BOARD OF SUPERVISORS AGENDA ITEM REPORT
AWARDS / CONTRACTS / GRANTS

○ Award ○ Contract ◉ Grant

Requested Board Meeting Date: 8/21/2023

** = Mandatory, information must be provided*

or Procurement Director Award: ☐

***Contractor/Vendor Name/Grantor (DBA):**

Arizona Department of Transportation

***Project Title/Description:**

Off-System Bridge Program Grant - Florida Canyon Wash Bridge Replacement

***Purpose:**

To replace the Florida Canyon Wash Bridge on Madera Canyon Road utilizing $8,070,000 in state funds with no match amount required from Pima County.

***Procurement Method:**

Not applicable.

***Program Goals/Predicted Outcomes:**

To replace the Florida Canyon Wash Bridge on Madera Canyon Road to provide for two-way traffic and eliminate the scour critical ratings of the existing structure.

***Public Benefit:**

Enhance public safety within County right-of-way.

***Metrics Available to Measure Performance:**

Design completion and construction completion.

***Retroactive:**

No.

GMI approved 8/4/23

THE APPLICABLE SECTION(S) BELOW MUST BE COMPLETED
Click or tap the boxes to enter text. If not applicable, indicate "N/A". Make sure to complete mandatory (*) fields

Contract / Award Information

Document Type: _____ Department Code: _____ Contract Number (i.e., 15-123): _____

Commencement Date: _____ Termination Date: _____ Prior Contract Number (Synergen/CMS): _____

☐ Expense Amount $ _____* ☐ Revenue Amount: $ _____

***Funding Source(s) required:** _____

Funding from General Fund? ○ Yes ○ No If Yes $ _____ % _____

Contract is fully or partially funded with Federal Funds? ○ Yes ○ No

If Yes, is the Contract to a vendor or subrecipient? _____

Were insurance or indemnity clauses modified? ○ Yes ○ No
If Yes, attach Risk's approval.

Vendor is using a Social Security Number? ○ Yes ○ No
If Yes, attach the required form per Administrative Procedure 22-10.

Amendment / Revised Award Information

Document Type: _____ Department Code: _____ Contract Number (i.e., 15-123): _____

Amendment No.: _____ AMS Version No.: _____

Commencement Date: _____ New Termination Date: _____

Prior Contract No. (Synergen/CMS): _____

○ Expense ○ Revenue ○ Increase ○ Decrease Amount This Amendment: $ _____

Is there revenue included? ○ Yes ○ No If Yes $ _____

***Funding Source(s) required:** _____

Funding from General Fund? ○ Yes ○ No If Yes $ _____ % _____

Grant/Amendment Information (for grants acceptance and awards) ◉ Award ○ Amendment

Document Type: GTAW Department Code: TR Grant Number (i.e., 15-123): 24*013

Commencement Date: August 21, 2023 Termination Date: June 30, 2028 Amendment Number: _____

☒ Match Amount: $ -0- ☒ Revenue Amount: $ 8,070,000

***All Funding Source(s) required:** Arizona Department of Transportation, Department of Transportation

***Match funding from General Fund?** ○ Yes ◉ No If Yes $ _____ % _____

***Match funding from other sources?** ○ Yes ◉ No If Yes $ _____ % _____

***Funding Source:** _____

***If Federal funds are received, is funding coming directly from the Federal government or passed through other organization(s)?**
Passed through ADOT

Contact: Krista Christensen (Administrative Contact: Angela Alvarez 724-5927)

Department: Transportation Telephone: 520-724-6775

Department Director Signature: _____ Date: 8/3/2023

Deputy County Administrator Signature: _____ Date: 8/4/2023

County Administrator Signature: _____ Date: 8/6/2023

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ADOT
Infrastructure Delivery and Operations

Katie Hobbs, Governor
Jennifer Toth, Director
Gregory Byres, State Engineer
Steve Boschen, Division Director

March 24, 2023

Stephen Wilson
Civil Engineering Manager
Pima County Department of Transportation
201 N. Stone Avenue
Tucson, AZ 85701

Re: **Off-System Bridge (OSB) Program Funding - Bridge Formula Program**

Project Name:	Florida Canyon Wash
Project Location:	Madera Canyon Road
Bridge Structure #:	08302
Project Sponsor:	Pima County
COG/MPO:	PAG

Dear Mr. Wilson,

The Arizona Department of Transportation (ADOT) OSB Selection Committee has completed its review of the State Fiscal Year (FY) 2023 OSB Program applications. Based on the review of the submitted application and established scoring criteria used in the technical review process, the above referenced project has been determined as eligible and selected to receive OSB program funding in the amount of $8,070,000 as shown below.

Funding for this project is established under the ADOT OSB Bridge Formula Program (BFP) and must follow all federal-aid requirements. Eligible bridge projects under this category of funding are allocated 100% federal share with no local match requirements.

Design/Admin Costs - FY24		**Right of Way Costs- FY24**		**Construction Costs- FY26**	
Federal OSB (100%)	**$ 760,000**	Federal OSB (100%)	**$ 25,000**	Federal OSB (100%)	**$ 7,285,000**
Local (100%)	$ -	Local (100%)	$ -	Local (100%)	$ -
Estimated Total Cost	**$ 760,000**	Estimated Total Cost	**$ 25,000**	Estimated Total Cost	**$7,285,000**

Please ensure that this project is programmed in the Regional Transportation Improvement Plan (TIP) for the correct funding amount, the correct FY, and that all funding sources and project phases are identified showing a fully funded project. Once the project has been programmed in the Regional TIP, Project Sponsors may submit a project initiation packet to the ADOT LPA Section to begin the Project Development Process.

Please note that eligibility does not give you authorization to begin work. Federal funding authorization will be requested by ADOT through the Development process. Any work performed prior to federal authorization is not eligible for reimbursement.

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If you have any questions regarding this request, please contact the ADOT LPA Section at (602) 712-7132.

Sincerely,

DocuSigned by:
Mark Henige
D9E57E5240E5477...

Mark Henige
ADOT LPA Section
Program Manager

Cc: File, COG/MPO, ADOT MPD, ADOT Bridge Group

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ADOT

OFF-SYSTEM BRIDGE (OSB) PROGRAM APPLICATION

OSB Funding is a federal-aid program and must follow all federal-aid requirements

GENERAL PROJECT INFORMATION (Florida Canyon Wash NBI #8302)			
SPONSORING AGENCY: (AGENCY NAME & ADDRESS)	Pima County Department of Transportation	**DATE SUBMITTED:**	12/30/2022 rev 3-6-2023
CONTACT NAME:	Stephen Wilson	**TITLE:**	Civil Engineering Manager
EMAIL ADDRESS:	Stephen.Wilson@pima.gov	**PHONE #:**	(520) 724-5912

OSB PROGRAM: (Check one)	☐ **STBG Program (94.3%/5.7%)**	☒ **Bridge Formula Program (BFP) (100%)**

PROJECT LOCATION	Bridge Name:	Florida Canyon Wash
	Bridge Structure #:	8302
	Road Name:	Madera Canyon Road
	County:	Pima
	COG/MPO/TMA:	PAG
	ADOT District:	Southcentral
	Starting Location:	0.6 mi south of Whitehouse Canyon Rd
	Ending Location:	0.8 mi south of Whitehouse Canyon Rd
	Length (to the 0.1 of a mile):	0.2 mi
	# of Lanes (Before & After):	Before: 1 After: 2

TYPE OF WORK	☐ Rehabilitation/Strengthening	**Bridge Structure Condition**	
	☒ Replacement	☐ Good	☐ Fair
	☐ Preservation/Preventative Maintenance/Protection	☒ Poor	☐ Weight Restricted

PROJECT INCLUDED IN LOCAL CAPITAL IMPROVEMENT PLAN (CIP)	☐ Yes	☒ No
FEDERAL FUNCTIONAL CLASSIFICATION – (LINK: FEDERAL FUNCTIONAL CLASSIFICATION MAPS):	Minor Collector	

AVERAGE ANNUAL DAILY TRAFFIC (AADT) COUNT (LINK: AADT COUNTS):	740	**DATE OF AADT COUNT:**	2021
Crash Data (5 Years):	According to the ADOT crash database, there were no crashes in the past 5 years on Madera Canyon Road within the limits of the proposed limits of bridge replacement project.		

Any application without the required attachment(s) will not be considered for funding

- **ATTACH** a detailed scoping document that includes an alternative analysis, project background, scope of work, justification, 15% level plans, schedule identifying critical milestones, and detailed cost estimates for Design and Construction phases. (Not required if submitting for Scoping Only).
- **ATTACH** a Project Vicinity/Project Location Map
- **ATTACH** a copy of the FHWA Functional Classification Map
- **ATTACH** photographs

Samples are available on the ADOT LPA Section Website (LINK), including the ADOT Cost Estimate Tool, Project Scoping Document Guidelines, and Sample Scoping Document based on the ADOT Pre-Design Section format.

COST ESTIMATE & PROJECT PROGRAMMING (Florida Canyon Wash NBI #8302)			
		Total Project Estimated Cost (Include ADOT PDA Fee, Scoping, Design, ROW, & Construction):	**$8,070,000**
☒	**ADOT PROJECT DELIVERY ADMINISTRATION (PDA) FEE**	Bridge Formula Program: Federal Share (100%)	**$ 10,000**
		STBG Program Federal Share (94.3%) (Complete if using federal STBG funds for PDA Fee)	$0
		STBG Local Match (5.7%): (Complete if using federal STBG funds for PDA Fee)	$0
		Additional/100% Local Funding: (Complete if using only local funds for PDA Fee):	$0
		Total ADOT Project Delivery Administration (PDA) Fee ($30,000 Non-CA/$10,000 CA):	**$10,000**
☐	**SCOPING**	FY Program Year:	
		Bridge Formula Program: Federal Share (100%)	$0
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for Scoping	**$0**
☒	**DESIGN**	FY Program Year:	**2024**
		Bridge Formula Program: Federal Share (100%)	$750,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$ 0
		Additional/100% Local Funding:	$0
		Total Cost for Project Development	**$750,000**
☒	**ROW**	FY Program Year:	**2024**
		Bridge Formula Program: Federal Share (100%)	$25,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for ROW	**$25,000**
☒	**CONSTRUCTION**	FY Program Year:	**2026**
		Bridge Formula Program: Federal Share (100%)	$7,285,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for Construction (including CE, CC, PDS)	**$7,285,000**

PROJECT WORK DESCRIPTION (Florida Canyon Wash NBI #8302)

Describe the purpose and need of the project. What work is proposed for this project? How will the project improve the condition and/ or extend the service life of the bridge?

Pima County DOT has in its' inventory a one-lane bridge located on Madera Canyon Road approximately 25 miles south of Tucson. The one-lane structure at Florida Canyon Wash (#8302) was built in 1935 and is considered functionally obsolete due to only providing one-way traffic operations. The most recent ADT on Madera Canyon Road (obtained from Streetlight due to data not being available from ADOT or PAG) is estimated to be approximately 740 vpd which creates a potential safety issue for one-way traffic operations at the bridge. The overall condition of both structures is rated as "Poor". Both structures were determined to be scour critical in 1997. The sufficiency rating is 33 for Florida Canyon Wash (Structure #8302). Florida Canyon Wash bridge has a maximum span of 24' and did not require a load posting according to the load rating done in 2014.

Pima County DOT recommends that Florida Canyon Wash (Structure # 8302) on Madera Canyon Road be replaced with a new bridge structure. The proposed replacement structure would improve safety by providing for two-way traffic operations. The replacement structure would eliminate the scour critical ratings of the existing structure. The overall cost of the project is estimated to be $8,070,000.

AGENCY PRIORITIZATION (Florida Canyon Wash NBI #8302)

Describe the agencies top (up to three) priorities of off-system bridges in your inventory. Provide justification as to why the bridge project in this application is the top priority. (Refer to section of Priority Ranking of Candidate Bridges in the Off-System Bridge Program Guidelines.)

According to the Pima County Department of Transportation Bridge Management System Priority Ranking, there are seven bridges meeting the criteria of the Off-System Bridge program that have a Sufficiency Ratings less than 40 and two structures less than 25. The table below lists the seven highest priority structures in Pima County's inventory.

NBI #	Bridge Name	Road Name	Proposed Scope	Sufficiency Rating	Condition	Functionally Obsolete (F) Structurally Deficient (S)	Priority
8475	Jones Wash Br.	Mile Wide Rd	Replacement	21.1	Poor	S	7
8474	Brawley Wash Br.	Mile Wide Rd	Replacement	21.6	Poor	S	8
8301	Medium Wash Br.	Madera Canyon Rd	Replacement	26.0	Poor	S	4
8259	Blanco Wash Br.*	Silverbell Rd	Replacement	31.3	Fair	F,S	1
8302	Florida Cyn. Wash Br.	Madera Canyon Rd	Replacement	33.0	Poor	S	5
8258	Ajo Wash Bridge*	Telera St	Replacement	34.9	Poor	S	3
8318	Mission Rd OP*	Mission Rd	Rehabilitation	36.9	Poor	S	2

* Currently programmed

The three highest priority structures are currently programmed for either replacement or rehabilitation using OSB funding. Replacing the Medium Wash bridge on Madera Canyon Road is PCDOT's next priority followed by the Florida Canyon Wash bridge due to the overall condition of both bridges as documented in the November, 2021 Structure Inventory and Appraisal and Inspection Reports (see attached). The two bridges on Mile Wide Road have lower sufficiency ratings than the bridges on Madera Canyon Road; however, replacing structures on roadways with lower AADT's does not meet the objectives of PCDOT's bridge program. Currently, Mile Wide Road at the Brawley Wash Bridge has an ADT of 114 vpd while Mile Wide Road at the Jones Wash Bridge has an ADT of 64 vpd according to counts done by PCDOT in 2019. Both of these AADT's are significantly less than the AADT on Madera Canyon Road of 740 vpd. One-way traffic operations on Madera Canyon Road with a AADT of 740 vpd is a potential safety issue which is a top priority of the Off-System Bridge Program and is why PCDOT has prioritized the replacement of the Medium Wash and the Florida Canyon Bridges above Mile Wide Road bridges at Jones Wash and Brawley Wash.

This project is considered an ideal candidate for the OSB program for replacement in order to improve safety, eliminate load restrictions and scour issues. Pima County does not currently have funding to replace the Florida Canyon Wash structure.

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OPERATIONAL IMPROVEMENT (Florida Canyon Wash NBI #8302)

How will this bridge project improve the agency's operations?
Are there other operational improvements? If so, what are they and how will this project improve them?
Topics to consider addressing in application:

- Effect on lifecycle
- Maintenance and Repair tasks and frequency
- Annual maintenance and repair costs

The proposed replacement structure for Florida Canyon Wash would allow the Madera Canyon Road to be opened to two-way traffic at the bridge thereby improving traffic operations and safety. The potential risk of head-on or side-swipe type crashes will be reduced by the elimination of one-way traffic operations with the proposed bridge replacement project.

Florida Canyon Wash bridge was constructed in 1935 by the Civilian Conservation Corps. The superstructure of both bridges may have been reconstructed in 1954 according to a Structural Assessment Reports done by Holben, Martin & White in September, 2000. A bridge scour evaluation was done by Cannon & Associates in 1997 in which the structure was determined to be scour critical. Sufficiency ratings have continued to decline and is presently 33 for Florida Canyon Wash (Structure #8302). The structure is considered to be in "Poor" condition and is at (or beyond) the end of its lifecycles at 87 years old.

Replacing the structure Florida Canyon Wash will reduce PCDOT's Maintenance efforts. The project would reduce ADOT inspection efforts and bridge load rating efforts in the future will be eliminated. Annualized maintenance efforts and repair costs are estimated to be approximately in the $5,000 to $10,000 range.

The proposed replacement structures would allow the roadway to be opened to two-way traffic at the bridge.

COMMUNITY IMPACTS (Florida Canyon Wash NBI #8302)

How important is this bridge crossing and access to the community?
Topics to consider addressing in this application:

- *Emergency Access*
- *Local Business and Industry Access*
- *Educational Access*
- *Other areas important to the community*

Madera Canyon Road provides recreational access to Madera Canyon located in the Coronado National Forest, Nogales Ranger District. The current AADT for Madera Canyon Road at the project site is 740 vpd. Madera Canyon is a popular destination due to the many recreational opportunities available including hiking, bird/animal watching, camping and picnicking at higher elevations and cooler temperatures.

Because Madera Canyon Road is the only roadway to Madera Canyon, it also provides emergency access for medical response, rescue efforts, fire fighting by the USFS and is the evacuation route from fire and other weather related incidents.

The Santa Rita Lodge, Madera Kubo B & B and the Chuparosa Inn are available for overnight accommodations in Madera Canyon. The Friends of Madera Canyon provide an outdoor nature education program for children to learn about history, plants, wildlife and scientific method.

Madera Canyon Road is an important asset to the community for the recreational, emergency, business and educational access it provides.

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OTHER (Medium Wash NBI #8301 and Florida Canyon Wash NBI #8302)

This is an opportunity to add project-specific items or unique issues that are not addressed in another category.

Based on the poor condition and the scour critical assessment of both Medium Wash and Florida Canyon Wash structures, PCDOT had previously developed a project in 2001 to replace the two bridges on Madera Canyon Road. The overall project was split into two separate federally funded projects; one for replacement of the Medium Wash (Structure #8301) Federal Project No. BR-PPM-0(149)P, TRACS No. 0000 PM PPM SB405 01C and the other for Florida Canyon Wash (Structure #8302) Federal Project No. BR-PPM-0(150)P, TRACS No. 0000 PM PPM SB406 01C. The projects were developed to include plans, specifications and clearances for right-of-way, utilities and environmental. The projects were not constructed due to budgetary reasons. Available documents from the previous project development efforts are submitted with this application. Below is a list of the reports and documents completed for the previous project:

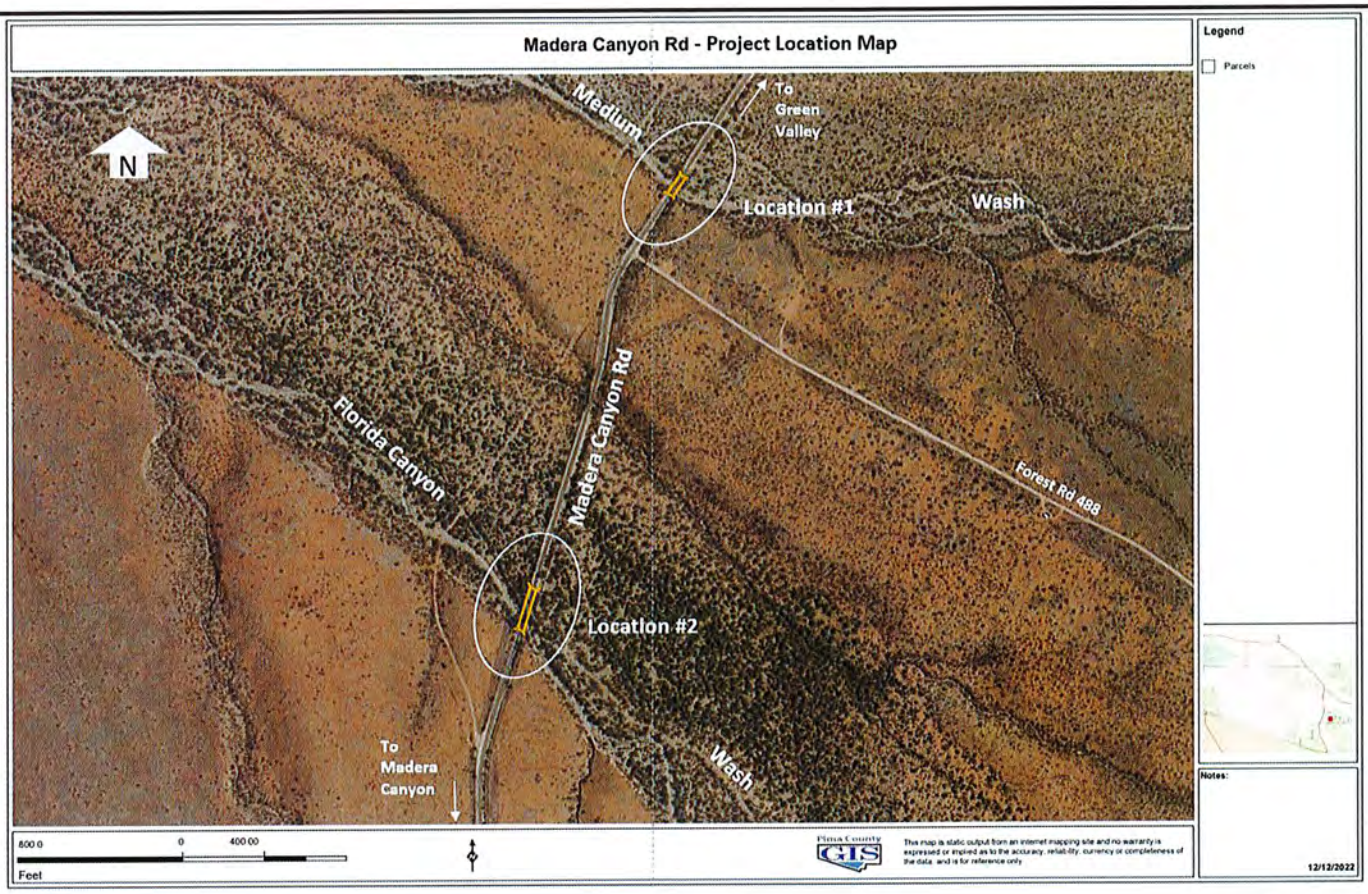
1. Design Concept Report for Madera Canyon Road Bridge at Medium Wash, July 2001
2. Design Concept Report for Madera Canyon Road Bridge at Florida Canyon Wash, July 2001
3. Bridge Assessment Report for Madera Canyon Road at Medium Wash, September 2000
4. Bridge Assessment Report for Madera Canyon Road at Florida Canyon Wash, September 2000
5. Biological Evaluation for Madera Canyon Road Bridge Replacement at Medium Wash, March 2005
6. Biological Evaluation for Madera Canyon Road Bridge Replacement at Florida Canyon Wash, March 2005
7. Cultural Resources Survey for Two Improvement Projects Along Madera Canyon Road, June 2001
8. ADOT Environmental & Enhancement Group Section 106 Consultation, October 2002
9. Phase I Environmental Site Assessment, December 2005
10. ADOT Environmental & Enhancement Group Categorical Exclusion, June 2006
11. ADOT Environmental & Enhancement Group - Environmental Clearance, June 2006
12. Geotechnical Evaluation, October and November 2000
13. Drainage Report Madera Canyon Road at Medium Wash and Florida Canyon Wash, May 2001

The previous reports and documents provide a level of understanding of the anticipated efforts for this project (submitted for the current Call for Projects) for the OSB program. Most of what was done back in the early 2000's will need to be redone but the information will be helpful in determining the revised scope. The previous project proposed to realign Madera Canyon Road for approximately ¾ mile whereas the proposed project submitted for this OSB application focuses on replacing the bridge at Florida Canyon Wash in order to minimize roadway work. The replacement structure at Florida Canyon Wash could be constructed on the existing alignment using a one-lane temporary detour with temporary traffic signals or by constructing the replacement structure in halves as a two-phase stage construction operation thus reducing the overall project cost substantially from what was previously proposed.

The "Bridge Selection Report for Madera Canyon Road Bridge at Florida Canyon Wash" prepared by HM&W in 2001 recommends a two-span bridge structure having a total length of 208 feet. The report recommended a substructure supported on drilled shaft foundations and a AASHTO Type V precast, pre-stressed concrete I-girder superstructure with ADOT Type F barriers. The roadway width would be 11' lanes and 6' shoulders for the structure.

The proposed superstructure type and number of spans for the Florida Canyon Wash bridge will be reevaluated during design in order to minimize the amount the profile grade of Madera Canyon Road needs to be raised relative the cost of the bridge.

Below are exhibits showing the location of the Florida Canyon Wash (and Medium Wash) bridge site. A temporary one-lane detour is shown on the Florida Canyon Wash exhibit but the bridge replacement project could be developed using a phased approach where the bridge is constructed in halves. A cost estimate of the proposed project is attached to the application.


Madera Canyon Rd - Project Location Map
N
Medium
To Green Valley
Location #1
Wash
Florida Canyon
Madera Canyon Rd
Forest Rd 488
Location #2
To Madera Canyon
Wash
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Pima County GIS
This map is static output from an internet mapping site and no warranty is expressed or implied as to the accuracy, reliability, currency or completeness of the data, and is for reference only
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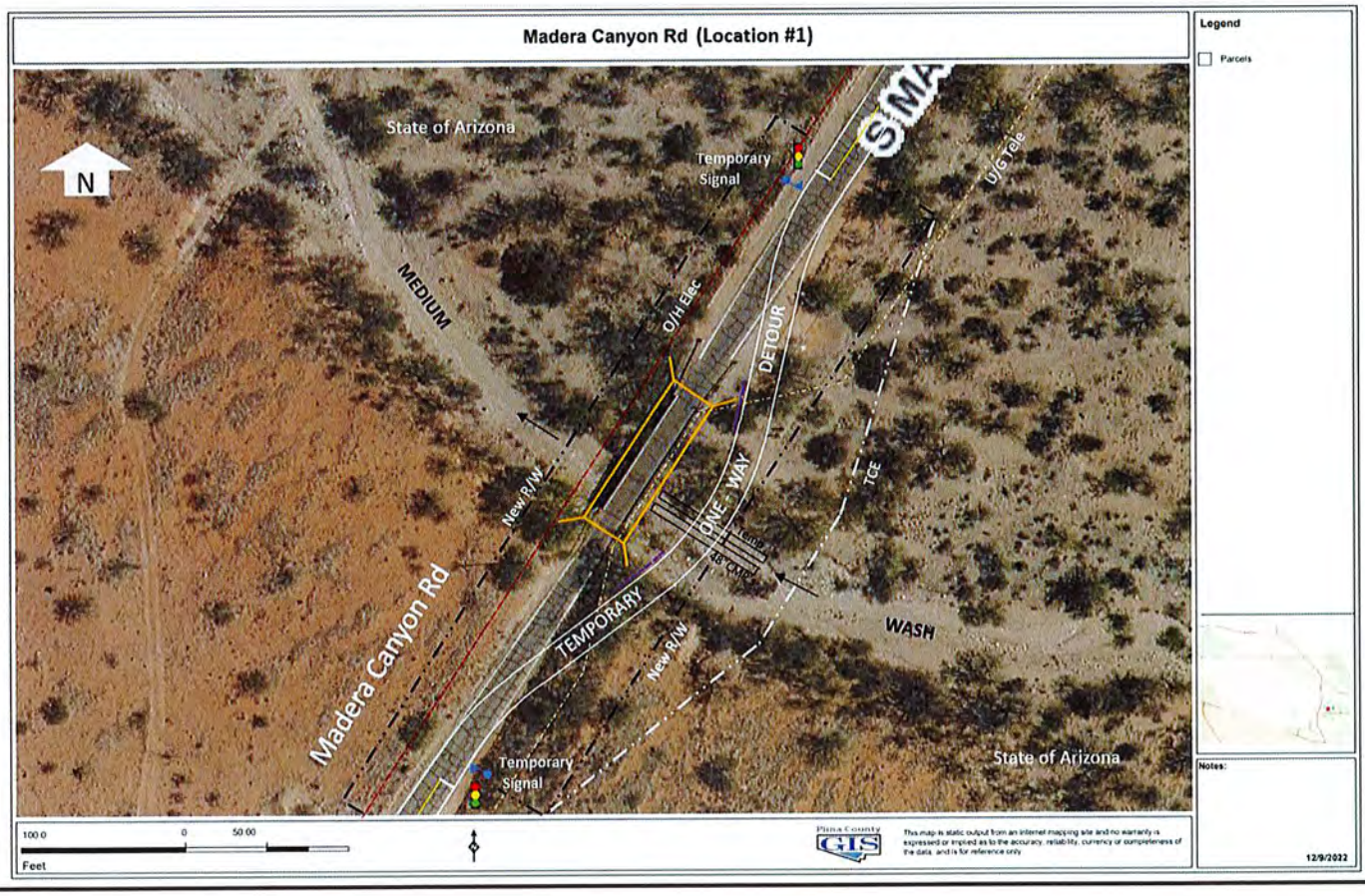
Notes:
12/12/2022


Madera Canyon Rd (Location #1)
N
State of Arizona
Temporary Signal
U/G Tele
MEDIUM
O/H Elec
DETOUR
New R/W
ONE WAY
TCE
Madera Canyon Rd
TEMPORARY
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Pima County GIS
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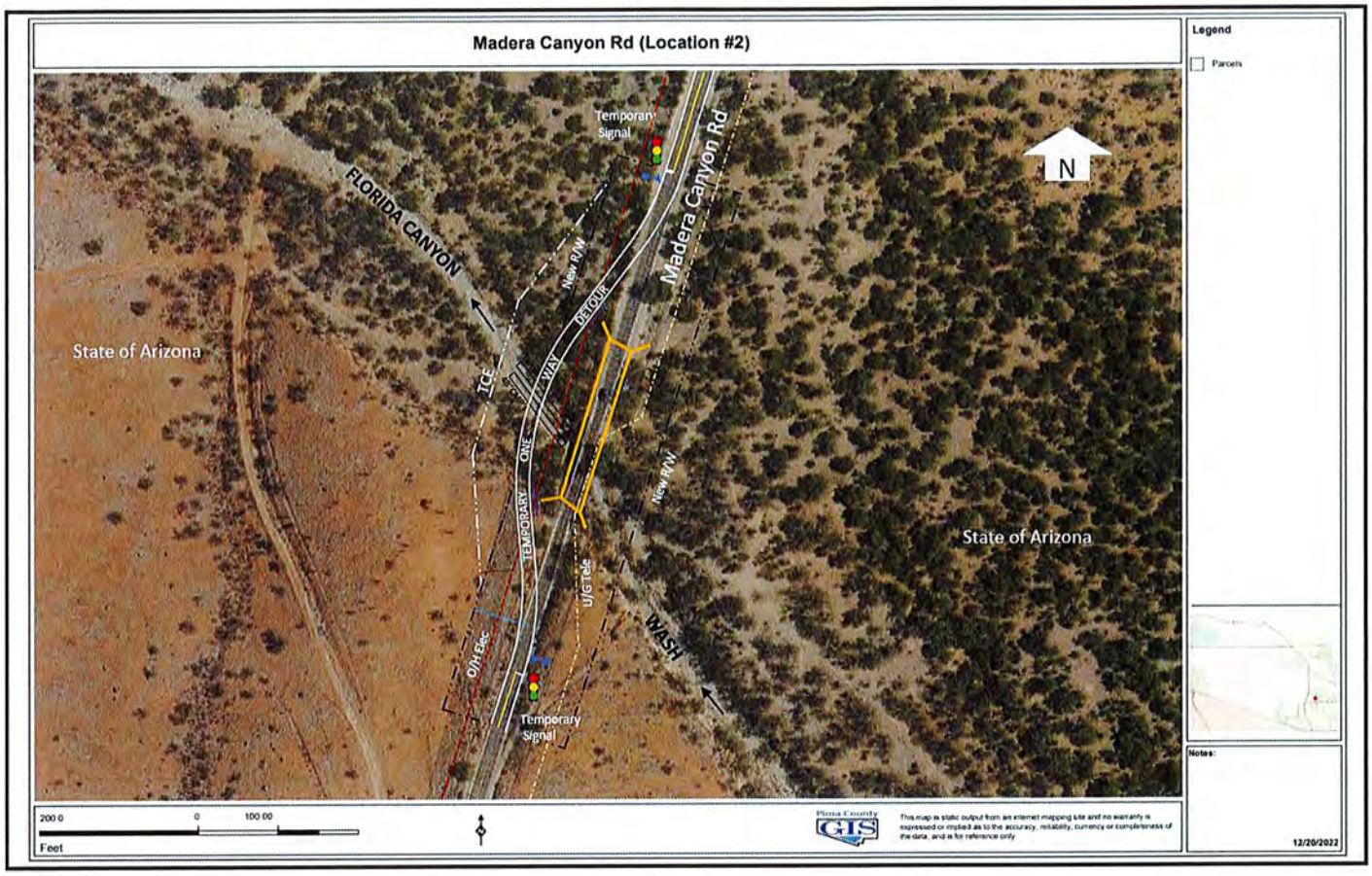
Notes:
12/9/2022



DEVELOPMENT CONSIDERATIONS (Florida Canyon Wash NBI #8302)

Projects that have identified challenges and risks to delivery will encounter fewer hurdles and allow for a project to have fewer complications and provide the best opportunity for a project to be delivered on time and within budget.

CHALLENGES/RISKS TO DELIVERY AND CONSTRUCTION OF PROJECT	Please describe any challenges that may impact the scope, schedule, budget and/or delivery of this project.	The project involves acquisition of new right-of-way from the Arizona State Lands Department at the Florida Canyon Wash bridge site. The schedule will need to be such that adequate time is provided in order to follow ASLD's processes. Two years is anticipated for this effort and that is why the project tentatively proposes design in FY 24 and construction in FY 26. It is anticipated that Madera Canyon Road will remain open at all times, therefore temporary detours and/or stage construction will be necessary.
ENVIRONMENTAL	Are there any potential environmental impacts or challenges of the project that you can foresee? *(e.g. endangered species, cultural resources, hazardous materials sites, Section 4(f) properties, Title VI populations, significant community opposition, wetlands that would be affected, etc.)*	This project will comply with the National Environmental Policy Act (NEPA) to determine the effects to the environment, consultations and coordination and any mitigations necessary for impacts caused by project. There will be tree removals necessary at the bridge site, therefore Migratory Bird Treaty Act mitigations will apply to this project. Nest surveys will be required if vegetation removals are done during the breeding season between March 1st and August 31st. Potential impacts to biological resources will be addressed in a Biological Evaluation prepared for the project. Previous studies determined there was suitable habitat for Pima Pineapple Cactus and Cactus

		Ferruginous owls within the project limits. No known hazardous materials were found from the previous Preliminary Initial Site Assessment (PISA) that was prepared for the project in 2001. There are no known wetlands affected. Florida Canyon Wash is classified as "water of the US" and therefore subject to the jurisdiction of the Corps of Engineer is under Section 404 of the Clean Water Act. A jurisdictional delineation will be coordinated with the COE in order to obtain an individual permit involving discharges into the delineated area. Previous Section 4(f) assessments done in 2000 and reviewed by the State Historic Preservation Office concluded Florida Canyon Wash structure was not eligible for listing on the National Register of Historic Places. No known noise or air quality issues exist at the project site. Riparian habitat areas will be affected. Mitigation using in-lieu fees are anticipated. Public outreach will be included during the project development phase.
RIGHT-OF-WAY (ROW)	Please describe any ROW items associated with this project. *(e.g. Will ROW be required? How much ROW? Is the State Land Department involved? Consider Right of Way requirements associated with Traffic Control/Detour Requirements; Access, Construction Area Needs and on-going Maintenance Requirements.*	The width of the existing right-of-way for Madera Canyon Road is 66'. This project will require new right-of-way from the Arizona State Land Department (approximately 1.0 acres total). The new right-of-way would be required for the fill slopes of the roadway approaches to the replacement structure. Temporary construction easements will be needed from ASLD at the bridge site for the proposed temporary detours and/or phased construction activities. A construction staging area will be identified during the development process and will likely require a TCE. The easement for the telephone line will require modification due to anticipate relocation.
UTILITIES & RAILROAD	Please describe any Utilities and/or Railroad items associated with this project. *(e.g. Will the project include/require any utility relocation(s) by the project sponsor? What utilities may be impacted? Are there prior rights? If Yes, please explain.)*	<u>Electrical</u> There are overhead electrical lines along the west side of Madera Canyon Road that will likely not be impacted by the project. <u>Underground Telephone</u> An underground telephone line exists along the east side of Madera Canyon Road through the limits of the project. The telephone line is in a conduit that is attached to the east side of the Florida Canyon Wash structure. The telephone line will require relocation at the structure due to the project. Prior rights are not anticipated. <u>Railroad</u> The closest railroad is approximately 7.8 miles away and is not impacted by the project.

DocuSign

Certificate Of Completion

Envelope Id: 20EAEE7E47A74111AC15AAEE05767D4E
Status: Completed
Subject: Complete with DocuSign: FY23 OSB Elg Ltr; PPM Florida Canyon Wash Br.doc, 03062023 Florida Cany...
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Certificate Pages: 1
AutoNav: Enabled
EnvelopeId Stamping: Enabled
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Signatures: 1
Initials: 0

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206 S 17th Ave
Phoenix, AZ 85007
JHobert@azdot.gov
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Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	**Status**	**Timestamp**
Agent Delivery Events	**Status**	**Timestamp**
Intermediary Delivery Events	**Status**	**Timestamp**
Certified Delivery Events	**Status**	**Timestamp**
Carbon Copy Events	**Status**	**Timestamp**
Witness Events	**Signature**	**Timestamp**
Notary Events	**Signature**	**Timestamp**

Envelope Summary Events	Status	Timestamps
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Certified Delivered	Security Checked	3/24/2023 8:46:25 AM
Signing Complete	Security Checked	3/24/2023 8:46:35 AM
Completed	Security Checked	3/24/2023 8:46:35 AM

Payment Events	Status	Timestamps

ADOT

OFF-SYSTEM BRIDGE (OSB) PROGRAM APPLICATION

OSB Funding is a federal-aid program and must follow all federal-aid requirements

GENERAL PROJECT INFORMATION

SPONSORING AGENCY: (AGENCY NAME & ADDRESS)	Pima County Department of Transportation	**DATE SUBMITTED:**	12/30/2022
CONTACT NAME:	Stephen Wilson	**TITLE:**	Civil Engineering Manager
EMAIL ADDRESS:	Stephen.Wilson@pima.gov	**PHONE #:**	(520) 724-5912

OSB PROGRAM: (Check one) ☐ **STBG Program (94.3%/5.7%)** ☒ **Bridge Formula Program (BFP) (100%)**

PROJECT LOCATION	Bridge Name:	Medium Wash and Florida Canyon Wash			
	Bridge Structure #:	8301 and 8302			
	Road Name:	Madera Canyon Road			
	County:	Pima			
	COG/MPO/TMA:	PAG			
	ADOT District:	Southcentral			
	Starting Location:	0.4 mi south of Whitehouse Canyon Rd			
	Ending Location:	0.7 mi south of Whitehouse Canyon Rd			
	Length (to the 0.1 of a mile):	Two Spot Locations (0.3 mi apart)			
	# of Lanes (Before & After):	Before:	1	After:	2

TYPE OF WORK	☐ Rehabilitation/Strengthening	**Bridge Structure Condition**	
	☒ Replacement	☐ Good	☐ Fair
	☐ Preservation/Preventative Maintenance/Protection	☒ Poor	☒ Weight Restricted

PROJECT INCLUDED IN LOCAL CAPITAL IMPROVEMENT PLAN (CIP)	☐ Yes	☒ No
FEDERAL FUNCTIONAL CLASSIFICATION – (LINK: FEDERAL FUNCTIONAL CLASSIFICATION MAPS):	Minor Collector	

AVERAGE ANNUAL DAILY TRAFFIC (AADT) COUNT (LINK: AADT COUNTS):	740	**DATE OF AADT COUNT:**	2021
Crash Data (5 Years):	According to the ADOT crash database, there were no crashes in the past 5 years on Madera Canyon Road within the limits of the proposed limits of bridge replacement project.		

Any application without the required attachment(s) will not be considered for funding

- **ATTACH** a detailed scoping document that includes an alternative analysis, project background, scope of work, justification, 15% level plans, schedule identifying critical milestones, and detailed cost estimates for Design and Construction phases. (Not required if submitting for Scoping Only).
- **ATTACH** a Project Vicinity/Project Location Map
- **ATTACH** a copy of the FHWA Functional Classification Map
- **ATTACH** photographs

Samples are available on the ADOT LPA Section Website (LINK), including the ADOT Cost Estimate Tool, Project Scoping Document Guidelines, and Sample Scoping Document based on the ADOT Pre-Design Section format.

COST ESTIMATE & PROJECT PROGRAMMING			
		Total Project Estimated Cost (Include ADOT PDA Fee, Scoping, Design, ROW, & Construction):	**$12,700,000**
☒	**ADOT PROJECT DELIVERY ADMINISTRATION (PDA) FEE**	Bridge Formula Program: Federal Share (100%)	**$ 10,000**
		STBG Program Federal Share (94.3%) (Complete if using federal STBG funds for PDA Fee)	$0
		STBG Local Match (5.7%): (Complete if using federal STBG funds for PDA Fee)	$0
		Additional/100% Local Funding: (Complete if using only local funds for PDA Fee):	$0
		Total ADOT Project Delivery Administration (PDA) Fee ($30,000 Non-CA/$10,000 CA):	**$10,000**
☐	**SCOPING**	FY Program Year:	
		Bridge Formula Program: Federal Share (100%)	$0
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for Scoping	**$0**
☒	**DESIGN**	FY Program Year:	**2024**
		Bridge Formula Program: Federal Share (100%)	$1,140,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$ 0
		Additional/100% Local Funding:	$0
		Total Cost for Project Development	**$1,140,000**
☒	**ROW**	FY Program Year:	**2024**
		Bridge Formula Program: Federal Share (100%)	$50,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for ROW	**$50,000**
☒	**CONSTRUCTION**	FY Program Year:	**2026**
		Bridge Formula Program: Federal Share (100%)	$11,500,000
		STGB Program: Federal Share (94.3%)	$0
		Local Match (5.7%):	$0
		Additional/100% Local Funding:	$0
		Total Cost for Construction (including CE, CC, PDS)	**$11,500,000**

PROJECT WORK DESCRIPTION

Describe the purpose and need of the project. What work is proposed for this project? How will the project improve the condition and/ or extend the service life of the bridge?

Pima County DOT has in its' inventory two one-lane bridges located on Madera Canyon Road approximately 25 miles south of Tucson. The one-lane structures at Medium Wash (#8301) and Florida Canyon Wash (#8302) were both built in 1935 and are considered functionally obsolete due to only providing one-way traffic operations. The most recent ADT on Madera Canyon Road (obtained from Streetlight due to data not being available from ADOT or PAG) is estimated to be approximately 740 vpd which creates a potential safety issue for one-way traffic operations at both bridges. The overall condition of both structures is rated as "Poor". Both structures were determined to be scour critical in 1997. The sufficiency ratings are 27 and 33 for Medium Wash (Structure #8301) and Florida Canyon Wash (Structure #8302) respectively. Medium Wash bridge has a maximum span of 27' that was load rated at 39 tons in 2014. Florida Canyon Wash bridge has a maximum span of 24' and did not require a load posting according to the load rating done in 2014.

Pima County DOT recommends that Medium Wash (Structure #8301) and Florida Canyon Wash (Structure # 8302) on Madera Canyon Road both be replaced with a new bridge structures. The proposed replacement structures would improve safety by providing for two-way traffic operations. The replacement structures would eliminate the scour critical ratings of the existing structures. The overall cost of the project is estimated to be $12,700,000. The project proposes to bundle the replacement structures into one construction project.

AGENCY PRIORITIZATION

Describe the agencies top (up to three) priorities of off-system bridges in your inventory. Provide justification as to why the bridge project in this application is the top priority. (Refer to section of Priority Ranking of Candidate Bridges in the Off-System Bridge Program Guidelines.)

According to the Pima County Department of Transportation Bridge Management System Priority Ranking, there are seven bridges meeting the criteria of the Off-System Bridge program that have a Sufficiency Ratings less than 40 and two structures less than 25. The table below lists the seven highest priority structures in Pima County's inventory.

NBI #	Bridge Name	Road Name	Proposed Scope	Sufficiency Rating	Condition	Functionally Obsolete (F) Structurally Deficient (S)	Priority
8475	Jones Wash Br.	Mile Wide Rd	Replacement	21.1	Poor	S	7
8474	Brawley Wash Br.	Mile Wide Rd	Replacement	21.6	Poor	S	8
8301	Medium Wash Br.	Madera Canyon Rd	Replacement	26.0	Poor	S	4
8259	Blanco Wash Br.*	Silverbell Rd	Replacement	31.3	Fair	F,S	1
8302	Florida Cyn. Wash Br.	Madera Canyon Rd	Replacement	33.0	Poor	S	5
8258	Ajo Wash Bridge*	Telera St	Replacement	34.9	Poor	S	3
8318	Mission Rd OP*	Mission Rd	Rehabilitation	36.9	Poor	S	2

* Currently programmed

The three highest priority structures are currently programmed for either replacement or rehabilitation using OSB funding. Replacing the Medium Wash and the Florida Canyon Bridges on Madera Canyon Road is PCDOT's next priority due to the overall condition of the bridges as documented in the November, 2021 Structure Inventory and Appraisal and Inspection Reports (see attached). The two bridges on Mile Wide Road have lower sufficiency ratings than the bridges on Madera Canyon Road; however, replacing structures on roadways with lower AADT's does not meet the objectives of PCDOT's bridge program. Currently, Mile Wide Road at the Brawley Wash Bridge has an ADT of 114 vpd while Mile Wide Road at the Jones Wash Bridge has an ADT of 64 vpd according to counts done by PCDOT in 2019. Both of these AADT's are significantly less than the AADT on Madera Canyon Road of 740 vpd. One-way traffic operations on Madera Canyon Road with a AADT of 740 vpd is a safety issue which is a top priority of the Off-System Bridge Program and is why PCDOT has prioritized the replacement of the Medium Wash and the Florida Canyon Bridges above Mile Wide Road bridges at Jones Wash and Brawley Wash.

This project is considered an ideal candidate for the OSB program for replacement in order to improve safety, eliminate load restrictions and scour issues. Pima County does not currently have funding to replace the Medium Wash and Florida Canyon structures.

OPERATIONAL IMPROVEMENT

How will this bridge project improve the agency's operations?
Are there other operational improvements? If so, what are they and how will this project improve them?
Topics to consider addressing in application:

- Effect on lifecycle
- Maintenance and Repair tasks and frequency
- Annual maintenance and repair costs

The proposed replacement structures for Medium Wash and Florida Canyon Wash would allow the Madera Canyon Road to be opened to two-way traffic at both bridges thereby improving traffic operations and safety. The potential risk of head-on or side-swipe type crashes will be reduced by the elimination of one-way traffic operations with the proposed bridge replacement project.

Medium Wash and Florida Canyon Wash bridges were constructed in 1935 by the Civilian Conservation Corps. The superstructures of both bridges may have been reconstructed in 1954 according to a Structural Assessment Reports done by Holben, Martin & White in September, 2000. A bridge scour evaluation was done by Cannon & Associates in 1997 in which both structures were determined to be scour critical. Sufficiency ratings have continued to decline and are presently 27 for Medium Wash (Structure #8301) and 33 for Florida Canyon Wash (Structure #8302). Both structures are considered to be in "Poor" condition and are at (or beyond) the end of their lifecycles at 87 years old.

Replacing the structures at Medium Wash and Florida Canyon Wash will reduce PCDOT's Maintenance efforts. The project would reduce ADOT inspection efforts and bridge load rating efforts in the future will be eliminated. Annualized maintenance efforts and repair costs are estimated to be approximately in the $5,000 to $10,000 range.

The proposed replacement structures would allow the roadway to be opened to two-way traffic at both bridges.

COMMUNITY IMPACTS

How important is this bridge crossing and access to the community?
Topics to consider addressing in this application:

- *Emergency Access*
- *Local Business and Industry Access*
- *Educational Access*
- *Other areas important to the community*

Madera Canyon Road provides recreational access to Madera Canyon located in the Coronado National Forest, Nogales Ranger District. The current AADT for Madera Canyon Road at the project site is 740 vpd. Madera Canyon is a popular destination due to the many recreational opportunities available including hiking, bird/animal watching, camping and picnicking at higher elevations and cooler temperatures.

Because Madera Canyon Road is the only roadway to Madera Canyon, it also provides emergency access for medical response, rescue efforts, fire fighting by the USFS and is the evacuation route from fire and other weather related incidents.

The Santa Rita Lodge, Madera Kubo B & B and the Chuparosa Inn are available for overnight accommodations in Madera Canyon. The Friends of Madera Canyon provide an outdoor nature education program for children to learn about history, plants, wildlife and scientific method.

Madera Canyon Road is an important asset to the community for the recreational, emergency, business and educational access it provides.

OTHER

This is an opportunity to add project-specific items or unique issues that are not addressed in another category.

Based on the poor condition and the scour critical assessment of both Medium Wash and Florida Canyon Wash structures, PCDOT had previously developed a project in 2001 to replace the two bridges on Madera Canyon Road. The overall project was split into two separate federally funded projects; one for replacement of the Medium Wash (Structure #8301) Federal Project No. BR-PPM-0(149)P, TRACS No. 0000 PM PPM SB405 01C and the other for Florida Canyon Wash (Structure #8302) Federal Project No. BR-PPM-0(150)P, TRACS No. 0000 PM PPM SB406 01C. The projects were developed to include plans, specifications and clearances for right-of-way, utilities and environmental. The projects were not constructed due to budgetary reasons. Available documents from the previous project development efforts are submitted with this application. Below is a list of the reports and documents completed for the previous project:

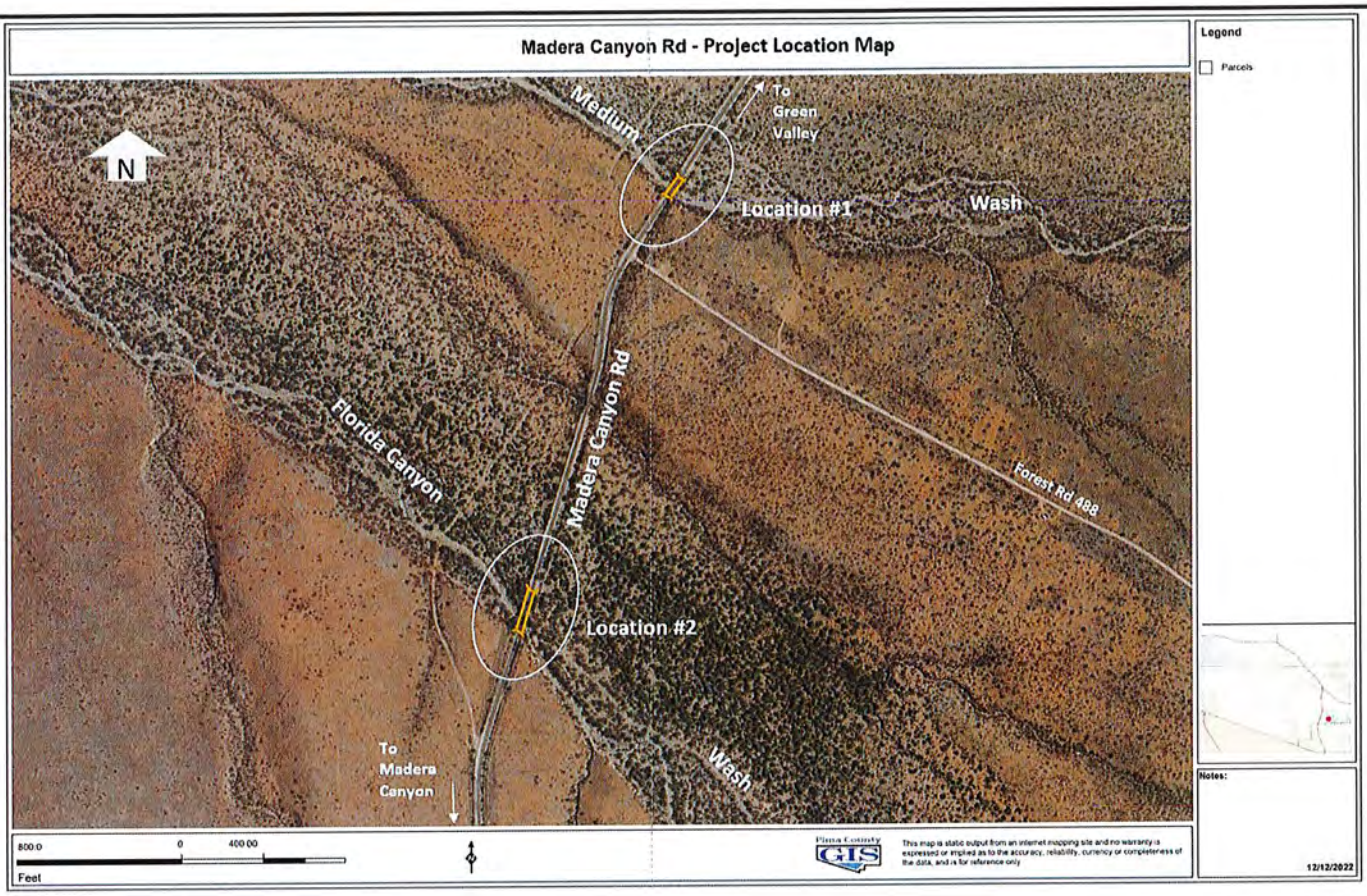
1. Design Concept Report for Madera Canyon Road Bridge at Medium Wash, July 2001
2. Design Concept Report for Madera Canyon Road Bridge at Florida Canyon Wash, July 2001
3. Bridge Assessment Report for Madera Canyon Road at Medium Wash, September 2000
4. Bridge Assessment Report for Madera Canyon Road at Florida Canyon Wash, September 2000
5. Biological Evaluation for Madera Canyon Road Bridge Replacement at Medium Wash, March 2005
6. Biological Evaluation for Madera Canyon Road Bridge Replacement at Florida Canyon Wash, March 2005
7. Cultural Resources Survey for Two Improvement Projects Along Madera Canyon Road, June 2001
8. ADOT Environmental & Enhancement Group Section 106 Consultation, October 2002
9. Phase I Environmental Site Assessment, December 2005
10. ADOT Environmental & Enhancement Group Categorical Exclusion, June 2006
11. ADOT Environmental & Enhancement Group - Environmental Clearance, June 2006
12. Geotechnical Evaluation, October and November 2000
13. Drainage Report Madera Canyon Road at Medium Wash and Florida Canyon Wash, May 2001

The previous reports and documents provide a level of understanding of the anticipated efforts for this project (submitted for the current Call for Projects) for the OSB program. Most of what was done back in the early 2000's will need to be redone but the information will be helpful in determining the revised scope. The previous project proposed to realign Madera Canyon Road for approximately ¾ mile whereas the proposed project submitted for this OSB application focuses on replacing the bridges at Medium Wash and Florida Canyon Wash in order to minimize roadway work. The replacement structures for both locations could be constructed on the existing alignment using one-lane temporary detours with temporary traffic signals or by constructing the replacement structures in halves as a two-phase stage construction operation thus reducing the overall project cost substantially from what was previously proposed.

The "Bridge Selection Report for Madera Canyon Road Bridge at Medium Wash" prepared by HM&W in 2001 recommends a single-span bridge structure having a total length of 93 feet. The report recommended a substructure supported on drilled shaft foundations and AASHTO Type IV precast, pre-stressed concrete I-girder superstructure with ADOT Type F barriers. The roadway width would be 11' lanes and 6' shoulders for the structure. The "Bridge Selection Report for Madera Canyon Road Bridge at Florida Canyon Wash" prepared by HM&W in 2001 recommends a two-span bridge structure having a total length of 208 feet. The report recommended a substructure supported on drilled shaft foundations and a AASHTO Type V precast, pre-stressed concrete I-girder superstructure with ADOT Type F barriers. The roadway width would be 11' lanes and 6' shoulders for the structure.

The proposed superstructure type and number of spans for both bridges will be reevaluated during design in order to minimize the amount the profile grade of Madera Canyon Road needs to be raised relative the cost of the bridge.

Below are exhibits showing the location of Medium Wash and Florida Canyon Wash bridge sites. Temporary one-lane detours are shown on the exhibits but the bridge replacement projects could be developed using a phased approach where the bridges are constructed in halves. A cost estimate of the proposed project is attached to the application.


Madera Canyon Rd - Project Location Map
Legend
Parcels
N
Medium
To Green Valley
Location #1
Wash
Florida Canyon
Madera Canyon Rd
Forest Rd 488
Location #2
To Madera Canyon
Wash
800.0
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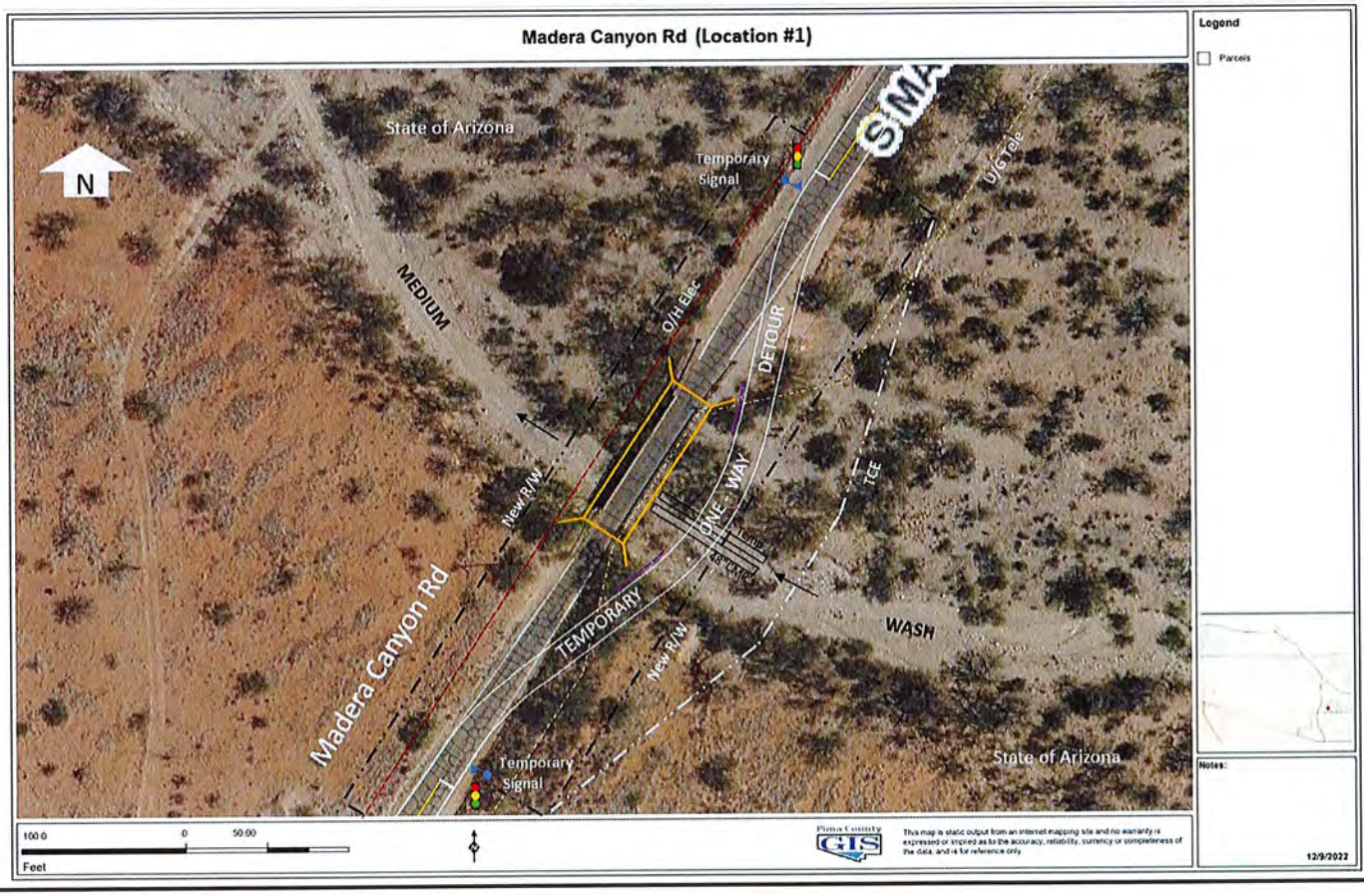
Pima County GIS
This map is static output from an internet mapping site and no warranty is expressed or implied as to the accuracy, reliability, currency or completeness of the data, and is for reference only
Notes:
12/12/2022


Madera Canyon Rd (Location #1)
Legend
Parcels
N
State of Arizona
Temporary Signal
U/G Tel
MEDIUM
O/H Elec
DETOUR
ONE - WAY
New R/W
TCE
Madera Canyon Rd
TEMPORARY
New R/W
WASH
Temporary Signal
State of Arizona
100.0
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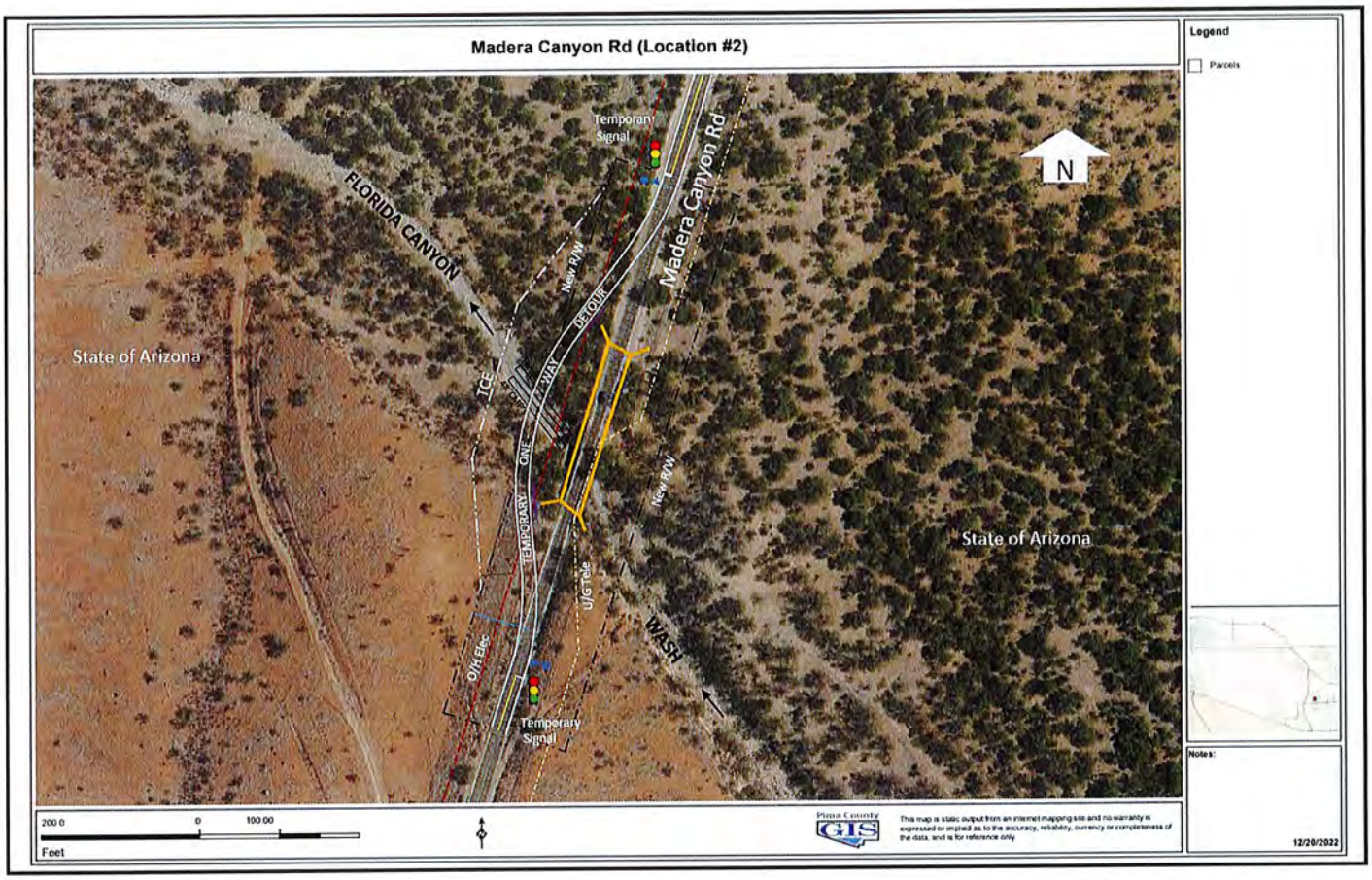
Feet
Pima County GIS
This map is static output from an internet mapping site and no warranty is expressed or implied as to the accuracy, reliability, currency or completeness of the data, and is for reference only
Notes:
12/9/2022



DEVELOPMENT CONSIDERATIONS

Projects that have identified challenges and risks to delivery will encounter fewer hurdles and allow for a project to have fewer complications and provide the best opportunity for a project to be delivered on time and within budget.

CHALLENGES/RISKS TO DELIVERY AND CONSTRUCTION OF PROJECT	Please describe any challenges that may impact the scope, schedule, budget and/or delivery of this project.	The project involves acquisition of new right-of-way from the Arizona State Lands Department at both the Medium Wash and Florida Canyon Wash bridge sites. The schedule will need to be such that adequate time is provided in order to follow ASLD's processes. Two years is anticipated for this effort and that is why the project tentatively proposes design in FY 24 and construction in FY 26. It is anticipated that Madera Canyon Road will remain open at all times, therefore temporary detours and/or stage construction will be necessary.
ENVIRONMENTAL	Are there any potential environmental impacts or challenges of the project that you can foresee? *(e.g. endangered species, cultural resources, hazardous materials sites, Section 4(f) properties, Title VI populations, significant community opposition, wetlands that would be affected, etc.)*	This project will comply with the National Environmental Policy Act (NEPA) to determine the effects to the environment, consultations and coordination and any mitigations necessary for impacts caused by project. There will be tree removals necessary at both bridge sites, therefore Migratory Bird Treaty Act mitigations will apply to this project. Nest surveys will be required if vegetation removals are done during the breeding season between March 1st and August 31st. Potential impacts to biological resources will be addressed in a Biological Evaluation prepared for the project. Previous studies determined there was suitable habitat for Pima pineapple cactus

		and cactus ferruginous owls within the project limits. No known hazardous materials were found from the previous Preliminary Initial Site Assessment (PISA) that was prepared for the project in 2001. There are no known wetlands affected. Medium Wash and Florida Canyon Wash are classified as "water of the US" and therefore subject to the jurisdiction of the Corps of Engineer is under Section 404 of the Clean Water Act. A jurisdictional delineation will be coordinated with the COE in order to obtain an individual permit involving discharges into the delineated area. Previous Section 4(f) assessments done in 2000 and reviewed by the State Historic Preservation Office concluded both the Medium Wash and Florida Canyon Wash structures were not eligible for listing on the National Register of Historic Places. No known noise or air quality issues exist at the project site. Riparian habitat areas will be affected. Mitigation using in-lieu fees are anticipated. Public outreach will be included during the project development phase.
RIGHT-OF-WAY (ROW)	Please describe any ROW items associated with this project. *(e.g. Will ROW be required? How much ROW? Is the State Land Department involved? Consider Right of Way requirements associated with Traffic Control/Detour Requirements; Access, Construction Area Needs and on-going Maintenance Requirements.*	The width of the existing right-of-way for Madera Canyon Road is 66'. This project will require new right-of-way from the Arizona State Land Department (approximately 1.5 acres total). The new right-of-way would be required for the fill slopes of the roadway approaches to the replacement structures. Temporary construction easements will be needed from ASLD at both bridge sites for the proposed temporary detours and/or phased construction activities. A construction staging area will be identified during the development process and will likely require a TCE. The easement for the telephone line will require modification due to anticipate relocation.
UTILITIES & RAILROAD	Please describe any Utilities and/or Railroad items associated with this project. *(e.g. Will the project include/require any utility relocation(s) by the project sponsor? What utilities may be impacted? Are there prior rights? If Yes, please explain.)*	<u>Electrical</u> There are overhead electrical lines along the west side of Madera Canyon Road that will likely not be impacted by the project. <u>Underground Telephone</u> An underground telephone line exists along the east side of Madera Canyon Road through the limits of the project. The telephone line is in a conduit that is attached to the east side of both the Medium Wash and Florida Canyon Wash structures. The telephone line will require relocation at both structures due to the project. Prior rights are not anticipated. <u>Railroad</u> The closest railroad is approximately 7.8 miles away and is not impacted by the project.