design and 404 Permit Calcs" spreadsheet.

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[2] *Please reference attached "Design and 404 Permit Calcs" support document, which includes open-channel flow computations, and the range of standard Recurrence Interval flows used to form the basis for the Ordinary flow .*

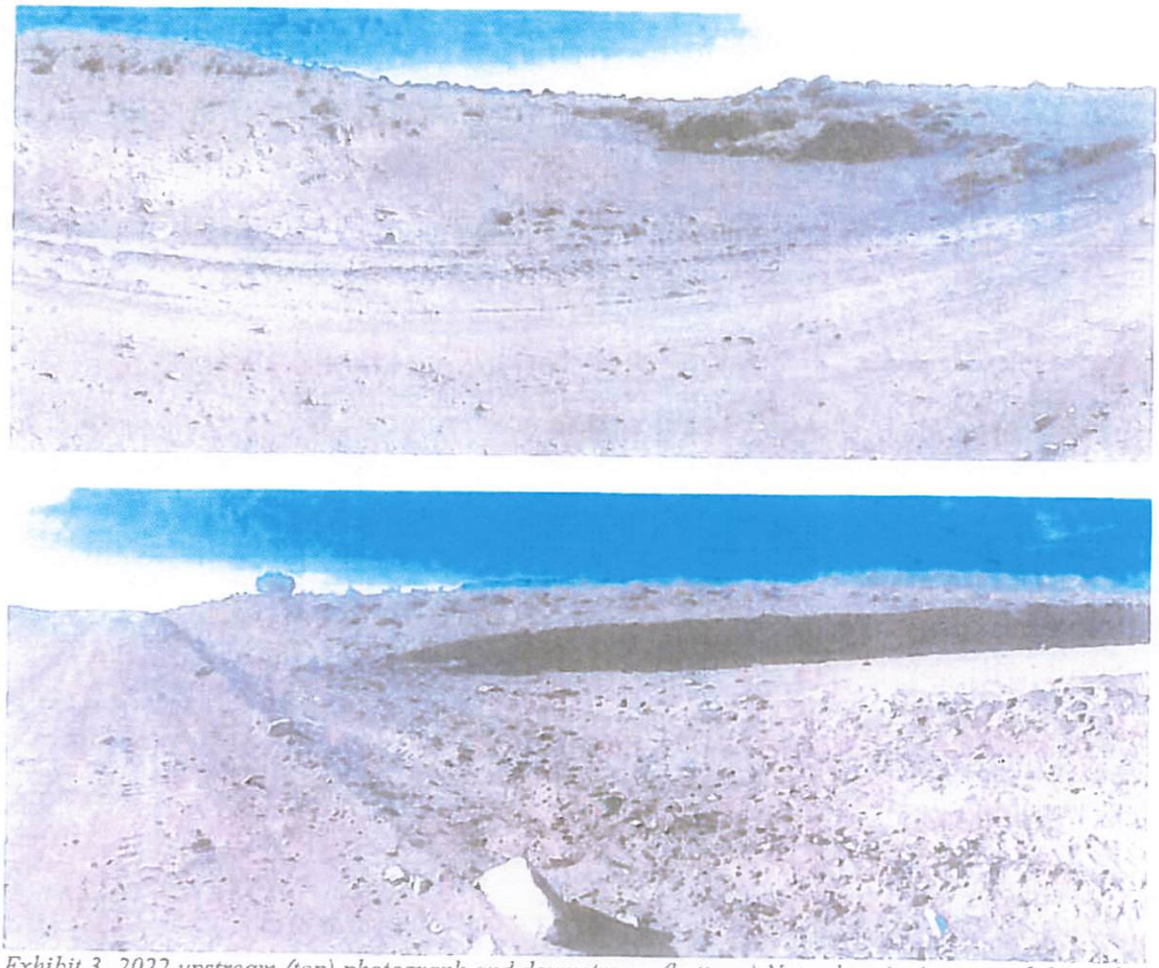


Exhibit 3. 2022 upstream (top) photograph and downstream (bottom.) Note clear incisement of channel, ranging from 4-5' in height downstream, to over 10' upstream.

Cultural and Biological Considerations

The project calls for culvert set at natural grade, so as not to obstruct, retard, or redirect WOTUS. The culvert are sized and set at grade so as not to disrupt aquatic life which may be present under seasonal, temporary flow conditions of the ephemeral wash. Burro Wash is not used as a navigable waterway. Although no detailed studies have been performed in the APE, the County is not aware of any threatened or endangered species as declared by the NNDFW. With the exception of an approximately 15' downstream incursion beyond the roadway easement for the purposes of placing riprap erosion protection, all work is proposed to be performed within the easement

Sensitivity Analysis

The Area of Discharge is directly related to the Proposed JD width, which was estimated using high resolution aerial photos in the CADD system, allowing for accurate scaling and average width estimations across the impacted area. An alternative check of expected "ordinary flow"

using low-velocity, non-erosive flows indicates that a lower depth of flow could be expected, as the 2-yr RI Flow (based on hydrology for this watershed) returns a value of approximately 128 CFS:

Assumed Depth of Flow, Ft.	JD Width, Ft.	Area of Discharge, SF	Ordinary Flow estimate, CFS
12-inches	55 (baseline)	50.1	128 (RI=2)[3]
8-inches	55	36.9	77
6-inches	55	27.7	48

Exhibit 4: Sensitivity Analysis, documenting that the Area of Discharge of 50.1 SF could be considered conservative. The adjustments to the depth of flow yield reductions in the ordinary flow. Because the site characteristics include the near vertical incisement and lack traditional overbank flow, the JD width was assumed as the entire edge-to-edge width. It is plausible that given the relatively flat bottom width[4], the flows lower than the 2-yr RI (more commonly used as ordinary flows) could substantially reduce the baseline width, thus demonstrating the conservative nature of the proposed JD footprint used in calculating Impact Areas. The calculations document that a 43% increase in the impact area would still result in both disturbed area and net loss of wetlands far below the 1/10th acre PCN threshold.

The baseline width took into consideration Navajo Nation Bank Erosion Hazard Index (BEHI) classification, which indicates low to moderate potential in the immediate vicinity, either due to particle size/bank angle, or bank height to bankfull depth, particularly for the downstream channel. [5]

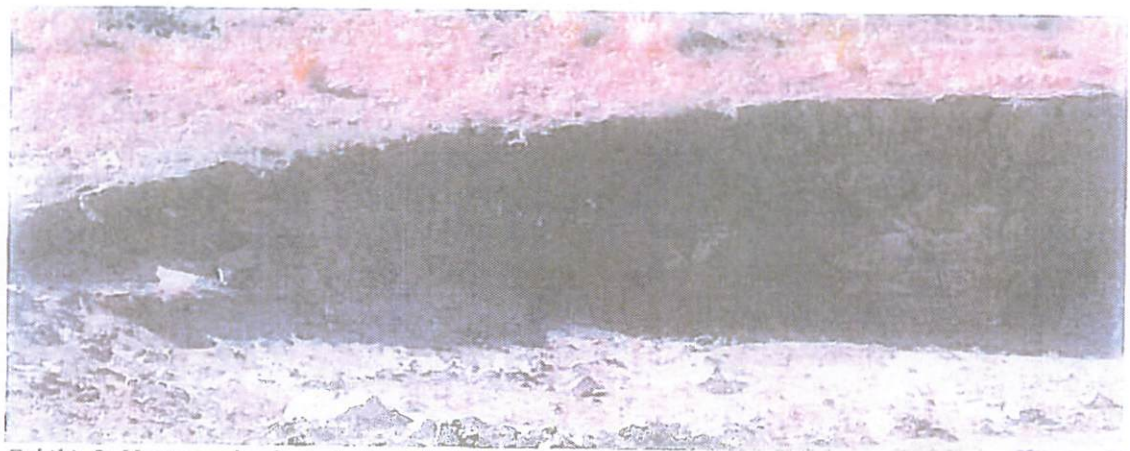


Exhibit 5: Upstream bank angle, bank height to bankfull depth ratio, and limited stratification, in support

[3] Source: USGS Streamstats, analysis performed 6/8/22, and attached to this memo.

[4] Please reference discussion on culvert barrel quantity and placement, which includes rationale for assigning the JD width as the entire 65' base of channel upstream and downstream of the road crossing.

[5] Although the Q/B ratio is somewhat low in the upstream curve approximately 270-LF from the crossing, the combination of the hard-surfaced exposed material with minimal stratification, and distance from the point of tangency of the curve to the proposed crossing, offset any moderate to high BEHI potential, and impact to Proposed JD width. The gradual slope of the opposite bank (inside curve) indicates a plausible rationale for assuming that any shift in this upstream area due to bank erosion would be similarly offset by a proportionate increase of the inside curve width, thus stabilizing the channel width.

of assumed moderate to low bank erosion potential, as classified in the NN BEHI, validating the stability of the Proposed JD width.

Impact of Culvert Barrel Quantity and Placement on 401/404

As seen in Exhibit 6, Proposed Crossing Profile, the elevations shown at the centerline of the existing road profile demonstrate a constriction of flow between Sta 4+75 to 5+15. The County asserts that this is an artificial constriction due to deposition of road surface material, and not representative of the natural channel base. The engineering hypothesis is that this constriction results in accelerated velocities which erode into the lowest portion until a steady state condition exists following washout of portion of the road, thus resulting in making the road impassable. The width of the seasonal washout is based upon the recurrence interval of the flow. Upstream and downstream photographs support the theory that absent the road, the natural channel width of 55-65' would be maintained.

Exhibit 6: Proposed Crossing Profile. Excerpt from Construction Details Exhibit of Profile and Cross-Section, attached as Sheet 2 of 4. The profile illustrates the hydraulic functionality of the ordinary flow conditions, as well as the 100-yr RI flow conditions which allows for up to 0.75' overtopping flow. Although not federally funded, County Engineering considers benefit/cost ratios in sizing the project. Note that this centerline profile taken at the road shows a channel with traditional overbank conditions. The County asserts that this does not represent the channel width observed in the field and validated using aerial photographs of the stream cross-section upstream and downstream of the crossing.

The County asserts that placement of the barrels across the entire apparent channel width performs several functions, and may run counter to conventional wisdom regarding impact that "less is better":

1) Placement of culvert across the entire channel width limits the cross-sectional obstruction to flow to only the area between the pipe. This area is offset by the more efficient flow characteristics (and designed increased cleansing velocities) of the culvert;
2) Providing the larger flow width across the entire channel more closely matches the ordinary flow conditions which permit the watercourse to meander within the existing

channel, or to match low-velocity sheet flow conditions across the entire length of the channel;[6]

3) Flow across the larger width should more closely match natural flow conditions of turbidity and scour, in turn more closely matching natural conditions to minimize impact to potential aquatic lifeforms which may present themselves during seasonal runoff;
4) The reduced obstruction to flow provides passage of runoff which more closely matches the upstream and downstream conditions both in Froude Number and velocity, thereby attempting to match the natural balanced state of sediment transport in the upstream and downstream channel configuration;
5) The larger number of barrels provides a greater mitigating restoration of area by pipe, (lowering the potential loss of wetlands) in lieu of an elevated road prism which would force and constrict flow into a lower number of barrels. This in turn would increase velocities and the potential for sediment transport and deposition downstream;

Summary of Discharge Areas Into Proposed WOTUS

As documented in the previous sections, the impact to the proposed JD of WOTUS is summarized as:

Area	Source of Discharge	Area of Discharge, SF
Total Area of Disturbance	Permanent discharge of construction materials including concrete, rip-rap, and CMP culvert.	4,860 SF
Potential Loss of Wetlands (JD Area)	Area within proposed JD, limited to permanent discharge of road embankment and culvert	4,860 SF
Mitigation Area	Area restored through open CMP culvert	1,800 SF
	Net Potential Loss of JD Area	**3,060 SF < 1/10th Acre** [7]

Exhibit 7: Summary Discharge Table

This memo and accompanying exhibits, document the County's analysis, that the County's work along C-579 within the Burro Wash watercourse--if the areas within the project were found to be Jurisdictional Waters of the U.S.--would qualify under the USACE NWP 14, and not require a Pre-Construction Notification (PCN):

1) The rationale for estimating the Proposed JD areas are provided in this document;
2) A sensitivity analysis for the most significant area, the channel cross-section, demonstrates that this area may be greater in area than the actual JD, supporting the County's assertion that the impact areas are conservative;

[6] One objective of the design is to avoid changes in sediment transport, thereby minimizing the need for culvert cleaning.

[7] The County submits that this total acreage is considered conservative, and has included in this documentation rationale and calculations demonstrating that this area may be substantially reduced with a formal Jurisdictional Delineation. Please see Exhibit 4, table of Sensitivity analysis, and attachment documenting calculations for further explanations.

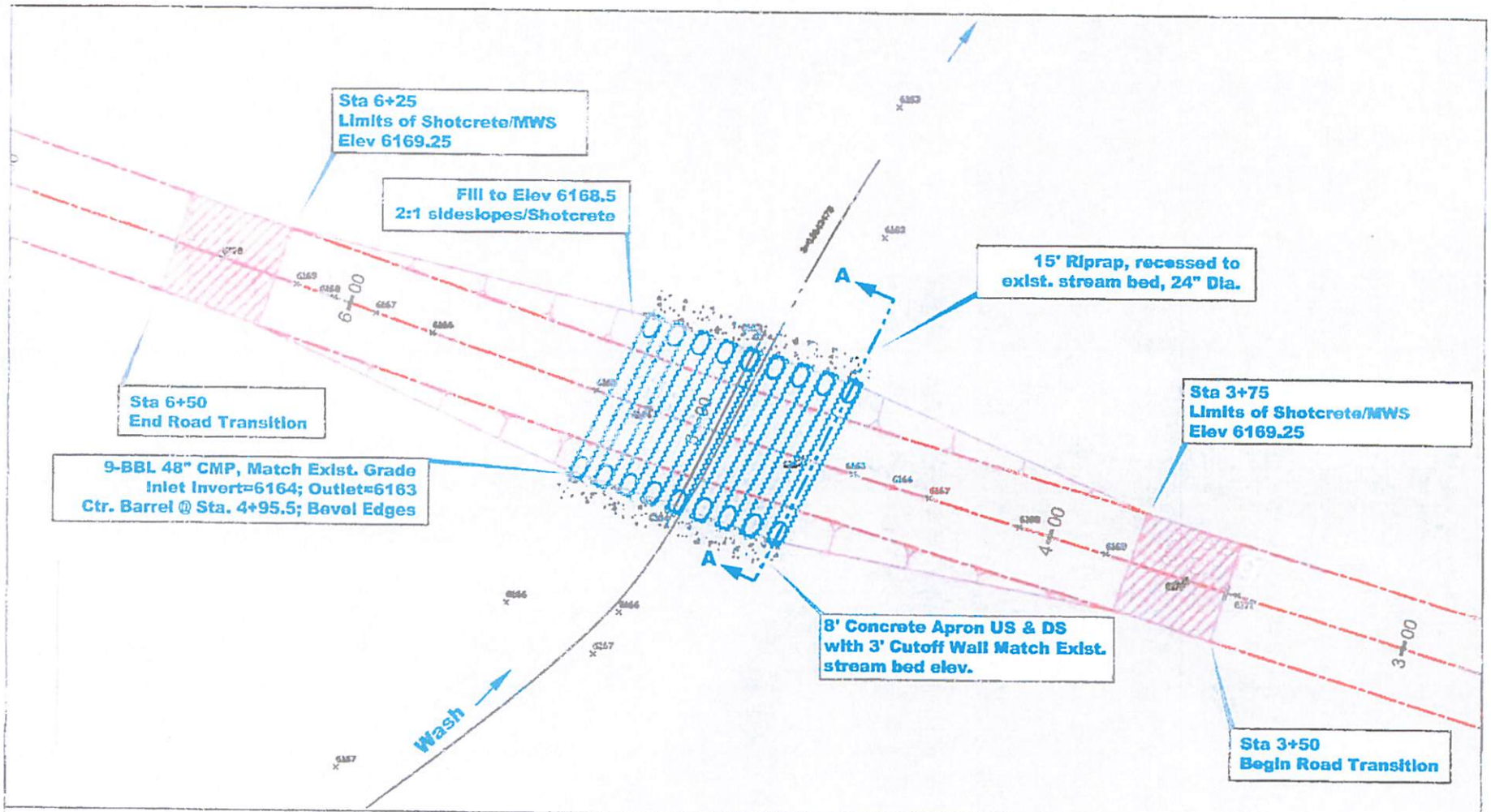
3) All of the proposed barrels are assumed within the proposed JD, further mitigating any impact areas;
4) Under the most conservative assumptions, the cumulative total of the discharge is far below the PCN threshold for a Nationwide Permit 14.

Conclusion

- The County has taken a conservative approach of assuming the watercourse would be considered jurisdictional, and proposed a conservative limit for the jurisdictional delineation;
- The project as proposed does not block, retard, or redirect potential WOTUS;
- The proposed design, providing flow capability across the entire existing cross-section at the road, provides hydraulic functionality to accommodate broad sheet flow conditions in flow conditions less than the presumed Ordinary Flow of 128 CFS.
- The impact areas and potential loss of proposed Jurisdictional Waters are far less than the Pre-Construction Notification Limits.

Attachments

1. C-579 Burro Wash Exhibits showing areas of impact
2. Design and 404 Permit Calcs
3. Streamstats Hydrology for the Project Area with Bankfull Depths
4. Related open-channel flow calculations in support of the proposed JD width, and hydraulically validating the assumed OHWM
5. Related culvert sizing and hydraulic calculations



0 20 40 80

SCALE: 1" = 40'

For Agency/Permit Review Only.
Not for Construction

Apache County Engineering
Proposed C-579 Crossing
Rough Rock Chapter
USACE NWP 14 Application
Construction Details

SIZE	FSCM NO.	DWG NO.	Date
		Construction Detail	06/2021
RCT		SHEET 4 of 4	

C-579

Design and 404 Permit Calcs

Ordinary Waters
Assume 55' base width, 0.5:1 SS, 1:1 SS left
S taken from spot elevations averaged through stream using Google Earth
Based on 2-yr peak (128 CFS) as Ordinary Waters
n=0.025, base elev 6163, OHWM assumed 6164.5

Q	S	d	.	Status
128	0.004348	0.9	2.555	Subcritical
		6163.9		WS Elev below OHWM, checks

Burro Wash

	Crossing		
Structural Fill			
Area, within JD, from AutoCAD Dwg, road prism	2932 SF		
Assumed Depth	8.5 ft		
Volume	923.0 CY		
Number of barrels (within JD)	9.0		
CMP diameter	4.0 FT		
Length of each barrel	50.0 LF		
Less volume of pipe	-209.4 CY		
Net Fill	713.6 CY	Imported Select	
Stabilization Foundation Fill below pipe			
Area, within JD, from AutoCAD Dwg	2932 SF		
Assume 3' depth	325.78 CY	Imported Select	
Riprap Pad			
US Area, within JD, scaled from DWG	0 SF		
DS Area, within JD, scaled from DWG	923 SF		
Depth	3 ft		
	102.56 CY	County Quarry	
Apron with Cutoff Wall			
(1x65x8) + (3x65x1), 2 s des	52.96 CY	Structural Concrete	
Concrete Facing-within Proposed WUS			
Facing width = 12', L=65' avg, T=0.5', 2 sides	28.89 CY	Structural Concrete	
Concrete Road-within Proposed WUS			
L=65', T=0.5, W=28'	33.70 CY	Structural Concrete	
Impact Area and Discharge Into Presumed JD			
Disturbed area, within JD, scaled from AutoCAD DWG	4,860 SF [1]		
Potential Loss of wetlands, scaled from AutoCAD DWG	4,860 SF		
Mitigation (restoration of area) by pipe	1,800 37%		
	3060 SF		
	0.0702 Ac	< 0.10 Acre for PCN	
	1.423529 Times increase in impact to trigger PCN		

Notes

[1] *Area of crossing within Proposed JD. Excludes approaches (outside Proposed JD)*

Streamstats Q

2-yr	128
5-yr	326
10-yr	527
25-yr	878
50-yr	1220
100-yr	1620

C-579

Google Earth 1-ft elevs approximated

Summary Q Conditions

Dia	Assumed Inlet Head	Flow Conditions	Q/BBL	No. BBLS	Q, Total	Before Overtop RI	Overtop D	MWS Elev (inlet)	Q/BBL with overtop head	Q Total with overtop head	Q-100	Overtop W	Overtop v, FPS
36-inch	1' with 2:1 miter	Inlet Ctrl	47.5	16	760	10 to 25	0.75		53.4	854.4	1620	158.1	6.46
36-inch	1' with proj edge	Inlet Ctrl	46.4	16	742.4	10 to 25	0.75		51.6	825.6	1620	158.1	6.70
48-inch [1]	1' with 2:1 miter	Inlet Ctrl	89.3	9	803.7	near 25	0.75	6169.75	105	945	1620	221.3	4.07
48-inch	1' with proj edge	Inlet Ctrl	87.7	9	789.3	near 25	0.75		101.8	916.2	1620	221.3	4.24
48-inch	1' with 2:1 miter	Inlet Ctrl	89.6	8	716.8	10 to 25	0.75		106.9	855.2	1620	221.3	4.61
48-inch [2]	1' with 2:1 miter	Inlet Ctrl	14.3	9	128.7	ck of 2yr	0.75	6165.6	105	945	1620	221.3	4.07

Streamstats Q

2-yr	128
5-yr	326
10-yr	527
25-yr	878
50-yr	1220
100-yr	1620

[1] Streamstats "Bank Full" depth of approx 2.5 for tailwater; yields 9.6 FPS self-cleaning velocity at 25-yr conditions

[2] Streamstats 2-yr (assumed "Ordinary flow") of 128 CFS with assumed depth of 1.6' yields 5.05 FPS cleaning velocity

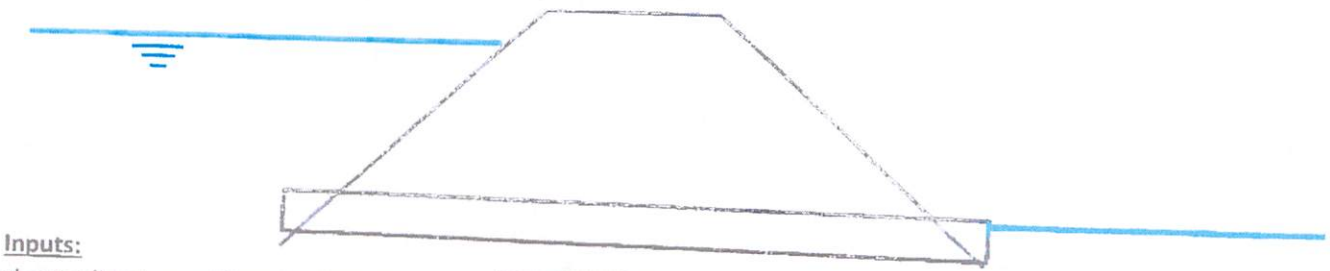
Culvert Analysis Spreadsheet

Ver 5/2012

Client: Apache County
Design By: RC Toy
Comments: CR-579; channel at 25-yr to compute D/S tailwater by open-channel

County: Apache
Checked By:

Date: 6/10/2022
Date:



Inputs:

Headwater (Upstream Water Surface) Elevation:	6169.00	Feet
Culvert Inlet Invert Elevation:	6164.00	Feet
Culvert Diameter:	48.00	Inches
Length of Culvert:	50.00	Feet
Culvert Outlet Invert Elevation:	6163.00	Feet
Tailwater (Downstream) Elevation:	6165.88	Feet

Select Culvert Material:	CMP
Select Culvert Inlet Type:	Miter/Square/2:1 Slope

Outputs:

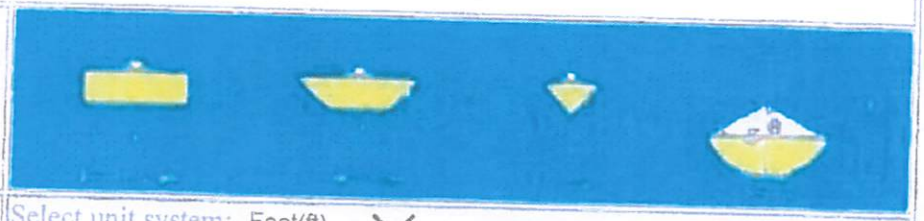
CAPACITY = 89.3 cfs

INLET CONTROLS (Between Submerged and Unsubmerg

Manning's n value:	0.024	CMP
Entrance Coefficient, Ke:	0.7	Miter/Square/2:1 Slope

The open channel flow calculator

Select Channel Type: Trapezoid



Depth from Q | Select unit system: Feet(ft)

Channel slope: .0043478 ft/ft	Water depth(y): 2.88 ft	Bottom width(b) 55 ft
Flow velocity 5.341 ft/s	LeftSlope (Z1): .5 to 1 (H:V)	RightSlope (Z2): 1 to 1 (H:V)
Flow discharge 878 ft^3/s	Input n value 0.035 or select n	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 62.28 ft	Flow area 164.4 ft^2	Top width(T) 59.31 ft
Specific energy 3.32 ft	Froude number 0.57	Flow status Subcritical flow
Critical depth 1.98 ft	Critical slope 0.0149 ft/ft	Velocity head 0.44 ft

Select Channel Type: Trapezoid

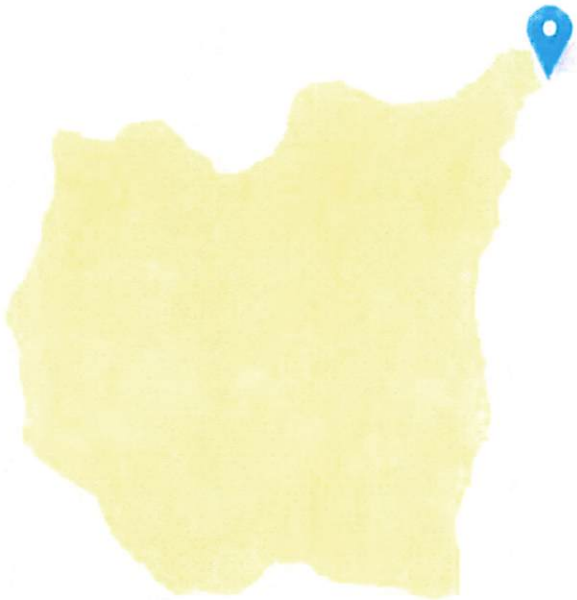
Depth from Q

Select unit system: Feet(ft)

Channel slope:	0.0043478	Water depth(y):	0.9	Bottom width(b)	55
Flow velocity	2.555	LeftSlope (Z1):	1	RightSlope (Z2):	0.25
Flow discharge	128	Input n value	0.035	or select n	
Calculate!		Status:	Calculation finished	Reset	
Wetted perimeter	57.2	Flow area	50.1	Top width(T)	56.13
Specific energy	1	Froude number	0.48	Flow status	Subcritical flow
Critical depth	0.55	Critical slope	0.0218	Velocity head	0.1

StreamStats Report

Region ID: AZ
Workspace ID: AZ20220606061649375000
Clicked Point (Latitude, Longitude): 36.42408, -109.88225
Time: 2022-06-05 23:17:20 -0700



Apache County D1 C-579 Multi-BBL Low Water Crossing

Collapse All

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 2 Colorado Plateau 2014 5211]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	5.73	square miles	0.103	16017
ELEV	Mean Basin Elevation	6676.345	feet		

Peak-Flow Statistics Flow Report [Peak Region 2 Colorado Plateau 2014 5211]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	ASEp
50-percent AEP flood	128	ft^3/s	26.3	624	122
20-percent AEP flood	326	ft^3/s	93.9	1130	87.2
10-percent AEP flood	527	ft^3/s	173	1610	75.7
4-percent AEP flood	878	ft^3/s	314	2460	68.6
2-percent AEP flood	1220	ft^3/s	444	3350	66.6
1-percent AEP flood	1620	ft^3/s	589	4460	67.3
0.5-percent AEP flood	2110	ft^3/s	752	5920	68.8
0.2-percent AEP flood	2890	ft^3/s	980	8520	72.9

Peak-Flow Statistics Citations

Paretti, N.V., Kennedy, J.R., Turney, L.A., and Veilleux, A.G.,2014, Methods for estimating magnitude and frequency of floods in Arizona, developed with unregulated and rural peak-flow data through water year 2010: U.S. Geological Survey Scientific Investigations Report 2014-5211, 61 p., http://dx.doi.org/10.3133/sir20145211. (http://pubs.usgs.gov/sir/2014/5211/)

Bankfull Statistics

Bankfull Statistics Parameters [Intermontane Plateau D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.73	square miles	3.62934	7579.9152

Bankfull Statistics Parameters [Colorado Plateau P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.73	square miles	3.621618	3649.980906

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.73	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Intermontane Plateau D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	11.2	ft
Bieger_D_channel_depth	0.558	ft
Bieger_D_channel_cross_sectional_area	5.71	ft^2

Bankfull Statistics Flow Report [Colorado Plateau P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	7.83	ft
Bieger_P_channel_depth	0.282	ft
Bieger_P_channel_cross_sectional_area	2.25	ft^2

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	22.9	ft
Bieger_USA_channel_depth	1.75	ft
Bieger_USA_channel_cross_sectional_area	43.9	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bieger_D_channel_width	11.2	ft
Bieger_D_channel_depth	0.558	ft
Bieger_D_channel_cross_sectional_area	5.71	ft^2
Bieger_P_channel_width	7.83	ft
Bieger_P_channel_depth	0.282	ft
Bieger_P_channel_cross_sectional_area	2.25	ft^2
Bieger_USA_channel_width	22.9	ft
Bieger_USA_channel_depth	1.75	ft
Bieger_USA_channel_cross_sectional_area	43.9	ft^2

Bankfull Statistics Citations

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_

Application Version: 4.9.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.0

$139,776

#5
Water Delivery

Guidelines for Hauling and Transporting Regulated Water for Human Consumption

Navajo Nation Environmental Protection Agency
Public Water Systems Supervision Program

This document provides Guidelines for Hauling and Transporting Regulated Water for Human Consumption for use by companies, associations, and individuals who deliver/ haul potable water to the public. These guidelines have been developed to provide technical guidance for proper water hauling procedures and practices that should be followed to assure the safety of public health and water quality. Water borne illness can be minimized by using these guidelines.

Background

The Colorado Plateau consists of four states: Arizona, Utah, Colorado, and New Mexico. This is also the location of the Navajo Reservation, which according to the Official Navajo website, "covers over 27,000 square miles."(http://www.navajo.org/history.html, 2010). The Navajo Nation is the largest reservation in the United States.

Some Navajos living in rural communities across the Navajo Nation do not have access to regulated water for human consumption. Many families hauled their drinking water from unregulated water sources, windmills, community wells, or natural springs. Windmills were developed by the Navajo Department of Water Resources for livestock use. Hand pump wells were installed by the Public Health Service (PHS) in the 1950's and 1960's to help Navajos address the need for water. Most hand pump wells were placed in washes. Natural springs are natural flowing water coming out of the ground and /or sandstone and do not have infrastructure (pipe or other fixtures). Studies from Northern Arizona University with the Native American Cancer Research Partnership show that people who reside in rural isolated communities in the Southwest portion of the Navajo Reservation use unregulated water for human consumption. The Cameron and Leupp Chapters' isolated rural communities use unregulated water sources as their primary source for drinking water. The University Of New Mexico's Community Environmental Health Program (C.E.H.P.) and the Dine Network for Environmental Health Project (DiNEH Project) showed similar results within the Eastern Agency, where unregulated water sources are used as their primary drinking water sources for human consumption.

In an effort to understand the water quality from these unregulated water sources across the Navajo Nation, the NNEPA, along with the U.S. Environmental Protection Agency (USEPA), Region 9, and the Centers for Disease Control and Prevention (CDC) have been taking water samples from known unregulated water sources that communities have been using. The results show that some of the wells are high in heavy metals exceeding primary and secondary drinking water standards. The results also show that there are a number of cases of water borne bacteria, a concern for public

health. NNEPA in collaboration with USEPA, Region 9, and CDC will continue sampling water sources.

Wells exceeding the primary standards have been tagged by the NNEPA with a yellow flyer stating that the well exceeds the primary standards for human consumption. The DiNEH Project with USEPA, Region 9, began an outreach campaign in the communities of Cameron, Leupp, and the Eastern Navajo Agency, where it is known that community members use unregulated water source as their primary source for drinking water. The collaborators attended chapter planning meetings, provided handouts, and developed promotional items in the Navajo and English languages.

USEPA, through the Indian Set Aside funds of the Safe Drinking Water Act, and the Indian Health Service have worked to address the lack of access to drinking water issue. Many drinking water projects were funded by these organizations and most recently, USEPA, Region 9, awarded the Navajo Nation with five water hauling trucks to deliver potable water to homes or communities that have no access to regulated water sources. While addressing access to safe water these water hauiing guidelines should further promote safe water hauling practices.

Project Objective

The project objective is to promote safe hauling practices in transporting regulated water for human consumption.

There are two ciasses of water haulers identified. They are:

a) Bulk Water Hauler- Bulk water haulers use commercial vehicles to haul water to homes or communities using a 1000 gallon drum, or more, to community members. Bulk water haulers are also people that have use trailers or have water containers mounted on their vehicle.

b) Light Water Hauler- Light water haulers using less than 1000 gallon drums or less, to haul potable water for human consumption.

Container

The types of containers that are recommended for bulk water hauling include:

a) A FDA approved bulk water hauling unit that is only used for human consumption and will not be used for livestock water hauling.
b) An inspected and approved bulk water hauling unit that is mounted on a truck or a trailer.
c) Mounted water haulers and trailers should be certified by National Sanitation Foundation (NSF) or American Water Works Association (AWWA) standards. Stainless steel material is recommended for mounted bulk water haulers and people using trailer.

Registration/Inspections/ Samples

1) All bulk water haulers who supply water for potable use must register with the Navajo Nation EPA, Public Water Systems Supervision Program. For the light water haulers, it is recommended that they follow the Guideline for Hauling and Transporting Regulated Water for Human Consumption. (i.e., this documents)…
2) The NNEPA, Public Water Systems Supervision Program will inspect all facilities to be used by the bulk hauler and the hauler's records of the past year to assure compliance with the requirements in these guidelines.
3) Following registration, the NNEPA, Public Water Systems Supervision Program will conduct periodic inspections. A certified water operator will be required to collect water samples for bacteriological and /or chemical analysis as deemed necessary for the equipment being used to haul water.
4) The combine chlorine residual in the water being hauled should have a minimum level of 0.2 mg/L, thereby combating bacterial problems. Chlorine residual information will be kept in a log book by the water haulers. If the water is being hauled from a regulated water source, the bulk water hauler should be tested once a month.

Source

1) Water shall be obtained from a regulated public water system.
2) All transported water shall be proven bacteriological safe and comply with the primary drinking water standards. The National Primary Drinking Water Regulations from US EPA is attached at the end in the appendix. The web address is http://water.epa.gov/drink/contaminants/index.cfm for the National Primary Drinking Water Regulations. Navajo Tribal Utility Authority has a Consumer Confident Report on their website at http://ntua.com/ccr.html
3) Water shall be obtained from a predetermined point of access to the public water system. Information about this point of access (e.g., location, frequency of use) is submitted to the NNEPA, Public Water Systems Supervision Program prior to its use. The water should be withdrawn from the treatment plant and not from fire hydrants or dead-end lines.
4) All water supply valves must be in good condition and must not leak.
5) There must be a backflow prevention device in place to prevent that as well.

Handling of Equipment

1) A bulk water hauling container used for hauling other than potable water shall not be used and will not be approved unless their prior use and reconditioning is documented that the container does not pose a public health risk and the use of the reconditioned container is approved by the NNEP, Public Water Systems Supervision Program.
2) All tankers shall be marked clearly with a sign "Drinking Water Only"
3) A protected vent must be provided for each tanker to assure that negative pressures do not occur during delivery which might create a potential for backflow from the customer's system.

4) There shall be a covered opening of sufficient size to enable the inside of the tank to be cleaned and inspected.
5) All the water contact surfaces shall be smooth, impervious and free of corrosion. Coatings must be non-toxic and of a type that will not flake off in the water. Only non-toxic coatings approved by the NSF may be used on the water contact surfaces.
6) The water hose must be for potable water use only. Any other equipment used besides hoses such as extension pipes must be cleaned with proper disinfection methods. The hoses must be made for drinking water, such as those for RVs and boat.
7) Bulk water haulers must clean, disinfect, and maintain the water truck after each delivery. A log book to document each delivery, each cleaning, each disinfection, and each sampling event is recommended. The log book must be made available to the NNEPA personnel that inspect the equipments.
8) No bulk water hauler shall have water stored in the tank overnight.

Records

1) Each hauler must keep a detailed log for at least one year after delivery which includes:
   a. The course of water and its points of withdrawal.
   b. Date and time of pick-up and delivery.
   c. The name of the driver of (or other responsible person with) the tank truck.
   d. Free Chlorine residual.
   e. Description of maintenance activities, such as cleaning and disinfection of the trucks and containers.
   f. Record of inspections, including follow-up activities resulting from the inspection results.

Water Storage Equipment

1) The water drums that are being utilized by the customers for storage must comply with the FDA requirement for storing potable water.
2) The hose must be properly stored when not in use. The hose must not be left lying around. The hose must be at least a foot of the ground.
3) The water drums that are being use for human use shall not be used for hauling livestock water. The water storage must be dedicated for the storage of potable water.

Cleaning of Food Containers Used for Hauling Water

Plastic milk jugs or other food containers may be used for hauling water. However, prior to their use, they must be cleaned using the following procedures:

1) Scrub and rinse with warm water. Use a bottle brush, if needed, especially for milk jugs.
2) Clean with dish soap and hot water.
3) Rinse completely with warm water.

4) Disinfect by filling the containers with a mixture of 3 teaspoons of household chlorine bleach for every 5 gallons of water. Let the bleach mixture stand for 30 minutes. Empty the water and bleach mixture down the sink.
5) Rinse the container with clean water from the regulated water source.

Monthly Cleaning of Water Barrels

1) Mix 3 teaspoons of household chlorine bleach for every 5 gallons of water. Clean all hoses and any other water hauling equipment with the water and bleach.
2) Rinse the container and all other equipment with clean water.
3) Fill tank with a mixture of 3 teaspoon of household bleach for every 5 gallons of water to disinfect the tank. Let bleach and water stand in the tank until ready to use or at least 30 minutes. Empty the water and bleach mixture prior to use.
4) Rinse the container again with clean water from the regulated water source.

Light Water Hauler

An individual who haul water for personal use and who does not intend to redistribute the water (i.e., light water hauler) should follow these guidelines. Information regarding access to regulated water for human consumption will be made available by NNEPA at Chapters Houses, post offices, clinics, and/ or other appropriate places. NNEPA, Public Water Systems Supervision Program (PWSSP) has water point maps available to light water haulers. These maps show the locations of regulated water hauling points for each community.

Sources

1) A map of where the regulated water points will be made available to chapters for their communities by NNEPA, Public Water Systems Supervision Program.
2) The public will be informed not to drink from windmills, unregulated community wells, and natural springs that are not regulated and do not meet the Navajo Nation Safe Drinking Water Act requirements. The Navajo EPA issued a health advisory about the use of unregulated wells on the Navajo Nation in the April 2009 Progress Report under the Five Year Plan.

Training

The Bulk Water Hauler will be trained to clean, disinfect, and maintain the water storage tank and to maintain logs to document these activities. The individual will be informed of the health risk associated with heavy metals and water-borne bacteria.

Training of Bulk Water Haulers

The training of bulk water haulers will be conducted by Navajo EPA, Public Water Systems Supervision Program, with partnership from other Navajo Agencies to conduct training at chapter houses across the Navajo Nation. The time and location will be

announced prior to the training. The equipment that is going to be needed for the training will be provided by Navajo EPA, Public Water Systems Supervision Program.

Training of Light Water Haulers

The Light Water Hauler who hauls water for their own use will be educated on safe practices (e.g., cleaning of barrels and hose fittings). The information will focus on water barrel usage, hoses, and cleaning the water storage drums. The water barrel usage will focus on the kinds of barrels that are safe to use for storing water. The Light Water Hauler and the community will also be informed on the kinds of hoses that are safe to use when it comes to water usage. The hoses should be labeled "Drinking Water Only".

The Navajo EPA, Public Water Systems Supervision Program will take the lead in this joint effort to educate the public about safe water hauling practice. The equipment will be provided by Navajo EPA. There will be an announcement on the training at the chapter house.

Bibliography

History of the Navajo. (2010) *Introduction*. Retrieved from http://www.navajo.org/history.html, access on May 25, 2010.

Indian Health Service, Indian Health Service Sanitation Facilities Construction Program (93.445). Retrieved from http://www.federalgrantswire.com/indian-health-service-sanitation-facilities-construction-program.html, access on June 2, 2010.

Ariz. Admin. Code § 18-4-214

Current through Register Vol. 29, No. 1, January 6, 2023

Section R18-4-214 - Hauled Water **A.** All hauled water for delivery to a public water system shall be obtained from a source that is approved pursuant to 18 A.A.C. 5, Article 5, or a regulated public water system. **B.** Materials or products that come into contact with the water shall comply with R18-4-213(B). **C.** Roof hatches shall be fitted with a watertight cover. **D.** A bottom drain valve or other provisions to allow complete drainage and cleaning of a water transport container shall be provided. **E.** Hoses that are used to deliver drinking water shall be equipped with a cap and shall remain capped when not in use. **F.** A water hauler shall, at all times, maintain a residual free chlorine level of 0.2 mg/l to 1.0 mg/l in the water that is hauled in a water transport container. A chlorine disinfectant shall be added at the time water is loaded into the container. The residual free chlorine level shall be measured each time water is off-loaded from the container. The water hauler shall maintain a log of all on-loading, chlorine disinfectant additions and residual-free chlorine measurements. Such records shall be maintained for at least three years and made available to the Department for review upon request.**G.** A water transport container shall be for hauling drinking water only. The container shall be plainly and conspicuously labeled "For Drinking Water Use Only."

Adopted effective August 8, 1991 (Supp. 91-3). Section repealed, new Section adopted effective April 28, 1995 (Supp. 95-2). Amended by final rulemaking at 8 A.A.R. 3046, effective May 1, 2002 (Supp. 02-3). Section R18-4-214 repealed; new Section renumbered from R18-4-125 and amended by final rulemaking at 14 A.A.R. 2978, effective August 30, 2008 (Supp. 08-3).

COST AND DELIVERY SCHEDULE DETERMINATION SAMPLE WORKSHEET

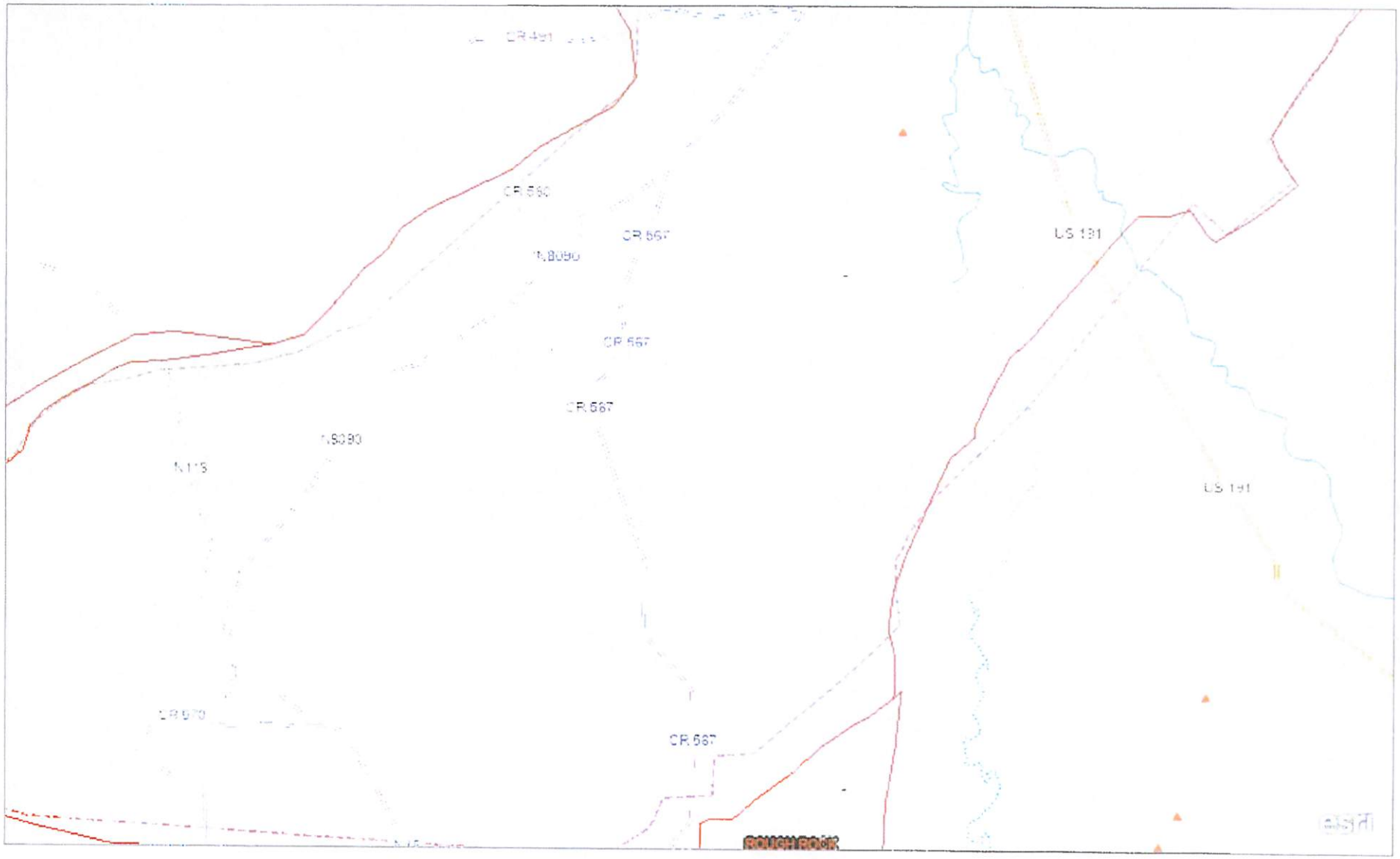
Collective Medicine - Water Warriors United
Chuska Mountain Chapter Area - Resident Water Hauling Budget Proposal
(Estimate for Rock Point and Rough Rock one day each a week)

WEEKLY BUDGET PROPOSAL			
Hourly Wages	$ 440.00	$27.50/hour * 8 hours * 2 days	
Mileage	$ 75.00	IRS rate * 60 miles/day on site	
	$ 125.00	IRS rate * 200 miles roundtrip from hub	
Subtotal	$ 640.00		
Indirect Costs (10%)	$ 64.00	includes maintenance and insurance	
Weekly Total	**$ 1,344.00**	for entire RR and RP area	
Monthly Total	**$ 5,824.00**	for entire RR and RP area	
Yearly Total	**$ 69,888.00**	for entire RR and RP area	
Monthly Total per Household	**$ 145.60**	based on 40 households	
Yearly Total per Household	**$ 1,747.20**	based on 40 households	

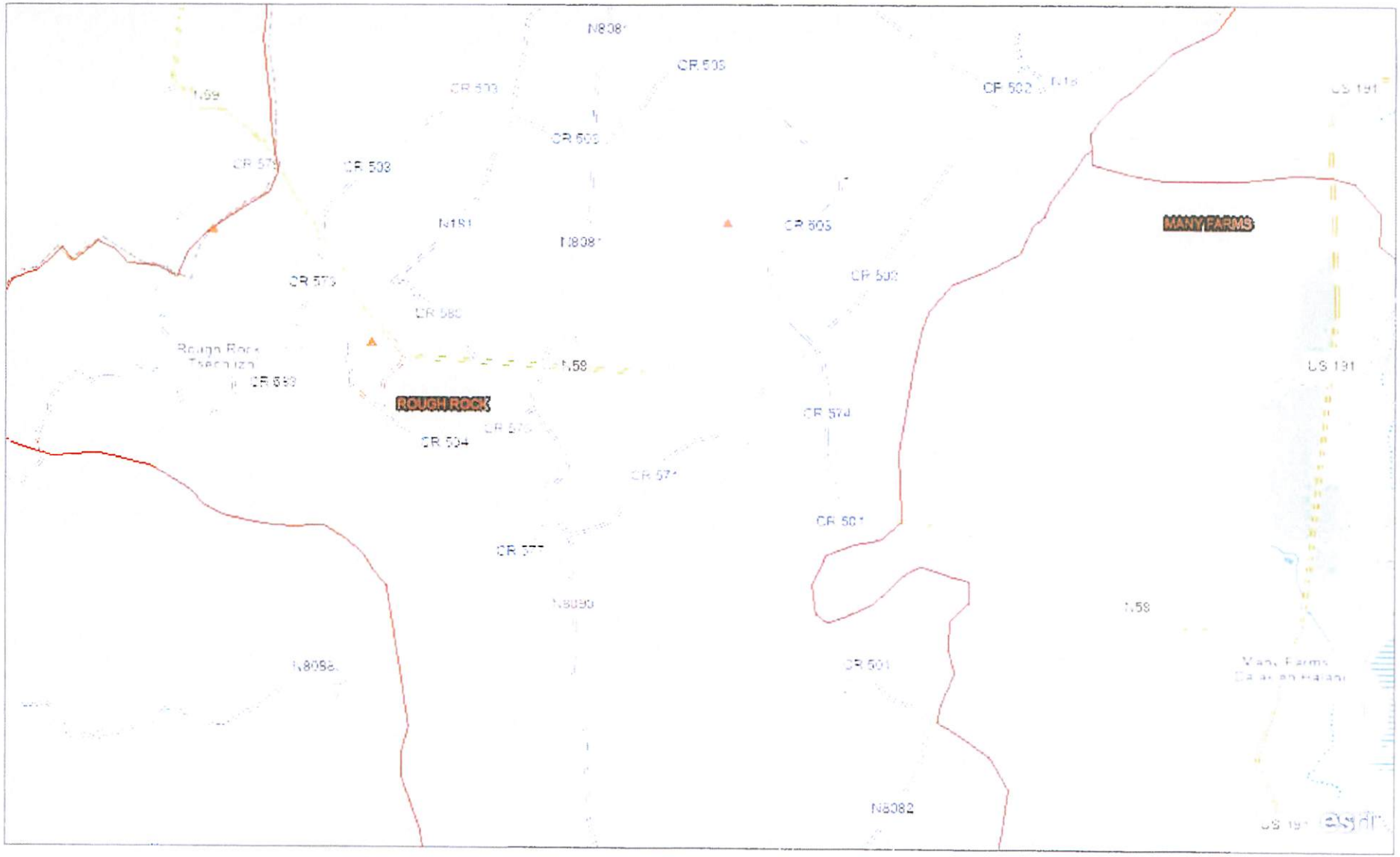
PRIORIZATION, GALLON & FREQUENCY
in household
Primary drinking source
Elder only
Elders in household
Duration of Use

COST ANALYSIS AND COMPARISON
0.006 average US/gallon
0.43 average NN/gallon
average WWU/gallon

Rock Point



Rough Rock



Rock Point