

Window Rock TI OP EB/WB and Lupton TI OP EB/WB • Scoping and Final Design

PART A | Introductory Letter | 1 of 13

Dear Selection Panel Members:

ADOT has identified the need to replace the existing I-40 eastbound and westbound bridges at the Window Rock and Lupton traffic interchanges (TIs) near the New Mexico border. A Project Assessment (PA) will be completed to develop the conceptual design, estimate costs, and achieve consensus among ADOT and the other project stakeholders on the proposed solutions.

In advance of this proposal, we met with relevant ADOT groups, including Bridge, Project Management, and Northeast District. Each had significant reservations about the recommendations of the 2012 Final Design Concept Report prepared for the Lupton TI. **There is consensus among the ADOT staff we met with that new alternatives should be developed and reviewed in the PA. Our approach to this project reflects what we heard and considers some initial alternatives that meet the project’s needs and goals.**

Our team is led by **Robert Ringwald, PE, SE**, who has completed more than 15 PAs for ADOT and brings a successful track record of gaining stakeholder alignment on recommended solutions. He led the design of nine ADOT bridges on I-40, and he has the availability to perform both scoping and final design services. **We assembled a team with the experience and availability to complete the PA and continue seamlessly from Phase 1 to Phase 2 services, if requested.** Our team includes Infrastructure Mavens, LLC for construction cost estimating and Ethos Engineering, LLC for geotechnical reviews during the PA and investigations during Phase 2 final design.

AECOM is interested in being selected for this project, and we commit the key personnel identified herein to the extent necessary to meet ADOT’s quality and schedule expectations. AECOM is not a certified DBE.

Sincerely,

AECOM Technical Services, Inc.

Jennifer Bixby
Jennifer Bixby, PE, PTOE
AZ #33782

Vice President, Principal-in-Charge
480.363.0447



jennifer.bixby@aecom.com
Authorized SOQ Signer

Robert Ringwald
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Project (Contract) Manager
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What We Heard

- ✓ This is a bridge spot improvement project
- ✓ The bridge designs should allow for future TI improvements
- ✓ I-40 has high truck traffic and the crossroads have inadequate roadway widths for truck turning movements
- ✓ The existing crossroads have seasonal flooding issues
- ✓ The existing bridges have inadequate vertical clearance
- ✓ The DCR alternative requires new right-of-way from the Navajo Nation, which is not feasible in a typical project development timeframe
- ✓ New improvement alternatives should be evaluated

AECOM brings the following strengths to delivering this project:

- 
Innovative alternatives that meet the needs and concerns expressed by ADOT, consider impacts to traffic during construction, provide solutions for crossroad and local traffic, and maintain flexibility for future TI construction projects
- 
Experienced bridge design staff who are knowledgeable in ADOT bridge design standards and preferences as well as bridge slide construction methods to fully evaluate all options in the PA and Bridge Selection Report
- 
Proven ability to align stakeholders on solutions through listening to concerns and priorities and responding to those priorities through a comprehensive evaluation of alternatives

Prepared for:
Arizona Department of Transportation
Engineering Consultants Section
205 South 17th Avenue,
Mail Drop 616E
Phoenix, Arizona 85007
August 16, 2023



Engineering Consultants Section SOQ Proposal Certifications Form

Contract #: 2024-002

Consultant Name: AECOM Technical Services, Inc.

Please read the fifteen (15) statements below. The statements are to ensure Consultants are aware and in agreement with Federal, State and ECS guidelines related to the award of this contract. Consultants shall submit the specific Certification form attached to each RFQ advertised, as revisions to the form may occur from time to time. Failure to sign and submit the certification form specified in the RFQ with the SOQ proposal will result in the SOQ proposal being rejected.

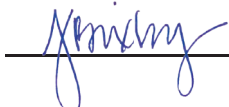
Submission of the SOQ by the Consultant certifies that to the best of its knowledge:

1.	The Consultant and its subconsultants have not engaged in collusion with respect to the contract under consideration.
2.	The Consultant, its principals and subconsultants have not been suspended or debarred from doing business with any government entity.
3.	The Consultant shall have the proper Arizona license(s) and registration(s) for services to be performed under this contract. Furthermore, the Consultant shall ensure that all subconsultants have the proper Arizona license(s) and registration(s) for services to be performed under this contract.
4.	The Consultant's signature on any SOQ proposal, negotiation document or contract constitutes that a responsible officer of the Consultant has read and understands its contents and is empowered any duly authorized on behalf of the Consultant to do so.
5.	The Consultant's Project Team members are employed by the Consultant on the date of submittal.
6.	All information and statements written in the proposal are true and accurate and that ADOT reserves the right to investigate, as deemed appropriate, to verify information contained in proposals.
7.	Key members of the Project Team, including subconsultants, are currently licensed to provide the required services as requested in the RFQ package.
8.	All members of the Project Team who are former ADOT employees did not have or provide information that gives the Consultant a competitive advantage; and either (1) concluded their employment with ADOT at least 12 months before the date of the SOQ or (2) have not made any material decisions about this project while employed by ADOT.
9.	Work, equating at least 51% of the contract value, shall be completed by the Consultant unless otherwise specified in the SOQ or contract.
10.	No Federally appropriated funds have been paid or shall be paid, by or on behalf of the Consultant for the purpose of lobbying.
11.	The Consultant understands that it is required to have a compliant accounting system, in accordance with Generally Accepted Accounting Principles (GAAP), Federal Acquisition Regulation (FAR) of Title 48, Code of Federal Regulations (CFR)-Part 31, applicable Cost Accounting Standards (CAS), and ADOT Advance Agreement Guideline.
12.	If project is funded with Federal Aid funds, the Consultant affirmatively ensures that in any subcontract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations.
13.	The Consultant shall utilize all Project Team members, subconsultants and DBE firms, if applicable, submitted in the SOQ, and shall not add other Project Team members or subconsultants, unless the Consultant has received prior written approval from ADOT.
14.	The Consultant shall either meet its DBE goal commitment and any other DBE commitments or make Good Faith Efforts to meet the DBE goal commitments as stated in its SOQ proposal or Cost Proposal and shall report on a timely basis its DBE utilization as detailed in the contract.
15.	If selected, the Consultant is committed to satisfactorily carry out the Consultant's commitments as detailed in the contract and its SOQ proposal.

I hereby certify that I have read and agree to adhere to the fifteen (15) statements above and/or that the statements are true to the best of my knowledge as a condition of award of this contract.

Print Name: Jennifer Bixby, PE, PTOE

Title: Vice President

Signature: 

Date: August 16, 2023

Revised 2/11/2022

**ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION
PARTICIPATION IN BOYCOTT OF ISRAEL - CONSULTANT CERTIFICATION FORM
ADOT ECS Contract No.: 2024-002**

This Certification is required in response to legislation enacted to prohibit the State from contracting with companies currently engaged in a boycott of Israel. To ensure compliance with A.R.S. §35-393, this form must be completed and returned with any response to a solicitation (SOQ), Contract Cost Proposals, and Contract Time Extensions. The Consultant understands that this response will become public record and may be subject to public inspection.

Please note that if any of the following apply to this Solicitation, Contract, or Contractor, then the Offeror shall select the “Exempt Solicitation, Contract, or Contractor” option below:

- The Solicitation or Contract has an estimated value of less than \$100,000;
- Contractor is a sole proprietorship;
- Contractor has fewer than ten (10) employees; OR
- Contractor is a non-profit organization.

Pursuant to A.R.S. §35-393.01, public entities are prohibited from entering into contracts “unless the contract includes a written certification that the company is not currently engaged in, and agrees for the duration of the contract to not engage in, a boycott of goods or services from Israel.”


Under A.R.S. §35-393:

1. "Boycott" means engaging in a refusal to deal, terminating business activities or performing other actions that are intended to limit commercial relations with entities doing business in Israel or in territories controlled by Israel, if those actions are taken either:
 - (a) Based in part on the fact that the entity does business in Israel or in territories controlled by Israel.
 - (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.
2. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.
- ...
5. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

The certification below does not include boycotts prohibited by 50 United States Code Section 4842 or a regulation issued pursuant to that section. See A.R.S. §35-393.03.

In compliance with A.R.S. §§35-393 *et seq.*, all offerors must select one of the following:

- The Company submitting this Offer **does not** participate in, and agrees not to participate in during the term of the contract, a boycott of Israel in accordance with A.R.S. §§35-393 *et seq.* I understand that my entire response will become public record in accordance with A.A.C. R2-7-C317.
- The Company submitting this Offer **does** participate in a boycott of Israel as described in A.R.S. §§35-393 *et seq.*
- Exempt Solicitation, Contract, or Contractor.**
Indicate which of the following statements applies to this Contract:
 - Solicitation or Contract has an estimated value of less than \$100,000;
 - Contractor is a sole proprietorship;
 - Contractor has fewer than ten (10) employees; and/or
 - Contractor is a non-profit organization.

AECOM Technical Services, Inc.				
Company Name			Signature of Person Authorized to Sign	
7720 North 16th Street, Suite 100			Jennifer Bixby, PE, PTOE	
Address			Printed Name	
Phoenix	AZ	85020	Vice President	August 16, 2023
City	State	Zip	Title	Date



FORCED LABOR OF ETHNIC UYGHURS BAN Certification Form

Forced Labor of Ethnic Uyghurs Ban

Please note that if any of the following apply to the Consultant, then the Offeror shall select the "Exempt Consultant" option below:

- Consultant is a sole proprietorship;
- Consultant has fewer than ten (10) employees; OR
- Consultant is a non-profit organization.

Pursuant to A.R.S. § 35-394, the State of Arizona prohibits a public entity from entering into or renewing a contract with a company unless the contract includes written certification that the company does not use the forced labor, or any goods or services produced by the forced labor, or use any consultants, subconsultants, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China.

Under A.R.S. §35-394:

1. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.
 - (a) Based in part on the fact that the entity does business in Israel or in territories controlled by Israel.
 - (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.
2. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

In compliance with A.R.S. §§ 35-394 et seq., all offerors must select **one** of the following:

<input checked="" type="checkbox"/>	The Company submitting this Offer does not use, and agrees not to use during the term of the contract, any of the following: <ul style="list-style-type: none"> • Forced labor of ethnic Uyghurs in the People’s Republic of China; • Any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China; or • Any Consultants, Subconsultants, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People’s Republic of China.
<input type="checkbox"/>	The Company submitting this Offer does participate in use of Forced Uyghurs Labor as described in A.R.S. § 35-394.
<input type="checkbox"/>	Exempt Consultant. Indicate which of the following statements applies to this Consultant (may be more than one): <ul style="list-style-type: none"> <input type="checkbox"/> Consultant is a sole proprietorship; <input type="checkbox"/> Consultant has fewer than ten (10) employees; and/or <input type="checkbox"/> Consultant is a non-profit organization.

AECOM Technical Services, Inc.

Company Name

7720 North 16th Street, Suite 100

Address

Phoenix

City

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85020

Zip

Signature of Person Authorized to Sign

Jennifer Bixby, PE, PTOE

Printed Name

Vice President

Title

1 PROJECT UNDERSTANDING & APPROACH

1A. PROJECT UNDERSTANDING

PROJECT OVERVIEW

The I-40 Window Rock and Lupton traffic interchanges (TIs) are located within Apache County, ADOT's Northeast District, and the Navajo Nation immediately west of the Arizona/ New Mexico border. This portion of I-40 carries approximately 22,500 vehicles per day with truck traffic accounting for 43% of the total volume.

A 2012 Design Concept Report (DCR) provided recommendations and cost estimates for replacing the Lupton TI. The DCR recommended a wide range of improvements addressing structural, traffic, safety, drainage, pedestrian, and business access issues. The recommendations included moving the existing TI approximately 800 feet west and acquiring 22 acres of new right-of-way (ROW), including Navajo trust and allottee land. Based on conversations with Northeast District, Project Management Group (PMG), and Bridge Group, we understand ADOT's goal for the current project is to replace the existing bridges while minimizing project development and construction costs.

This project includes a Project Assessment (PA), Bridge Selection Report (BSR), and draft environmental document, and may be followed by final design contingent on funding. The PA will establish TI and crossroad configurations, determine minimum bridge span lengths, and address existing issues, including business access, pedestrian safety, and seasonal flooding. The BSR will recommend bridge concepts based on the recommended TI alternatives and will address the possible future widening of I-40 to three lanes in each direction. We understand the current funding may be limited to replacing the existing bridges without fully reconstructing the TIs. The PA will include an implementation plan for phased construction of the recommended improvements as funding becomes available.

▶ This project will replace the existing rigid-frame concrete bridges (constructed in 1963), increase the sub-standard vertical clearance, eliminate seasonal flooding, improve traffic operations on the crossroads, and address pedestrian safety issues.

TABLE 1 | ISSUES & PROPOSED APPROACHES (BOTH TIs)

Issue/Challenge	Approach
Insufficient budget to address all of the existing project issues	Replace the existing bridges in their current locations to avoid major ramp reconstruction and new ROW
Maintaining traffic on I-40 during construction, including for oversized trucks	Construct each new bridge superstructure in the I-40 median and slide it into place within a single 12-hour detour
The existing roadways restrict truck turning movements at the crossroads	Design for phased implementation of future TI improvements while improving turning for WB-67 trucks in Phase 1
The existing crossroads are dangerous for pedestrians	Provide a continuous sidewalk beneath the underpasses
Lowering the Lupton crossroad per the DCR to achieve 16'-6" vertical clearance requires relocating the existing storm drain outfall, including a jack-and-bore beneath BNSF tracks	Rather than lower the crossroad, raise the profile of I-40 and maintain the existing drainage outfall into Lupton Wash
Acquisition of Navajo Trust and Allottee lands is not feasible within a reasonable time frame	Develop interchange alternatives that avoid the need for new ROW or temporary construction easements

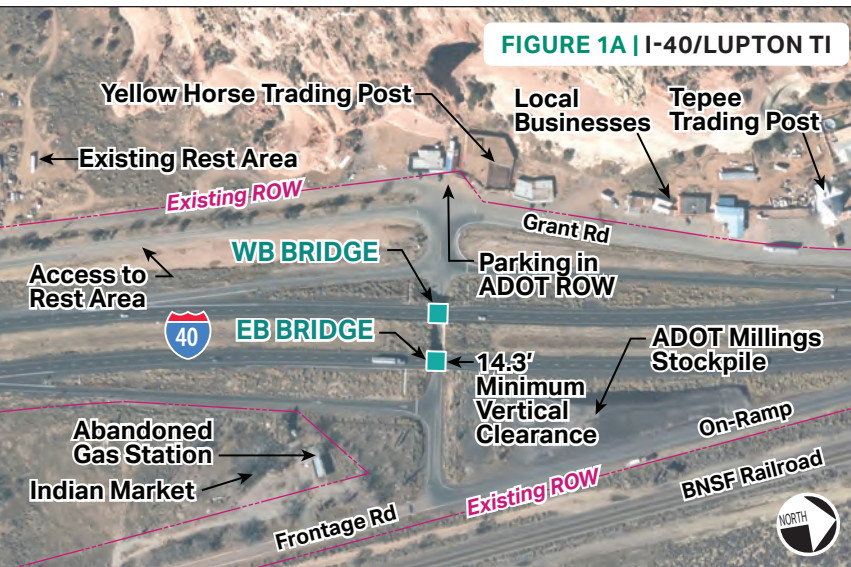


FIGURE 1A | I-40/LUPTON TI

MAJOR TASKS

- Prepare a PA with TI improvement recommendations
- Prepare a BSR with bridge concept recommendations
- Preliminary roadway, bridge, drainage, and traffic design
- Define the ROW
- Identify utilities in conflict
- Prepare environmental overview
- Prepare an Americans with Disabilities Act report if needed
- Prepare cost estimates for the recommended alternatives
- Prepare a phased implementation plan

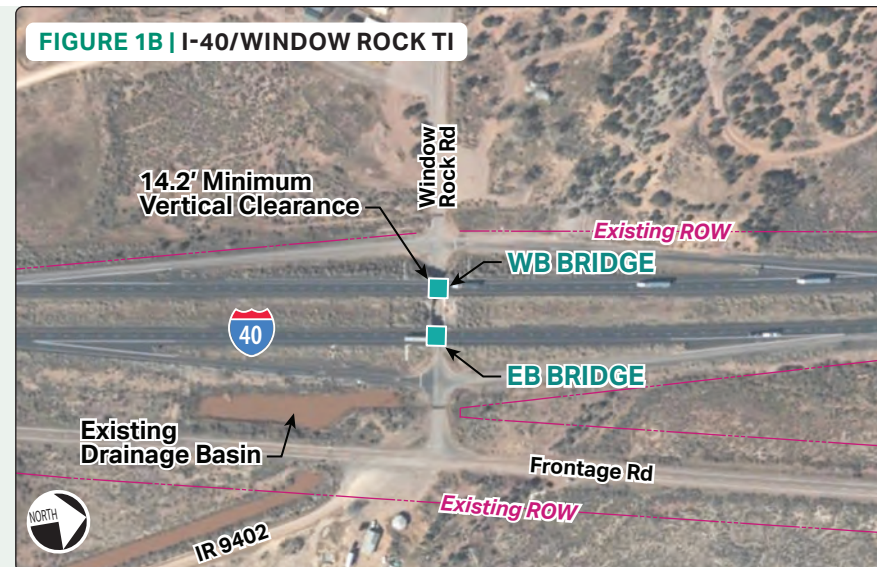


FIGURE 1B | I-40/WINDOW ROCK TI

1B. PROJECT APPROACH

TRAFFIC INTERCHANGES & ROADWAYS

▶ We will develop traffic interchange and roadway concepts that accommodate replacing the existing bridges as spot improvements and constructing the ultimate improvements in phases with the following goals:

- Improve traffic operations, especially for trucks, at the crossroads and ramps
- Improve pedestrian safety and business access
- Address seasonal flooding

The existing crossroads beneath the bridges have a clear width of 26 feet between curbs. The only accommodation for pedestrians is a 2-foot offset between the face of curb and face of adjacent retaining wall/abutment. The DCR typical section for the crossroad provides two 12-foot through lanes, two parallel left-turn lanes, 4-foot shoulders, curbs and gutters, and sidewalks along both sides. Per our discussions with ADOT PMG, we will re-evaluate the DCR concept to identify the minimum improvements needed to address traffic and safety needs, both now and in the future, without incurring unnecessary construction costs.

In further discussions with Northeast District, a three-lane crossroad section with a single sidewalk along one side was assessed to be more than sufficient to improve truck turning movements at the ramp intersections and provide safe passage for the relatively few pedestrians in the area (see **Figure 2**). This will be confirmed with detailed analyses during development of the PA.

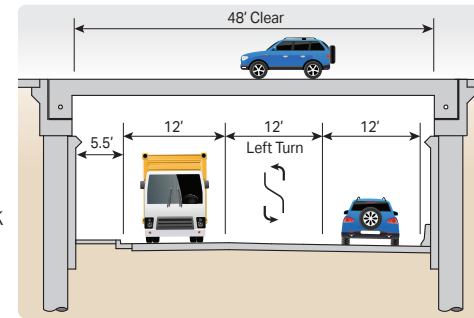
• Lupton TI

The three-lane crossroad concept (**Figure 2**) includes two 12-foot through lanes, an opposing 12-foot center left-turn lane, and a sidewalk along one side only. ▶ **This cross-section addresses the existing traffic issues and accommodates the ultimate improvements discussed below.** This concept maintains the existing crossroad profile but requires raising the I-40 profile grade by 2.5 feet WB and 1.9 feet EB to provide the required 16.5-foot vertical clearance. There is adequate space between the ramp back of gores to raise the profile so the ramp entrances and exits will not need to be reconstructed at their mainline intersections.

In a future project, traffic operations and business access on the north side of the TI can be improved by constructing a roundabout, as shown in **Figure 3A**. This would require reconstructing the WB ramp profiles to meet current ADOT design criteria, but ramp lengths would not be reduced. The crossroad and bridge geometrics discussed in this proposal accommodate a future roundabout or typical diamond TI but the final geometrics will be consistent with the final recommended future intersection concepts.

▶ Although roundabouts are shown here for discussion purposes, we will evaluate other alternative intersection layouts in the PA with respect to traffic operations, drainage impacts, temporary construction easement (TCE) needs, and construction costs (see **Table 2**). The preferred alternative at each TI will be selected in coordination with the ADOT team and will be used to establish minimum bridge span lengths.

FIGURE 2 | THREE-LANE CROSSROAD



• Window Rock TI

The crossroad typical section will be the same as at the Lupton TI and the crossroad profile grade will likewise remain unchanged. The profile grade of WB and EB I-40 will be raised between the ramp back of gores by 1.9 feet to provide the required 16.5-foot vertical clearance beneath the bridges. The ramp entrances and exits will not need to be reconstructed at their mainline intersections.

In a future project, left-turn movements and traffic operations on the south side of the TI can be improved by constructing a roundabout, as shown in **Figure 3B**. This would require reconstructing the EB ramp profiles to meet current ADOT design criteria, but ramp lengths would not be reduced.

FIGURES 3A & 3B | FUTURE LUPTON TI (LEFT) & WINDOW ROCK TI (RIGHT) ROUNDABOUTS

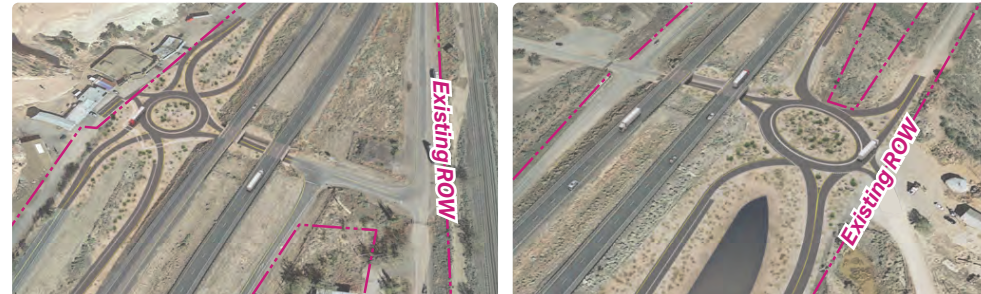


TABLE 2 | POSSIBLE INTERCHANGE ALTERNATIVES

TIGHT DIAMOND TI WITH ROUNDABOUTS	
✓	Shorter bridge span length
✓	Does not require depressed crossroad
✓	Avoids reconstructing existing drainage systems
✓	Provides improved turning for WB-67 trucks in the first phase
✓	Provides sidewalk
✓	Does not require reconstruction of the ramps in the first phase
✓	Does not require new ROW
✗	Roundabouts are not as friendly to pedestrians
TIGHT DIAMOND TI WITH FOUR-WAY INTERSECTION	
✓	Provides improved turning for WB-67 trucks in the first phase
✓	Provides sidewalk
✓	Provides dual opposing 12-foot left-turn lanes between the ramp intersections
✓	Does not require new ROW
✗	Longer bridge span length
✗	Requires depressed crossroad
✗	Wider crossroad footprint and depressed profile grade encroaches into steep ramp profile grades requiring reconstruction of all four ramps

• Traffic Analysis

We will perform both no-build and build traffic analyses for interchange alternatives during the PA process. The analyses will consider both existing travel conditions and statewide projections for the study area. We will give special consideration to the high percentage of trucks (43%). The recommended TI configurations will meet rural interchange criteria for level of service C or better.

We will coordinate the interchange type with FHWA to determine if there is a need for change of access.

STRUCTURES

The existing rigid-frame concrete bridges at both TIs were constructed in 1963. Per the most recent inspections in 2022, bridge conditions vary from fair to poor and sufficiency ratings vary from 93.7 to 63.3. The primary reasons for replacing the bridges are substandard vertical clearance (posted at 13'-10" and 13'-11") and the 30-foot span openings are unsafe for pedestrians when trucks are present.

Alternative bridge replacement concepts will be developed in the BSR compatible with the PA's recommended TI improvements and will be evaluated with respect to:

- Construction and life-cycle costs
- Constructability while maintaining traffic on I-40 and the crossroads
- Impacts on existing facilities such as offsite and onsite drainage

• Superstructure Type

The goals of minimizing profile adjustments to both the crossroads and I-40 can be met by constructing slab-type superstructures with depths as shallow as 1'-9" for cast-in-place/post-tensioned slabs and 2'-6" for conventionally reinforced slabs. Feasible superstructure alternatives are presented in Table 3. The I-40 bridges typical section is shown in Figure 4.

As discussed in the Maintenance of Traffic (MOT)/Sequence of Construction section (Page 8) a bridge slide may be the preferred construction approach. Because this approach allows time for cast-in-place construction, the cast-in-place/post-tensioned option appears at this time to offer the greatest benefit for the lowest cost. A cast-in-place slab can be constructed on falsework that maintains the existing vertical clearance. Feasible alternatives will be explored in the BSR in concert with refining the roadway and drainage improvement concepts.

• Foundations

As shown in Figure 5, new substructures will consist of a single row of drilled-shaft foundations supporting a cast-in-place concrete cap beam. A top-down construction approach will avoid temporary shoring and limit impacts to crossroad traffic during construction. The diameter and depth of the drilled shafts will be established following completion of the geotechnical investigation and foundation report during final design. The shafts will be located to avoid conflicts with the existing steel pile bridge foundations.

• Retaining Walls

If the bridge slide construction approach is selected, cast-in-place concrete fascia walls supported by drilled shaft foundations will be constructed along both sides of the crossroads in the median area between the new bridges. The shafts will serve as temporary foundations until the new superstructures are moved to their permanent locations. We will investigate concepts to minimize the costs of the retaining walls, including using tiebacks to reduce overturning forces. Concrete fascia rustication patterns will be presented for comment in the public information meetings held during final design.

TABLE 3 | FEASIBLE SUPERSTRUCTURE ALTERNATIVES

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Post-Tensioned (PT) Concrete Slab	<ul style="list-style-type: none"> ✓ Shallow structure depth ✓ Low maintenance 	<ul style="list-style-type: none"> ✗ Longer construction duration than a conventionally reinforced slab
Conventionally Reinforced Slab	<ul style="list-style-type: none"> ✓ Lower construction cost than the post-tensioned alternative 	<ul style="list-style-type: none"> ✗ Greater structure depth than the PT alternative ✗ Greater maintenance requirements than the PT alternative
Precast-Prestressed Slabs with Ultra High-Performance Concrete (UHPC) Joints	<ul style="list-style-type: none"> ✓ Shallow structure depth ✓ Short construction duration ✓ Opportunity for FHWA Every Day Counts (EDC) funding 	<ul style="list-style-type: none"> ✗ High cost ✗ More complex construction and risks ✗ Differential slab cambers may create an uneven driving surface
Precast-Prestressed Slabs with a Cast-in-Place Concrete Topping Slab	<ul style="list-style-type: none"> ✓ Short construction duration ✓ Less risk of camber issues than the UHPC option 	<ul style="list-style-type: none"> ✗ Greater structure depth than the UHPC alternative

FIGURE 4 | I-40 BRIDGES TYPICAL SECTION

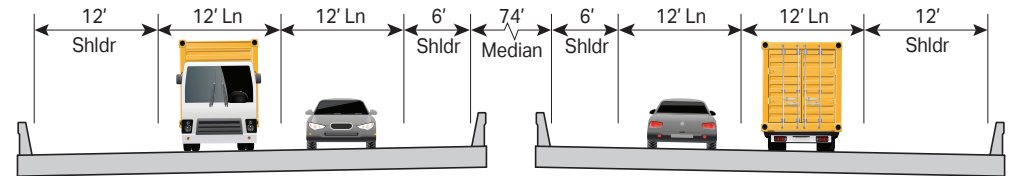
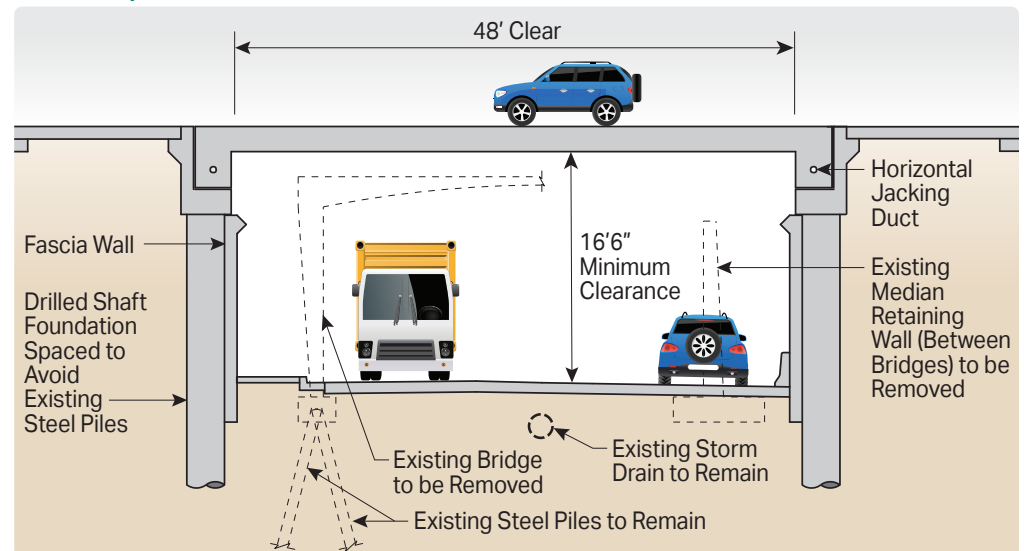


FIGURE 5 | TYPICAL BRIDGE REPLACEMENT



MAINTENANCE OF TRAFFIC/SEQUENCE OF CONSTRUCTION

Due to the high percentage of trucks (43%) and the importance of I-40 as an oversize/overweight vehicle corridor, it will be important to develop MOT concepts that avoid significant traffic impacts during construction. The advantages and disadvantages of two MOT alternatives are shown in **Table 4** (Page 9). For the Lupton TI and Window Rock TI bridge replacements, the typical MOT approach of constructing mainline crossovers is feasible but has the disadvantage of restricting at least one direction of I-40 traffic to one lane for several months. As an alternative, we developed an MOT approach using a bridge slide that provides two lanes of traffic and the same pavement width as existing I-40 for the duration of construction. The only exception would be a 12-hour overnight detour for bridge slide operations at each bridge location.

The roadway and structure concepts presented in this proposal are consistent with the bridge slide MOT approach. During development of the PA, we will investigate alternative MOT concepts, including crossovers, with respect to cost, construction duration, and traffic impacts during construction. The alternatives will be refined in coordination with the ADOT project team so the recommended concepts accurately reflect project development priorities.

▶ The bridge slide approach to MOT during construction has the following features:

- Provides two lanes of EB and WB I-40 traffic
- Maintains access for oversize/overweight vehicles
- Limits traffic impacts to one 12-hour detour at each bridge location

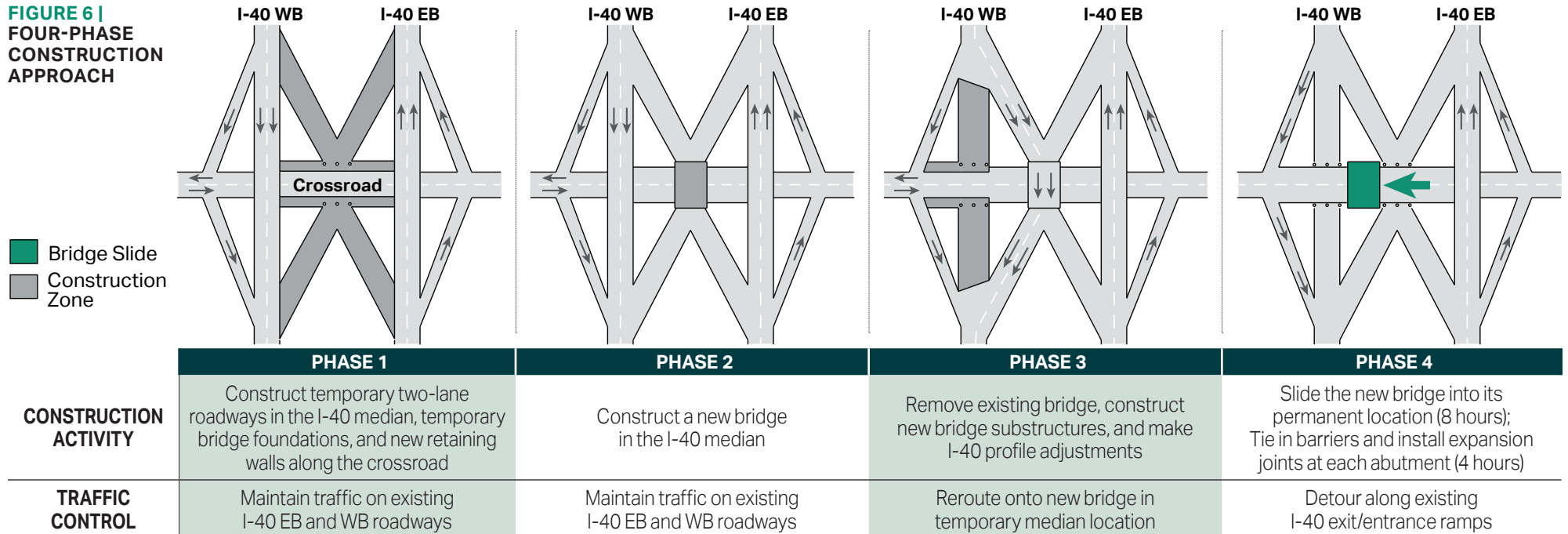
Using a bridge slide involves a four-phase MOT and construction approach for both the Lupton TI and the Window Rock TI (see **Figure 6**). Construction of the Phase 1 improvements are only required once at each TI followed by Phases 2–4 for each direction of I-40. Crossroad roadway and drainage improvements are constructed in Phases 1 and 2 concurrently with the bridge foundations and retaining walls.

The two-lane temporary roadways in the I-40 median will have the same lane and shoulder widths as the existing mainline roadways. Oversize truck traffic on I-40 will not be impacted by construction activities except during the 12-hour detour periods. The date and timing of each detour will be advertised at least 6 weeks in advance on both the Arizona and New Mexico sides of the state border.

At the EB Lupton TI bridge, the existing EB exit and entrance ramps are not aligned at the crossroad (see **Figure 1A**, Page 5). During the PA phase, we will determine if temporary roadway improvements are needed to avoid backups on EB I-40 during the detour. The land between the entrance ramp and EB I-40 mainline is within ADOT ROW and could be used to construct a temporary connection if needed.

▶ As shown in Section 3B (Page 13), we have recent experience with the design and execution of bridge slides, including the I-40/4th Street Bridge in Flagstaff and the 14-span SR 79 Gila River Bridge in Florence.

FIGURE 6 | FOUR-PHASE CONSTRUCTION APPROACH



MAINTENANCE OF TRAFFIC/SEQUENCE OF CONSTRUCTION (CONTINUED)

MOT and construction phasing alternatives discussed in **Table 4** will be evaluated based on traffic needs, costs, and Northeast District goals.

TABLE 4 | MOT ALTERNATIVES

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Bridge Slide	<ul style="list-style-type: none"> ✔ Uses retaining walls to support the bridge in temporary condition ✔ Walls eliminate overflow drainage onto cross street ✔ Temporary abutment in the median can stay in place for future widening ✔ Reduced duration of impacts to traffic ✔ Maintains two lanes of traffic in each direction on I-40 at all times 	<ul style="list-style-type: none"> ✘ May have slightly higher cost for median walls and for slide (MOT cost savings due to shorter duration of traffic restrictions will help offset this additional cost)
Crossovers (Two or Four)	<ul style="list-style-type: none"> ✔ Reduced wall cost since it doesn't need to support a temporary bridge ✔ Reduced bridge cost because it avoids the need for a temporary abutment in the median 	<ul style="list-style-type: none"> ✘ Increased MOT cost due to longer duration of traffic restrictions ✘ Increased duration of impacts to traffic ✘ Shoulders and rumble strips require reconstruction ✘ Can only maintain a single lane of traffic in each direction on I-40

RIGHT-OF-WAY

➤ **We developed concepts to avoid relocation of the Lupton TI as recommended in the DCR. No new ROW will be required to replace the existing bridges at either of the TIs.** We will develop alternatives for constructing future interchange improvements within the current ROW. The roundabouts shown on Page 6 would be constructed entirely within the existing ADOT ROW. Our concepts for replacing the existing bridges as spot improvements do not require new ROW or TCEs.

DRAINAGE ANALYSIS & DESIGN

• **Offsite Drainage**

Offsite flows from the northwest cross under I-40 through culverts beneath the mainline and through the openings beneath the existing underpass bridges. The existing TI drainage systems are inadequate for these flows so seasonal flooding is an important project issue. One of the project goals is to increase the vertical clearance beneath the bridges. The DCR proposed lowering the crossroads, but this would require removing the existing crossroad storm drains and replacing them with deeper pipes and additional inlets.

➤ *We propose increasing the vertical clearance by adjusting the I-40 mainline profiles and minimizing the structure depths. This will avoid the significant expense of reconstructing the existing onsite drainage systems, including altering the discharge location at the Lupton TI. Seasonal flooding will be eliminated by constructing additional inlets.*

Our preliminary design of onsite drainage improvements will consider the condition and hydraulic capacity of existing storm drains, address existing flooding issues, and consider long-term maintenance requirements.

The Puerco River (Rio Puerco) receives flows from both traffic interchanges. The Rio Puerco floodplain, southeast of the I-40 mainline and BNSF tracks, has not been mapped by FEMA, but was mapped for a 1977 report prepared for the Navajo Nation. Based on that report, the DCR stated that the Rio Puerco 100-year water surface is sufficiently below anticipated catch basins and storm drains at both TIs. We will confirm this during the study process.



Additional inlets can be installed at the TIs and tied into the existing storm drain system to mitigate the current flooding issues.

• **Lupton TI**

The existing crossroad has a sag curve approximately midway between the I-40 EB and WB roadways. If the crossroad and existing storm drain pipe are lowered to provide sufficient vertical clearance beneath the new bridges, the existing Lupton TI storm drain outfall into Lupton Wash will be above the elevation of the deepened storm drain. The DCR recommended constructing a new storm drain, approximately 1,400 feet long, that would be jacked and bored under the BNSF railroad to discharge into Rio Puerco.

Our preliminary analyses indicate the required minimum vertical clearance can be achieved without lowering the crossroad by adjusting the I-40 mainline profile and minimizing the structure depth. Additional inlets can be installed and tied into the existing storm drain system to mitigate the current flooding issues. The existing storm drain outfall into Lupton Wash can remain.

➤ *Avoiding the need for a jack-and-bore crossing of the railroad will provide substantial cost savings, simplify future maintenance, and avoid the need for a permit agreement with BNSF.*

• **Window Rock TI**

The existing crossroad was constructed on a continuous grade sloping toward the southeast with no sag curves within the TI. The existing storm drains can be kept in service if the crossroad is not lowered. Additional roadway catch basins will be installed at each ramp terminus. The existing I-40 embankment spillway runoff will be intercepted by new area inlets located behind the curb at each ramp terminus.

GEOTECHNICAL

The project area is mapped as sandstone and siltstone and rock is exposed in many locations. The TIs are located in a valley that has been eroded and infilled with materials washed down from the adjacent hills and from contributing washes, including Lupton Wash. The intact sandstone and siltstone within the project area is generally moderately hard-to-hard, is horizontal to slightly dipped, and will likely provide excellent support for bridge foundations.

Based on the geologic conditions described above, we anticipate that drilled shafts extending into the underlying rock within drilled shaft rock sockets or ending on either rock or dense alluvium will be feasible and economical for support of the new bridges. Groundwater and caving soil conditions will likely be encountered during drilling so casing and/or slurry will likely be required. Drilling of test holes at all four corners of the existing interchanges appears feasible with minimal impacts to traffic.

Tasks during the PA phase will include reviewing the as-built drawings, visiting the site with ADOT Geotechnical Design, and identifying potential borrow sources in the project vicinity. Final design will include a geotechnical investigation with deep test borings at each foundation location as well as shallow borings for roadway improvements. We will perform laboratory testing of the soils and rock sampled, and prepare draft and final geotechnical reports. We will also develop a Bridge Foundation Report to provide design recommendations for bridge foundations and retaining walls, and provide subgrade test data to ADOT Pavement Design for their use in preparing a Pavement Design Summary and Materials Design Report.



The area's intact sandstone and siltstone will likely provide excellent support for bridge foundations.

UTILITIES

• Lupton TI

The following utilities are within the improvement limits:

- ADOT underground electric (lighting)
- Table Top Telephone Company Inc. (TTTC) overhead communication
- Navajo Tribal Utility Authority (NTUA) overhead single- and three-phase power

ADOT's underground electric lines will be in conflict with replacing the bridges and will be relocated. The TTTC and NTUA facilities will not be disturbed.

• Window Rock TI

The following utilities are within the improvement limits:

- TTTC overhead communication lines
- NTUA overhead single- and three-phase power

TTTC facilities are supported on the same poles as the NTUA overhead power lines crossing the I-40 mainline west of the TI. We will evaluate these for adequate vertical clearance if adjustments are made to the mainline profiles. Overhead power and communication lines serving the BNSF signal south of the interchange will be protected in place during construction.

ENVIRONMENTAL

During the pre-design phase, AECOM will inventory existing conditions to identify environmental constraints, assess potential impacts from the project, and recommend mitigation strategies. Our approach will focus on an environmental overview (EO) and field surveys during the pre-design phase. This approach is consistent with projects that require development of a PA. Once the initial PA is available, we will initiate impact analyses and prepare National Environmental Policy Act (NEPA) technical studies. We will investigate biological, cultural, hazardous material, noise, air, and water resource impacts and permitting needs to identify the level of concern and compliance requirements. Environmental field surveys will commence as soon as we identify an environmental study area and will be used alongside the April 2012 Draft Environmental Assessment (EA) on file with ADOT Environmental Planning (EP) to prepare an EO. Impact analyses and NEPA technical studies will commence as soon as a preferred alternative and project footprint are available.

Any need for new ROW from the Navajo Nation, including allottee land, would affect the scope and schedule of the environmental review process. It is anticipated the project would qualify as an individual Categorical Exclusion (CE). By avoiding new ROW from Navajo tribal and allottee land, ADOT will minimize impacts to the environment and surrounding Navajo Nation community. Acquiring ROW and easement from allottee parcels is subject to U.S. Bureau of Indian Affairs (BIA) procedures and approval.

Close coordination with the Navajo Nation and BIA will be important to the project's success. Initiating agency scoping during the pre-design phase will facilitate a full understanding of the project issues, concerns, and environmental review requirements. We will implement formal consultation with the Navajo Nation Department of Fish and Wildlife and Navajo Heritage and Historic Preservation Department to understand biological and cultural resources that would potentially be affected, including plant and wildlife species used for sustenance and ceremonial purposes by the Navajo Nation. A cultural resources assessment could require a Class III survey. There may be cultural sites within the project limits, and impacts may be unavoidable. Accordingly, AECOM will support the ADOT Historic Preservation Team in considering potential impacts on cultural resources in compliance with Section 106 of the National Historic Preservation Act and Navajo Cultural Resources Protection Act, and provide input for the NEPA document.

As part of the AECOM team, Dinétahdó Cultural Resources Management, LLC (DCRM) will conduct any required cultural resource surveys. DCRM, a Navajo-owned firm certified under the Navajo Business Act, has completed hundreds of cultural resources studies on the Navajo Nation reservation since 2002. DCRM staff are experts in documenting archaeological and historical sites and traditional Navajo cultural properties.

PROJECT COORDINATION & COMMUNICATION

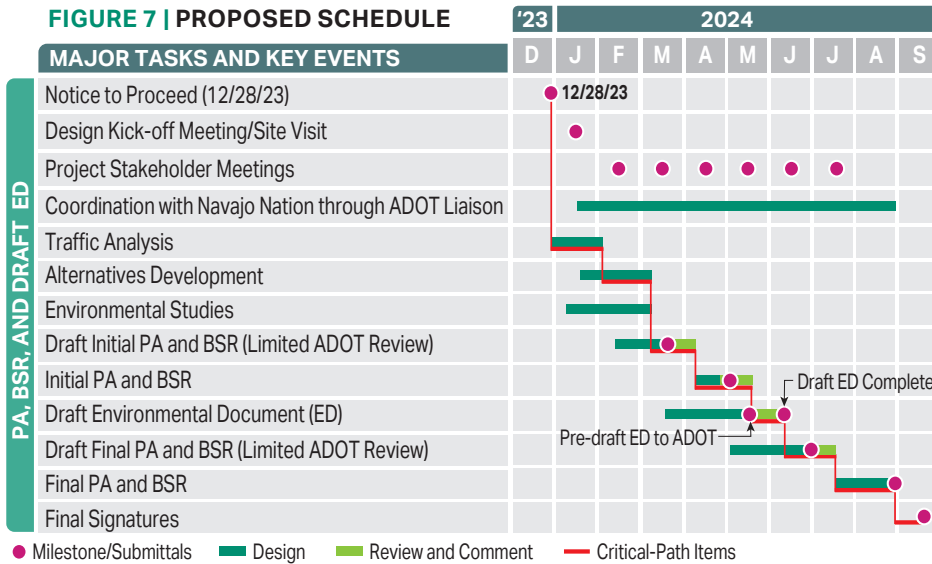
We understand the importance of effective communication and coordination with the ADOT project team, particularly during the pre-design phase, to meet ADOT's goals and needs. **Coordination with the Navajo Nation will be through ADOT's tribal liaison, Paula Brown.** Our project management approach will emphasize continuous communication, including both informal and regularly scheduled meetings, to facilitate timely decision-making and keep the project moving in the right direction at all times.

2 PROJECT RISKS & SCHEDULE

SCHEDULE MANAGEMENT

ADOT's construction funding is programmed for FY 2027. **We developed a 9-month schedule that allows ADOT to move forward with final design and advertise a year early (in FY 2026) if funding becomes available** (see **Figure 7**). Our PM, Rob Ringwald, will develop a detailed schedule and communicate the schedule requirements to all team members, and monitor progress. He will hold regular meetings with discipline leads (including subconsultants) to keep the project on schedule and meet overall project goals. Rob will set intermediate deadlines, facilitate communication between disciplines, and confirm that proper coordination is occurring with stakeholders and reviewers. He will provide monthly schedule updates to the ADOT PM, Tricia Brown.

FIGURE 7 | PROPOSED SCHEDULE



AECOM STRATEGIES TO AVOID SCHEDULE SLIPPAGE

- Build early consensus on the project goals and concepts with ADOT and the other stakeholders
- Avoid the need for new ROW and BNSF agreements
- Identify and resolve new issues before they impact the schedule
- Initiate early coordination with the Navajo Nation through ADOT's liaison, Paula Brown
- Coordinate advance signing with New Mexico DOT through AECOM's New Mexico office
- Track the earned value of progress to identify potential schedule issues early
- Track risks and risk mitigation throughout project delivery
- Mitigate schedule slippage by shifting priorities and supplementing staff
- Initiate critical path items as early as possible
- Use AECOM's proven QA/QC processes to do it right the first time

RISK MITIGATION

Our Risk Register (see **Table 5**) highlights some of the key risks our team has identified, along with potential mitigation measures. These and other risks will be discussed at the project kickoff meeting. The risk register will be updated and discussed at each monthly project meeting. New risks will be added as identified. **We will work with ADOT PMG, Northeast District, Bridge, ROW, U&RR, EP, and other key stakeholders to track each risk with the goal of retiring risks as we progress through the project design.** Our design alternatives will consider these risks and the more inclusive list developed at the kickoff meeting. Our approach to developing design solutions considers both design and construction risks to minimize impacts to scope, schedule, safety, and budget.

Potential Risk	Pre-Mitigation	Impacts				Mitigation Strategies	Post-Mitigation
		Scope	Schedule	Budget	Safety		
Inadequate project funding	H	✓	✓	✓	Per discussions with ADOT PMG and Northeast District, we will develop an implementation plan to replace the bridges in an initial spot improvement project and construct additional improvements to the TIs and ramps in a future project when additional funding becomes available. In addition, the bridge slide alternative may qualify the project for additional FHWA EDC funding.	L	
Traffic delays	H			✓	The bridge slide MOT and construction approach maintains two lanes of I-40 traffic at all times with the exception of one 12-hour detour at each bridge location. We will develop and refine additional alternative MOT strategies with input from ADOT and stakeholders with the goal of balancing impacts on traffic operations with project costs.	L	
Obtaining new ROW or TCEs from Navajo Trust/ Allottee lands	H	✓	✓		We will avoid alternatives that require new ROW or TCEs involving Navajo land.	L	
Delays in schedule due to agreements with the BNSF Railway	M	✓	✓	✓	Our proposed concepts address drainage issues at the TIs without the need to jack and bore a storm drain pipe below the BNSF railroad.	L	
Operations and safety due to high volume of truck traffic at TIs	M			✓	Our proposed bridge replacement concepts allow future construction of crossroad improvements, including roundabouts, while addressing truck turning movements and pedestrian safety in the initial bridge replacement project.	L	
Flooding of crossroad if the road is lowered	M	✓	✓	✓	The proposed bridge and TI concepts achieve sufficient clearance without having to lower the crossroad or the existing storm drain.	L	
Inaccurate cost estimates and constructability challenges	H	✓	✓		Subconsultant Infrastructure Mavens (IM) will review improvement concepts for constructability and will assist in developing accurate construction cost estimates in each phase of project development	M	

3 PROJECT TEAM EXPERIENCE & AVAILABILITY

3A. KEY PERSONNEL EXPERIENCE



Project (Contract) Manager
ROBERT RINGWALD, PE, SE

BSCE • MSSE • 33 Years
PE AZ #33244
SE AZ #31194



- ✓ PM for nine ADOT bridge projects on I-40 over the last 8 years, including the I-40/4th Street Bridge and I-17/I-40 Bridge Deck Replacement
- ✓ Managed two successful bridge slide projects, including the 1,400-foot-long SR 79 Gila River Bridge
- ✓ Led the design of more than 40 bridges
- ✓ Completed 15+ PAs for ADOT
- ✓ Engages stakeholders to build consensus and develop innovative solutions
- ✓ Expert in developing bridge construction phasing concepts

Rob's Current Commitments • 85% Available

- US 191, Cochise Railroad Bridge, 1% (PS&Es due prior to NTP for this project)
- Other, 14%

Rob's Relevant Experience • Rob exceeded quality, schedule, and responsiveness expectations throughout design and construction:

- **PM, ADOT I-40 Willow Creek Bridge Nos. 1, 3, 4, and 5 Rehabilitation** (PA, Final Design) • **Delivered on schedule and under budget**
- **PM, ADOT SR 79 Gila River Bridge Replacement** (CMAR, PA, Final Design) • **Delivered 2 months ahead of schedule and under budget**
- **PM, ADOT I-40 4th Street Bridge Replacement and Butler Avenue Bridge Rehabilitations** (Final Design) • **Delivered 2 weeks ahead of an aggressive 9-month design schedule, even after a major change to include bridge slide-type construction after Stage II**
- **PM, ADOT I-17/I-40 Bridge Deck Replacement** (PA, Final Design) • **Delivered ahead of schedule to allow completion of bid, contractor NTP, and approval of contractor submittals prior to limited summer construction window**
- **PM, ADOT I-40 Big Sandy and Peacock Wash EB and WB Bridge Deck Replacements** (two projects, PA, Final Design) • **Met schedule and budget**
- **PM, SR160, Chinle Wash Bridge** (PA on Navajo Nation) • **Completed in a little over 4 months**

FIGURE 8 | TEAM ORGANIZATION



SUBCONSULTANTS | Ethos Engineering, LLC (DBE) • Infrastructure Mavens, LLC • Dinétahdóó Cultural Resources Management LLC (DCRM)

% Available/Committed

TABLE 6 | AECOM TEAM QUALIFICATIONS & EXPERIENCE






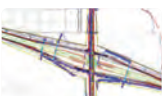


Key Personnel • Credentials	Value to ADOT
Chris Labye • 10% Quality Manager 26 Years • BSCE • PE AZ #37863	<ul style="list-style-type: none"> • AECOM-certified quality control or assurance reviewer for more than 16 years (Phoenix and Tucson offices) • Quality manager for ADOT roadway and bridge projects, DCR/ED studies, and final design projects
Niel King • 60% Roadway 16 Years • BSCE PE AZ #53204	<ul style="list-style-type: none"> • Roadway Lead on numerous ADOT projects, including the I-40 E Kingman TI OP WB Bridge • ADOT roadway design experience includes alternative modeling, geometry, exhibit/plan production, and earthwork calculations
Russ Stuart • 70% Structures 28 Years • MSCE • PE AZ #32342	<ul style="list-style-type: none"> • Structures lead for ADOT projects, including two bridge slides • Knowledgeable about bridge types and retaining walls commonly used in Arizona, as well as shallow and deep foundations for bridges and walls
Dan Stough • 50% Drainage Lead 31 Years • BSCE • PE AZ #26882	<ul style="list-style-type: none"> • Experienced with HEC-RAS, culvert design, storm drain layout, and final design for 48 ADOT projects, including several sections of I-40 • 30 years of professional drainage design experience on ADOT rural highway and urban freeway projects

Key Personnel • Credentials	Value to ADOT
Kate Bondy • 80% Traffic/MOT Lead 20 Years • BSCE • PE AZ #45815 • PTOE #3160	<ul style="list-style-type: none"> • Recent traffic lead role and MOT design on the I-17/I-40 Bridge Replacement and I-17/JW Powell Boulevard projects • Successfully prepared six recent Change of Access Reports and obtained FHWA approval
Tom Wolf • 50% Utilities 16 Years • BSCE • PE AZ #54085	<ul style="list-style-type: none"> • Extensive experience coordinating utilities on ADOT corridor projects • Works with local agencies and utility stakeholders • Understands processes for gaining timely utility clearances
Mark Heisler (IMavens) • 40% Cost Estimating 46 Years • BSCE	<ul style="list-style-type: none"> • Provides constructability review, cost estimating, phasing, scheduling, and value engineering for ADOT roadway projects • 46 years of ADOT experience, including managing construction on urban freeway, major highway and street, and flood control projects
Scott Blackman • 50% Environmental Lead 24 Years • BS Wildlife Biology	<ul style="list-style-type: none"> • Wide range of experience successfully completing and guiding clients through the NEPA compliance process • Managed numerous state and federal projects with endangered, threatened, and sensitive species

3B. RECENT RELEVANT PROJECTS

The AECOM team checks all of the boxes when it comes to the relevant experience needed for this project (see **Table 7**). The design for all of the projects listed below was completed on or ahead of schedule and within budget.

TABLE 7 | AECOM TEAM'S RELEVANT EXPERIENCE

Project Details			Relevant Features													Team Involvement							
AECOM Contract	Owner	Firm Role	PA or DCR	Bridge Selection Report	Alternatives Evaluation	Crossover Design	Phased Construction	MOT	Drainage/Hydraulics	Environmental	Traffic Analysis	Utilities	Stakeholder Coordination	Robert Ringwald	Chris Labye	Niel King	Russ Stuart	Dan Stough	Kate Bondy	Tom Wolf	Ethos Engineering	Infrastructure Mavens	
<p><i>"AECOM and Robert Ringwald's group was great to work with on the I-40 bridge deck replacement project for the I-17 and Beulah Drive overpasses. Robert's group used their honed problem-solving skills and engineered solutions to problems not standard on most bridge deck replacement projects."</i></p> <ul style="list-style-type: none"> Nate Reisner, ADOT Northcentral District Transportation Engineer 																							
 I-40, 4th Street Bridge Replacement • Used phased construction and cross-over traffic control on I-40 to replace two bridges on 4th Street. ABC methods with a bridge slide reduced closure durations on 4th Street to only 2 weeks.	\$1.2M	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 I-40/I-17 Bridge Deck Replacement • Replaced bridge decks on three bridges and rehabilitated a bridge over I-17, including complex shoring of the existing bridges and phased traffic control.	\$961k	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 I-40, East Kingman TI Overpass WB Bridge Rehabilitation • Replaced existing bridge deck using two-phased construction with crossover traffic control and complex shoring of the existing bridge	\$418k	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 I-40 EB/WB Peacock and Big Sandy Wash • Evaluated deck rehabilitation alternatives for four 50-year-old bridges. Cross-over traffic control allowed full access to the bridges during the deck replacements.	\$234k	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 SR 79 Gila River Bridge • Superstructure assessment and full bridge replacement of an existing 1,507-foot-long, 30-span bridge built in 1957. An evaluation of the FHWA ABC method was included.	\$2.5M	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 I-40 Rancho Santa Fe Parkway TI • Evaluated options and designed a new TI and 3.5 miles of arterial street connections to improve access to the east Kingman area and relieve congestion at the I-40/SR 66 TI.	\$3M	ADOT Kingman	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 Kingman Crossing TI • Evaluated options and designed a new TI and arterial street connections to improve access to the east Kingman area and relieve congestion at the I-40/SR 66 TI (1.5 miles west of the Rancho Santa Fe Parkway TI).	\$1.6M	Kingman	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 I-17/JW Powell Boulevard • Intersection reconstruction, including two new single-lane roundabouts, realignment of SR 89A, ramp reconstruction connecting to I-17, and design and capacity evaluation of the roundabout intersection.	\$1M	ADOT	Prime	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

3C. SUBCONSULTANT EXPERTISE

Our team includes three subconsultant firms for their technical experience, specialized resources, staffing capacity, and an outstanding record of performance regarding quality of work, meeting schedules, and responsiveness.

• Dinétahdóó Cultural Resources Management, LLC (DCRM) Cultural Resources

DCRM is a 100% Navajo owned and controlled business under the Navajo Business Act. The firm performs resources evaluations under Sections 106 and 110 of the NHPA and is familiar with procedures for completing cultural resource inventory and evaluations. **▶ DCRM understands Navajo TCP and has completed hundreds of cultural resources inventories on the Navajo Nation.**

• Ethos Engineering, LLC Geotechnical/Pavement



Ethos staff have managed geotechnical design services for more than 500 ADOT projects, including the North Park TI in Winslow, the B-40 East Flag TI and Rio De Flag Bridges in Flagstaff, and two bridge replacements on US 180 near Holbrook. **▶ Ethos has teamed with AECOM on multiple projects on I-40, including the I-40, 4th Street Bridge Replacement and I-40 East Kingman TI Overpass.**

• Infrastructure Mavens, LLC Constructability • Cost Review

IMavens provides a wide range of support and advisory services related to transportation infrastructure with a focus on constructability and cost review, value engineering, risk analysis, and cost estimates and trends. Its team members bring a combined 110 years of ADOT construction experience.

▶ IMavens has teamed with AECOM on similar projects, including the I-40, 4th Street Bridge Replacement and I-40 Kingman TI Value Engineering Study.



85%

ROBERT RINGWALD, PE, SE

PROJECT (CONTRACT) MANAGER

Education:

- MSE, Structural Engineering, Arizona State University
- BSE, Civil Engineering, Arizona State University

Registrations:

- Professional Engineer (Structural), AZ #31194
- Professional Engineer (Civil), AZ #33244

Years of Experience: 32

Company Title: Associate Vice President

responsible for operational oversight of the Arizona and Utah structural teams

VALUE TO ADOT

- Managed nine ADOT bridge projects on I-40 over the last 8 years
- Managed two successful bridge slide projects, including the 1,400+ long SR 79 Gila River Bridge
- Led the design of more than 40 bridges
- Responsive to ADOT requests and contractor submittals/RFIs
- Engages stakeholders to build consensus and develop innovative solutions
- Expert in developing bridge construction phasing concepts

PROJECT EXPERIENCE



I-40, Willow Creek Bridge Nos. 1, 3, 4, and 5, PA, Final Design, PDS, AZ, ADOT. Project Manager. This \$7M project replaced or rehabilitated the existing bridge decks of Willow Creek Bridge Nos. 1, 3, 4, and 5. The

improvements at Bridge No. 1 included a longitudinal and transverse joint repair; Bridge No. 3 received an epoxy overlay; and Bridge Nos. 4 and 5 received full deck replacements that were phased with single-lane closures. The abutment bearings were replaced at all bridges. Phased deck construction and temporary loading were used to balance the loads on the existing piers during construction. The project included ROW, utility, and environmental clearances. Section 404 permitting was required to allow construction access in the creek. **➤ This project received an A++ rating from the ADOT PM.**

"AECOM has done an A++ job completing the Willow Creek Bridges project on schedule, within budget, and with an outstanding level of quality. Besides thoughtful bridge design work, AECOM coordinated and prepared a complex and challenging construction schedule for four bridges on I-40. AECOM also prepared and presented a quality project handoff document for this project. This document was recently recommended by Northwest District for using as an example on another project. AECOM provided excellent customer service."

• **Rashidul Haque, ADOT Project Manager**



I-40, EB Big Sandy and Peacock Wash Bridges Retrofits, PA, Final Design, PDS, AZ, ADOT. Project Manager. This \$4.1M, 2.61-mile project replaced the existing bridge decks and applied an epoxy overlay to

existing steel girder bridges. Cross-over traffic control was used to allow full access to the bridges during replacement of the bridge decks. Each pier was retrofitted with scour protection slabs, which required Section 404 permitting. **➤ This project is an example of AECOM's ability to provide engineer's estimates within 5% of the bid, avoiding issues with reallocation of ADOT funds.**



I-40, WB Big Sandy and Peacock Wash Bridges Retrofits PA, Final Design, PDS, AZ, ADOT. Project Manager. This 2.61-mile project replaced the decks of two existing steel girder bridges. Epoxy overlays were applied to the new deck to increase their service life.

Crossover traffic control was used to allow full access to the bridges during the deck replacements. Each pier was retrofitted with scour protection slabs, which required Section 404 permitting. **➤ This project was delivered on time and within budget.**



I-40, 4th Street Bridge Replacement and Butler Avenue Bridge Rehabilitation (PA, Environmental Document, Final Design, and PDS), Flagstaff, AZ, ADOT. Project Manager. This project used phased construction and crossover traffic control on

I-40 to replace two bridges on 4th Street and place a bridge deck overlay on the Butler Avenue bridges. The bridge replacements used ABC with a bridge slide to reduce closure durations on 4th Street to only 2 weeks. The project included the design of overlays and new bridges, including the bridge slide, coordination with ADOT reviewers and ADOT C&S, and coordination to obtain all clearances. **➤ AECOM produced the PS&E package (NTP to bid advertisement) in 10 months. The project was bid 2 weeks ahead of schedule.**

Awards: 2021 WASHTO Region Award for Quality of Life/Community Development • 2022 AZ Public Works Project of the Year – Transportation • ACEC Grand Award and Clifford C. Sawyer Achievement Award.



SR 79, Gila River Bridge Replacement PA, ED, and Final Design, AZ, ADOT. Project Manager. This CMAR project replaced the existing 1,507-foot-long, 30-span bridge built in 1957. The bridge replacement used the ABC bridge slide method of construction. The

project included Section 404/401 permitting, major utility relocations, development of a utility corridor and ROW acquisition (including ASLD). The project includes eight FHWA EDC innovations and a 5% FHWA increase in funding. **➤ AECOM worked with the CMAR contractor to develop an access plan to construct the bridge in the riverbed.**

ROBERT RINGWALD, PE, SE

Page 2



I-17/I-40 System Interchange, Bridge Rehabilitation, PA, Environmental Document, and Final Design, Flagstaff, AZ, ADOT. *Project Manager.* This \$10.1M project included

replacement of bridge decks on the I-40 WB bridge over I-17, I-40 WB bridge over Beulah Boulevard/Sinclair Wash, and the I-40 EB bridge over Beulah Boulevard/Sinclair Wash. It also included a deck rehabilitation of the I-10 EB Bridge over I-17 with a PPC overlay and miscellaneous upgrades. AECOM obtained environmental, utility, and ROW clearances ahead of schedule. A Section 404 permit was obtained for the construction in Sinclair Wash. **▶ AECOM received a perfect client survey score of 10 out of 10.**

"AECOM and Robert Ringwald's group were great to work with on the I-40 bridge deck replacement project for the I-17 and Beulah Drive overpasses. Robert's group worked well with our agency partners within the City of Flagstaff. They involved ADOT's partners with the design and addressed issues that were important to all partners. Robert also assisted ADOT C&S and the District to resolve a preserved contract time issue prior to the bids being opened, saving the project from a potential rebid."

• **Nate Reisner, ADOT Northcentral District**



SR 202L, Red Mountain Freeway/Gilbert Road to Santan Freeway/I-10 HOV Lanes DCR, ED, Chandler, Gilbert and Mesa, AZ, ADOT. *Project Manager.* This project

consisted of 39 miles of freeway

widening and included HOV directional ramps at the I-10, SR 101L, and US 60 system interchanges. The project stakeholders included the City of Chandler, Town of Gilbert, City of Mesa, MAG, UPRR, Salt River Project, USACE, AGFD, Gila River Indian Community, and Salt River Pima-Maricopa Indian Community. **▶ AECOM received a final evaluation score of 153 of 155 points from the ADOT PM.**

AECOM



SR 101L (Price Freeway) DB, Baseline Road to SR 202L, Chandler, AZ, ADOT. *Design Manager.* This DB project

improved 6.4 miles of the SR 101L (Price Freeway) from just north of Baseline Road (MP 55) to the SR 202L

(MP 61). The project included widening the SR 101L to add one general-purpose lane in each direction. The project included outside widening, bridge widenings, and modifications to ramps at nine service interchanges. AECOM provided a DCR and environmental document, and served as the lead designer on the DB project. **▶ AECOM completed the majority of design in 4 months. The project was completed on schedule and within budget.**



SR 101L (Pima) GPL, Shea Boulevard to SR 202L Stage II Design, Scottsdale and Salt River Pima-Maricopa Indian Community, AZ, ADOT. *Project Manager.* This project

included 11 miles of freeway widening to accommodate future GPLs. The 11 bridge widenings included bridges over watercourses that required Section 404 permitting. The alternatives analysis considered direct connect ramps and flyover bridges. The project included major coordination with City of Scottsdale, MAG, and FHWA.

"Rob, thanks for the quality of work and your responsiveness in reference to the submittal of the SR 101L Stage II Design on October 28, 2 months ahead of schedule."

• **Ronald McCally, former ADOT PM**



US 160, Chinle Wash Bridge Replacement PA, AZ, ADOT. *Project Manager.* This project evaluated

structural improvements that included widening the existing bridge, replacing the superstructure, and replacing the

entire three-span steel girder bridge. The MOT alternatives included phased bridge construction and using a single lane with signals on each end of the construction zone. The project was located on the Navajo Nation. **▶ The PA was completed on time and within budget.**



Cotton Lane Bridge over the Gila River CMAR, Goodyear, AZ, MCDOT. *Project Manager.*

Managed MCDOT's first CMAR project. The project

consisted of preliminary and final design of the 2,070-foot-long Gila River Bridge, the BID Canal Bridge, 2 miles of roadways, the Cotton Lane/MC 85 Intersection, and the Cotton Lane/Estrella Mountain Intersection. The alternatives analysis included evaluating multiple bridge location, bridge type, bridge aesthetics, bank protection, and channelization options. The project required coordination with UPRR, APS, Buckeye Irrigation District, Flood Control District of Maricopa County, Goodyear, USACE, EPA, AGFD, ADOT, Arizona State Land Department, King Ranch, Estrella Mountain, and the State Historic Preservation Office. **▶ The project included bridge design, Section 404/401 permitting, extensive hydraulic analysis, roadway design, construction access, and clearances.**



US 60 Queen Creek Arch Bridge Evaluation Report, AZ, ADOT. *Project Manager.* This

project included the structural evaluation of a

380-foot steel arch bridge constructed in 1949. Defects in the floor beams were identified in an in-depth inspection performed by AECOM. Non-destructive testing was used to verify the limits of the defects. AECOM used a 3D structural model to evaluate the bridge and floor beams for the reduced section properties due to the defects. The results and recommendations of the study were documented in a Bridge Evaluation Report.

▶ Timely completion improved the safety of the traveling public.



CHRIS LABYE, PE
QUALITY MANAGER

Education:

- BSE, Civil Engineering (emphasis in structural engineering and post-graduate work in geotechnical engineering), University of Colorado at Boulder

Registrations:

- Professional Engineer, AZ #37863

Years of Experience: 26

Company Title: Senior Bridge Engineer, Lead Quality Manager (Phoenix/Tucson Offices),

responsible for quality assurance reviews, establishing AECOM QA/QC policies, assisting with QA/QC audits, and providing QA/QC training

VALUE TO ADOT

- ▶ *Lead Quality Manager for Phoenix and Tucson offices*
- ▶ *Design concept, BSR, and final design experience for 50+ miles of regional freeway as well as statewide PA and final design experience, which includes phased MOT to accommodate construction activities*
- ▶ *Led quality assurance on 5+ projects on I-40*
- ▶ *Design experience includes superstructure and substructure design work on the SR 79 Gila River Bridge slide replacement*

PROJECT EXPERIENCE

Chris served as quality manager on several of the following representative projects. In this role, he performed QA reviews of all deliverables prior to submittal to the client to confirm QC processes were implemented and review comments were addressed.

I-17/I-40 System Interchange, Bridge Rehabilitation, Project Assessment, Environmental Document, and Final Design, Flagstaff, AZ, ADOT. *Design Engineer/Quality Control Reviewer.* This \$10.1M project included replacing bridge decks on the I-40 WB bridge over I-17, I-40 WB bridge over Beulah Boulevard/Sinclair Wash, and the I-40 EB bridge over Beulah Boulevard/Sinclair Wash. Also included is a deck rehabilitation of the I-10 EB Bridge over I-17 with a polyester polymer concrete overlay and miscellaneous upgrades. The project involves complex shoring of the existing bridges and phased traffic control as well as an evaluation for hinge removals to increase the EB and WB Beulah lifespan, by minimizing ingress/egress paths for corrosive deicing salts. AECOM obtained environmental, utility, and ROW clearances ahead of schedule. A Section 404 permit was obtained for the construction in Sinclair Wash. ▶ **AECOM received an average client survey score of 10 out of 10.**

I-40 4th Street/Butler Avenue Bridge Replacement and Rehabilitation, Flagstaff, AZ, ADOT. *Quality Control Reviewer.* This project used phased construction and cross-over traffic control on I-40 to replace two bridges on 4th Street and place a bridge deck overlay on the Butler Avenue bridges. Chris' responsibilities included quality control reviews of design calculations.

I-40 EB/WB Peacock/Big Sandy Wash Bridge Deck Replacements, Arizona, ADOT. *Quality Control Reviewer.* This \$4.1M, 2.61-mile project replaced the existing

bridge decks and applied an epoxy overlay to existing steel girder bridges. Crossover traffic control was used to allow full access to the bridges during replacement of the bridge decks. Each pier received scour protection slabs. ▶ **Chris verified quality control reviews/documentation were completed for each submittal and the AECOM quality process was followed.**

I-40 Willow Creek Bridges 1, 3, 4 and 5 Deck Rehabilitations, Arizona, ADOT. *Design Engineer/Quality Control Reviewer.* This \$7M project replaced or rehabilitated the existing bridge decks of the Willow Creek Bridges 1, 3, 4, and 5. The improvements at Bridge 1 included a longitudinal and transverse joint repair; Bridge 3 received an epoxy overlay; Bridges 4 and 5 received full deck replacements that were phased with single-lane closures. The abutment bearings were replaced at all bridges. ▶ **Chris developed a "checkerboard" deck removal/replacement concept because the existing hammerhead pier columns (some over 50 feet high) were not designed to accommodate a full-width deck removal on one side of the bridge.**

I-40/East Flagstaff TI, Coconino County, AZ, ADOT. *Geotechnical Engineer/Quality Control Reviewer.* This project reconstructed the US 89/US 180/Business Route 40 TI in Flagstaff. It included the construction of a new bridge over the BNSF Railroad, two new signalized intersections along US 89, new drainage detention basins, tall MSE walls (some nearly 50 feet high), and an enhanced pedestrian/trail system. Chris provided geotechnical field investigation as well as

recommendation to densify soils using "stone columns" for a nearly 50-foot-high MSE wall to reduce anticipated settlements from 14 inches to ¾-inch within 10 feet of a ROW boundary. Chris also provided pavement recommendations for all roadway improvements in the project limits and reviewed the Foundation Report for a new bridge that was designed by ADOT.

South Central Light Rail Extension, Phoenix, AZ, Valley Metro. *Quality Manager.* This \$33M project extended the existing light rail system through South Phoenix. Chris coordinated the development of an 84-page quality control document to meet the 15-point Federal Railroad Administration quality control criteria and implemented a quality control training and management program for AECOM and its 15 subconsultants. Chris provided quality assurance reviews for more than 3,500 plan sheets (and an equal number of specification sheets), auditing 15 subconsultants twice a year, and reviewing project plan documentation to confirm adherence to the quality control document guidelines. ▶ **Chris received top marks in all three audits conducted by Valley Metro.**

"This closes out the TSC-A-17-01 audit. All items are satisfactory. Thank you Chris (and all) for making this the easiest and most organized audit I have experienced to date. Your efforts are recognized and much appreciated!"

• **Kathy Bergren, Valley Metro South Central Light Rail Extension**



NIEL KING, PE
ROADWAY LEAD

60%

Education:

- BS, Civil Engineering, University of Wyoming

Registrations:

- Professional Engineer, AZ #53204

Years of Experience: 16

Company Title: Roadway Engineer, responsible for performing roadway design

VALUE TO ADOT

- Experienced as roadway lead for ADOT projects, including the I-40 East Kingman TI OP WB Bridge
- Extensive experience preparing final design documents for local roadways
- Well-versed in ADOT and federal roadway design guidelines and standards

PROJECT EXPERIENCE

I-40: 4th Street Bridge Replacement & Butler Avenue Bridge Rehabilitation, Flagstaff, AZ, ADOT. *Design Engineer.*

This project used phased construction and cross-over traffic control on I-40 to replace two bridges on 4th street and place a bridge deck overlay on the Butler Avenue bridges. The bridge replacements used accelerated bridge construction with a bridge slide to reduce closure durations on 4th Street to only 2 weeks. Niel provided roadway design and QA/QC reviews. **➤ The team produced the PS&E package (NTP to bid advertisement) in 10 months, 1 week ahead of schedule.**

I-40, East Kingman TI OP WB Bridge Rehabilitation Final Design and PDS, Kingman, AZ, ADOT. *Design Engineer.*

This bridge rehabilitation project replaced the existing bridge deck of the two-span CIP conventionally reinforced concrete box girder bridge on WB I-40 crossing over Andy Devine Boulevard using two-phased construction with crossover traffic control. The project involved complex shoring of the existing bridge to protect the existing structure from cracking during deck removal operations. AECOM obtained environmental, utility, and ROW clearance. Niel was responsible for roadway design, cost estimating, 3D modeling and earthwork, and plan production.

I-17/I-40 System Interchange, Bridge Rehabilitation, Project Assessment, Environmental Document, and Final Design, Flagstaff, AZ, ADOT. *Design Engineer.* This \$10.1M project included replacing bridge decks on the I-40 WB bridge over I-17, I-40 WB bridge over Beulah Boulevard/Sinclair Wash, and the I-40 EB bridge over Beulah Boulevard/Sinclair Wash.

Also included is a deck rehabilitation of the I-10 EB Bridge over I-17 with a polyester polymer concrete overlay and miscellaneous upgrades. The project involves complex shoring of the existing bridges and phased traffic control as well as an evaluation for hinge removals to increase the EB and WB Beulah lifespan, by minimizing ingress/egress paths for corrosive deicing salts. AECOM obtained environmental, utility, and ROW clearances ahead of schedule. A Section 404 permit was obtained for the construction in Sinclair Wash. Niel provided roadway design, cost estimating, and plan production. **➤ AECOM received an average client survey score of 10 out of 10.**

US 93, Deluge Wash, ADOT. *Design Engineer.* Niel was responsible for roadway design, 3D modeling, plan production, cost estimating, and was involved in drainage design, including box culvert and pipe extensions, median drainage, channels, and ditches. He played a major role in earthwork, plan production, and cost estimate. The project involved the addition of a southbound roadway, two structures over Deluge Wash, new access and frontage roads, median crossovers, and temporary connections between each side of the divided highway.

SR 89A Transportation Study, SR 89 to Robert Road, Yavapai County, AZ, ADOT. *Design Engineer.* This project involved alternative evaluation and 15% design to improve SR 89A and the various interchanges along the corridor. Niel provided roadway design, 3D modeling, cost estimating, and preliminary design documents.

US 60, Show Low to 40th Street, Show Low, AZ, ADOT. *Design Engineer.* This project provided final design documents for roadway widening, drainage improvements, and a traffic signal on US 60 on the east side of Show Low. Niel provided roadway design, 3D modeling, cost estimating, and earthwork report, and final design documents.

I-10 Fairway Drive TI, Phoenix, AZ, ADOT. *Design Engineer.* Niel was responsible for the preparation of final design documents to construct a new TI on I-10 between Dysart Road and Avondale Boulevard. The project includes a new two-span bridge over I-10, more than 41,000 square feet of retaining walls, new auxiliary lanes on I-10, 900 linear feet of arterial roadway and associated drainage, signal, FMS, and lighting improvements. The new TI will improve commercial truck access to I-10 for warehouses south of I-10.

SR 101L GPL Widening DB, I-17 to Pima Road, Phoenix, AZ, ADOT. *Design Engineer.* This project involved adding one GPL to both directions of this 13-mile segment of SR 101L, within the cities of Phoenix and Scottsdale. AECOM was a major subconsultant, providing final design for the segment from I-17 to SR 51. AECOM's scope included roadway design, widening seven bridge structures, roadway lighting upgrades, traffic control plans, signing and pavement marking plans, and design of over 300,000 square feet of retaining and noise walls. Niel provided roadway design, roadway modeling, wall design, QA/QC, and prepared final design documents.



70%

RUSS STUART, PE
STRUCTURES LEAD

Education:

- MS, Civil Engineering, Iowa State University of Science and Technology
- BS, Civil Engineering, Arizona State University

Registrations:

- Professional Engineer, AZ #32342

Years of Experience: 28

Company Title: Arizona Structures Design Leader, responsible for managing structures design staff and providing design reviews

VALUE TO ADOT

- Structures Team Lead for 30+ ADOT projects
- Led final design on 50+ bridge widenings in the metro Phoenix area
- Experienced with phased bridge construction and using precast elements to keep traffic moving
- Designed 20+ new bridges on, over, and under interstate highways in Arizona
- Structures lead for the recent 1,500-foot-long SR 79 Gila River Bridge Replacement

SR 79, Gila River Bridge Replacement, AZ, ADOT. Structures Engineer. This CMAR project included an assessment of the existing 1,507-foot-long, 30-span bridge built in 1957 and an evaluation of full bridge replacement. The recommended alternative was a 14-span bridge replacement using an FHWA ABC lateral slide technique that significantly reduced impacts to traffic during construction. The replacement structure included wider shoulders and a sidewalk. The project included reconstruction of approach roadways, modification to a canal owned by the San Carlos Irrigation and Drainage District, and utility relocations.

➤ **Russ guided the design team through technical challenges related to the bridge slide and performed quality reviews for the replacement bridge plans at every submittal stage.**

I-40 4th Street/Butler Avenue Bridge Replacement and Rehabilitation, Flagstaff, AZ, ADOT. Structures Engineer. This project used phased construction and cross-over traffic control on I-40 to replace two bridges on 4th street and place a bridge deck overlay on the Butler Avenue bridges. The bridge replacements used accelerated bridge construction with a bridge slide to reduce closure durations on 4th Street to only 2 weeks. Russ' responsibilities included design of overlays and new bridges, including bridge slide, coordination with ADOT reviewers, ADOT C&S, and coordination to obtain all clearances. Russ guided the design team through technical challenges related to the bridge slide and performed quality control reviews for the two single-span bridges over I-40 at the 60% and 90% submittal stages.

PROJECT EXPERIENCE

US 191 Cochise Railroad Overpass Bridge Replacement, Cochise, AZ, ADOT. Structures Lead. This bridge replacement project will replace the existing 3-span steel girder bridge crossing UPRR with a new precast girder bridge. The structure is built on a new roadway alignment to eliminate impacts to traffic. A new structure will also be constructed to cross over the Walnut Wash. The existing soils in the area have excessive settlement and are highly corrosive. Protective measures are required to minimize settlement, especially around the existing railroad tracks. The project includes ROW, utility, and environmental clearances. Section 404 permitting is required to allow construction access in the creek.

I-10/Fairway Drive TI, ADOT, Avondale, AZ. Structures Task Manager. This project includes a new two-span bridge over I-10, more than 41,000 square feet of retaining walls, new auxiliary lanes on I-10, 900 linear feet of arterial roadway and associated drainage, signal, FMS, and lighting improvements. ➤ **Russ guided the Structures Team through the design of a new two-span bridge over I-10 and six new retaining walls that support the freeway entrance/exit ramps.**

US 60 Waterfall Canyon Bridge Replacement, Superior, AZ, ADOT. Structures Lead. This bridge replacement project will use phased construction to replace the existing t-beam bridge with new non-standard box culvert structures. The new structures will be built under the existing bridge to minimize impacts to traffic. During a one-week closure of US 60 the existing bridge will be removed and the roadway section over the new box culverts will be finalized. The project includes ROW, utility,

and environmental clearances. Section 404 permitting is required to allow construction access in the creek.

SR 77 (Oracle Road), Tangerine Road to Pinal County Line, Pima County, AZ, ADOT. Structures Engineer. This project improved traffic operations and safety along a 6.19-mile segment of SR 77. Russ performed QC tasks for the bridge widening and developed connection details for the artistic pedestrian railing. During planning stages, Russ and his team developed concepts for three wildlife crossings that would allow wildlife to safely cross the highway and maintain the connectivity between habitats on opposite sides of the highway. During final design, budget constraints limited the project to two wildlife crossings, for which Russ and his team developed construction plans.

SR 101L (Pima) GPL Widening DB, I-17 to Princess Drive, Phoenix, AZ, ADOT. Segment Structures Lead. This project added one GPL to both directions of a 13-mile segment of SR 101L. AECOM was a major subconsultant, providing final design for the western segment from I-17 to SR 51. AECOM widened eight bridge structures, including two mainline bridges and two ramp bridges over Cave Creek Wash. Russ and his team successfully met an aggressive design-build schedule.

"On the SR 101L widening project, the build-high-then-lower construction technique used at the 90th Street Bridge benefited greatly from Russ's timely review of shop drawings and quick responses to field questions. His efforts are much appreciated; he is a team player." • Fred Pryor, (Former) Pulice Construction Structures Manager



DAN STOUGH, PE
DRAINAGE LEAD

Education:

- BS, Civil Engineering, Arizona State University

Registrations:

- Professional Engineer, AZ #26882

Years of Experience: 31

Company Title: Senior Drainage Engineer, responsible for overseeing drainage staff on highway projects, producing drainage reports, and providing quality control of drainage final design documents

VALUE TO ADOT

- *Drainage lead on final design projects along I-40, including the I-40 4th Street bridge replacement*
- *Experienced with HEC-RAS and hydraulic analysis and scour, bank protection, culvert, and storm drain design for ADOT projects*
- *30 years of drainage design experience on ADOT rural highway and urban freeway projects*
- *Recent drainage lead on SR 69 widening, SR 79 Gila River Bridge Replacement, and SR 191 Cochise Railroad Overpass*

I-40 Butler Avenue and 4th Street Bridge Replacement/Rehabilitations, Flagstaff, AZ, ADOT. *Drainage Lead.* This bridge replacement project involves widening of 4th Street. The project involves replacement of the two freeway underpass structures over I-40. The drainage design involves replacement of an undersized culvert crossing of 4th Street that has caused severe erosion problems at the EB overpass abutment. The widened roadway will have new retaining walls, embankment spillways, and special scuppers through the barriers between the two new underpass structures. Dan is supervising the drainage team doing the hydrologic and hydraulic calculations, and producing the drainage drawings, drainage memorandum, and other project deliverables.

Kingman Crossing TI, City of Kingman, AZ. *Drainage Lead.* Dan was responsible for HEC-1 modeling of offsite runoff and rational method for interchange onsite runoff. Developed drainage concepts for a DCR level analysis of the new Kingman Crossing Boulevard interchange with I-40. A new interceptor channel and off-line detention basin were designed to drain through a new regional storm drain. System was sized to not exceed the existing stream flow that enters a planned subdivision. ➤ **Dan developed a system of offline detention basins to offset effects of rerouting of flows due to elimination of certain I-40 cross culverts that would have interfered with the new TI construction.**

PROJECT EXPERIENCE

SR 79 Gila River Bridge Replacement, AZ, ADOT. *Drainage Lead.* This CMAR project assessed the condition of the superstructure and recommended replacing the existing 1,507-foot-long, 30-span bridge built in 1957. ABC methods were evaluated. The recommended alternative is a multi-span bridge replacement with wider shoulders and a sidewalk using the bridge slide method of construction. The project includes modifying a canal owned by the San Carlos Irrigation and Drainage District and relocating utilities. TCEs and new ROW were needed and the associated costs were included in the total estimated construction costs. ➤ **Dan provided oversight and quality control for the pavement drainage hydrology and hydraulics, and the associated drainage pipes required at the ends of the improved bridge.**

I-40, Rancho Santa Fe Parkway TI, DCR, and Final Design, Kingman, AZ, ADOT. *Drainage Lead.* This project involves redesign of the roadway for the interim condition and uses drainage features that are based on the original design. The onsite drainage is modified for the new four-lane roadway and the reconfiguration of the storm drain trunk lines under the new interchange to accommodate a planned city water line along Rancho Santa Fe Parkway. ➤ **Dan updated the onsite drainage layout design, calculations updates, and supervised production of drainage drawings.**

Kingman Crossing Boulevard (South), City of Kingman, AZ. *Drainage Lead.* This ongoing project is currently in the 90 percent design phase and involves 2 miles of new four-lane roadway between Southern Avenue and I-40. Dan is responsible for the hydrologic

and hydraulic calculations for the design of 13 culvert crossings, a network of onsite storm drains and spillways, roadside drainage ditches and lined channels, and drainage design for two roundabout intersections. He is leading the production of the final design plans, profiles, details and summary tables, as well as the preparation of the Final Drainage Report.

I-10, East Willcox TI UP Bridge Scoping Letter & Final Design, Arizona, ADOT.

Drainage Lead. This project is to rehabilitate the existing bridge deck on the existing cast-in-place, conventionally reinforced concrete box girder bridge with a Polyester Polymer Concrete (PPC) overlay. The existing deck joints will be replaced and the existing rocker bearing assemblies will be replaced with new steel elastomeric bearing pads. Dan was responsible for evaluating the drainage needs during the scoping phase and for review of the final plans to verify there were no drainage issues.

SR 69, Prescott, AZ, ADOT. *Lead Drainage Engineer.* This project involves the widening of a primary urban highway through a commercial district of Prescott. The roadway widening involves the addition of new raised medians, outside curb and gutter, new sidewalks, new storm drain system, box culvert extensions, roadside riprap-lined channel, and all traffic control devices for the widened roadway. Dan is responsible for the final design of the drainage features, hydrologic and hydraulic calculations, supervision and quality review of the production of drainage drawings, specifications, and writing the final drainage report.



80%

KATE BONDY, PE, PTOE
TRAFFIC/MOT LEAD

Education:

- BS, Civil Engineering, Arizona State University

Registrations:

- Professional Engineer, AZ #45815
- Professional Traffic Operations Engineer #3160

Years of Experience: 21

Company Title: Arizona State Traffic Lead, responsible for managing the Traffic Team in Arizona

VALUE TO ADOT

- ▣ Understands nearby traffic conditions through her recent traffic lead role and MOT design on the I-17/I-40 Bridge Replacement and I-17/JW Powell Boulevard projects
- ▣ Knows ADOT traffic design standards and designs MUTCD-compliant work zones
- ▣ Extensive experience preparing construction plans and documents, and transportation modeling for MOT and traffic control design
- ▣ Traffic engineering lead on ADOT projects for roadway and bridge widening and realignments
- ▣ MOT experience on 15+ ADOT final design projects

PROJECT EXPERIENCE

I-17/JW Powell Road TI Roundabout Final Design, Flagstaff, Arizona, ADOT. Traffic Lead. The project included the design of two single-lane roundabouts at the intersections of SR 89A/JW Powell Boulevard and I-17 southbound ramps/JW Powell Boulevard. The two intersections were approximately 300 feet apart. Tasks included the design and capacity evaluation of the roundabout intersection for 100% design efforts. The capacity analysis was performed using RODEL roundabout analyzing software. She also prepared design construction plans and cost estimate for signing, pavement marking, traffic sequencing, and traffic control. **▣ The traffic team, led by Kate, successfully delivered traffic control plans for the construction of the two new roundabouts and included detours that could be used within this project's reconstruction.**

I-40, 4th Street Bridge Replacement, Flagstaff, AZ, ADOT. Traffic Lead. This bridge replacement/rehabilitation project used phased construction and cross-over traffic control on I-40 to replace two bridges on 4th Street and place a bridge deck overlay on the Butler Avenue bridges. The bridge replacements used ABC methods with a bridge slide to reduce closure durations on 4th Street to only 2 weeks. Kate was responsible for preparing the design construction plans for MOT on 4th Street and I-40, including the details on traffic control during the bridge slide and details on the I-40 crossover. **▣ The contractor successfully implemented Kate's detailed traffic control plans for crossovers on I-40 for the extent of the project, which minimized travel delay on I-40.**

I-17/I-40 TI Bridge Rehabilitation, Flagstaff, Arizona, ADOT. Traffic Lead. The project included developing a PA and PS&E package for the replacement of four decks along I-40 bridges crossing Bealuh Boulevard and I-17. Tasks included serving as the traffic lead responsible for preparing the design construction plans and cost estimate for the traffic control along I-40, Bealuh Boulevard, and I-17.

I-40/East Flagstaff TI, Flagstaff, Arizona, ADOT. Traffic Engineer. The project improved the traffic operational characteristics and pedestrian safety of the US 89/B40 interchange to a new at-grade signalized intersection with connection to Old US 66, a new signalized US 89/Cummings Street intersection into Flagstaff Mall, widening US 89 to three lanes northbound and southbound, replacing the B40 overpass structure over US 89, and completing the pedestrian circulation system. Tasks included assisting in the existing and future analysis of the East Flagstaff TI network. This analysis included transportation modeling, highway, intersection, and accident analyses. Kate also completed the traffic control design.

I-40 Corridor Profile Study, Flagstaff to Holbrook, ADOT. Project Manager. The project includes preparation of a Corridor Profile Study between Flagstaff and Holbrook. The study will incorporate a new corridor planning approach to develop strategies and tools that incorporate life-cycle cost analysis and risk assessment to measure system performance in accordance with the Moving Ahead for Progress in the 21st Century (MAP-21) legislation. The project's ultimate goal will be to develop and prioritize projects for the I-40 corridor-based performance.

SR 79, Gila River Bridge Replacement, AZ, ADOT. Traffic Lead. The project included assessment of superstructure and full bridge replacement of the existing 1,507-foot-long, 30-span bridge built in 1957. An evaluation of the FHWA ABC method was included. The recommended alternative is a multi-span bridge slide. The replacement structure included wider shoulders and a sidewalk. Kate was responsible for the design of construction plans and cost estimate for the traffic control, and signing and marking along SR 79. **▣ Kate's team successfully created VISSIM simulations of the phased traffic control (including the signalized alternating one-way phase) to make decisions on phased implementation and to appropriately anticipate expected queue lengths.**

I-40, Prospector Street Interim Roadway and I-40 Grade Separation Feasibility Study, City of Kingman, AZ. Traffic Lead. This project included the preparation of a feasibility study to develop and evaluate options to provide a new interim roadway and grade separation with I-40 to provide improved connectivity north and south of I-40 in the east Kingman area until either the Rancho Santa Fe Parkway TI or the Kingman Crossing TI can be adequately funded and constructed. The project would provide an interim crossing of I-40 with a grade separation at the proposed Kingman Crossing TI location, or at the Prospector Street section line alignment.



50%

TOM WOLF, PE
UTILITIES LEAD

Education:

- BS, Civil Engineering, University of Arizona

Registrations:

- Professional Engineer, AZ #54085

Years of Experience: 16

Company Title: Project Engineer, responsible for leading design tasks/projects and coordinating multiple disciplines

VALUE TO ADOT

- Extensive experience coordinating utilities on ADOT projects
- Works with local agencies and utility stakeholders
- Develops processes for tracking and gaining timely utility clearances
- Strong working relationships with state and county agencies through current and past design and project engineer roles
- Understands standards and requirements for various types of utilities

ADOT Supplemental Employee, Southcentral District, Tucson, AZ. *Design Reviewer, Permits Group Technical Support.* Tom was contracted for 3 years by ADOT District Office in Tucson to assist with roadway design reviews and support the Permits Group with utility and design reviews for work that required permitting within ADOT R/W. Tom was selected for this task due to his utility coordination efforts on the ADOT SR 77 widening project from Tangerine Road to the Pinal County Line. **Tom gained valuable experience working closely with ADOT staff, as well as a better understanding of ADOT's policies and standards.**

SR 79, Gila River Bridge Replacement CMAR, Pinal County, AZ, ADOT.

Utilities Lead. This \$20M ADOT project includes replacing the 1,500-foot-long Gila River Bridge using the slide method of construction. This project is using the CMAR method of delivery and eight FHWA Every-Day-County innovations. The project requires numerous utility relocations to avoid scour from the new bridge. Overhead power, telecommunication tenants, and underground utilities, including telecommunications, gas, sewer, and water, all require relocation into a new utility corridor. **Tom successfully managed utility coordination challenges, including coordinating with ASLD and BIA entities for utilities crossing an irrigation canal north of the project.**

I-40, Rancho Santa Fe Parkway TI, DCR, and Final Design, Kingman, AZ, ADOT.

Utility Coordinator. Tom investigated existing utilities within the project limits which were identified during the initial and final design

phases. The project scope includes design of a new TI and arterial street connections to improve access to the east Kingman area and relieve congestion at the existing I-40/SR 66 TI. Utility tasks included close coordination with multiple utility companies to facilitate mitigation and relocation measures for the project.

I-10/Ina Road TI to Ruthrauff Road TI DCR Tucson, AZ, ADOT. *Utility Coordinator.* AECOM, as a subconsultant, provided initial roadway design, bridge design, construction phasing, and utility conflict identification services for the I-10/Ina Road TI during the Ina Road to Ruthrauff Road DCR/NEPA development. This included leading the Stage I and Stage II design for the Ina Road TI and reconstruct of I-10. The Ina Road tight diamond TI design eliminated the existing at-grade crossing with the UPRR, included the Ina Road crossing over I-10, the UPRR, Camino de Oeste and changing the Ina Road stacking order.

I-10 Corridor Study, Tangerine Road to Ina Road DCR, Pima County, AZ, ADOT. *Utility Coordinator.* This project involved preparation of a DCR, EA, and Stage II (30%) plans for the evaluation of improvements for this 8-mile segment of I-10 from Tangerine Road to Ina Road. This project included the evaluation of improvements to the mainline, frontage roads, and at the Avra Valley Road and Cortaro Road TIs. The recommended alternative includes widening I-10 to provide five travel lanes in each direction, a closed median, one-way frontage roads, and reconstructing both interchanges to span over I-10 and the UPRR.

I-10/Prince Road TI, Ruthrauff Road to Prince Road, Tucson, AZ, ADOT. *Utility Coordinator.* This project involved the final design of a diamond interchange along with the reconstruction of 2.0 miles of eastbound and westbound I-10 mainline, 1.0 mile of five-lane urban roadway along Prince Road. Project tasks included utility coordination, preparation of utility relocation plans and obtain utility clearances for the project. Served as project coordinator for the UPRR involvement effort. Tasks included coordination efforts with the ADOT U&RR Liaison in preparing the Construction and Maintenance (C&M) Agreement with UPRR. Prepared cost estimates and exhibits for this C&M Agreement. Prepared special provisions and cost estimates for the PS&E package.

Sunset Road, I-10 to River Road DCR, Tucson, AZ, PCDOT. *Utility Coordinator.* AECOM, as a subconsultant, led the roadway geometric design, lighting and utility coordination for this DCR/NEPA development for Pima County. This included initial layouts for a new tight diamond TI on I-10 at Sunset Road and included updated design to the previously completed ADOT Stage I and Stage II design. This project included Sunset Road connection to the east to River Road and reconstruction to the west to match the recently constructed Sunset Road bridge over the Santa Cruz River, which AECOM (as subconsultant) led the roadway design efforts. AECOM optimized the Sunset Road geometrics over I-10 and evaluated improvements to I-10 to accommodate this future Pima County led project to the east.



40%

MARK HEISLER
COST ESTIMATING

Education:

- BS, Construction Engineering, Arizona State University

Licenses and Training:

- CMAR (ACE)
- Dust Control
- OSHA Competent Person
- Erosion Control
- OSHA 30 Hour Construction
- CPR/First Aid Certified

Years of Experience: 45

Company Title: Independent

Construction Expert, responsible for leading constructability tasks; assisting with construction phasing, scheduling, and other forms of constructability review; costing; and value engineering

VALUE TO ADOT

- Extensive heavy civil construction experience, including urban freeways, roadways, and underground infrastructure
- Preconstruction expertise includes cost estimating, value engineering analysis, and reviews for constructability, scheduling/phasing, and bid documents
- Routinely provides reviews for ICE, value engineering, contractor schedules, change orders, manpower/equipment, and claims

PROJECT EXPERIENCE

SR 101L (Price Freeway) DB, Baseline Road to SR 202L, Chandler, AZ, ADOT.

Construction Manager. This project widened 6 miles of SR 101L from SR 202L to US 60, adding the fourth GPL in both directions. Major project features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, widen freeway bridge at Chandler Boulevard, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, PCCP finish pavement grinding, landscape restoration.

SR 101L (Pima Freeway), Shea Boulevard to SR 202L (Red Mountain), ADOT, Scottsdale, AZ.

Construction Manager. This project widened 11 miles of SR 101L from Shea Boulevard to SR 202L (Red Mountain Freeway), adding a fourth GPL in both directions. Major project features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, widen freeway bridges, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, AR-ACFC paving, and landscape restoration.

SR 101L Freeway, 64th Street TI, ADOT, Phoenix, AZ, ADOT.

Construction Manager. Construction involved the widening of 1.47 miles of the SR 101L and construction of the 64th Street Traffic Interchange. The work included 395,000 cubic yards of earthwork, concrete pavement with asphaltic rubber friction course, two prestressed concrete girder bridges, retaining walls, five existing reinforced concrete box culverts extensions, and channel reconstruction.

SR 101L, SR 202L (Red Mountain) to SR 202L (Santan), ADOT.

Area Operation Manager. Mark provided oversight for the construction of 10 miles to add new HOV lanes in both directions. Major project features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, AR-ACFC Paving, and landscape restoration.

SR 101L (Price), Guadalupe Road to Warner Road, ADOT.

Construction Manager. Managed construction of 3 miles of the original SR 101L freeway. Major project features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, and bridges.

SR 101L (Price), Baseline Road to Guadalupe Road, ADOT.

Construction Manager. Managed construction of 1 mile of the original SR 101L freeway. Major project features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, and bridge.

SR 303L, Peoria Avenue to Mountain View Boulevard, ADOT.

Construction Manager. This project constructed 5 miles of new urban divided freeway with overpass structures at Cactus Road and Waddell Road, and an underpass at Greenway Road. Major items of work included 3M CY of earthwork, five cast-in-place post-tensioned concrete box girder bridges, PCCP and AC pavements, and concrete-lined drainage channel and sound walls.

SR 202 (Santan), Arizona Avenue to Gilbert Road, ADOT.

Construction Manager. This project constructed 4 miles of new urban freeway with overpass structures at UPRR, McQueen Road, Consolidated Canal, Cooper Road, and Gilbert Road. Major items of work included 1.2 million CY of earthwork, a concrete-lined canal, box culverts, two pump stations, drainage, PCCP, and AR-ACFC paving.

I-10 (Papago), SR 303L System TI, ADOT.

Construction Manager. This project reconstructed 3.4 miles of I-10, 1.3 miles of SR 303L, and 14 bridges with multi-span freeway ramps 75 feet above existing grade, seven box culverts, two irrigation box culverts, and an FMS system.

SR 202L (Red Mountain), SR 101L to Broadway Road, ADOT.

Construction Manager. This project widening included adding 8 miles of fourth GPL and 12 miles of new HOV lanes in both directions. Major features include subgrade stabilization, drainage and catch basin modifications, new lighting and signs, widening freeway bridges, utility relocations, PCCP, concrete barrier, curb and gutter, sound and retaining walls, AR-ACFC paving, and landscape restoration.

Red Mountain Freeway/US 60 TI, Phase II, ADOT, Mesa, AZ.

Construction Manager. The project included widening portions of US 60, construction of a 1-mile section of SR 202L, and completion of the directional ramps at the SR 202L / US 60 TI. Additional project items included 2 million CY of earthwork, concrete pavement with asphaltic rubber friction course, six cast-in-place box girder bridges, connecting portions of three existing concrete bridges, and retaining/sound walls.



SCOTT BLACKMAN
ENVIRONMENTAL LEAD

Education:

- BS, Wildlife Biology/Ecology and Management, University of Arizona

Years of Experience: 24

Company Title: Senior Environmental Planner,

responsible for supporting AECOM's Environmental Planning Team

VALUE TO ADOT

- ▶ *Brings a wide range of experience successfully completing and guiding clients through the NEPA compliance process*
- ▶ *Supported numerous federal agencies within the western U.S. on a variety of projects, including Indian Health Service, Bureau of Indian Affairs, and Navajo Nation*
- ▶ *Extensive experience with the NEPA process involving contentious issues and effective communication with clients, including agencies, tribes, and other stakeholders*
- ▶ *Experienced senior biologist and has managed numerous state and federal projects with endangered, threatened, and sensitive species*

Health Center and Staff Quarters EA, Pueblo Pintado, NM, Indian Health Services (IHS). Senior NEPA Specialist.

As a subconsultant to INNOVA Group, Scott managed the development of an Environmental Assessment (EA), Biological Assessment (BA), and Class III Cultural Resource Inventory to examine potential effects for the installation of an IHS health care facility to serve the Navajo people of Pueblo Pintado in northwest New Mexico. He managed the implementation of formal consultation with the Navajo Nation Department of Fish and Wildlife (NNDFW) and Navajo Nation Heritage & Historic Preservation Department (NNH&HPD) to understand cultural resources that would potentially be affected, including plant and wildlife species used for sustenance and ceremonial purposes by the Navajo Nation. He reviewed and synthesized past literature and tribal documentation of resources in the project area while conducting tribal public scoping meetings to gather local cultural data to include in the EA. Consultation was conducted in compliance with Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA) to obtain tribal input, including from tribal government agencies.

▶ **Scott facilitated coordination with the NNH&HPD and NNDFW while changes were occurring to the Proposed Action and project footprint.**

Health Center EA, Bodaway Gap, AZ, Indian Health Services. Senior NEPA Specialist.

Senior NEPA Specialist. As a subconsultant to INNOVA Group, Scott developed an EA analyzing an IHS Health Center to serve the Bodaway Gap area of the Navajo Nation Reservation in northeast

Arizona. He coordinated resource specialists for natural, cultural, and tribal consultation.

▶ **Scott led the environmental effort for a diverse multidisciplinary team.**

EA for Tree Trimming at Neah Bay Air Route Surveillance Radar and VHF Omnidirectional Range Towers, Neah Bay, WA, Federal Aviation Administration.

Senior NEPA Specialist. Scott supervised and directed a diverse team to meet planning and NEPA project quality, schedule, and budget objectives. These towers are located within the traditionally recognized territory of the Makah Tribe within the present-day boundaries of the Makah Reservation. He facilitated tribal coordination and synthesized responses of tribes that continue to recognize a relationship to the Olympic Peninsula based on traditional land use, origin, beliefs, mythology, and spiritual beliefs and practices. ▶ **Scott worked to efficiently complete this EA and ultimately split it into two deliverables under the same timeline.**

The Dalles Tribal Housing Integrated Village Development Plan and EA. The Dalles, OR, USACE Portland District.

Senior NEPA Specialist. As a subconsultant for Akana, Scott developed an EA for a tribal village construction to replace those inundated and displaced by the Columbia River's Dalles Dam. This complex water resource and civil works project involved supervision and coordination of a diverse multidisciplinary team of resource specialists synthesizing numerous references and research into the NEPA compliance process and tribal coordination. This project was contentious due to the controversial nature of proposed action alternative locations for the new tribal villages.

▶ **Scott coordinated with archaeologists, project managers, and engineers to maintain the most efficient project timeline and keep resource reports and analyses on track.**

Cultural and Natural Resources Support, 11R/29L Runway Relocation EIS, Tucson, AZ, Tucson International Airport. Senior NEPA Specialist.

Senior NEPA Specialist. Scott provided natural, cultural, and environmental resources services to support an EIS for extension of the runway at Tucson International Airport. Part of the cultural resources support involved evaluating 12 earth-covered magazine structures on Air Force Plant 44, constructed in 1952. These structures were documented and evaluated for eligibility to the National Register of Historic Places (NRHP). Scott conducted archival research, identifying original architectural plans for the structures, as well as a history of their construction, use, maintenance, and modification. A technical report was prepared, as well as Arizona Historic Property Inventory forms for each structure. The technical report and inventory forms were submitted to the Federal Aviation Authority and the Arizona State Historic Preservation Office for review. Scott conducted biological surveys for native plant protection, and for federal, state, and county-listed species. He surveyed and located all Pima pineapple cactus in the area to support Section 7 consultation with the U.S. Fish and Wildlife Service and facilitate effective conservation and mitigation strategies. For compliance with Section 404 of the Clean Water Act, he also conducted a jurisdictional delineation in support of consultation with the USACE.

From: ADOT Business Engagement and Compliance Office <AZUTRACS-Support@azdot.gov>
Sent: Monday, August 14, 2023 6:12 PM
To: Lassiter, Genie
Cc: ContractorCompliance@azdot.gov
Subject: Bidders List for AECOM Technical Services 01

AECOM Technical Services 01, AZUTRACS Number: [10053](#) has submitted a Bidder/Proposer list for **2024-002** on 08/14/2023 at 5:12 PM MST (UTC - 07:00).

Bidders/Proposers for this firm include:

Firm Name	AZUTRACS #	Expiration Date	Email Address	Phone Number
Dibble & Associates Consulting Engineers	10279	03/09/2026	heather.brown@dibblecorp.com	602-957-1155
Ethos Engineering, LLC	10363	04/16/2024	soliden@ethosengineers.com	480-720-7769
Infrastructure Mavens, LLC	10537	04/25/2026	sbasila@infrastructuremavens.com	602-376-3782

Unregistered Bidders:

Firm Name	Email Address	Phone Number
Dinétahdóó Cultural Resources Management, LLC	renamartin@dinetahdoo.com	505.960.9478

Per RFQ requirement, this list includes any firm that discussed teaming with AECOM, regardless of final teaming agreements.



Our True North: *Safely Home*

Engineering Consultants Section

Katie Hobbs, Governor
Jennifer Toth, Director
Greg Byres, Deputy Director for Transportation/State Engineer
Steve Boschen, Division Director
Korina Lopez, Group Manager

Date: July 26, 2023
TO: ALL INTERESTED PARTIES
SUBJECT: AMENDMENT NUMBER 01
REFERENCE: REQUEST FOR QUALIFICATIONS (RFQ)
CONTRACT NUMBER 2024-002
WINDOW ROCK TI OP EB/WB & LUPTON TI OP EB/WB SCOPING AND FINAL DESIGN

The following revisions are made to the referenced RFQ:

1. All references in the RFQ, ECS Consultant Contract Manual, ECS Information Bulletins and the ECS website related to submitting Statement of Qualifications (SOQ) through eCMS are hereby stricken. SOQ submittals will ONLY be accepted via email to the following address: ECSSOQ@azdot.gov. SOQs emailed to any other address will NOT be accepted.
2. Section 4.20, *Number 4. Professional Liability (Errors and Omissions Liability)*, subsection 4 b of the contract boilerplate, referenced in Section XVII of the RFQ, is changed:

From:

- b. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, the Consultant warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of **three (3) years** beginning at the time work under this Contract is completed.

TO:

- b. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, the Consultant warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of **eight (8) years** beginning at the time work under this Contract is completed.

Jessica McCall
Jessica McCall

Contract Specialist
Engineering Consultants Section

AN OFFEROR MUST ACKNOWLEDGE RECEIPT OF THIS AMENDMENT BY SIGNING BELOW AND INCLUDING ALL PAGES OF THIS AMENDMENT IN THE SOQ SUBMITTAL. FAILURE TO DO SO SHALL RESULT IN REJECTION OF THE PROPOSAL.

AECOM Technical Services, Inc.

CONSULTANT NAME

SIGNATURE

* This amendment is not included in the total page count in the Statement of Qualification submittal.

Our True North: *Safely Home*

Engineering Consultants Section

Katie Hobbs, Governor

Jennifer Toth, Director

Greg Byres, Deputy Director for Transportation/State Engineer

Steve Boschen, Division Director

Korina Lopez, Group Manager

Date: July 28, 2023

TO: ALL INTERESTED PARTIES

SUBJECT: AMENDMENT NUMBER 02

REFERENCE: REQUEST FOR QUALIFICATIONS
CONTRACT NUMBER 2024-002
WINDOW ROCK TI OP EB/WB & LUPTON TI OP EB/WB SCOPING AND FINAL DESIGN

The following questions have been asked in reference to the above Request for Qualifications (RFQ) package:

Question 1:

Section 420 was not included in the Scope of Work. Please clarify that the consultant is only responsible for the cultural resources survey, biological evaluation, and hazardous materials in support of ADOT preparing the environmental document. Also, please confirm the timing of these activities and that ADOT would like them to be done at the 15% stage given ADOT practice/direction on similar recent bridge replacement projects was to conduct these environmental activities during final design and not issue the environmental document (CatEx) until after 60% when they know the footprint is final.

Answer 1:

Environmental technical documents will be prepared as part of Phase II and include cultural resources survey, biological evaluation, and hazardous materials. An environmental overview will be prepared during Phase I to support the analysis and selection of the recommended bridge replacement alternative.

Question 2:

Page 6 of the RFQ, Key Personnel States:

"It is the responsibility of the submitting prime Consultant to determine which positions and/or persons that are considered Key Personnel. Any person named in the submittal (in any section with the exception of Project Principal/Officer of the Firm) by the submitting consultant shall be considered Key Personnel, including Subconsultants."

Does this mean that any person identified by name in any form (such as the team organizational chart or within the Project Approach) would be considered a key person?

Answer 2:

Yes; RFQ Section II, Key Personnel, first paragraph, third sentence states:

"Any person named in the submittal (in any section with the exception of Project Principal/Officer of the Firm) by the submitting consultant shall be considered Key Personnel, including Subconsultants."

Question 3:

The RFQ Scope of Work, Section 120 (D) includes preparing Draft and Final Environmental Document and associated technical reports (NEPA). The Responsibility Chart in Appendix B implies the Environmental Document will be prepared by ADOT with the Consultant responsible for Cultural Resources Survey, Biological Evaluation, and Haz/Mat Survey. Please clarify the Consultant’s responsibilities.

Answer 3:

Consultant will prepare an Environmental Overview in support of evaluating the bridge replacement alternatives.

Question 4:

The RFQ Scope of Work, Section 416 says, “The Consultant shall research existing "as-built" drawings and records and coordinate with ADOT Bridge Group Geotechnical Services and conduct a site visit with a qualified Geologist or Geotechnical Engineer who shall make observations of the materials encountered and their relative suitability for construction ...” The Responsibility Chart in Appendix B shows the Consultant providing a Soil Survey, Bridge Foundation and Retaining/Sound Wall Foundation Investigations, and Testing and Analysis. Please clarify the Consultant’s responsibilities.

Answer 4:

The RFQ Scope of Work, Section 416 is correct.

Question 5:

The Responsibility Chart in Appendix B shows the Consultant providing Landscape Architectural Design, but this is not details in the Scope of Work. Please clarify the work that is anticipated.

Answer 5:

The Responsibility Chart in Appendix B is incorrect. There is no Landscape Architectural Design as part of the Phase 1 Scope of Work.

Question 6:

Please confirm items 2 through 8, under the Utility & Railroad section in Appendix B, are to be completed as part of Phase II of the project?

Answer 6:

Correct, Items 2 through 8 will be part of Phase II.

Jessica McCall

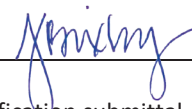
Jessica McCall
Contract Specialist
Engineering Consultants Section

AN OFFEROR MUST ACKNOWLEDGE RECEIPT OF THIS AMENDMENT BY SIGNING BELOW AND INCLUDING ALL PAGES OF THIS AMENDMENT IN THE SOQ SUBMITTAL. FAILURE TO DO SO SHALL RESULT IN REJECTION OF THE PROPOSAL.

AECOM Technical Services, Inc.

CONSULTANT NAME

SIGNATURE



* This amendment is not included in the total page count in the Statement of Qualification submittal.



Our True North: *Safely Home*

Engineering Consultants Section

Katie Hobbs, Governor
Jennifer Toth, Director
Greg Byres, Deputy Director for Transportation/State Engineer
Steve Boschen, Division Director
Korina Lopez, Group Manager

Date: August 9, 2023
TO: ALL INTERESTED PARTIES
SUBJECT: AMENDMENT NUMBER 03
REFERENCE: REQUEST FOR QUALIFICATIONS
CONTRACT NUMBER 2024-002
WINDOW ROCK TI OP EB/WB & LUPTON TI OP EB/WB SCOPING AND FINAL DESIGN

The following questions have been asked in reference to the above Request for Qualifications package:

Question 1:
On page 29 in the RFQ, Section 160 Length of Services – does the noted 365 days apply to Phase I and Phase II of the project or just Phase I?

Answer 1:
Phase 1

Question 2:
The title page of the Request for Qualifications package for Contract No. 2024-002 reads "Window Rock TI OP EB/WB & Lupton TI OP EB/WB Scoping and Final Design" but the Project Scope of Work included in the package reads "I-40, Window Rock TI OP EB/WB & Lupton TI OP EB/WB Project Assessment and Bridge Selection Report." Will the Statement of Qualifications be evaluated with respect to both pre-design and final design services?

Answer 2:
The Statement of Qualifications will be evaluated based on the requirements and scope of work described in the Request for Qualifications.

Jessica McCall
Jessica McCall
Contract Specialist
Engineering Consultants Section

AN OFFEROR MUST ACKNOWLEDGE RECEIPT OF THIS AMENDMENT BY SIGNING BELOW AND INCLUDING ALL PAGES OF THIS AMENDMENT IN THE SOQ SUBMITTAL. FAILURE TO DO SO SHALL RESULT IN REJECTION OF THE PROPOSAL.

AECOM Technical Services, Inc.

CONSULTANT NAME

SIGNATURE 

* This amendment is not included in the total page count in the Statement of Qualification submittal.

CONSULTANT INFORMATION PAGES (CIP)

CONTRACT NO.: 2024-002

CONTACT PERSON: Jennifer Bixby, PE, PTOE

E-MAIL ADDRESS: jennifer.bixby@aecom.com

TITLE: Vice President, Principal-in-Charge

CONSULTANT FIRM: AECOM Technical Services, Inc.

ADDRESS: 7720 North 16th Street, Suite 100

CITY, STATE ZIP: Phoenix, AZ 85020

TELEPHONE: 480.363.0447

FAX NUMBER: 602.371.1615

DUNS #: 00-318-4462

ADOT CERTIFIED DBE FIRM? (YES/NO)

No

SUBCONSULTANT(S):	TYPE OF WORK	ADOT CERTIFIED DBE FIRM (YES/NO)
<u>Dinétahdóó Cultural Resources Management</u>	<u>Cultural Resources</u>	<u>No</u>
<u>Ethos Engineering, LLC</u>	<u>Engineering Design (Geotechnical)</u>	<u>Yes</u>
<u>Infrastructure Mavens, LLC</u>	<u>Cost Estimating</u>	<u>No</u>
<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>

NOTE: This page is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.

SUBCONSULTANT(S) TABLE:

SUBCONSULTANT FIRM NAME:	<u>Dinéahdóó Cultural Resources Management, LLC</u>
CONTACT PERSON:	<u>Rena Martin, MA</u>
E-MAIL ADDRESS:	<u>renamartin@dinetahdoo.com</u>
TITLE:	<u>Senior Anthropologist/Owner</u>
ADDRESS:	<u>10076 US Highway 371</u>
CITY, STATE ZIP:	<u>Farmington, NM 87401</u>
TELEPHONE:	<u>505.960.9478</u>
FAX NUMBER:	<u>505.960.9479</u>
DUNS #:	<u>07-228-4248</u>

SUBCONSULTANT FIRM NAME:	<u>Ethos Engineering, LLC</u>
CONTACT PERSON:	<u>Keith Dahlen</u>
E-MAIL ADDRESS:	<u>kdahlen@ethosengineers.com</u>
TITLE:	<u>Principal</u>
ADDRESS:	<u>9180 South Kyrene Road</u>
	<u>Suite 104</u>
CITY, STATE ZIP:	<u>Tempe, AZ 85284</u>
TELEPHONE:	<u>602.573.0000</u>
FAX NUMBER:	<u>N/A</u>
DUNS #:	<u>03-082-8918</u>

NOTE: Each Subconsultant listed in the SOQ must be included in the Subconsultant Table of the CIP. Add additional Subconsultant Table pages as necessary. The CIP is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.

SUBCONSULTANT(S) TABLE:

SUBCONSULTANT FIRM NAME:	<u>Infrastructure Mavens, LLC</u>
CONTACT PERSON:	<u>Andrew Flecky</u>
E-MAIL ADDRESS:	<u>afleckya@infrastructuremavens.com</u>
TITLE:	<u>Manager/Independent Construction Expert</u>
ADDRESS:	<u>21001 North Tatum Boulevard</u>
	<u>Suite 1630-603</u>
CITY, STATE ZIP:	<u>Phoenix, AZ 85050</u>
TELEPHONE:	<u>602.721.3853</u>
FAX NUMBER:	<u>N/A</u>
DUNS #:	<u>00-972-7112</u>

SUBCONSULTANT FIRM NAME:	<u>N/A</u>
CONTACT PERSON:	<u></u>
E-MAIL ADDRESS:	<u></u>
TITLE:	<u></u>
ADDRESS:	<u></u>
	<u></u>
CITY, STATE ZIP:	<u></u>
TELEPHONE:	<u></u>
FAX NUMBER:	<u></u>
DUNS #:	<u></u>

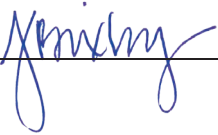
NOTE: Each Subconsultant listed in the SOQ must be included in the Subconsultant Table of the CIP. Add additional Subconsultant Table pages as necessary. The CIP is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.

*Please confirm that each Subconsultant listed is in the eCMS database. If a Subconsultant's name is not in the eCMS database, contact ECS at E2@azdot.gov and allow two (2) business days to have the Subconsultant added to eCMS. Click [Here](#) check the eCMS database or go to ECS Website.

DBE GOAL ASSURANCE/DECLARATION

This Contract is Race Neutral (No DBE Goal-DBE use encouraged).

By signing below, and in order to submit an SOQ proposal and be considered to be awarded for this contract, in addition to all other pre-award requirement, the consultant/Proposer certifies that they will meet the established DBE goal or will make good faith efforts to meet the goal for the contract and that arrangements with certified DBEs have been made prior to SOQ and/or Cost Proposal submission. The proposer will meet the established DBE goal or will make good faith efforts to meet the goal on each Task Order assignment associated with the contract and that arrangements with certified DBEs have been made prior to SOQ and/or Task Order proposal submission.

_____ Signature 	_____ 08/16/2023 Date
_____ Jennifer Bixby, PE, PTOE Printed Name	_____ Vice President Title

SOQ SUBMITTAL CHECKLIST

Place a check mark on the left side of the table indicating compliance with the following:

✓	Required Page Limit Met
✓	One PDF Document no larger than 15 MB
✓	All Amendments Included
✓	Introduction Letter (Including all required elements/statements)
✓	SOQ Proposal Formatted According to Requirements Listed in Part C and any applicable amendments
✓	Correct SOQ Certification List Signed and Dated by a Principal or Officer of the Firm
✓	Completed Consultant Information Page (Including listing DBE firms, if applicable)
	Supplemental Services Disclosure Form (REQUIRED for Supplemental Services Contract)
✓	All Subconsultants & Proposed Work Type (Including listing DBE firms, if applicable)
✓	Any Additional Required Documents (Specific Requirements in RFQ such as Resumes, etc.)
✓	Commenting or User Rights Feature Enabled in SOQ PDF Document
✓	DBE Goal Assurance/Goal Declaration completed

NOTE: This page is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.