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GILA COUNTY

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PROFESSIONAL SERVICES CONTRACT NO. SS71803D NEW BRIDGE OVER TONTO CREEK

THIS AGREEMENT, made and entered into this 3rd day of November, **2009**, by and between the Gila County Board of Supervisors, a political subdivision of the State of Arizona, hereinafter designated the **COUNTY**, and Kimley-Horn and Associates, Inc. of the City of Phoenix, County of Maricopa, State of Arizona, hereinafter designated the **ENGINEER**.

WITNESSETH: That the **Engineer**, for and in consideration of the sum to be paid him by the **County**, in the manner and at the time hereinafter provided, and of the other covenants and agreements herein contained, hereby agrees, for himself, his heirs, administrators, successors, and assigns as follows:

ARTICLE I – SCOPE OF SERVICES: The Tonto Creek Bridge Project shall be completed in phases, Phase I being Design Concept Report and Environmental Studies and Phase II being Final Design of preferred alternative (Plans, Specifications and Estimates).

The Engineer shall not begin work on any phase of the project until the Engineer has received in writing a Notice to Proceed for that particular phase from the County. It is understood by the Engineer that there is no obligation for the County to authorize Phase II if it elects not to, in which case the Contract will terminate upon the completion of Phase I.

The attached *Scope of Work* and *Derivation of Cost Proposal Summary* by reference are made a part of this Contract to the same extent as if set forth herein in full.

Phases I and II

PHASE I - Scope of Services includes the following tasks:

- 410 - Project Team Meetings
- 415 - Data Collection
- 420 - Surveys & Mapping
- 425 - Administrative Reports
- 430 - Project Scoping
- 440 - Alternatives Analysis & Selection
- 450 - Technical Reports
- 465 - Initial Design Concept Report
- 470 - Draft Environmental Document
- 480 - Final Reviews & Approvals
- 490 - Final Design Concept Report
- 495 - Final Environmental Document
- 500 - 30% Plans & Estimates
- 600 - Contract Administration

PHASE II - Scope of Services includes the following tasks:

- 410 – Project Team Meetings
- 420 – Surveys & Mapping
- 550 – Final Design 60%, 95%, 100%

ARTICLE II – INDEMNIFICATION CLAUSE: Engineer shall indemnify, defend, save and hold harmless the County of Gila and its officers, officials, agents, and employees (hereinafter referred to as “Indemnatee”) from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys’ fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as “Claims”) for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property to the extent caused, or alleged to be caused, in whole or in part, by the negligent or willful wrongful acts or omissions of Engineer or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under the Workers’ Compensation Law or arising out of the failure of such Engineer to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnatee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnatee, be indemnified by Engineer from and against any and all claims arising from its services under this Contract. It is agreed that the Engineer will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable and that Engineer shall defend the claims that appear to fall within the scope of the indemnification, even though Engineer is subsequently found not liable under this Indemnification. In consideration of the award of this contract, the Engineer agrees to waive all rights of subrogation against the County, its officers, officials, agents and employees for losses arising from the work performed by the Engineer for the County.

ARTICLE III - INSURANCE REQUIREMENTS: Engineer and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Engineer, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The County in no way warrants that the minimum limits contained herein are sufficient to protect the Engineer from liabilities that might arise out of the performance of the work under this contract by the Engineer, his agents, representatives, employees or subcontractors and Engineer is free to purchase additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Engineer shall provide coverage with limits of liability not less than those stated below.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage and broad form contractual liability coverage.

▪ General Aggregate	\$2,000,000
▪ Products – Completed Operations Aggregate	\$1,000,000
▪ Personal and Advertising Injury	\$1,000,000
▪ Each Occurrence	\$1,000,000

a. The policy shall be endorsed to include the following additional insured language: "**The County of Gila shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Engineer**".

2. Worker's Compensation and Employers' Liability

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	\$100,000
Disease – Each Employee	\$100,000
Disease – Policy Limit	\$500,000

a. Policy shall contain a **waiver of subrogation** against the County of Gila.

3. Professional Liability (Errors and Omissions Liability)

Each Claim	\$1,000,000
Annual Aggregate	\$2,000,000

a. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, Engineer 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 two (2) years beginning at the time work under this Contract is completed.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the County of Gila is named as an additional insured, the County of Gila shall be an additional insured to the full limits of liability purchased by the Engineer even if those limits of liability are in excess of those required by this Contract.
 2. The Engineer's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.
 3. Coverage provided by the Engineer shall not be limited to the liability assumed under the indemnification provisions of this Contract.
- C. **NOTICE OF CANCELLATION:** Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled, reduced in coverage or endorsed to lower limits except after thirty (30) days prior written notice has been given to the County. Such notice shall be sent directly to Steve Stratton, 1400 E. Ash St., Globe, AZ 85501 and shall be sent by certified mail, return receipt requested.
- D. **ACCEPTABILITY OF INSURERS:** Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the state of Arizona and with an "A.M. Best" rating of not less than B+ VI. The County in no way warrants that the above-required minimum insurer rating is sufficient to protect the Engineer from potential insurer insolvency.
- E. **VERIFICATION OF COVERAGE:** Engineer shall furnish the County with certificates of insurance (ACORD form or equivalent approved by the County) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and endorsements are to be received and approved by the County before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be sent directly to Steve Stratton, 1400 E. Ash St., Globe, AZ 85501. The County project/contract number and project description shall be noted on the certificate of insurance. The County reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time.

- F. **SUBCONTRACTORS:** Engineers' certificate(s) shall include all subcontractors as additional insured's under its policies or Engineer shall furnish to the County separate certificates and endorsements for each subcontractor. All coverage's for subcontractors shall be subject to the minimum requirements identified above.
- G. **APPROVAL:** Any modification or variation from the insurance requirements in this Contract shall be made by the County Attorney, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

ARTICLE IV – LEGAL ARIZONA WORKERS ACT COMPLIANCE: Engineer hereby warrants that it will at all times during the term of this Contract comply with all federal immigration laws applicable to Engineer’s employment of its employees, and with the requirements of A.R.S. § 23-214 (A) (together the “State and Federal Immigration Laws”). Engineer shall further ensure that each subcontractor who performs any work for Engineer under this contract likewise complies with the State and Federal Immigration Laws.

County shall have the right at any time to inspect the books and records of Engineer and any subcontractor in order to verify such party’s compliance with the State and Federal Immigration Laws.

Any breach of Engineer’s or any subcontractor’s warranty of compliance with the State and Federal Immigration Laws, or of any other provision of this section, shall be deemed to be a material breach of this Contract subjecting Engineer to penalties up to and including suspension or termination of this Contract. If the breach is by a subcontractor, and the subcontract is suspended or terminated as a result, Engineer shall be required to take such steps as may be necessary to either self-perform the services that would have been provided under the subcontract or retain a replacement subcontractor, (subject to Engineer approval if MWBE preferences apply) as soon as possible so as not to delay project completion.

Engineer shall advise each subcontractor of County’s rights, and the subcontractor’s obligations, under this Article by including a provision in each subcontract substantially in the following form:

“Subcontractor hereby warrants that it will at all times during the term of this contract comply with all federal immigration laws applicable to Subcontractor’s employees, and with the requirements of A.R.S. § 23-214 (A). Subcontractor further agrees that County may inspect the Subcontractor’s books and records to insure that Subcontractor is in compliance with these requirements. Any breach of this paragraph by Subcontractor will be deemed to be a material breach of this contract subjecting Subcontractor to penalties up to and including suspension or termination of this contract.”

Any additional costs attributable directly or indirectly to remedial action under this Article shall be the responsibility of Engineer. In the event that remedial action under this Article results in delay to one or more tasks on the critical path of Engineer’s approved construction or critical milestones schedule, such period of delay shall be deemed excusable delay for which Engineer shall be entitled to an extension of time, but not costs.

ARTICLE V – SCHEDULE & FEES: The schedule for Phase I is anticipated to be eighteen (18) months from Engineer receipt of County provided Notice to Proceed. See attached Derivation of Cost Proposal Summary for estimated staff hour’s breakdown.

The Schedule for Phase II is anticipated to be six (6) months from finalization and approval of the Design Concept Report and Environment Studies. Fees for Phase II are described in the attached Derivation of Cost Proposal Summary.

DERIVATION OF COST PROPOSAL SUMMARY

(Figures Rounded to the Nearest \$1)

ESTIMATED DIRECT LABOR

<u>CLASSIFICATION</u>	<u>PERSON HOURS</u>	<u>BILLING RATE/HOUR</u>	<u>TOTAL</u>
Project Principal	73	\$ 220.00	\$ 16,060
Project Manager	1,413	\$ 190.00	\$ 268,470
Senior Project Engineer	924	\$ 188.00	\$ 173,712
Project Engineer	1,849	\$ 148.00	\$ 273,652
Engineer/Designer	1,250	\$ 130.00	\$ 162,500
Analyst	1,903	\$ 98.00	\$ 186,494
Senior NEPA Planner	826	\$ 165.00	\$ 136,290
NEPA Planner	1,027	\$ 115.00	\$ 118,105
Tech/Draftsman	1,449	\$ 125.00	\$ 181,125
Administrative	111	\$ 95.00	\$ 10,545
Clerical	264	\$ 65.00	\$ 17,160
	<u>11,089</u>		
<u>Estimated Labor Cost</u>			<u>\$ 1,544,113</u>

ESTIMATED DIRECT EXPENSES (No Markup)

Total Estimated Expenses **\$ 33,042**

ESTIMATED OUTSIDE EXPENSES

<u>FIRM</u>	<u>COST</u>	<u>COMPENSATION METHOD</u>
Logan Simpson Design	\$ 317,120	LSUM
ACS	\$ 130,052	LSUM
JE Fuller	\$ 79,652	LSUM
AMEC	\$ 267,051	LSUM
Alpha	\$ 52,600	LSUM
Appraiser – Dennis Lopez	\$ 10,000	LSUM

Total Estimated Outside Services **\$ 856,475**

TOTAL ESTIMATED COST TO CONSULTANT **\$ 2,433,630**

Allocation Expense @ 3.8% of Labor **\$ 58,676**

TOTAL ESTIMATED LSUM FEE **\$ 2,492,306**

Contract Time 730 Calendar Days

ARTICLE VI – LAWS AND ORDINANCES: This agreement shall be enforced under the laws of the State of Arizona. Engineer shall maintain in current status all Federal, State and Local licenses and permits required for the operation of the business conducted by the Engineer. The Engineer shall comply with the applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and applicable federal regulations under the Act.

ARTICLE VII – ANTI-TERRORISM WARRANTY: Pursuant to **A.R.S. §35-397** the Supplier certifies that it does not have scrutinized business operations in Iran or Sudan and that they are in compliance with the Export Administration Act and not on the Excluded Parties List.

ARTICLE VIII – CANCELLATION: This agreement is subject to cancellation pursuant to **A.R.S. § 38-511**. If the Agreement is terminated, the county shall be liable only for payment for services rendered and accepted material received by the County before the effective date of termination. The Engineer shall be considered in default of this contract and such default will be considered as cause to terminate the contract for any of the following reasons if the Engineer:

- a. Fails to perform the work under the contract within the time specified in the “Notice to Proceed”;
or
- b. Fails to perform the work or fails to provide sufficient workers, equipment or data to assure completion of work in accordance with the terms of the contract; or
- c. Performs the work unsuitably or neglects or refuses to follow the Scope of Work; or
- d. Discontinues the prosecution of the work; or
- e. Fails to resume work which as been discontinued within a reasonable time after notice to do so;
or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or
- g. Makes assignment for the benefit or creditors.
- h. If it is found that gratuities were offered or given by the Engineer or any agent or representative of the Engineer, to any officer or employee of the County.

ARTICLE IX – PAYMENT: The Scope of Services as outlined above will be performed on a lump sum basis with a not-to-exceed without written authorization budget of \$ 1,744,997.00 for Phase I and \$ 747,309.00 for Phase II for a Total Cost of \$ 2,492,306.00.

Prior to Phase II services, the Engineer and the County will review and refine the scope of services for that Phase, as may be required as a result of design, scope, and management decisions made during Phase I. The Phase II scope and fee may be renegotiated and additional or deleted work, as agreed upon and authorized by the County, will be performed on a Time and Materials basis per a mutually agreed upon scope and fee between the County and the Engineer. It is understood that there is no obligation for the County to authorize Phase II if it elects not to, in which case the Contract will terminate upon the completion of Phase I.

Compensation shall follow guidelines for A.R.S. §34-221. Each invoice must include itemized task and dollar figure for each task completed. Each invoice must show a signature by the county representative confirming services rendered and authorizing payment.

IN WITNESS WHEREOF, three (3) identical counterparts of this contract, each which shall include original signatures and for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first above written.

In return for the performance of the Contract by the **Engineer** the **County** agrees to pay the amount of not more than \$ 2,492,306.00 including all applicable taxes through a payment schedule as described in the Contract documents and as may be modified and executed by change orders.

**PROFESSIONAL CONSULTING SERVICES CONTRACT NO. SS71803D
NEW BRIDGE OVER TONTO CREEK DESIGN**

GILA COUNTY:

KIMLEY-HORN AND ASSOCIATES, INC.

GILA COUNTY BOARD OF SUPERVISORS



Shirley L. Dawson, Chairman, Board of Supervisors

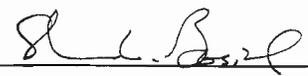


Signature of Engineer

DAVID J LEISTIKO

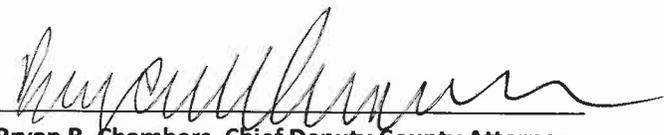
Print Name

ATTEST



Steven L. Besich, County Manager / Clerk

APPROVED AS TO FORM:



Bryan B. Chambers, Chief Deputy County Attorney
for Daisy Flores, County Attorney

GILA COUNTY
PUBLIC WORKS DIVISION

SCOPE OF WORK

New Bridge over Tonto Creek near Punkin Center
FHWA Project No.: HPP-GG1-0(204)A
ADOT TRACS No.: SS 71803D

**LOCATION/DESIGN CONCEPT REPORT,
ENVIRONMENTAL STUDIES & Final Design**

Kimley-Horn and Associates, Inc.

OCTOBER 2009

Section 100 GENERAL INFORMATION

110 Project Description

The New Bridge over Tonto Creek near Punkin Center will provide residents and visitors of Tonto Basin with an all-weather crossing of Tonto Creek. Phase I of the project, Location/Design Concept Report & Environmental Studies, will provide for the determination of the site location and NEPA environmental clearance for the project along with 30% plans and estimate for the preferred alternative. Phase 2, Final Design, will include construction plans, specification and estimates along with necessary environmental and other permits required to construct the all-weather crossing of Tonto Creek. The study area for Phase I consists of the Tonto Basin portion of Tonto Creek located in northwest Gila County, Arizona. The area begins north of Punkin Center, AZ on SR 188, approximately 13 miles south of the intersection of SR 87 and SR 188, to the northern most pool of Roosevelt Lake south of A-Cross Rd. The contributing drainage basin of the creek encompasses an area of approximately 955 square miles. The study area includes multiple residential communities and business developments along Tonto Creek.

Three primitive low-water crossings are presently used to cross Tonto Creek during dry and low flow events. They are referred to as Punkin Center, Bar-X Road (approximately 3.6 miles south of the Punkin Center crossing), and A-Cross Road (located approximately 2.7 miles south of the Bar-X Road).

The following Scope of Work includes Phase I items for the development of the Location/Design Concept Report (L/DCR), Environmental Studies, and the development of the 30% plans and estimate that will be developed for the preferred alternative in accordance with Gila County (County), FHWA and ADOT Local Government standards. The Scope of Work also includes Phase II Final Design items for the preparation of plans, specifications and estimates along with necessary permits.

120 Length of Services

The design of the project will be tied to the timeframe for the required environmental clearances. It is anticipated that the environmental clearances will take approximately 18 months. Therefore, from notice to proceed from the County, the estimated length of services for Phase I will run approximately 18 months. Phase II Final Design is expected to follow immediately after the completion of Phase I and is expected to take approximately 6 to 9 months. The length of Phase II will be refined upon the completion of Phase I during the refinement of the Phase II Scope of Work. For this scope of work it is assumed that the total project duration for both Phase I and II will be 24 months.

130 Schedule

Kimley-Horn and Associates, Inc. (Kimley-Horn) will develop a schedule and work plan addressing the design activities necessary for delivering the project in a timely manner, consistent with the length of service described in Section 120. The schedule will include a list of activities, estimated duration, and other information as appropriate. An initial schedule for review and approval by Gila County (County) will be submitted within two weeks of the Notice to Proceed. The schedule submitted will be customized to reflect the needs of the project. Work elements for which Gila County and other parties have responsibility will be included in the schedule. Updates to the schedule will be made at the regularly scheduled progress meetings.

Section 200 Design References

Design references developed and published by Gila County and the Arizona Department of Transportation (ADOT) will be used in the design of this project. The following design documents include:

- Gila County Roadway Design Standards Manual
- ADOT Bridge Practice Guidelines
- ADOT Roadway Design Guidelines
- AASHTO LRFD Bridge Design Specifications
- AASHTO Policy on Geometric Design of Highways and Streets
- ADOT Guidelines for Highways on U.S. Forest Service Lands
- ADOT Standard Specifications for Road and Bridge Construction, 2008

210 Miscellaneous Reports and Studies for this Project

- Preliminary Engineering Study for Tonto Creek Crossing, FHWA 1993
- Reconnaissance Evaluation and Project Management Plan with an Environmental Evaluation - Special Study, USACE 2004
- Hydrological Analyses, Tonto Creek and selected tributaries, Punkin Center to Theodore Roosevelt Lake, FEMA Technical Memorandum prepared by HDR 2004

220 AASHTO Publications

Gila County and ADOT references and publications will control the work, and any necessary supplementation should be provided by appropriate AASHTO and/or FHWA references. The County's Project Manager will provide guidance and direction.

230 Environmental Publications

The following environmental documents are to be applied to various aspects of the project as is appropriate.

Federal

Endangered Species Act
 Migratory Bird Act
 Clean Water Act
 National Historic Preservation Act
 Clean Air Act
 Civil Rights Act of 1964 and Executive Order 12989
 Resources Conservation and Recovery Act
 Comprehensive Environmental Response, Compensation and Liability Act
 Superfund Amendments and Reauthorization Act
 US Department of Transportation Act
 National Environmental Policy Act

State

- Arizona Native Plant Law
- Arizona State Historic Preservation Act
- State Water Quality Law
- ADOT Highways Division Policy and Implementation Memorandum 89-05, "Preservation of Arizona's Wetlands," August 1, 1989
- Noise Abatement Policy for State-Funded Projects
- State of Arizona Water Control Policy
- Arizona Environmental Quality Act (EQA)
- Hazardous Waste Management Act (HWMA)
- Underground Storage Tank Act of 1986

Local

Local codes and ordinances relating to air quality, noise, dust abatement, light, etc.

Section 300 Design Criteria

The project will be designed in accordance with the references listed in Section 200 and the information presented in this section.

301 Supplemental Design Criteria

The design criteria may be supplemented by Project Design Memorandums provided by Gila County and/or ADOT during the course of the project.

310 General

- Design Year - **2030**
- Design Speed - **35 mph - minimum**
- Pavement Design Life - **20 years**

320 Geometry

In accordance with Gila County Roadway Design Standards Manual the following are specific criteria to be used.

- Slope Guidelines: **4:1 max (2:1 behind guardrail)**
- Maximum Gradient: **12%**
- Maximum superelevation: **0.06 ft./ft.**

Widths

- Number of Traffic Lanes: **2-lanes**
- Traffic Lane: **11 to 12 ft**
- Pedestrian Accommodation: **5 to 6 ft**
- Bike Lanes: **Bike lanes will not be provided**
- Shoulder: **may vary due to right of way; 4 ft. minimum**

Drainage

Design Frequency:

- Pavement - 10 years
- Cross Culverts/Bridges - 100 year, roadway operation; 100 year FEMA
- Bridge Freeboard-To be determined based on project studies
- Storm Drain - 10 years
- Channels - 50 years
- Curb and Gutter Type - Std. C-05 Series (if appropriate)
- Maximum Velocity - Evaluate erodibility of native soil
- Minimum Velocity - Evaluate deposition of soil
- Allowable Headwater - To within three inches of lowest elevation of top of pavement
- FEMA Considerations - Evaluate per ADOT Roadway Design Guidelines, Section 602
- Erosion Control - To be determined per HEC-14 and HEC-15
- Pavement Drainage - Evaluate per HEC-12

Traffic

- Signing Permanent: Rural Local Road
- Signing Temporary: Traffic Control during Construction

Other Features

- Guardrail/Barrier Type – ADOT Std C-10 Series
- Fencing Type – ADOT Std C-12 Series
- Cattle Guards – ADOT Std C-11 Series (if appropriate)
- Retaining Walls – ADOT Std B-18 Series or alternate proprietary retaining wall systems (if appropriate)

Section 400 DESIGN WORK PERFORMED BY KIMLEY-HORN

The work performed for this study will include but is not limited to the following:

A. Initial Design Concept Report:

The alternatives studied, including those considered and discontinued, will be described in detail. The alternatives will be evaluated based upon impact criteria. Specific focus and documentation of the preferred alternative will be provided. Each alternative will be addressed in sufficient detail to clearly document the design concepts, and justify the recommendations and the alternative considerations.

Three Public Information Meetings will be held in the project vicinity to present the project alternatives and solicit comments from the public and interested organizations.

B. Draft Environmental Document

Kimley-Horn, through their sub-consultant Logan Simpson Design (LSD), will prepare a Draft Environmental Document concurrent with the preparation of the Initial Design Concept Report. This document will generally describe the impacts of the recommended action and the necessary mitigation measures. Technical studies/reports will include; air, noise, biological, cultural and hazardous materials. The document will meet local, state and federal standards and comply with the requirements of the National Environmental Policy Act.

C. Final Design Concept Report:

Kimley-Horn will respond to written comments from the review of the Initial Design Concept Report by issuing a Summary of Comments. Kimley-Horn will submit the Final Design Concept Report, sealed by an Arizona Registered Professional Engineer, at the completion of this study. The report will include refinements of the materials developed since the Initial Design Concept Report and revisions resulting from the project comment process. The document will meet local, state and federal standards and comply with the requirements of the National Environmental Policy Act.

D. Final Environmental Document:

Kimley-Horn, through LSD, will prepare a Final Environmental Document concurrent with the preparation of the Final Design Concept Report. This document will incorporate a description of the public involvement process and the responses to the comments received.

E. Structure Selection Report:

Kimley-Horn will recommend alternative structures and superstructure depths to the extent necessary for development of the bridge crossing and roadway concepts. Coordination with ADOT Bridge Group will be required.

F. 30% Plans and Estimate

Kimley-Horn will provide 30% Plans and Estimates for the project concurrent with the Final Design Concept Report.

G. Final Design – Phase II (scope to be refined after DCR has been finalized and NEPA decision document has been prepared)**Order of Events/Project Deliverables**

The following steps and reports are anticipated to be necessary in order to complete the Design Concept Report and Environmental Documents. The steps/reports are listed in approximate chronological order and are discussed in subsequent sections of this document.

Notice to Proceed (NTP)

Project Team Meeting (Kimley-Horn & Gila County)

The first project team meeting will be held as part of the kick-off/partnering meeting

Data Collection

Previous Studies

Small Area Transportation Study

Other Data

Photogrammetry, Surveys, Mapping, Digital Terrain Modeling

Administrative Reports

- Project Coordination Plan
- Public Involvement Plan

Project Scoping

- Project Team Scoping Meeting
- Agency Scoping Meeting
- Scoping Field Review
- Public Scoping Meeting
- Project Scoping Report

Alternatives Selection

- Project Team Meeting (Alternatives Selection)
- Agency Information Meeting (Alternatives Selection)
- Public Information Meeting (Alternatives Selection)
- Alternatives Selection Report

Technical Reports

- Preliminary Geotechnical Report
- Preliminary Drainage Report
- Preliminary Traffic Report
- Biological Assessment Report
- Preliminary Bridge Selection Report
- Cultural Resources Report
- Air Quality and Noise Analysis Report
- Hazardous Materials Survey Report
- Visual Impact Analysis

Identify Preferred Alternative

- Project Team Meeting (Preferred Alternative)
- Agency Information Meeting (Preferred Alternative)
- Public Information Meeting (Preferred Alternative)

Initial Location/Design Concept Report (Concurrent with Draft Environmental Document)

Draft Environmental Document (Concurrent with Initial Location/Design Concept Report)

Review and Approval

- Project Team Meeting (L/DCR & Environmental Document)
- Agency Meeting (L/DCR & Environmental Document)
- Public Hearing (L/DCR & Environmental Document)
- Comment Resolution
- Comment Resolution Documentation for Initial Location/Design Concept
- Comment Resolution Documentation for Draft Environmental Document

Final Location/Design Concept Report (Concurrent with Final Environmental Document)

Final Environmental Document (Concurrent with Final Location/Design Concept Report)

Document Printing and Distribution

30% Plans and Estimates, Final Bridge Selection Report

Final Design Plans, Specifications, Estimates & Permits

410 Project Team Meetings (Monthly Progress Meetings)

Kimley-Horn will attend regularly scheduled progress meetings throughout the development of the L/DCR. Meetings will typically be held on the first Thursday of each month. The location of these meetings will be at Kimley-Horn's offices in Phoenix, Arizona except that two meetings during the course of Phase I will be held in either Globe or Tonto Basin. Kimley-Horn will prepare for the meeting, prepare a meeting agenda, and record notes of the meetings. The meeting notes will be distributed to the team within five work days of the meeting. Kimley-Horn anticipates at least three staff/team members attending each meeting.

The first project team meeting will be held as a partnering workshop where all proposed team members will be invited to attend. The workshop will focus on roles, responsibilities and needs for the project as well as commitment to schedule and partnering. The number of monthly progress meetings will be up to 15 over the scheduled 18 month Phase I project duration.

415 Data Collection

Kimley-Horn will gather all available planning and development documents related to the project area. From Gila County, Kimley-Horn will request the assessor's maps and ownership records of the properties adjacent to and within the existing and proposed right-of-way. Property lines will be plotted on the aerial photos and/or mapping to be used for exhibits. Kimley-Horn will acquire the names and address of property owners that are within the project study area. This list will be used for notification of public informational meetings. This ownership list will also be of used for acquiring rights of entry for surveys as required.

420 Surveys and Mapping

Kimley-Horn will utilize the existing survey and mapping data provided by Gila County as a basis for the project development. The survey/mapping will be supplemented with the Gila County Road Atlas data to be provided by the County. It is agreed that this data is sufficient for use during Phase I of the project – Alternatives Selection and Design Concept Report.

Kimley-Horn through their sub-consultant Alpha Engineering (in conjunction with Cooper Aerial) will provide updated aerial photo and topographic mapping for the preferred alternative, including 1-ft contours and existing features, prior to preparation of the 30% plans.

All surveys and mapping for the project will be referenced directly to the existing as-built roadway centerlines. The centerline will be re-established in its original position by locating, marking, staking and referencing the PC, PT, TS, SC, CS, ST, PI (if possible), and a minimum of fifty (50) feet station intervals along the curves and one hundred (100) feet station intervals on tangents. The use of offset baselines for re-establishing or defining the existing centerline is not permitted unless approved in advance by Gila County.

Aerial mapping will be at a scale of 1"=40' with a contour interval of 1'. Aerial targets will be set as delimited by the aerial surveyor with an additional 2 targets set as "Blind Targets". These blind targets will be withheld from the aerial surveyor until the processing of the images is complete and will be utilized as an overall check of the mapping.

In addition to the aerial mapping, a ground survey will be performed at the existing road tie in points. This survey will include curb and gutter, pavement, any utilities and will supplement the aerial mapping. All trees 4" in diameter or greater within 80' of the proposed roadway alignment will be located and added to the mapping

The survey data will be based on NAD 83 State Plane and be scaled to a ground definition. All Metadata for the coordinate system will be submitted to with the mapping. NGS (National Geodetic Survey) control stations along Highway 188 will be used to control both the horizontal and vertical coordinate systems. In the event that an inadequate number of control stations are found, a static GPS survey will be performed and post processed against the existing network of CORS (Continually Operating Reference Stations), published and maintained by NGS.

Kimley-Horn will obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required as part of the permitting. Preparation of surveys will conform to applicable documents referenced in Section 200 of the Scope of Work, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

If necessary Kimley-Horn will be responsible for delineating the proposed new centerline, right-of-way, and/or toe of slope to assist in the evaluation of the proposed alternates, utility locations, and to assist with any required archaeological testing.

Completed surveys and maps will be recorded in a format acceptable to Gila County. Upon final approval, the books, maps and CADD files, and other diskettes, will be submitted to the Gila County Project Manager.

425 Administrative Reports

426 Project Coordination Plan

Kimley-Horn will prepare a Coordination Plan for the project, providing for coordination between Gila County, FHWA, Tonto National Forest, ADOT, participating agencies, and the public during preparation of the EA and L/DCR. The Coordination Plan will be submitted to Gila County for review and approval within two weeks of Notice to Proceed.

428 Public Involvement Plan

Kimley-Horn will provide the following services through and with the assistance of LSD.

LSD, and Kimley-Horn, will develop a Public Involvement Plan (PIP) that will outline the strategy to obtain meaningful input from the public, government agencies, non-governmental organizations, and other stakeholders on the proposed project, alternatives and environmental impacts. The PIP will identify the roles and responsibilities of the project team, LSD and Kimley-Horn; the types, number, and purpose of the recommended meetings; and the methods by which the communities will be notified and kept informed about project developments. The PIP will include a preliminary schedule of public involvement activities, although it is recognized that public outreach components need to be timed based on overall project status and deliverables. The initial mailing list and potential meeting locations will also be included in the PIP.

LSD and Kimley-Horn will send an electronic file of the draft PIP to the core project team members (Gila County, Tonto National Forest [TNF], Federal Highway Administration [FHWA], and Arizona Department of Transportation [ADOT] Local Government Section) for comments. Upon receipt of written comments, LSD will respond to the comments and provide a revised electronic PIP for core project team members to review before distributing the final PIP to the extended project team.

LSD, in coordination with Kimley-Horn, will develop the initial mailing list with input from the project team. LSD will maintain the project mailing list for all affected public and private agencies and organizations and all private individuals who have commented on the project or who have expressed an interest in being on the mailing list. The mailing list will include all private property owners living within the project area which is defined as the private property shown on the Kimley-Horn "Project Area" map presented at the short list interview.

LSD, in coordination with Kimley-Horn, will schedule and coordinate a strategy meeting prior to any public meeting with the Gila County Project Manager, ADOT Local Government Section, and any other necessary participants from the project team. The purpose of this meeting will be to determine meeting format, necessary graphics and to identify the roles of all participants.

LSD will be responsible for coordinating all public meetings and the preparation of meeting material for, and reporting the results of these meetings. LSD will provide meeting notification material including a press release and a display ad. A flyer will also be prepared by LSD and posted by the County in high-visibility locations. Preparation of meeting notification materials will be completed prior to the public meetings to allow for project team review. Meeting notification for the public meetings and hearing in the appropriate newspapers will be the responsibility of Gila County. Mailing notification to the individual property owners and public identified on the mailing list will be done by LSD a minimum of 2 weeks before the public meeting is to be held. LSD will identify public meeting facilities and upon approval of the County will reserve the facility. Gila County will also be responsible for any liability insurance, as required, for the meeting rooms.

430 Project Scoping

432 Project Team Scoping Meeting

A Project Team Meeting will be held in Phoenix in preparation for the Agency Scoping Meeting, Scoping Field Review, and Public Scoping Meeting. The purpose of this meeting will be to:

- Identify participants
- Set expectations for the project for each team member
- Build consensus on the process to be used for the project development
- Review graphics and exhibits
- Review possible questions and answers
- Identify strategies
- Prepare Meeting Advertisement

Note: advertisement will be completed four weeks prior to the Public Meeting to allow for review and public advertisement two-weeks and one-week prior to the Public Meeting.

434 Agency Scoping Meeting

An Agency Scoping Meeting will be held in Phoenix after the Project Team Scoping Meeting. Kimley-Horn and Gila County will conduct and/or moderate this meeting.

LSD will be responsible for the coordination and facilitation of the Agency Scoping Meeting. The purpose of this meeting is to notify and/or meet with applicable federal, state, and local agency/entity representatives to identify their project-related issues, needs and concerns. At the Agency Scoping Meeting, the preliminary purpose and need for the project may also be provided to the agency representatives for review and comment.

LSD's responsibilities will include:

- Providing three staff members to attend the meeting
- Coordinating meeting logistics
- Preparing a draft mailing list, letter of invitation, and agenda for review by the project team at least five weeks prior to the agency scoping meeting
- Distributing up to 40 letters of invitation to agency/entity representatives
- Sending an e-mail reminder to individuals on the mailing list
- Providing meeting materials, including: nametags, sign-in sheets, comment sheets, and refreshments (such as cookies, coffee, water)
- Recording the meeting notes, summarizing the comments received and distributing a draft of the summary and comments to the project team within 10 business days from the comment period deadline
- Submitting a final summary of the meeting to Gila County by e-mail for distribution to the meeting participants

Kimley-Horn will be:

- Responsible for exhibits and easels

The following is a proposed list of agencies that will receive coordination letters for the project:

Federal Highways Administration (FHWA)
 ADOT Local Government & ADOT Globe District
 US Department of Agriculture – Tonto National Forest
 Bureau of Land Management
 Bureau of Reclamation
 Native American communities (Tribal Chairmen of interested Indian communities)
 US Fish and Wildlife Service
 Arizona State Land Department
 Arizona Game and Fish Department (AGFD)
 Arizona Department of Environmental Quality
 Arizona Department of Water Resources
 Gila County affected Agencies (outside Public Works)
 Central Arizona Association of Governments (CAAG)
 Relevant utility companies (Salt River Project)
 Irrigation or water user's associations
 Resident's or home owners associations

Kimley-Horn will coordinate with Gila County as to the time and date of the meeting. After reaching a consensus for the date and time a letter of notification will be sent a minimum of two weeks prior to that date to all of the invited personnel and/or agencies.

436 Scoping Field Review

Kimley-Horn will arrange a visit to the project site with Gila County, FHWA, TNF, ADOT, utility companies (as needed), major land owners, and other agency representatives. The site visit will be scheduled at least two weeks prior to the visit. The visit will be held shortly after Kimley-Horn is authorized to proceed. This site visit will be held after and on a separate day from the Agency Scoping Meeting. The purpose of this visit is to acquaint key personnel with the details and features of the project and to gather input on issues, concerns and opportunities.

Kimley-Horn will record all major conflicts, comments, and preferences voiced by the involved parties during the field review.

438 Public Scoping Meeting

Kimley-Horn will provide the following services through and in assistance with LSD.

LSD will coordinate and facilitate one Public Scoping Meeting for the project. The meeting will be held in the vicinity of Punkin Center. The purpose of the Public Scoping Meeting is to notify and/or meet with the public about the project, present the preliminary purpose and need, and obtain public comments on issues, needs and concerns. The meeting will be an open house format, with a short presentation followed by a question and answer session. The meeting is estimated to be two hours long, LSD has allocated one hour prior to the meeting for set-up and 30 minutes following the meeting for clean-up.

As part of the Public Scoping Meetings, LSD responsibilities will include:

- Coordinating meeting logistics
- Preparing a schedule of key milestones for the project team to indicate dates of submittals and reviews of the public material and notices
- Prepare draft and final meeting notification flier
- Print and distribute meeting notification fliers (up to 100)
- Providing name tags for the project team, sign-in sheets, handouts, comment sheets, and light refreshments (such as cookies, coffee, water) if the facility allows food to be brought into the venue
- Provide three staff members to coordinate and facilitate the meeting
- Preparing and placing signs to direct people to the meeting location
- Creating a handout in English for the meeting based on technical information provided by KHA, and providing up to 100 copies per meeting
- Providing Section 508-compliant meeting materials
- Facilitating a question and answer session during the meetings, if required

Kimley-Horn will:

- Mail out the meeting notification to all private property owners within the project area as defined in Section 428
- Prepare exhibits and provide easels for the exhibits
- Provide technical information to LSD for the meeting handout(s)
- Prepare a PowerPoint presentation, if one is desired
- Make any presentation, if warranted, and interact with the public to address technical questions and concerns
- Assist with analyzing public comments and conduct any necessary follow-up

Gila County will be:

- Responsible for public notification of the public scoping meeting in the appropriate newspapers

439 Project Scoping Report

LSD, with assistance from Kimley-Horn, will prepare a brief written draft Project Scoping Report within 14 days of the close of the public comment period. The Scoping Report will include an executive summary; meeting minutes or summaries of the Agency Scoping Meeting, Agency Field Review, and Public Scoping Meeting; and copies of submitted comment sheets, handouts, graphics and attendance lists or sign-in sheets from each meeting. The purpose of the Project Scoping Report is to summarize all activities associated with the public and agency scoping meetings.

LSD assumes that there will be one round of revisions associated with the draft Scoping Report. An electronic copy of the final Scoping Report will be provided to Kimley-Horn for distribution.

440 Alternatives Selection

Kimley-Horn will develop six alignment alternatives within the project area. It is assumed that these alignments will be generally located near the four previously studied crossing locations from the Corps and FHWA reports.

Exhibits will be created for each of the alignments for review and discussion at project and agency meetings. The alignments will be modeled to generate cut and/or fill limits for use in evaluating environmental and hydraulic impacts for the respective locations. Consideration of impacts to adjacent properties will also be analyzed.

442 Project Team Meeting (Alternatives Selection)

A Project Team Meeting will be held to present the selected alternatives to the Project Team to prepare for the Agency and Public Information Meetings. Kimley-Horn will present alternatives considered, provide an evaluation matrix, make recommendations, solicit comments, and obtain consensus. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information meetings

444 Agency Information Meeting (Alternatives Selection)

Kimley-Horn will provide the following services through and in assistance with LSD.

LSD will coordinate one Agency Information Meeting to discuss project design alternatives. The alternatives selection process includes evaluations of direct effects, as well as indirect and cumulative effects of each alternative, including the no-build (no action) alternative. The discussion, comments and consensus from this meeting will be incorporated as Kimley-Horn continues development of the project.

LSD's responsibilities will include:

- Coordinating meeting logistics
- Preparing a draft and final letter of invitation and an agenda
- Distributing up to 40 letters of invitation to agency/entity representatives
- Sending an e-mail reminder to individuals on the mailing list
- Providing three staff members to attend the meeting and take notes
- Providing meeting materials including name tags, sign-in sheets, comment sheets, the agenda and light refreshments
- Preparing a summary of the Agency Information Meeting to the core project team members for review within 14 calendar days of the meeting

Kimley-Horn will:

- Be responsible for appropriate exhibits and easels

The Agency Information Meeting will occur in the afternoon on the same day as the Public Information Meeting

446 Public Information Meeting (Alternatives Selection)

Kimley-Horn will provide the following services through and with the assistance of LSD.

A Public Information Meeting will be held in the project vicinity to present the proposed alternatives and solicit comments from the public and interested organizations. LSD, with assistance from Kimley-Horn, will assist Gila County in the preparation, coordination and presentation of the project alternatives to the public. As part of the public information meetings,

LSD responsibilities will include:

- Providing three staff members to coordinate and facilitate the meeting
- Preparing a schedule of key milestones for the project team to indicate dates of submittals and reviews of the public material and notices
- Coordinating meeting logistics
- Prepare draft and final meeting notification flier
- Print and distribute meeting notification fliers (up to 100)
- Providing name tags for the project team, sign-in sheets, handouts, comment sheets, and light refreshments (such as cookies, coffee, water) if the facility allows food to be brought into the venue
- Preparing and placing signs to direct people to the meeting location

- Creating a handout in English for the meeting based on technical information provided by Kimley-Horn and providing up to 100 copies per meeting
- Providing Section 508-compliant meeting materials
- Facilitating a question and answer session during the meetings, if required
- Preparing a brief Summary Report of the Public Information Meeting within 14 calendar days after the close of the comment period. The summary report will include a description of the meeting date, location, and format; copies of the sign-in sheets and any handouts made available to the public; and copies of written comments submitted to Gila County and ADOT. One round of revisions is assumed.

Kimley-Horn will:

- Mail out the meeting notification to all private property owners within the project area as defined in Section 428
- Prepare exhibits and provide easels for the exhibits
- Provide technical information to LSD for the meeting handout(s)
- Preparing a PowerPoint presentation, if one is desired
- Making any presentation, if warranted, and interact with the public to address technical questions and concerns
- Assist with analyzing public comments and conduct any necessary follow-up

Gila County will:

- Be responsible for notification of the public information meeting in the appropriate newspapers

448 Alternatives Selection

Kimley-Horn will prepare a brief Alternatives Selection Report recommending those alternatives to be carried forward for complete evaluation in the Initial Location/Design Concept Report and Draft Environmental Document.

LSD will provide environmental considerations in matrix format for inclusion in the Feasibility Report for up to six alternatives.

450 Technical Reports

451 Preliminary Geotechnical Assessment Report

Kimley-Horn, through sub-consultant AMEC, will provide the following geotechnical services for Phase I of the project. The purpose of the geotechnical assessment and preliminary investigation is to provide the design team with the geological and geotechnical information to select a preferred bridge site and complete 30 percent design plans for the structure and approach roads. The services in this scope of work will supply the design team with a description of the geotechnical conditions exposed within the project limits and encountered during the preliminary subsurface investigations, with a focus on addressing key issues that could affect construction and/or performance of the bridge structure and approach roads.

451.1 Review of Available Data and Imagery

Available literature, mapping and imagery will be obtained and reviewed to 1) assist in characterizing the hydro-geological, geotechnical and geomorphic settings within the project limits and at each of the alternative sites; 2) rank the conditions at each site; and 3) identify potential constraints. Aerial photographs will be reviewed to evaluate the geomorphic conditions of Tonto Creek—such as historic terraces, floodplain limits, fluvial scarps and abandoned sloughs—and their potential impact on bridge design and performance.

451.2 Geologic Reconnaissance and Mapping

A ground reconnaissance will be performed at each proposed bridge site to characterize and document geological and geotechnical conditions. Geologic mapping will be performed at each site using base maps provided by Kimley-Horn. The mapping will include the delineation and characterization of soil and rock units using the genesis-lithology-qualifier system. In particular, engineering properties of the exposed soils that could impact design and construction of the bridge and approach roads (such as compressive and expansive soils, strongly cemented soils, etc.) will be identified and documented. Digital photographs of pertinent features will be obtained during the reconnaissance.

450.4 Exploration Drilling

Three exploration borings will be advanced during Phase I of the project to provide a preliminary characterization of the subsurface profile at one or more of the alternative sites. Locations of the three borings will be based on the results of the geologic reconnaissance and review of preliminary bridge plans.

AMEC will mobilize and demobilize a field engineer/geologist, subcontracted drill rig and drill crew, and auxiliary vehicles and equipment to and from the site. Enviro-Drill, Inc. will provide drilling services, including a truck-mounted drill rig to access the planned boring locations (assuming that the borings can be accessed by truck-mounted drill rigs with four-wheel drive). The borings will be advanced to a depth of 120 feet or refusal using rotary percussion methods such as ODEX. Standard penetration testing or open-end drive sampling will be performed at 5-foot to 10-foot intervals in those portions of the borings that encounter soil. AMEC's field engineer or geologist will direct the drilling program, continuously examine the soil and rock encountered in the borings, visually classify the soil and rock and prepare boring logs. Soil and rock samples will be obtained from each boring for laboratory testing.

Prior to starting the drilling program, the borings will be marked in the field with lath, and Arizona Blue Stake will be contacted to mark underground utilities in the vicinity of the borings. Drilling permits will be obtained from the Arizona Department of Water Resources (ADWR), and the borings will be abandoned in accordance with ADWR requirements. AMEC anticipates that Kimley-Horn will obtain environmental clearance for the drilling program, and that AMEC will assist in this effort by providing the necessary information for the clearance. A site safety plan will be developed prior to mobilizing to the field. The plan will identify and discuss methods of minimizing hazards associated with working in rugged terrain and working around drill rigs.

450.5 Laboratory Testing

Laboratory tests will be performed as necessary to support engineering analyses. Phase I laboratory testing will include grain-size analysis (including gradation analysis on sediment samples collected as part

of the sediment transport study in Task 452), Atterberg limits (plasticity index), moisture content, density of undisturbed ring samples, resistivity and total soluble sulfates and chlorides.

450.6 Report Preparation

Six copies of draft and final geotechnical assessment and preliminary investigation report will be submitted. The report will include the data necessary to support the alternatives analysis and preliminary foundation design of the planned structure. The items that will be presented in the report include, but will not necessarily be limited to, the following:

- Geologic maps of the primary bridge sites showing key features
- Logs of test borings, a site plan showing the boring locations, and a description of the procedures and equipment used in the drilling program
- Results of laboratory tests
- Descriptions of the geology and interpreted geotechnical profile at each of the three primary bridge sites based on the results of a the Phase I data review and onsite investigations
- Preliminary seismic design parameters based on published probabilistic seismic hazard assessments
- A simplified matrix of geologic selection criteria and a ranking of the sites based on the results of the Phase I assessments and investigations
- Identification of potential site constraints for both the bridge and approach roads
- Anticipated foundation conditions and preliminary recommendations for foundation support components at the preferred site

The final version of the report will be issued subsequent to receipt of review comments on the draft report.

452 Preliminary Drainage Report

This task will evaluate the existing and proposed river mechanics and sediment transport of Tonto Creek from FEMA workmap cross section 53667 to cross section 913. This task includes development of base river conditions reflecting the existing conditions of the river. The flood flow peak discharges in the study reach are based on effective FEMA discharges as noted below. The development of the existing conditions river analysis includes review of previous river hydrology, preparation of a hydraulic model of existing conditions (using the FEMA effective model as the base model), and the preparation of a sediment transport model of existing conditions. The existing conditions hydraulic model of the river will be conducted for the 10, 50, 100, and 500-year floods. These four flood storm events are used not only for bridge hydraulics and sediment transport but also for evaluation of bridge scour and contraction scour per ADOT and FEMA requirements. A sediment transport study will evaluate the potential long-term aggradation (deposition or overall rising) or degradation (scour or overall lowering) of the river channel bed in response to the 100-year flood event and a longer term dominant flow event.

The existing conditions river analyses form the foundation of subsequent analyses of alternative bridge geometries and approach roadways. The existing conditions analysis is required regardless of which bridge alternative(s) is/are evaluated. The existing conditions hydraulic analysis will be modified to reflect the proposed alternatives for the new bridge and roadway approaches. The new bridge will be designed to pass the 100-year flow in Tonto Creek as presented in the description of the bridge

alternatives below. The hydraulic models will be modified to reflect the impacts of the proposed alternatives. The sediment transport model will be modified to reflect the impacts of the preferred bridge location (of the six proposed locations).

This task includes the evaluation on a hydraulic basis of six potential bridge crossing alternatives of Tonto Creek. The proposed bridges and approach roadway alternatives will be evaluated to design the bridges to convey the 100-year flow for Tonto Creek. The bridge alternative locations will be analyzed to meet FEMA freeboard criteria for bridges for the 100-year flood. Four potential bridge locations are in the vicinity of the sites known as: Kayler Crossing, Punkin Center, Bar-X, and A-Cross. The other two potential bridge locations have not yet been identified but will be located within the study reach and as alternate locations to the four sites identified above.

The purpose of this task and subtasks are to collect and review existing river information and data for Tonto Creek, develop hydraulic models for existing river conditions, prepare hydraulic models for evaluation of the proposed bridge alternative locations, and develop and assess the geomorphology of the river within the project study limits. This task will be conducted based on the three level approach identified in the "Design Manual for Engineering Analysis of Fluvial Systems" by the Arizona Department of Water Resources (March 1985).

Task Standards and Guidelines: The following standards, guidelines, and manuals are listed as references for the development of the hydraulic and sediment transport models, scour analysis, evaluation of river mechanics and geomorphology, and development and evaluation of bridge location alternatives for Tonto Creek. Other applicable guidelines and standards may be used as deemed applicable and appropriate by Kimley-Horn.

- "Watercourse System Sediment Balance", Arizona Department of Water Resources Flood Warning and Dam Safety Section. State Standard SSA 5-96. September, 1996.
- "State Standard for Bank Stabilization", Arizona Department of Water Resources Flood Mitigation Section. State Standard SSA 7-98. May, 1998.
- "Stream Stability at Highway Structures" (Third Edition). Federal Highway Administration. Hydraulic Engineering Circular No. 20. March 2001.
- "Evaluating Scour at Bridges" (Fourth Edition). Federal Highway Administration. Hydraulic Engineering Circular No. 18. May 2001.
- "Hydraulics of Bridge Waterways". Federal Highway Administration. Hydraulic Design Series No. 1. 1973.
- "River Hydraulics". US Army Corps of Engineers. Engineering Manual EM 1110-2-1416. October 1993.
- "Design and Construction of Levees". US Army Corps of Engineers. Engineering Manual EM 1110-2-1913. April 2000.
- "Sedimentation Investigations of Rivers and Reservoirs". US Army Corps of Engineers. Engineering Manual EM 1110-2-4000. December 1989.
- "Channel Stability Assessment for Flood Control Projects". US Army Corps of Engineers. Engineering Manual EM 1110-2-1418. October 1994.
- "River Hydraulics". American Society of Civil Engineers. Technical Engineering and Design Guides as Adapted from the US Army Corps of Engineers, No. 18.
- "Computing Degradation and Local Scour". Technical Guideline for Bureau of Reclamation. US Bureau of Reclamation. January 1984.
- "Design Manual for Engineering Analysis of Fluvial Systems". Arizona Department of Water Resources. March 1985.

- Draft Drainage Design Manual-Erosion Control, Flood Control District of Maricopa County

452.1 Data Collection

Kimley-Horn will collect and review pertinent data from Gila County and other outside sources. These outside sources include but are not limited to the following:

- US Bureau of Reclamation
- US Army Corps of Engineers
- Natural Resources Conservation Service
- Federal Emergency Management Agency
- Federal Highway Administration
- US Geological Survey
- US Department of Agriculture – Tonto National Forest Service
- Arizona Department of Water Resources
- Arizona Department of Transportation
- Arizona Geological Survey
- Local Soil and Water Conservation Districts
- Salt River Project

Kimley-Horn, with assistance from their sub-consultant; JE Fuller/Hydrology & Geomorphology, Inc. (JEF), will research the availability of historical photographs, historical surveys, and geomorphic data. Other data to be collected will include materials relevant to the project, such as: hydraulic and scour studies, previous flood hazard reports and hydrology for the study area; existing topographic mapping; historical flooding information; as-built plans for any existing structures (SR 188 bridge and culvert crossings), hydrologic studies and models; hydraulic studies and models; FEMA Flood Hazard Boundary Maps and any Letters of Map Amendment and/or Revisions, bridge scour studies (ADOT and local bridge studies), levee and bank protection studies and plans, utility crossing studies and plans, and regional sediment yield studies.

Kimley-Horn will prepare a memorandum summarizing the Tonto Creek data collection and information gathering effort for this subtask to be included in the Hydraulics and Sediment Transport Report in subtask 452.9 below.

452.2 Site Reconnaissance Visits

Kimley-Horn will visit the project study reach of Tonto Creek to become familiar with existing stream conditions upstream and downstream of the proposed bridge crossing alternatives. The site visits will include the Tonto Creek floodplain, overbanks, and river channel within the study reach. The purpose of the field visits is to review river channel morphology, observe stream bed materials, identify reaches of aggradation or degradation, observe bank conditions, observe channel or levee improvements, observe other river structures such as bank protection, diversion dams, and outfalls. The site visits will be used to assist in the development of river hydraulic parameters such as Manning's roughness coefficients, vegetation type and density, locations of channel banks, and low flow channel braiding/meandering.

Kimley-Horn will conduct two (2) site visits to the study reach. The first visit (separate from Task 436 above) will be at the inception of the Project to become familiar with the river within the study reach. The first site visit will be one day in duration and will include the County's Project Manager. The second site visit is to observe and verify existing river conditions along Tonto Creek within the study reach. It is anticipated that the second site visit will take two to three days to complete. This task will be conducted in conjunction with the field investigation for subtask 452.5 below.

Kimley-Horn will prepare a field documentation memorandum for the second site visit for inclusion in the Hydraulics and Sediment Transport Report in subtask 452.9 below. The report will include discussion of observations (conditions of channel, bank, structures, etc.) in the field, structures within the study reach, and photo-documentation.

452.3 River/Tributary Hydrology

Kimley-Horn will use the current FEMA effective discharges for Tonto Creek within the study reach. The effective FIS discharge of Tonto Creek upstream of Soloman Creek confluence is 137,000 cfs and downstream is 144,000 cfs. Other discharges will be required for subsequent hydraulic and sediment transport evaluations. These discharges may include the 10-year, 50-year, and 500-year flood events in the river. Kimley-Horn will obtain, from existing hydrologic studies, the discharges for these flood events and the necessary hydrographs or hydrograph shapes for Tonto Creek for subsequent subtasks. If these discharges and hydrographs are not available in the literature, Kimley-Horn will develop the required discharges and hydrographs using simplified methods such as interpolation (unit discharges, etc.), and/or hydrograph translation. No hydrologic analysis or hydrologic modeling of Tonto Creek or watershed or tributaries is included in this scope of work.

Kimley-Horn will use the current FEMA effective discharges for the tributaries of Tonto Creek. The proposed bridge sites are located near, just upstream, or just downstream of tributaries (for example, the Punkin Center bridge site is located at the confluence with Lambing Creek, Park Creek, and downstream of Reno Creek). The tributary discharges will be used in the hydraulic analysis of potential confluence between the tributary, Tonto Creek, and the potential bridge locations. The evaluation of side tributary hydraulics is included in subtask 452.8 below.

452.4 River Hydraulic Analyses – Existing Conditions

Kimley-Horn will use the Effective FEMA FIS Tonto Creek HEC-RAS model as the base model for subsequent hydraulic model development. Kimley-Horn will prepare a HEC-RAS Duplicate Effective Model from the FEMA Effective Model. Kimley-Horn will compare the results of the HEC-RAS model with the Duplicate Model. Differences in the Effective and Duplicate Effective results will be reviewed and discussed in the hydraulics report in Task 452.9 below. The HEC-RAS Duplicate Effective Model will be updated and modified to reflect changes and modifications within the study reach of Tonto Creek made since the Effective Model. These changes potentially include changes in channel bank station locations, Manning's n-values, and any new topographic mapping within the study reach. This model will be the Existing Conditions Model. The Existing Conditions models will be the base model for evaluating proposed bridge location alternatives and for proposed bridge configuration (type, size, and location) and approach roads in subtask 452.8.

Kimley-Horn will develop a HEC-RAS model for the 10-year, 50-year, and 500-year peak discharge, in addition to the 100-year model based on the FIS discharges. Kimley-Horn will use the FIS flow rates at each cross section for the 100-year model as noted above in Section 452.3.

452.5 Sedimentation

The purpose of the sedimentation analysis task is to simulate the long-term stream bed profile response of Tonto Creek based on proposed project conditions within and along the river corridor. Kimley-Horn/JEF (lead investigator) will develop a sediment trend analysis that will be used as to evaluate the impact of potential bridge location alternatives on existing conditions. The sediment trend analysis is a Level III analysis which will be sufficient to project trends and impacts on infrastructure and function as a site specific analytical tool for the proposed bridge and channel improvements.

452.5.1 Field Investigation

Kimley-Horn/JEF will conduct a field investigation of the study reach to observe and document existing channel and floodplain conditions, to collect sediment samples, to observe evidence of recent and historical flood impacts, and collect data for use in the sedimentation and alternatives analyses. The field investigation will include observation of the overall river and appropriate tributaries that aid in the calculation of sediment transport quantities, photographic documentation of sediment characteristics, and inspection of flood control or drainage structures. It is anticipated that the field investigation will encompass approximately two to three days.

JEF will obtain hand-dug samples of the existing channel bed and banks at strategic locations throughout the project reach of Tonto Creek. Samples may be obtained from up to ten (10) locations selected by Kimley-Horn/JEF. Representative samples (3 per location) will be obtained from the channel bed (active transport layer) and primary channel banks, for a total of up to 30 samples. Visual estimates of bank sediment characteristics may be substituted for physical samples, at the discretion of JEF, where bank conditions would prevent normal sampling procedures. In addition, pebble count samples will be obtained for the surface layer of the channel bed at each sampling location. Gradations of the sediment samples will be plotted, by others, for both the channel bed and banks. Changes in the gradations throughout the study reach will be documented in a geotechnical analysis report to be provided by others.

452.5.2 Field Reconnaissance Report

Kimley-Horn/JEF will prepare a field reconnaissance report that summarizes the site visits including photographs to document field sediment information, sand and gravel mines, levees, bridges, and general geomorphic characteristics of Tonto Creek.

452.5.3 Sediment Transport

JEF will conduct an evaluation of three (3) sediment transport functions currently available in the most recent version of HEC-6T code; the functions will be tested to evaluate their validity for Tonto Creek. In addition, sensitivity analyses of the various input parameters for the sediment transport functions, including Manning's roughness coefficient, will be performed. The functions to be evaluated are: Meyer-Peter Mueller; Yang's; and Toffaletti and Schoklitsch. The evaluation of these functions shall be conducted on a short reach (2 to 3 miles) of Tonto Creek.

JEF will develop an existing condition (base condition) HEC-6T sediment transport model for the project reach length for the 100-year hydrograph and for a longer duration low-flow, dominant discharge (10-year hydrograph) event from data provided by Kimley-Horn. The base condition model will be developed using the flood insurance HEC-RAS model. The hydrographs used in the HEC-6T model will be developed by JEF and will match peak discharge rates established by Kimley-Horn. The hydrograph shape will be based on the shape of a recent large flood hydrograph as recorded at a USGS stream gauge on Tonto Creek. The sediment model will establish existing base conditions of Tonto Creek. The model will be modified, as appropriate, to reflect field observations and sediment transport trends. The models will be used to assess potential reaches of aggradation (sediment surplus) or degradation (sediment deficit). The impact of sediment deposition during major flood events will be evaluated regarding the alternatives. The development scenarios for these models for the 100-year and low flow dominant discharge are provided as follows:

- Model I: Development of a model to evaluate the sediment transport under existing conditions.

- Model II: Development of an alternative condition model using the existing condition model (Model I) to reflect a new 100-year bridge at the Preferred Alternative location, determined by Kimley-Horn.

452.5.4 Summary Report

JEF will prepare an engineering report describing the modeling procedure and assumptions made based upon the availability of sediment in the river system. The report shall include: comparison of the previous sediment studies (if applicable) within the study area and the results obtained by the HEC-6 models. Major differences will be addressed which will ultimately be discussed in the final report. Calculation of bed surface profiles, sediment transport capacity at each section, volume of material scoured or deposited between cross-sections, associated change in bed surface elevation, and the modification of cross-section geometry to appropriately reflect the scenarios considered and under each event. The report shall include preparation of cross-section plots. The cross-sections will show water surface profiles, limits of the movable bed, gradation for scour calculations, and model invert. The summary report will include the analysis results of each modeling effort. Final sediment transport maps will include the points of gradation, volume, depth, change of velocities, water surface elevations, and invert profiles.

452.5.5 Deliverables

Three draft and final copies of the Sediment Transport Report including CD with sediment transport input and output and backup data. Report to be provided in PDF and Word format.

452.6 – Potential River Lateral Migration

450.6.1 Lateral Migration Analysis

JEF will conduct a general lateral migration analysis for Tonto Creek within the study reach. The analysis will consider historical information and sedimentation trends resulting from the HEC-6 analyses. Two lateral migration zones will be delineated in the immediate area of the alternative bridge crossings to assess the need for approach protection and changes in flow alignment. The zones will identify areas of high and low potential migration.

452.6.2 Equilibrium Slope

JEF will conduct a dynamic equilibrium slope analysis for Tonto Creek to study long-term aggradation and degradation. Sediment samples collected for Task 452.5 will be utilized. JEF shall utilize the equilibrium slope methodology as found on page 5.73 in Design Manual for Engineering Analysis of Fluvial Systems, Arizona Department of Water Resources, 1985. The existing channel slope and the dynamic equilibrium slope shall be listed in a tabular format for comparison. When a pivot point such as grade control, culvert, or armored channel bed can be found, the long-term aggradation and degradation shall be estimated. The sediment inflow for dynamic equilibrium slope analysis will be obtained from a sediment transport function recommended by JEF and approved by Kimley-Horn.

452.6.3 Armoring Potential

JEF will compute the armoring potential of Tonto Creek within the study reach using the following methodologies developed by the U.S. Bureau of Reclamation:

- Meyer-Peter, Muller Bedload Transport Function
- Competent Bottom Velocity
- Shields Diagram
- Yang Incipient Motion

The results of the above methodologies will be used to compute a composite critical armoring sediment diameter (Dc).

452.6.4 Summary Report

JEF will prepare a brief summary report discussing the methodologies employed, results, and recommendations from each assessment in Task 452.6.

452.6.5 Deliverables

Three draft and final copies of the Lateral Migration Report including CD with backup data will be submitted. Report to be provided in PDF and Word format.

452.7 Scour Analysis

Kimley-Horn will use the methods and guidelines provided in the Bureau of Reclamation manual titled "Computing Degradation and Local Scour" (January, 1984), the Arizona Department of Water Resources manual titled "Design Manual for Engineering Analysis of Fluvial Systems" (March, 1985), or the Federal Highway Administration's "Highways in the River Environment" (February 1990).

Scour will be computed at the preferred bridge location site identified in Task 452 8.2 below. Scour components to be computed include pier scour, abutment scour, contraction scour, low flow channel incisement, and dunes/antidunes (if applicable). Applicable factors of safety per ADWR and FHWA guidelines will be applied. Debris buildup on piers will be two feet on either side of the pier for the 100-year event. Exhibits will be prepared to portray scour geometry at the preferred bridge location site and bridge geometries. Scour will be computed for both the 100-year and 500-year flood event. The 500-year event will not have debris buildup on the bridge piers.

452.8 Bridge and River Alternatives Hydraulics Analysis – Proposed Conditions

452.8.1 Initial Bridge Hydraulics

Kimley-Horn will prepare individual HEC-RAS bridge models for each of the proposed six (6) bridge location alternatives of Tonto Creek. There are four identified primary bridge site alternative locations: Kayler, Punkin Center, Bar X, and A-Cross. The other two locations have yet to be identified but are anticipated to be located at or near these four primary locations. Kimley-Horn will use the existing conditions river model prepared in subtask 452.4.

The initial bridge models will be used to develop bridge low chord elevations as well as evaluate bridge piers, bridge span lengths, and roadway approach profiles. The objective of the initial bridge hydraulic analysis is to develop bridge geometry, bridge openings, and roadway approach profiles that minimize the impacts to the 100-year water surface elevations for Tonto Creek. This subtask includes set up of the initial bridge models for each of the six bridge locations plus budget for limited iterations of the bridge models to conduct revisions to bridge geometries, openings, and roadway approaches.

The initial bridge hydraulics for the six bridge locations will be compared to the existing river hydraulics results. The bridge and roadway approach geometry and configuration will be modified and considered complete to attain water surface elevations just upstream of the bridge to within approximately 1 ft compared to existing conditions and to within approximately 2 ft/s for main channel velocities.

452.8.2 Preliminary Bridge Hydraulics – Preferred Bridge Site Location

This subtask includes refined bridge hydraulic analyses at the preferred bridge site location selected from task 452.8.1 above and from the results from the initial bridge alternatives site selection (conducted

under separate task). This subtask will refine the bridge configuration, geometry, profile, and roadway profile to develop hydraulic results that when compared to existing river conditions are within FEMA freeboard requirements and incremental water surface elevation tolerances from Gila County.

452.8.3 Side Tributary Hydraulic Analysis

This subtask will conduct a HEC-RAS hydraulic analysis to evaluate the hydraulics of the side tributaries between Tonto Creek and the preferred bridge/roadway location/ configuration in subtask 452.8.2. The existing side tributary HEC-RAS hydraulics models will be modified to revise the downstream boundary condition (downstream water surface elevation). The downstream water surface elevations for the side tributaries will be taken from the proposed model results from the bridge models in subtask 452.8.2. The purpose of this subtask is to evaluate the impact of the proposed bridge on the water surface elevations for the 100-year flood in adjacent tributaries. Mitigation measures of potential adverse increases in water surface elevations will be identified in a subsequent work task/phase (not included in this Task 452).

452.9 Hydraulics and Sediment Transport Engineering Report

452.9.1 Preliminary Hydraulics and Sediment Transport Engineering Report. Kimley-Horn will prepare an engineering report describing the hydrology and hydraulics methods, approach, models, results, findings and conclusions. The report will include a summary of the Sediment Transport report prepared in subtask 452.5.6 above.

The report will include discussion of the Tonto Creek and side tributary hydrology selected for analysis from the previous FEMA/HDR analysis. The hydraulics section of the report will present and discuss the development of the hydraulic models for Tonto Creek and the six proposed bridge hydraulics models. Tables will be included to summarize the initial hydraulic modeling results and include: bridge lengths, spans, number of piers, low chord elevations, water surface elevations, and comparison of proposed water surface elevations with existing conditions.

The report will present a detailed discussion of the hydraulic and scour analysis for the preferred bridge site location from subtask 452.8.2 above. Tables will be included to summarize the preliminary hydraulic modeling results and include: bridge lengths, spans, number of piers, low chord elevations, water surface elevations, and comparison of proposed water surface elevations with existing conditions. The scour analysis will be presented and results summarized in table format.

452.9.2 Final Hydraulics and Sediment Transport Engineering Report.

The final report will update and revise the preliminary report. Kimley-Horn will prepare written responses to one round of review comments from the preliminary report. Kimley-Horn will incorporate applicable/resolved review comments from the preliminary report.

452.9.3 Deliverables: Three draft and final copies of the Hydraulics and Sediment Transport Engineering Report including CD with model input and output and backup data. Report to be provided in PDF and Word format.

453 Preliminary Structure Selection Report

Kimley-Horn will prepare a Preliminary Bridge Selection Report for the proposed bridge at the preferred site location. The report will identify the proposed bridge typical section and will include an alternatives review of bridge superstructure and substructure types to be used. It will be coordinated with ADOT Bridge Group. It will include the review of up to three alternatives for the type of superstructure to be

used (AASHTO Precast Girders, Cast-in-Place Post Tensioned Box Girders & Steel Girders). It will also include the review of substructure alternatives consisting of either single column hammerhead piers or two column piers depending on the ultimate cross section of the bridge due to vehicle and pedestrian accommodation requirements.

454 Traffic Circulation and Travel Patterns Summary

Kimley-Horn will prepare a summary with sufficient detail to identify existing and future capacity and level of service and to develop the number of lanes required, intersection requirements, and signal warrants (if appropriate) requirements to provide an acceptable level of service through the design year.

Gila County and Central Arizona Association of Governments will be consulted as to the availability of additional traffic counts and turning movement's data for the project area.

The summary will recommend geometric cross section and lane configurations including turn lanes at intersections and other mitigation measures. A LOS "B" or better is desired for the improvements.

The Traffic Circulation and Travel Patterns Summary will be summarized in the Location/Design Concept Report.

45X Environmental Summary

Kimley-Horn will complete an Environmental Summary Report that compiles and summarizes the previously documented environmental information for the project area. This summary will be used as a tool by the project team and major stakeholders at the initial stages of the project to understand the environmental scope requirements for the project, set priorities and assist in the scheduling of environmental tasks. The Summary is not intended to meet the requirements of NEPA but to be an important planning tool to accelerate the project's schedule.

455 Biological Assessment Report

Kimley-Horn will provide the following services through and in assistance with their sub-consultant Archeological Consulting Services (ACS).

455.1 Fatal Flaw Analysis Report:

Since a number of the sensitive species found in the project area cannot be surveyed for until the summer breeding season, a brief fatal-flaw type analysis report will be prepared prior to the initiation of summer field survey activities. This report will provide the results of our initial research, agency coordination, and fall field surveys. It will also include a preliminary analysis of the biological resources for three alternative locations, so the design team will have some preliminary information with which to move forward.

455.2 Fall Field Surveys:

Surveys for desert tortoise, sensitive and some invasive plant species, and northern Mexican gartersnake can be completed shortly after the issuance of notice to proceed for the project. A pedestrian survey of the upland terrace habitat within the project area will be conducted by walking parallel transects, spaced approximately 20 meters apart. This part of the project area includes the portions of existing roads, which may need to be improved by project activities. An estimated maximum road right-of-way width of 150 feet total for this scope of work is assumed. A pedestrian survey of the portion of the project area within

the active Tonto Creek floodplain will also be undertaken. Surveys will not include 100 percent coverage of the alternative crossing locations considered (6 for alternative analysis), but will instead focus on the areas with riparian vegetation and perennial water. These surveys will assist in determining which areas have suitable habitat for southwestern willow flycatchers and yellow-billed cuckoos and will include surveys for desert tortoise and northern Mexican gartersnake.

455.3 Summer Surveys:

Beginning in the summer of 2010, protocol surveys will be conducted for southwestern willow flycatcher and western yellow-billed cuckoo within Tonto Creek. The total survey area is assumed to be discontinuous in nature but will encompass an approximate one-mile length of Tonto Creek centered on the proposed crossing location of three alternatives. Five field surveys in three survey periods will be completed for southwestern willow flycatchers according to the required USFWS survey protocol, and three visits will be completed for western yellow-billed cuckoo. To save costs, we will conduct two of the cuckoo surveys during the same field visit as the willow flycatcher surveys. The third cuckoo survey period falls outside the willow flycatcher survey period, so it will be completed separately. The surveys for willow flycatcher and cuckoos will be completed in the morning, with surveys for lowland leopard frogs and other species completed after the morning bird surveys.

455.4 Biological Assessment Report:

After the summer surveys are conducted, a Biological Assessment (BA) report summarizing the information collected on biological resources within the project area will be completed. The BA will include species natural history information, habitat descriptions, a determination as to whether the project will impact any listed or sensitive species, and any recommendations for future actions. The BA will be completed according to ADOT/FHWA and USFWS reporting standards.

456 Cultural Resources Report

Kimley-Horn will provide the following services through and in assistance with ACS.

The cultural resources scope of services will include a Class I cultural resources assessment (literature review) of the entirety of the 9-mile corridor to determine the nature, location, and extent of all previously recorded cultural resources, and to evaluate the potential impact of the bridge project on the cultural resources that are known or projected to occur in the vicinity of the alternatives. For purposes of this scope of work, this 8,200-acre area is referred to as the review area. The Class I literature review will involve several tasks.

456.1 Background Research

The background research will involve a review of site and project records on file at the following repositories:

- Tonto National Forest (TNF) Supervisor's Office.
- AZSITE Cultural Resource Inventory Database (AZSITE).
- Arizona and National Register files at the Arizona State Historic Preservation Office (SHPO).
- General Land Office (GLO) plats and survey records on file at the Bureau of Land Management (BLM) Arizona State Office.

GIS shapefiles plotting the location of recorded sites and previous projects will be requested from AZSITE. It takes up to two (2) weeks for AZSITE to respond to data requests. In the meantime, copies of site records and project maps will be obtained from the other repositories; cultural resource locations and

project boundaries from these sources will be digitized and incorporated into the AZSITE GIS layers using ArcView.

A preliminary review of TNF site maps and the AZSITE online database shows that all of the SR 188 right-of-way, as well as portions of the previously investigated alternatives, have been previously examined for cultural resources. As a result of these and other projects in the vicinity, numerous archaeological sites have been recorded. Thus, for purposes of this scope of work, we estimate that a maximum of 100 projects, and not more than 300 cultural resources, will be present within the review area.

456.2 Archival Research

Depending on the completeness of the data set received from AZSITE (or obtained from the other repositories) it may be necessary to conduct limited archival research to provide additional background information about the Historic period use of the area, to place the cultural resources in historic context, and allow recommendations for additional archaeological work (e.g., pedestrian survey). Potential research sources include, but may not be limited to, the TNF Supervisor's Office, Master Title Plats on file at the BLM, and ownership plats at the Arizona State Capitol and the Gila County Assessor's Office.

456.3 Report

A report conforming to state and SHPO specifications will be prepared discussing the results of the Class I investigation. The report will provide the following:

- A brief culture history of the project area.
- The results of the Class I literature review (and archival research, if applicable), including the National Register eligibility status of each resource (when available).
- Maps showing the location of previously recorded cultural resources and previous survey coverage in relationship to the proposed alternatives.
- Evaluation of each of the proposed alternatives in terms of potential impact to cultural resources and the need for further archaeological work (e.g., survey of previously unexamined areas, monitoring, testing, or data recovery) estimated for each alternative.
- Recommendations for a preferred alternative in terms of least potential effect to significant cultural resources.

A copy of the draft report will be sent for submittal to review agencies as appropriate. Any comments arising from the agency review will be incorporated into a final report.

456.4 Programmatic Agreement/Memorandum of Agreement

As part of the project, a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) will be prepared to establish a process for and facilitate interagency consultation, review, and compliance with applicable federal laws concerning historic preservation. In the context of Section 106 of the National Historic Preservation Act, a PA differs from an MOA in that MOAs are used to resolve known and definable adverse effects on historic properties that result from a federal undertaking, and PAs are used when the effects of an undertaking are not fully known. PAs are also a tool for implementing approaches that do not follow the normal Section 106 process, in order to streamline and enhance historic preservation and project delivery efforts.

456.5 Project Closeout

Once the final report has been accepted by the lead agency, the project and accompanying site information will then be entered into the AZSITE database, as required by the Arizona State Museum (ASM) permit issued for this project. Copies of all project documentation, including GIS shapefiles, also will be provided to the TNF Supervisor's Office.

456.6 Class I Schedule

The following assumptions also apply to the proposed scope of work:

- Class I review area of approximately 8,200 acres or 13 square miles, extending north–south from the north section line of Section 35 in Township 7 North, Range 10 East, to the south section line of Section 8 in Township 5 North, Range 11 East, and extending east–west from SR 188 to approximately 100 ft east of the Cline Boulevard alignment.
- Site file checks conducted at AZSITE, TNF, SHPO, and the BLM.
- Not more than 100 previous projects and 300 previously recorded cultural resources (including GLO features) will be documented as a result of the Class I literature review.
- Previously recorded sites on TNF maps and GLO features in the review area will need to be digitized to incorporate into the project GIS layers received from AZSITE.
- The previously recorded sites and the previous survey coverage data will be displayed in two separate oversize maps (1:24,000 scale), folded and inserted in a pocket at the end of the report.
- The project area map, showing the boundaries of the review area and land jurisdiction, will be displayed in a single 11×17 page (½ inch=1 mile scale) bound within the body of the report.
- Fifteen (15) copies of the draft report will be required for agency consultation.
- Preparation of a PA/MOA for the project.
- Attendance of Cultural Resources Principal Investigator (PI) at no more than two (2) public meetings associated with the project.
- Attendance of Cultural Resources PI at not more than one (1) monthly progress meeting at Kimley-Horn, not to exceed a total of 18 meetings over the course of the project.

Assuming not more than 100 projects and 300 sites are present in the review area, the research and report preparation will take approximately four (4) months to complete.

456.7 Class III Archaeological Field Survey

As part of the Alternative Selection process additional Class III archaeological field survey will be necessary to investigate proposed alternative locations that have not been covered by recent (less than 10 years old) cultural resource survey efforts. For purposes of this scope of work, we assume that Class III surveys will be required for the three alternative locations and approach road alignments taken forward into the DCR. The Class III Survey effort will include the necessary permitting, the survey field work, site recordation and report completion to state and federal standards. The Class III surveys for the three alternatives are assumed to cover approximately 320 acres.

456.8 Archaeological Testing and Data Recovery

Archaeological testing and data recovery can be provided as an additional service if it is determined that such activities are required through the completion of the above scope of work.

457 Air Quality and Noise Analysis Reports

Kimley-Horn will provide the following services through and in assistance with LSD.

LSD will prepare separate Air Quality and Noise Analysis Report leading to and supporting the conclusions reached in the environmental evaluation. One field visit with two LSD staff is assumed for these reports. All technical documentation used to produce these reports will be submitted to ADOT. LSD will summarize impacts from the air and noise studies in the main text of the environmental document. LSD will prepare a draft and final Air Quality Report, and a summary of the final report for the environmental document.

LSD will prepare a draft and final Noise Analysis Report for the Preferred and No-Action Alternatives only. The relatively low traffic volumes, traffic mix and speeds are not anticipated to create traffic noise levels that would be effective in screening or selecting alternatives.

458 Hazardous Materials Survey Report

Kimley-Horn will conduct a Hazardous Materials Survey through the use of visual surveys, aerial photo review, past and present land use, regulatory records review, and prepare a report describing the findings and recommendations for further action. The report will be submitted to ADOT Environmental & Enhancement Group promptly upon completion of the survey. Kimley-Horn will summarize the survey results in the Environmental Document. Any further investigations or mitigation may be performed by ADOT or may be added to the scope of work by Contract Modification. Kimley-Horn will summarize the final report results and provide LSD with the summary for inclusions in the environmental document.

459 Visual Impact Analysis

Kimley-Horn will provide the following services through and in assistance with LSD.

LSD will prepare a Visual Impact Analysis of the selected alternatives. LSD will summarize the visual impacts in the Draft EA. The Visual Impact Analysis will not be developed as a separate technical report however all supporting calculations and documentation will be included as an appendix within the Draft EA.

460 404/Jurisdictional Delineation

During Phase I of the project, Kimley-Horn will identify and establish boundaries for areas considered jurisdictional under Section 404 of the Clean Water Act. Kimley-Horn will utilize methodology approved by the U.S. Army Corps of Engineers (Corps) for establishing the ordinary high water mark for waters of the U.S. located within the project area. The preliminary jurisdictional delineation will be submitted to the Corps for concurrence with the proposed jurisdictional boundaries shown on aerial photography and documented in data sheets and ground photography.

The task will include the following steps:

- Field reconnaissance to identify and establish boundaries of the Section 404 jurisdictional areas in the project area focusing on the locations to be carried forward into the DCR including Tonto Creek and side tributaries
- Photographic and field note documentation of the establishment of the jurisdictional boundaries
- Hand transfer of jurisdictional boundaries and data points to aerial photography or site topographic map while in the field
- Transferred of jurisdictional boundaries into AutoCAD/GIS/MicroStation and overlay onto the aerial photography
- Perform a qualitative evaluation of wildlife habitat and vegetation communities within the project boundaries
- Evaluation of the site for the potential habitat for protected species
- Preparation of a technical memorandum that will document the methodology and results of the evaluation - this memorandum will be submitted to the Corps for concurrence on the preliminary delineation.

- Preparation of a summary for the County that summarizes the technical memorandum and includes detailed recommendations for Section 404, and 401 permitting requirements under the Clean Water Act.

This task does not include the preparation of an approved determination through the U.S. Environmental Protection Agency (EPA) or a significant nexus evaluation.

465 INITIAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Draft Environmental Document)

Kimley-Horn will prepare an Initial Location/Design Concept Report. All work will be addressed in sufficient detail to clearly document the design concept, substantiate recommendations, document alternate considerations, and identify environmental impacts.

The following outline will be used in preparing the Location/Design Concept Report:

Cover Sheet

The Cover Sheet will contain the Project Route No., County, Milepost if appropriate, ADOT TRACS No. Federal Reference No., Project Name. Type of report Initial, or Final, prepared for Gila County by Kimley-Horn, and date.

Title Page

Table of Contents

Executive Summary

Brief description of project purpose, location, and scope, TRACS and Federal Aid Project Numbers, milepost limits, length of project, route number, county, program year, programmed and estimated costs, identification of consultant involvement, required coordination with other projects, local government agreements, , specification of public lands involvement such as National Forest, Indian Reservation, etc. The preferred alternative will be identified. The estimated cost of design, construction, utility relocation’s and right-of-way will be noted for the preferred alternative.

List of Figures

Introduction

Foreword

Identify the AASHTO Classification of the roadway. Identify the posted speed(s). Identify and discuss the major traffic generators.

Need for Project

Include a complete analysis of why the project is needed. The analysis should describe how the existing roadway is functioning and the reasons that prompted Gila County and ADOT to investigate a project at this location. Any cause/effect relationships suggested by review of existing data and interviews with the parties involved will be identified and discussed.

Project Objectives

Completely describe the objectives of the project. The data in this section is dependent on the analysis presented in the “Need for the Project” section of the report. The objectives to be accomplished by the project should be the remedies needed to correct the problems identified in “Need for Project.”

Characteristics of the Project Area

This section will include, but not be limited to the following data:

- The width of the existing(s) roadway/pavement and the type of pavement section.
- The lane and shoulder widths of the existing roadway.
- The design speed(s) of the existing roadway.
- All previous projects constructed within the improvement section will be identified.
- The horizontal and vertical alignments of the existing roadway will be described.
- A description of the existing right-of-way will be included. The minimum and maximum right-of-way widths will be noted, and the type of right-of-way, easement or deed, will be identified. The types of ownership within the project – private, Forest Service, etc. - will be identified.
- The drainage characteristics of the area will be described. Watersheds, drainage's, or waterways within or adjacent to the project will be identified. A description of all drainage and irrigation facilities within or adjacent to the project will be included. If there are any agencies or other authorities responsible for the drainage or irrigation facilities, they will be identified.
- The total number and type of existing drainage structures (bridges, pipes, and concrete box culverts) will be listed.
- The surrounding topography and terrain will be described. The primary geology, soils, and vegetation will be identified.
- The future land use proposed for the area will be described. If there are any major developments proposed, they will be identified and described.

Description of the Project

Include a complete description of the proposed work for the preferred alternative only. The following data will be included in the description:

- The length of the project
- The termini of the project. Each terminus will be identified by milepost and station.
- The total pavement width. The lane widths and shoulder widths will be listed. If there is more than one type of typical section proposed, each will be completely described, and the effective milepost limits of each will be listed.
- The total number of lanes will be noted.
- Any new right-of-way that is needed will be identified and described. The quantity needed, in acres, and the type of ownership (residential, commercial, Forest Service, etc.) will be listed
- If curb, gutter, sidewalk, median treatments, or intersection improvements are proposed, they will be identified and described.
- The striping, marking and signing improvements will be identified and described.
- Any safety upgrades proposed - slope flattening, curve reconstruction, guardrail upgrades, culvert extensions, hazard removals, etc. - will be identified and described.
- Any drainage improvements proposed - storm-drains, culverts, catch basins, bank protection, scour protection, channel reconstruction, basins, etc. - will be described.
- Any utility or irrigation system improvements or conflicts that will impact the design and construction of the project will be identified and described.
- The traffic control proposed for the project - detours, construction phasing, tie-ins to adjacent roads, etc. - will be identified.

Location and Vicinity Maps

Traffic and Accident Data

The L/DCR's will have a "Traffic and Accident Data" Chapter. The Chapter will contain the following sections:

Traffic Analysis

Source of Data

The sources that provide traffic data for the report will be referenced.

Origin-Destination Study

Summarize the results of the origin-destination study, if one was conducted.

Traffic Data

- The Average Daily Traffic (ADT) Volumes, in vehicles per day, will be listed. The volumes for both the construction and design years will be listed.
- The Design Hour Traffic Factor (K), in percent
- The Directional Distribution Factor (D), in percent.
- The Truck Factor (T), in percent
- If needed, intersection counts (including turning movements) and diagrams will be included.

Traffic Operational Analysis

This section will discuss the results of the traffic analysis and the impacts/solutions suggested by review of the data.

Accident Analysis**Source of Data**

The sources that provide traffic data for the report will be referenced.

Accident Data

An itemized list that shows the types and numbers of accidents within the improvement section during the last five year period will be included. In addition, the total number of accidents, the number of accidents involving injuries, and the number of accidents involving deaths will be listed.

Location Analysis

The Chapter will contain the following sections:

Introduction

Reasons why location is an issue will be discussed. The discussion should include background information explaining why particular alternative locations are being evaluated and what the issues are driving the development of the different alternatives. A discussion of field inspections, meetings, and input from others will be included.

Description of Alternative Alignments

This section will include a complete description and rationale of each alternative alignment proposed, including the existing conditions. The alignments and impacts of each alternative will be fully described.

Evaluation of Alternative Alignments

The pros and cons of each alternative location will be discussed. Each alternative will be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, impact on present and future land uses, preferences of outside agencies and other parties, and design exceptions. A matrix chart will be prepared to evaluate the alternatives. Each alternative will be listed at the left of the matrix, and each impact will be listed at the top. A score will be assigned to each impact to indicate its relative difference between alternatives. Impacts will be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts will be explained and discussed.

Conclusions

The preferred location will be identified, and the reasons and logic used to select it will be explained. Does cost exceed the programmed amount? Does the preferred alternative have the least amount of negative impacts? Can negative impacts be mitigated? Is the preferred solution interim or within the long-term goals of the overall project purpose?

Design Concept Alternatives

This chapter will contain the following sections:

Introduction

This section will include background information explaining why particular Design Concept Alternatives are being evaluated and what the issues are driving the development of the alternatives.

Design Concept Alternatives Considered and Discontinued

This section will include a brief description of each Design Concept Alternative that was considered and discontinued. The alignments and impacts of each alternative will be briefly described. The reasons for dropping the alternatives will be explained.

Design Concept Alternatives Studied

This section will include a complete description of the three Design Concept Alternatives that were considered for further development. The alignments and impacts of each alternative will be fully described.

Evaluation of Alternatives

The pros and cons of each alternative alignment will be discussed. Each alternative will be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, capacity, level of service, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, and design exceptions. A matrix chart will be prepared to evaluate the alternatives. Each alternative will be listed at the left of the matrix, and each impact will be listed at the top.

Conclusions

The preferred alternative will be identified, and the reasons and logic used to select it will be explained.

Major Design Features of the Preferred Alternative

This chapter will contain the following sections

Introduction

This section will describe the purpose of this chapter

Design Controls

This Section will include a complete list of the Design Controls proposed for the preferred alternative. The following Design Controls will be listed in the report:

- Project Design Year
- Design Speed(s)
- Geometrics Slope Standards
- Superelevation
- Maximum Degree of Curve
- Maximum Grade
- Typical Section
- Roadway Width
- Lane Width
- Shoulder Width
- Type of Access Control
- Right-of-Way Width

Horizontal and Vertical Alignments

This section will include a complete description and discussion of the horizontal and vertical alignments proposed for the preferred alternative. The beginning and ending stations of the alignments will be listed as well as the number of curves, spirals, and tangents.

Access

Based on Kimley-Horn's review of property ownership abutting the proposed right-of-way, existing and proposed land use, Gila County policy, etc., Kimley-Horn will recommend the access control concept for the alignment alternatives. The location of known or currently proposed intersections and turnouts will be shown on the conceptual plans. Access requirements for recreation, property and businesses abutting both existing and new right-of-way will be considered. Any special features that are needed to provide access control (such as fencing, gates, and curbs) will be identified and discussed. Any special access roads or entrances will be identified. Any access required for future developments will be identified and described.

Right-of-Way

This section will include a complete discussion of the right-of-way requirements for the preferred alternative. Kimley-Horn will identify the requirements for new right-of-way and easements, including, but not limited to: new roadway right-of-way, slope easements, drainage easements, and temporary construction easements. An estimated cost of the proposed right-of-way will be included. The accuracy of the R/W requirements will be commensurate with the design effort. Existing and future land uses, zoning and special uses and their possible effect on the corridor will be summarized and discussed. Include the quantity (in acres), width, and station limits of any new right-of-way required. Identify any private or public groups who control the needed right-of-way, such as the Forest Service, or Indian Tribes. If special right-of-way impacts are involved, they will be described. For example, if only a partial take of a parcel is needed, the associated impacts on the landowner should be discussed. If operations of a business located on the property will be affected, this should be noted.

Drainage

This section will reference and summarize the information presented in the Preliminary Drainage Report and will include a description of the drainage impacts associated with the preferred alternative, and a description of the proposed improvements. It will document existing drainage conditions on parcels upstream and downstream of the proposed roadway improvements. Upstream and downstream impacts caused by proposed drainage modifications will be identified and discussed. Drainage solutions which do not negatively impact existing conditions will be provided. This section will include a summary of hydrologic data and a tentative drainage layout for cross-drainage and tentative structure sizes. Any drainage facility improvements proposed for the project - cut ditches, channels, storm drains, catch basins, culverts, bank protection, scour protection, channel reconstruction, etc. - will be identified and described. Requirements for special design details will be identified. If a drainage study is needed for the project, this fact will be noted and the drainage work to be addressed by the proposed study will be described.

Flood-plain Considerations

This section will include a description of the flood-plain impacts associated with the preferred alternative. A statement will be included noting whether or not any areas have been identified by FEMA as 100-year flood-plains. If the proposed project encroaches on a flood plain, the impacts associated with the encroachment will be identified and described.

Section 404 of the Clean Water Act

This section will include a statement and potential requirements concerning whether or not the preferred alternative qualifies for any nationwide or individual permits required under Section 404 of the Clean Water Act.

AZPDES Permit:

This section will contain the statement; "Any construction project that will disturb five (5) or more acres of land area will require an Arizona Pollutant Discharge Elimination Systems (AZPDES) general permit as directed by Section 402(p) of the Clean Water Act." Kimley-Horn will identify the need for any such permits

Geotechnical

This section will reference and summarize the results of the Preliminary Geotechnical Report.

Earthwork

This section will include a description of the earthwork impacts for the preferred alternative. Kimley-Horn will attempt by adjustment of roadway geometrics to balance the earthwork within the limits of the preferred design projects to a level commensurate with the study. The estimated total embankment, borrow, or waste will be specified. Any special earthwork, such as cut ditches or slope flattening, will be described. Any nearby borrow pits or waste disposal sites will be identified. If the right-of-way is controlled by the Forest Service, Indian Tribes, or other involved party, the preferences of the party concerning the earthwork will be noted. The Forest Service often has specific requirements concerning the location of pits, interim stockpiling of materials, treatment of side slopes, and the disposal of waste. A statement will be included concerning whether or not the earthwork will be balanced. If the earthwork will not be balanced, the quantities of borrow or waste will be specified.

Constructability and Traffic Control

This section will include discussion of the constructability and traffic control issues of the preferred alternative. Any special features of the project that will make the improvements difficult to construct will be identified and discussed. A detailed description of proposed detours, tie-ins to adjacent projects, construction phasing, and other traffic control measures will be presented. Recommendations for signing marking and signals will be included. The following sentence will be included: "Traffic control will be specified by a traffic control plan or procedures and guidelines in the ADOT Traffic Control Manual for Highway Construction and Maintenance." The following sentence will be included: "Access to adjacent properties will be maintained during construction." If special measures are to be taken to provide access, a description of the measures will be included.

Intersections

This section will include discussion of any intersections that will be constructed or upgraded as part of the preferred alternative. Intersection geometrics will be addressed. Pull-out and turn-out treatments will be addressed. All intersection improvements including signals, signing, and marking will be identified and discussed.

Utilities

Based on existing records along with prior rights information, Kimley-Horn will identify all utilities within the general project limits to determine potential conflicts and relocations. Kimley-Horn will indicate the horizontal and vertical location for all known existing utilities from utilities' records on the alternative drawings. Kimley-Horn will identify any alternatives possible to minimize or eliminate utility line conflicts and may be required to prepare a relocation concept and cost estimate for utilities that are being impacted by the project.

Structures

Kimley-Horn will determine the type of structure(s) needed for the project, and will recommend alternative structures and structure depths to the extent necessary for development of roadway concepts. A Structure Selection Report to identify type, size, and location (T.S. & L.'s) is required for preliminary cost comparisons and as a part of the study.

Pavement Design

This section will include a description of the pavement design proposed for the preferred alternative.

Construction Water Sources

Kimley-Horn will identify potential construction water sources, assess their availability and assess the potential for the water sources to meet the requirements of the project.

Social, Economic and Environmental Considerations

The report will include an overview of impacts, displacements, and potential hazardous waste sites, Section 4(f) lands, Section 404 & 401 Clean Water Act, flood-plains, wetlands, historic and archaeological preservation, and will identify the extent of NEPA documentation required and identify cooperating agencies.

Environmental Mitigation Requirements

Environmental Mitigation Requirements will be outlined in the Location/Design Concept Report exactly as presented in the Environmental Document.

Itemized Cost Estimate

This chapter will contain an itemized cost estimate for the preferred alternative. Itemized cost estimates for other alternatives will be placed in the Appendix. Estimated costs for right-of-way and utility relocation's will be addressed separately for each alternative. The cost estimate accuracy will be commensurate with the design effort and will include appropriate contingency factors. The basis of the estimate will be the current cost data from ADOT's E2C2 database. Right-of-way estimates will be "order of magnitude" estimates based on the best available information.

Appendices

All L/DCR's will have the appendices listed below. The appendices will be tabbed for quick reference.

Detailed Cost Estimates for Other Alternatives

This appendix will contain the detailed cost estimates for alternatives other than the preferred alternative. Each estimate will be properly identified and separated from the others.

Typical Sections

This appendix will contain the typical cross sections proposed for the project. If alternative sections were evaluated and dropped, these sections will also be shown and clearly identified. The preferred sections will be clearly identified as the preferred ones and separated from the others.

Horizontal and Vertical Alignment Exhibits

Exhibits for all horizontal and vertical alignments proposed and evaluated will be placed in this appendix. The alignment for the preferred alternative will be placed before the others and noted as the preferred alternative. Each alternative will be clearly identified and separated from the others. Horizontal and vertical alignments will be developed to such refinement that grades can be reasonably determined and earthwork, drainage, right-of-way, environmental impacts and utility conflicts can be identified.

470 DRAFT ENVIRONMENTAL DOCUMENT (Concurrent with Initial Location/Design Concept Report)

Kimley-Horn will provide the following services through and in assistance with LSD.

The environmental studies to be performed for the preparation of the NEPA document will proceed concurrently with the activities required to reach submittal of the Initial L/DCR. If any ground-disturbing activities are deemed necessary prior to final environmental clearance, coordination and approval by Gila County and/or affected federal, state, and local agencies will be required. LSD assumes FHWA is lead federal agency and TNF will participate as a cooperating agency. An environmental assessment (EA) is assumed to be the appropriate NEPA documentation for the project. If during the project, FHWA determines that an environmental impact statement is the appropriate level of NEPA documentation, LSD reserves the right to amend this Scope of Services.

During the course of the environmental evaluation, LSD will maintain regular contact with Kimley-Horn, Gila County, FHWA, ADOT, and TNF, advising the Project Team of the progress of the work, the problems encountered and the resolutions thereof.

LSD will prepare a series of administrative drafts of the EA documents for circulation to the County, ADOT, and eventually to FHWA and TNF. LSD will prepare the initial Working Draft EA in accordance with the FHWA and ADOT guidelines for NEPA documentation. The Working Draft EA will be submitted to Gila County and ADOT for their concurrent review and comments. Once comments have been received, a comment resolution meeting on the Working Draft EA will be held either at the LSD, Kimley-Horn, or ADOT Phoenix offices. Appropriate staff members from ADOT, County, KHA and LSD will attend the comment resolution meeting. LSD will prepare a comment resolution matrix to list all comments received and the proposed response to each comment. The matrix will be distributed to the appropriate project team members prior to the comment resolution meeting. After the comment resolution meeting, LSD will revise the initial Working Draft EA as required and submit the second Working Draft EA to County and ADOT for concurrent review and comment. After County/ADOT review and the incorporation of comments on the second Working Draft EA, LSD will prepare the Pre-Draft EA. ADOT will determine if the Pre-Draft EA document is ready to go to FHWA for review and if it is, ADOT will submit the document to FHWA. It is assumed that the TNF will complete a concurrent review with FHWA of the NEPA document.

After FHWA and TNF have completed their review of the Pre-Draft EA, a comment resolution matrix will be prepared. A comment resolution meeting on the Pre-Draft EA will be held either at the LSD, KHA or ADOT Phoenix offices. Appropriate staff members from FHWA, TNF, ADOT, County, Kimley-Horn, and LSD will attend the comment resolution meeting. LSD will prepare a comment resolution matrix to list all comments received and the proposed response to each comment. The matrix will be distributed to the appropriate team members prior to the Pre-Draft EA comment resolution meeting. After the comment resolution meeting, LSD will revise the Pre-Draft EA as required and submit the Draft EA to the County for submittal to ADOT for signature. ADOT will forward the document to FHWA for their signature. LSD will distribute the Draft EA to the review agencies and place the document in the appropriate location for local review by the public. The County will distribute the Draft EA document to ADOT, TNF, and FHWA.

After the public hearing on the Draft EA, LSD will prepare a Draft EA for review and publication. FHWA will be the Lead Agency for the NEPA Document. Determination of the Draft EA format will be discussed with and agreed upon by FHWA, ADOT, and other participating agencies, prior to data gathering for the Technical Reports. Pre-review of the Draft EA by Gila County and ADOT Local Government will be required prior to submittal to FHWA and other participating agencies. Signatures by FHWA and ADOT are required prior to publishing and distributing to other agencies for review and comment.

The Draft EA will include the contents listed below:

1. Signature page for ADOT EPG and FHWA signature and statement that the EA has been prepared in accordance with Federal guidelines and NEPA.
2. List of Mitigation Measures - All mitigation described in the main text of the EA will be summarized here. Each mitigation measure will be reviewed for feasibility and consistency with current federal regulations and ADOT standards. The mitigation measures will be divided into the various agencies' and contractor's responsibilities.

3. Chapter 1 – *Introduction*

The initial chapter in the EA will explain what the purpose of the EA is and the project location and background.

4. Chapter 2 - *Purpose and Need for the Project*

This chapter will provide a detailed project description, including the project location (with state and vicinity maps), the project purpose and need, existing project area characteristics, and project components. The need for new right-of-way, temporary construction easements, and existing land use and ownership will be identified. Existing and projected traffic volumes and conditions will be presented, and an estimated construction cost will be provided.

Up to five figures depicting the project vicinity, project corridor, specific project limits, existing roadway plan view, and existing roadway sections are anticipated for this chapter of the EA. KHA will provide electronic files of the roadway plan, profile and roadway sections; and also will provide information regarding right-of-way requirements; alignments; freeway access; drainage and utility requirements; construction schedule and sequencing; and preliminary cost estimates for each alternative. KHA also will provide recent aerial photography to LSD if available.

5. Chapter 3 - *Alternatives Considered*

Chapter 3 will begin by presenting the alternatives that were considered but eliminated from further consideration. The discussion shall briefly state the reasons these alternatives were eliminated. Four figures are assumed for this chapter of the EA. Chapter 3 will then identify the preferred alternative retained for study in the EA. All major design features including plan views, roadway sections, right-of-way requirements, alignments, drainage, utilities requirements, structural modifications, materials and disposal sites, traffic control, earthwork, construction schedule and sequencing, and preliminary cost estimates will be presented, as identified by Kimley-Horn.

6. Chapter 4 - *Affected Environment, Environmental Consequences, and Mitigation Measures*

Chapter 4 will address the affected or existing conditions within the study area and the potential environmental consequences associated with the preferred alternative. LSD will be responsible for analysis of the environmental elements listed below or as noted.

- a. Land Ownership, Jurisdiction, and Land Use

Existing land use within and adjacent to the project area will be described and potential impacts on existing and proposed land uses will be addressed by LSD. Ownership will be noted as private, federal, state, and county. Land ownership immediately adjacent to the project will be noted and the potential effects will be qualitatively described. KHA/County will determine the amount of right-of-way acquisition

necessary for the project. Two figures are assumed for this chapter. KHA/County will provide property ownership.

b. Social and Economic Considerations

Social considerations include public schools and parks, churches, medical facilities, public transit, police and fire services, and issues of relocation and community disruption. Items addressed include existing public services that may be affected by the project and qualitatively describe potential effects including changes in service travel time and circuitry of access. Potential impacts on pedestrian, equestrian, and bicycle facilities will be addressed by LSD as well as construction impacts to the community.

Economics considerations will briefly describe commercial development in the area and discuss the direct effects associated with improved traffic operations including development and redevelopment opportunities.

c. Title VI and Environmental Justice

This section will identify existing concentrations of minority, elderly, women head of households and low-income groups as well as potential impacts on these populations consistent with Executive Order 12898 (and Title VI of the Civil Rights Act). This section will also address relocation assistance for minorities under the ADOT Relocation Assistance Program, as applicable. One figure may be prepared for this section. LSD will use the U.S. Department of Commerce, Bureau of the Census 2000 Summary File to determine the presence of the protected populations within and immediately adjacent to the project limits. Door-to-door surveys will not be undertaken nor will the development and distribution of a questionnaire.

d. Cultural Resources

This section will address potential impacts to cultural resources within the project area. A cultural resources survey and report of findings will be completed for the EA by Kimley-Horn and ACS. Kimley-Horn and ACS will provide LSD with a summary of the report for inclusion in the EA..

e. Section 4(f)/6(f)

This section will address potential Sections 4(f) and 6(f) impacts. Section 4(f) resources include public recreation areas, public parks, historic properties, or wildlife and waterfowl refuges. Section 6(f) resources are recreational properties acquired with grant funds from any Interagency Committee for Outdoor Recreation (IAC). Preliminary review indicates that there will be no impacts on any Section 6(f) resources. This section will address the potential presence of Section 4(f) resources within the project area, their local significance, potential impacts resulting from this project, and how those impacts will be mitigated. Section 4(f) resources are present in the immediate vicinity and an evaluation of the proximity impact on the resources will be completed in the EA. If a detailed evaluation is needed for direct impacts to Section 4(f) resources, a modification to this Scope of Work may be required.

f. Hazardous Materials

Kimley-Horn will prepare and summarize the Preliminary Initial Site Assessment for hazardous materials to LSD. LSD assumes that the KHA assessment will meet ADOT requirements and all applicable federal hazardous materials regulations. Kimley-Horn will summarize the results of the assessment for inclusion in the EA.

g. Air Quality

A separate technical air evaluation will be conducted for the EA by LSD. A summary of the technical report will be included in the EA.

h. Noise

A separate technical noise evaluation will be conducted for the EA and provided by LSD. A summary of the technical report will be included in the EA.

i. Utilities

This section will describe the type and location of affected utilities as identified by Kimley-Horn/County. Temporary service disruptions and potential future utility demand indirectly created by the project will be qualitatively described, as appropriate.

j. Visual (Scenic) Resources

This section will address potential impacts to visual/scenic resources within the project area. A separate technical report on the scenic resources assessment will not be completed. The assessment of scenic resource impact will summarize the existing visual character of the corridor and evaluate the general change in the visual character. No documentation will be provided of the existing visual or scenic quality of the corridor or the change in visual quality from construction of the proposed roadway improvements. Landscape modifications will be evaluated only on the Preferred Alternative to determine the location and type of appropriate mitigation measures. No separate visual assessment report is included in this Scope of Work.

The Forest Service has developed standardized procedures for evaluating visual resources as part of its Scenery Management System (SMS). The Forest Service's SMS will be used to evaluate whether or not the proposed improvements to the roadway would fall into the allowable management activities for the project areas designated scenic integrity objective.

k. Recreation

This section will address potential impacts to planned and existing recreation facilities within 0.5-mile of the project area. LSD will include this analysis in the EA document based on available information from the TNF and the County..

l. Drainage and Floodplain Considerations

LSD will review Federal Emergency Management Agency maps for floodplain in the project vicinity. Kimley-Horn will evaluate the project's potential impact to floodplains and the drainage considerations associated with the proposed project and provide this information to LSD for inclusion into the EA.

m. Water Resources, Section 404 of the Clean Water Act, and National Pollutant Discharge Elimination System

This section will address potential impacts to water resources, based on delineation windshield survey of the project limits, and preliminary design information to be provided by Kimley-Horn. The EA will state whether or not an Arizona Pollutant Discharge Elimination System permit will be required for the project based on input from Kimley-Horn/County.

n. Vegetation and Invasive Species

LSD will address the likelihood of the presence of invasive species within the project area. An invasive species survey for the project area will not be undertaken. A general description of the vegetation within the project limits also will be provided in the EA.

o. **Material Sources and Waste Materials**

Material sources will be identified within the project limits. Treatment of waste materials will be discussed in the EA based on information provided by Kimley-Horn.

p. **Secondary and Cumulative Impacts**

This section of the EA will qualitatively describe secondary and cumulative impacts on critical, at-risk resources.

7. **Chapter 6- *Public Involvement /Project Coordination***

ADOT CCP or their consultant will summarize the public involvement process and input received from the agencies and public and forward copies of the information electronically to LSD.

8. **Chapter 7- Conclusion**

LSD will prepare a summary table of the potential impacts from the proposed project.

9. **Chapter 8- *Project Preparers and Contributors***

LSD will list those would participated in the development and review of the EA.

LSD will prepare the Final EA in accordance with FHWA guidelines for compliance with NEPA. The Final EA will be prepared using an addendum-style format. This task will include review of public and agency comment letters and response to the comments for inclusion in the Final EA and necessary revisions to the EA text. The Final EA will be prepared as an errata document that will identify any revisions to the Draft EA, the summary of the agency and public comments, and include the transcripts of the public hearing.

After the end of the public/agency 30-day comment period and after a copy of the court recorder's report has been received by the County, LSD will prepare the comments and responses to the comments on the Draft EA. LSD will prepare up to 20 responses to comments from input from the various agencies and the public. A comment resolution meeting on the Draft EA will be held either at the LSD, Kimley-Horn, or ADOT Phoenix offices. Appropriate staff members from FHWA, ADOT, County, TNF, Kimley-Horn, and LSD will attend the comment resolution meeting. The summary will be distributed to the appropriate staff prior to the Draft EA comment resolution meeting.

After the comment resolution meeting, LSD will prepare the Working Draft Final EA and submit the Working Draft Final EA to the County for submittal to ADOT for review and comment. After ADOT review and the incorporation of comments on the Working Draft Final EA, LSD will prepare the Draft Final EA. The County and ADOT will review the Draft Final EA document and provide any comments. LSD will prepare the Pre-Final EA to go to FHWA and TNF for review, and submit the Pre-Final ADOT for ADOT to determine if the document is ready to go to FHWA. ADOT will submit the document to FHWA.

After FHWA and the TNF have completed their review of the Pre-Final EA, a comment resolution matrix will be prepared. A comment resolution meeting on the Pre-Final EA will be held either at the LSD, Kimley-Horn or ADOT Phoenix offices. Appropriate staff members from FHWA, TNF, County, ADOT, Kimley-Horn, and LSD will attend the comment resolution meeting. LSD will prepare a comment resolution matrix to list all comments received from the County, ADOT, FHWA, and TNF and the proposed response to each

comment. The matrix will be distributed to the appropriate County, Kimley-Horn, FHWA, TNF, and ADOT staff prior to the Pre-Final EA comment resolution meeting.

After the comment resolution meeting, LSD will revise the Pre-Final EA as required and submit the Final EA to the County for their submittal to ADOT for their approval, signature, and distribution to FHWA. If a Finding of No Significant Impacts is determined by FHWA, LSD will distribute the Final EA to the review agencies and jurisdictions. ADOT will distribute the Final EA to ADOT, FHWA, and TNF.

480 REVIEWS AND APPROVALS

482 Project Team Meeting (Location/Design Concept Report and Environmental Document)

After distribution of the Initial Location/Design Concept and Draft Environmental Document, a Project Team Meeting will be held to solicit comments and obtain consensus from the Project Team and to prepare for the Agency and Public Information Meetings. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information Meetings.

484 Agency Meeting (Location/Design Concept Report and Environmental Document)

After distribution of the Initial Location/Design Concept and Draft Environmental Document, an Agency Meeting will be held to solicit comments and obtain consensus.

486 Public Hearing (Location/Design Concept Report and Environmental Document)

After distribution of the Initial L/DCR and Draft EA, a formal Public Hearing will be held in Gila County to solicit public comments. LSD, in conjunction with Kimley-Horn, will coordinate and assist Gila County with the hearing.

Representatives from the project team will meet at least four weeks prior to the public hearing to plan for the hearing and to discuss the presentation, presentation materials, nametags, sign-in sheets, and any other relevant items. A second preview meeting will be held at least one week prior to the public hearing to finalize the presentation and confirm specific roles during the hearing will be assigned.

There will be one public hearing to present the impact analysis findings and other information from the draft environmental document to the public, to answer questions, and to solicit comments. The public hearing will be an open-house format at the start of the meeting. There will be a presentation, followed by a question-and-answer session if the project team determines it is appropriate. The meeting will conclude with an open-house format for the public to speak one-on-one with project team members and make comments. A court reporter will record the presentation and oral comments made during the public hearing but will not record discussions during the open-house period.

The public hearing will be scheduled to occur at the mid-way point of the 30-day public review period. The location of the hearing will be in the vicinity of Punkin Center.

For this public hearing, LSD will:

- Provide three staff members to support the hearing
- Coordinate meeting logistics
- Develop public notification materials (newspaper advertisement, press release, and flier)
Print and distribute public notification flier
- Provide meeting materials, including nametags for project team representatives, sign-in sheets, comment sheets, handouts, and light refreshments

- Providing Section 508-compliant meeting materials
- Provide the signs to direct people to the hearing location
- Arrange and pay for a court reporter to be at the public hearing
- Coordinate distribution of public hearing transcripts to Gila County (assumes 100 pages, two originals and one electronic copy)
- Arrange for and pay for a Spanish Language Translator

Kimley-Horn will:

- Mail out the meeting notification to all private property owners within the project area as defined in Section 428
- Provide LSD with technical information for public presentation materials, such as the handout and PowerPoint presentation
- Prepare presentation exhibits and provide easels
- Lead or assist with the hearing presentation

Gila County will:

- Provide direction for the PowerPoint presentation to be used at the hearing
- Make the PowerPoint presentation at the hearing or delegate this responsibility to Kimley-Horn
- Be responsible for meeting notification for the public hearing in the appropriate newspapers will be the responsibility of Gila County

488 Comment Resolution and Consensus

Depending on the nature of the comments received during the Project Team Meeting, the Agency Meeting, and the Public Hearing, it may be necessary to conduct additional comment resolution and consensus meetings and to prepare additional project documentation. The nature and scope of this work will be established based on consultations with the Gila County Project Manager.

At this time, Kimley-Horn and LSD assumes that additional project or public meetings will not be needed.

490 FINAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Final Environmental Document)

Kimley-Horn will prepare the Final Location/Design Concept Report for signatures and distribution.

The report will document the selection of the alternative to be programmed for construction and will include refinements of the information developed since the Initial Location Design Concept Report and modifications resulting from review comments and public comment.

Kimley-Horn will submit the Final Location Design Concept Report, sealed by an Arizona-registered Professional Engineer.

495 FINAL ENVIRONMENTAL DOCUMENT (Concurrent with the Final Location/Design Concept Report)

Refer to Task 470 for the description of the final environmental document preparation.

LSD, with assistance from Kimley-Horn, will establish and maintain an Administrative Record of all the information FHWA considered in its Record of Decision.

498 Document Distribution

Kimley-Horn will print and distribute reports as follows:

1. Upon completion of any report for distribution, Kimley-Horn will prepare and submit, to Gila County, two preliminary copies of the complete document, transmittal letter, and distribution list for pre-review.
2. Upon receipt of comments, Kimley-Horn will prepare and distribute the documents for formal review. Copies of review submittals and finalized documents will be delivered to Gila County and ADOT Local Government accompanied by a transmittal letter and distribution list with complete mailing addresses. All deliveries will be by hand or overnight courier.
3. Reviewers will be asked to submit their comments on separate comment forms.

The number of copies to be distributed should be confirmed with the Gila County Project Manager and ADOT Local Government prior to printing.

500 30% Plans and Estimates (concurrent with or included in the Final Design Concept Report)

Kimley-Horn will prepare 30% level plans and estimates for the selected alignment as part of the Final DCR. These plans will serve as the basis for development of the final PS&E construction documents in Phase II of the project.

The 30% Plans will include:

- Face Sheet
- Standard Drawings
- Design Sheets
- Barrier Summary Sheets
- Pipe Summary Sheets
- Detail Sheets
- Geometry Sheets
- Plan Sheets
- Construction Phasing/Traffic Control Sheets
- Pavement Marking and Signing Sheets
- Bridge Plan, Elevation and Typical Section Sheets
- Preliminary Drainage plan sheets
- Preliminary Right-of-Way Plans/Determination

Non-plan sheet items:

- Final Bridge Selection Report

Final Design

The scope for Tasks 550, 560, 570, 580 and 590 are provided as follows. Kimley-Horn does not anticipate this scope to deviate regardless of the ultimate location selected in the L/DCR. The attached fees for these tasks are for budgetary purposes. The scope and fees for Final Design will be reviewed and modified after completion of the approved L/DCR prior to proceeding forward with the work.

550 Phase II Final Design

Phase II Final Design will commence after approval of the Final Design Concept Report and the Environmental Document. Phase II will include the following (modified as needed through discussion with Gila County prior to beginning the work).

Submittals will consist of 60%, 95% and 100% PS&E signed and sealed construction documents. Special provisions, quantities, and cross sections with an earthwork report will be provided at each submittal.

Preparation of the 60% and 95% submittals will incorporate any changes, corrections, and/or additions within the limits of this scope as a result of the preceding submittal review process. Preparation of the 100% PS&E will incorporate any adjustments or corrections made during the review of the 95% submittal. To maintain the schedule, an over-the-shoulder review process will be used to minimize surprises and shorten the review process.

One full-size and up to 20 half-size plan sets will be provided for the 60% and 95% submittals. A standard plan sheet size of 22"x 34" (ANSI "D" Size) will be used for full size plan sets with 11"x 17" used for half-size. 100% PS&E will be on vellum; all review submittals will include one set of full-size plans and up to 20 sets of 11x17 on standard bond paper.

The following matrix includes the type of sheets anticipated.

P = Preliminary, F = Final, S = Sealed

Sheet	60%	95%	100% PS&E
Face Sheet	P	F	F
Design Sheets & Index (Typical Sections, Pavement Structural Sections, General Notes, Earthwork table)	P	F	S
Summary Sheets (Culvert, Barrier)	P	F	S
Special Detail (if required)	P	P	S
Drainage Plan & Profile and Drainage Details	P	F	S
Geometric Sheets (scale - 1"=100', full size)	F	F	S
Selected Alternative Plan & Profile Sheets (scale - 1"=50', full size)	P	F	S
Staking Plans (scale - 1"=20')	P	F	S
Intersection Plans & Details (scale - 1"=20', full size)	P	F	S
Side Road/Turnout Plan & Profile Sheets (scale - 1"=20')	P	F	S
Traffic Control Plans, Details	P	P	S
Construction Phasing	--	--	--
Signing & Pavement Marking Plans (scale - 1"=40')	P	F	S
Utility Relocation Plans, Details (if required)	P	P	S
Stormwater Pollution Prevention Control	--	P	S

Plan			
Selected Alternative Cross Sections (100 foot intervals)	P	F	S
Bridge Plans for Selected Alternative	P	F	S
Scour & Berm/Dike Plans for bridge/creek	P	F	S
Right-of-Way Plans	P	P	S
Non-Plan Sheet Items			
Summary of Earthwork Quantities	P	F	S
Quantities & Cost Estimate	P	P	F
Special Provisions	P	P	S

Final design plans for the bridge from the selected alternative from the DCR and will include the following:

- General Plan and Elevation
- Typical Section
- Structure Excavation and Backfill Pay Limits
- Foundation Plan
- Drilled Shaft Details
- Abutment 1 Plan and Elevation
- Abutment 2 Plan and Elevation
- Abutment Details
- Wingwall Details
- Pier(s) Plan and Elevation
- Column Details
- Pier Details
- Girder Elevation
- Girder Details (1)
- Girder Details (2)
- Deck Plan
- Typical Deck Section
- Deck Details
- Abutment Diaphragm Details
- Pier Diaphragm Details
- Misc. Details
- Construction Sequence
- Screed Elevations
- Rustication & other architectural detail sheets

Prepare Individual 404 Permit Application

It is assumed that impacts to waters of the U.S. will require authorization under an Individual Permit. The application preparation will require at least 30% design plans. Following the receipt of the Corps' concurrence on the preliminary jurisdictional delineation, Kimley-Horn will determine impacts to waters of the U.S. for each project alternative. As part of this task, Kimley-Horn will identify possible opportunities to avoid and minimize impacts to waters of the U.S. An Alternatives Analysis will be prepared as part of the permit application. This document will explore each project alternative and will determine the least environmentally damaging practicable alternative.

Following the determination of unavoidable impacts to waters of the U.S., Kimley-Horn will work with the County to develop compensatory mitigation for the project impacts. Since on-site mitigation is often not practicable for roadway projects with limited right-of-way, off-site mitigation or in-lieu fee mitigation may be pursued. If off-site mitigation is the selected mitigation proposal, Kimley-Horn will work with the County to determine project areas that may be suitable for mitigation. If in-lieu fee mitigation is the selected alternative, Kimley-Horn will coordinate with land trusts and agencies that offer opportunities for in-lieu fee mitigation. The preliminary mitigation proposal will be included in the application.

The cultural resources report, any documents resulting from agency coordination, and the mitigation proposal will be included in the permit application. The application will be submitted to the Corps.

Kimley-Horn will attend up to four (4) meetings with the Corps, U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Office (SHPO), EPA and the County. As part of this task, Kimley-Horn will assist the Corps in preparation of an Environmental Assessment for the 404 Permit.

Final Geotechnical Investigations & Recommendations

Near the conclusion of Phase I and prior to beginning Phase II Kimley-Horn through AMEC will obtain a site specific (selected alignment from the Final DCR) geotechnical report with recommendations for the bridge foundations, potential retaining walls, approach embankment and roadway structural section (if section deviates from County standard roadway section).

560 Estimates of Probable Cost

Kimley-Horn will prepare combined and detailed estimates of probable cost (cost estimates) in the format recommended by ADOT Contracts and Specifications Section. The cost estimate will include a recapitulation sheet concurrent with each review submittal. At the Stage II review, Kimley-Horn will prepare a bidding schedule and concurrently with each review submittal thereafter.

Kimley-Horn will immediately advise the County if there is any reason to believe the project cannot be constructed within the allocated budget. Kimley-Horn will identify options to maintain the project within budget, including shortening the project, revising criteria, or phasing changes.

570 Specifications

Kimley-Horn will be responsible for identifying critical elements of construction, including, but not limited to, construction limits, access requirements, potential night construction, coordination with affected local agencies (police, fire, USFS, etc.), traffic lanes open, scheduling of work time (bar chart format illustrating estimated construction time), utility trench close ups, incentives and liquidated damages, State-furnished materials, critical materials requiring pre-bid purchase, and limitations specifically addressed in the environmental, right-of-way, and utility clearances.

580 Special Provisions

Kimley-Horn will prepare Special Provisions for items, details, and procedures not adequately covered by ADOT's Standard Specifications and Stored Specifications. Unusual requirements necessary for obtaining permits for hauling materials will also be included. Special Provisions will be submitted at the Stage III and Stage IV project reviews. Final Special Provisions will be sealed by the engineer in responsible charge. Kimley-Horn will be responsible for incorporating any specifications provided by the County and ADOT

technical sections into the draft and final Special Provisions. The County will review all submittals of Special Provisions and Kimley-Horn will prepare the final Special Provisions.

590 Contracts and Specifications Process

Kimley-Horn will, under the direction of the County, support the ADOT Contracts and Specifications process after completion of the Final Submittal stage leading to the complete bid documents as follows:

- A. Promptly answer questions relative to the plans, quantities, and Special Provisions.
- B. Make any necessary corrections to the plans, typical sections, Special Provisions, quantities, notes, etc. as required.
- C. Prepare any addenda required to clarify the work included in the contract documents as requested by the Contracts & Specifications section. The addenda will be prepared immediately upon request.
- D. Kimley-Horn will be prepared to attend the pre-bid conference, if one is scheduled, and present an appropriately-sized display showing the project layout, proposed traffic control and construction phasing, and will be prepared to discuss other constraints so that the potential bidders will be better able to relate to the intent of the construction of the project. Kimley-Horn will respond to questions related to the plans, details and special provisions.
- E. Kimley-Horn will be prepared to assist in the analysis of bids, including: determination of reasonableness and justification of cost variances, analysis of original cost estimate compared to contractor bid costs.

600 Project Administration

Kimley-Horn will provide project administration which will involve the coordination with Gila County, the design team, sub-consultants to Kimley-Horn, the general public, and other outside agencies. Internal project administration will include weekly progress meetings, project accounting, internal QA/QC, design documentation, plan production coordination, and value engineering.

Project administration will run throughout the duration of the project.

610 Gila County

The County's Project Manager will:

- A. Conduct ongoing reviews of Kimley-Horn's progress in performing the work and ensure timely comments from the technical units.
- B. Review Kimley-Horn's billings
- C. Review and evaluate Kimley-Horn's requests for extension of time and supplemental agreements
- D. Review all correspondence with public agencies prior to Kimley-Horn's mailing of any correspondence

- E. Coordinate the distribution of public information
- F. Provide a focal-point contact for all questions, requests, and submittals
- G. Coordinate project scheduling with Kimley-Horn, ADOT sections, and ADOT Local Government Section.

620 Kimley-Horn

Kimley-Horn will:

- A. Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project in the location specified in Kimley-Horn's technical proposal
- B. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project
- C. Establish internal accounting methods and procedures for documenting and monitoring project costs
- D. Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts
- E. Participate in design consensus, status and team building meetings with all appropriate partners at the start, on a monthly basis during the project development period and as needed to maintain the design schedule. Kimley-Horn will act as the lead.
- F. Create and maintain a project website (a total of 2) for both the general public and the project team for disseminating and collecting information during the duration of Phase I and II.

Kimley-Horn is responsible for the accuracy and completeness of contract documents and related design prepared under this project. The plans will be reviewed by the project team including representatives of Gila County and ADOT technical sections for conformity with Gila County and ADOT procedures and the terms of the contract.

630 Reviews and Submittals

- A. Review and coordination of Kimley-Horn's work by the Gila County, ADOT, FHWA, Forest Service and other listed agencies will continue through the project development process. Kimley-Horn may continue the design work while design submittals are being reviewed. Doing so however in no way relieves Kimley-Horn of the responsibility to incorporate review comments into the design, nor does it entitle Kimley-Horn to any additional design fees as a result of making changes due to review comments.

- B. Submittals for review will be made when the studies and/or plans have been developed to levels of completion so that reviews are timely and productive.
- C. Copies of review submittals and finalized documents will be distributed by Kimley-Horn. All deliveries will be by hand or overnight courier. All plans and cross sections will be half-size black and white sheets.

640 Additional Services

Kimley-Horn will provide additional services not covered in this scope of services at the request of the County by means of contract modifications. Services not included at this time include but are not limited to:

- Phase I Environmental Site Assessment – it is unknown at this time whether a Phase I Environmental Site Assessment will be required since the acquisition of right-of-way for construction is yet to be determined
- Cultural Resources Testing or Monitoring
- Cultural Resources Class III surveys for locations other than the preferred
- Biological or Environmental Monitoring During Construction
- Mitigation Monitoring and Reporting
- Additional bridge crossing location alternatives that would include additional engineering and hydraulic and scour analyses, or environmental studies

**New Bridge over Tonto Creek near Punkin Center
TRACS NO. SS 71803D**

**Contract No: xxxxxx
FHWA Project No. HPP-GG1-0(204) A**

DERIVATION OF COST PROPOSAL SUMMARY

(Figures Rounded To The Nearest \$1)

ESTIMATED DIRECT LABOR

<u>CLASSIFICATION</u>	<u>PERSON HOURS</u>	<u>BILLING RATE/HOUR</u>	<u>TOTAL</u>
Project Principal	73	\$ 220.00	\$ 16,060
Project Manager	1,413	\$ 190.00	\$ 268,470
Senior Project Engineer	924	\$ 188.00	\$ 173,712
Project Engineer	1,849	\$ 148.00	\$ 273,652
Engineer/Designer	1,250	\$ 130.00	\$ 162,500
Analyst	1,903	\$ 98.00	\$ 186,494
Senior NEPA Planner	826	\$ 165.00	\$ 136,290
NEPA Planner	1,027	\$ 115.00	\$ 118,105
Tech/Draftsman	1,449	\$ 125.00	\$ 181,125
Administrative	111	\$ 95.00	\$ 10,545
Clerical	264	\$ 65.00	\$ 17,160
	<u>11,089</u> Hours		
Estimated Labor Cost			\$ 1,544,113

**ESTIMATED DIRECT EXPENSES
(NO MARKUP)**

Total Estimated Expenses \$ 33,042

ESTIMATED OUTSIDE SERVICES AND CONSULTANTS

<u>Firm</u>	<u>Cost</u>	<u>Compensation Method</u>
Logan Simpson Design	\$ 317,120	LSUM
ACS	\$ 130,052	LSUM
JE Fuller	\$ 79,652	LSUM
AMEC	\$ 267,051	LSUM
Alpha	\$ 52,600	LSUM
Appraiser - Dennis Lopez	\$ 10,000	LSUM
Total Estimated Outside Services		<u>\$ 856,475</u>

TOTAL ESTIMATED COST TO CONSULTANT \$ 2,433,630

Allocation Expense @ 3.8% of Labor \$ 58,676

TOTAL ESTIMATED LSUM FEE \$ 2,492,306

CONTRACT TIME 730 Calendar Days

Consultant Firm Signature

Date



**New Bridge over Tonto Creek near Punkin Center
 Tonto Basin, AZ**

Contract No: xxxxxx
 TRACS No. SS 71803D

ESTIMATED STAFF HOURS

TASK	Scale	No Shts	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Nepa Pin	Nepa Pin	Tech/ Draft	Admin	Clerical	Total
			\$ 220.00	\$ 190.00	\$ 188.00	\$ 148.00	\$ 130.00	\$ 98.00	\$ 165.00	\$ 115.00	\$ 125.00	\$ 95.00		
410 - Project Team Meetings														
Project Kick-off Meeting (Partnering Workshop in Phx)														
Prepare for Meeting				9	6	6								
Attend Meeting				5	5	5			8		8			2
Meeting minutes and distribution				3					5					2
Monthly Project Team Meetings														
Monthly Progress meeting (2 outside of Phx)														
Prepare for Meeting				8		12		4	8	6				40
Travel to Globe/Tonto Basin (assume 2 meetings outside Phx)				3		3			3					9
Attend Meeting				8		8			8					24
Meeting minutes and distribution				4		6			4					12
Monthly Progress Meeting (Phoenix - 18 total)														
Prepare for Meeting				19		38		10	19	10				98
Travel				4		4			4					12
Attend Meeting				38		38			38					114
Meeting minutes and distribution				19		38			9					85
Special Meetings (Agency/Stakeholder specific)														
Gila County BOS				4		4								
FHWA				4		4								
Tonto Forest - Forest Ranger & Headquarters				4		4			4					12
ADOT Local Government				4		4			4					12
Tonto Basin - General Public and/or Stakeholders				4		4			4					12
Subtotal 410 - Project Team Meetings			140	23	179			14	122	16	8		39	541
415 - Data Collection														
Obtain & Review GIS data from County on Roadway Network in Tonto Basin				1		6		4						20
Obtain & Review Current Traffic Data from County and CAAG				1		2		4			9			7
Obtain & Review Parcel Data and Records from County for Project Area				1		6		4			9			20
Subtotal 415 - Data Collection			3		14			12			18			47
420 - Surveys & Mapping														
Review/Confirm Existing Survey/Topo for Project Area				1	2	2								10
Obtain Additional Field Surveys as Needed (coordinate with Surveyor)				1		4					8			13
Obtain Historical Aerial Photographs for Tonto Basin				1	2	1		6			4			13
Coordinate with Surveyor (Alpha) on Additional needs				2	4	6					8			20
Review and incorporate into Project Mapping														

ESTIMATED STAFF HOURS

TASK	Scale	No Shts	Proj Prin	Proj Mgr	Sr Proj Eng	Proj Eng	Eng/ Des	Analyst	Sr Nepa Pln	Nepa Pln	Tech/ Draft	Admin	Clerical	Total
Subtotal 420 - Surveys & Mapping														
425 - Administrative Reports														
Project Coordination Plan														
Coordinate with County/FHWA & ADOT Local Govt for requirements				2										2
Develop Draft Coordination Plan				6										8
Address comments to Draft Coordination Plan				1										2
Finalize Coordination Plan				4										6
Public Involvement Plan														
Coordinate with County/FHWA & ADOT Local Govt for requirements				3										6
Develop Draft PIP				6										12
Address comments to Draft PIP				2										4
Finalize PIP				1										2
Develop PIP report				2										4
Subtotal 425 - Administrative Reports														
				27					19					46
430 - Project Scoping														
PROJECT TEAM SCOPING MEETING (in Phoenix)														
Prepare for Meeting				6					6					24
Attend Meeting				4					4					20
Meeting minutes and distribution				2					1					11
AGENCY SCOPING MEETING (in Phoenix)														
Prepare for Meeting				8					8					32
Travel to Meeting				1					1					5
Attend Meeting				3					3					15
Meeting minutes and distribution				2					1					11
SCOPING FIELD REVIEW														
Prepare for Meeting				4					2					18
Travel to Meeting				4					4					20
Attend Meeting				3					3					15
Meeting minutes and distribution				1					1					8
PUBLIC SCOPING MEETING (in Tonio Basin)														
Prepare for Meeting				11					9					84
Travel to Meeting				4					4					20
Attend Meeting				3					3					15
Meeting minutes and distribution				2					2					13
PROJECT SCOPING REPORT														
Prepare Scoping Report				8					8					24
Review & Distribute				1					1					7
Subtotal 430 - Project Scoping														
			1	67	23	78	-	-	61	73	18	-	21	342
440 - Alternatives Analysis & Selection														
ALIGNMENT ALTERNATIVES (8 TOTAL)														
Kayler Crossing Vicinity (2 alignments)														
Model Roadway				4					4					32
Cut Cross Sections				2					2					10
Review Cross Sections/Check Slopes				2					2					10
Generate End Area Volumes/check raw earthwork				4					4					6
Modify Slopes/ templates/Profile accordingly				8					8					14
Evaluate Bridge Layout for each alignment				8					4					27
Subtotal 440 - Alternatives Analysis & Selection														
			1	67	23	78	-	-	61	73	18	-	21	342

ESTIMATED STAFF HOURS

TASK	Scale	No Shits	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Nepa Pin	Nepa Pin	Tech/ Draft	Admin	Clerical	Total
Punkin Center Vicinity (2 alignments)			\$ 220,000	\$ 190,000	\$ 189,000	\$ 148,000	\$ 130,000	\$ 98,000	\$ 165,000	\$ 115,000	\$ 125,000	\$ 95,000	65,000	
Model Roadway														
Cut Cross Sections														
Review Cross Sections/Check Slopes				4	4	12		12						32
Generate End Area Volumes/Check raw earthwork				2	2	6		4						10
Modify Slopes/Templates/Profile accordingly				2	2	2		4						10
Evaluate Bridge Layout for each alignment				8	4	8		6						6
Bar-X Vicinity (1 alignment)														
Model Roadway														
Cut Cross Sections														
Review Cross Sections/Check Slopes				2	2	6		6						16
Generate End Area Volumes/Check raw earthwork				1	1	3		2						5
Modify Slopes/Templates/Profile accordingly				1	1	1		2						5
Evaluate Bridge Layout for each alignment				4	2	4		3						3
A-Cross Vicinity (1 alignment)														
Model Roadway														
Cut Cross Sections														
Review Cross Sections/Check Slopes				2	2	6		6						16
Generate End Area Volumes/Check raw earthwork				1	1	3		2						5
Modify Slopes/Templates/Profile accordingly				1	1	2		2						5
Evaluate Bridge Layout for each alignment				4	2	4		3						3
Summary of Alternatives				4	2	6		2						7
Analyze/summarize evaluation matrix				2	2	2		2						4
Prepare Prelim Alignments/Alternative Graphics				3	2	9		24						4
Coordinate w/ Environmental on Fatal Flaws				8	-	8		8						81
Evaluate Alternatives				15	15	20		20		8				24
CONCEPT PLANS (RECOMMENDED ALTERNATIVE)														80
Typical Sections														
Typical Sections - Recommended alternative														
Plan & Profile Sheets				4	6	10								28
Profile Sheets														
Bridge Plan, Elevation & Typical Sections				2	2	6		12						40
Plan Sheets				2	2	6		8						28
Profile Sheets				6	6	6		9						27
PROJECT TEAM MEETING (ALTERNATIVE ALIGNMENTS)														27
Prepare for Meeting				6	4	6		9						27
Travel to Meeting				9	4	6		4						33
Attend Meeting				3	3	3		3						15
Meeting minutes and distribution				3	3	3		3						15
AGENCY INFORMATION MEETING (ALTERNATIVE ALIGNMENTS)														10
Prepare for Meeting				2	2	3		3						10
Travel to Meeting				8	3	5		5						32
Attend Meeting				1	1	1		1						5
Meeting minutes and distribution				3	3	3		3						15
PUBLIC INFORMATION MEETING (ALTERNATIVE ALIGNMENTS)														10
Prepare for Meeting				2	2	3		3						10
Travel to Meeting				6	6	6		3						39
Attend Meeting				4	4	4		4						20
Meeting minutes and distribution				4	4	4		4						20
				2	2	4		4						12

ESTIMATED STAFF HOURS

TASK	Scale	No Shts	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Nepa Pin	Nepa Pin	Tech/ Draft	Admin	Clerical	Total
Revise models and iterations					2	4	9	20						35
Finalize Initial models					1	2	5	10						18
Revise preliminary bridge hydraulics - preferred alt and approach roads					3	6	10	5						24
Bridge model iterations					2	4	5	7						18
Final preliminary bridge models					1	2	4	4						11
Side tributary hydraulic analysis					1	2	7	10						23
Revise side trib hydraulics analysis					2	2	4	3						9
Preliminary draft report					2	4	20	10					13	69
Response to comments					1	11	-	4					3	21
Final Report					1	8	10	3					10	37
453 Preliminary Structure Selection Report (Preferred Alternative)														
Develop Preliminary Structure Geometry					2	9		16						23
Complete Preliminary Superstructure Calculations					1	4		12						30
Complete Preliminary Substructure Calculations					1	9		12						26
Develop Preliminary Plan, Elevation & Typical Section					2	3		6						35
Develop Preliminary Opinion of Probable Costs					2	9		12						29
Prepare Draft Structure Selection Report					5	30		24						81
Address Comments on Draft Structure Selection Report					2	9		9						26
Finalize Structure Selection Report					3	9		9						33
454 Traffic Circulation & Travel Patterns Summary														
Review Existing Traffic Data/Counts					3	6		3						12
Prepare Traffic Survey for General Public					1	2		5						8
Compile and Tabulate Data from Traffic Survey					2	6		9						35
Prepare Summary of Current Travel Habits and Patterns					1	9		12						54
Prepare Recommendation for Lane & Pedestrian Configuration					1	6		9						37
45X Environmental Summary														
Existing Documentation Review					6			24						96
Exhibit/Mapping					4			10						44
Summary Report Preparation					8			18						56
455 Biological Assessment Report (ACS Lead)														
Biological Assessment Report (ACS Lead)					2			20						102
456 Cultural Resources Report (ACS Lead)														
Cultural Resources Report (ACS Lead)					2			20						102
457 Air Quality & Noise Analysis Report (LSD Lead)														
Air Quality & Noise Analysis Report (LSD Lead)					2									2
458 Hazardous Materials Survey Report														
Hazardous Materials Survey Report					2			36						126
459 Visual Impact Analysis (LSD Lead)														
Visual Impact Analysis (LSD Lead)					9	12								91
460 404/Jurisdictional Delineation														
404/Jurisdictional Delineation								20						100
JD Data Compilation and Field Preparation						25		25						100
Field work (DCR alternatives - Tonko Creek & Side Tribs)								40						112
Mapping								50						180
Prepare 404/JD Package and Submit to CORPS								50						20
Subtotal 450 - Technical Reports					92	196	355	297	701	144	321	318	61	2,485

465 - Initial Design Concept Report

ESTIMATED STAFF HOURS

TASK	Scale	No Shfts	Proj Ptn	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Napa Ptn	Napa Ptn	Tech/ Draft	Admin	Clerical	Total
Initial DCR			\$ 220.00	\$ 190.00	\$ 188.00	\$ 148.00	\$ 130.00	\$ 98.00	\$ 165.00	\$ 115.00	\$ 125.00	\$ 95.00	65.00	
Cover Sheet				1				2						3
Title Page				2				4						6
Table of Contents				2				6						8
Executive Summary				12			9			6				27
List of Figures				2										14
Introduction				6			9	6						15
Foreword				5										11
Need for Project				6				8						13
Project Objectives				5				6						11
Characteristics of the Project Area				8				12						32
Description of Project				9				14						41
Location & Vicinity Maps				8				12						29
Traffic Analysis and Accident data				1				3						18
Location Analysis				3				9						33
Design Concept Alternatives				16				18			6			58
Major Design Features of Recommended Alternative				22				24						95
AASHTO Controlling Design Criteria				9				12						2
Identified Cost Estimates				2				22						49
Appendices				15				18						106
Prepare Draft Initial DCR				18				24			40			24
Quality control				24										40
Revise per County comments / prepare Initial DCR				12				9						21
Submit Initial DCR				3				6						12
Subtotal 465 - Initial Design Concept Report			12	185	24	151	18	166		6	58	15	11	646
470 - Draft Environmental Document														
Preparation & Data Compilation														
Cultural resources				2				2		4				8
Biology				2				2		4				8
Hazardous Materials				2				2		4				8
Technical Studies and Memorandums (LSD Lead)				2										
Water Resources				2				3						5
Floodplain Considerations				2				3						5
Prime and Unique Farmlands				2				3						5
Socioeconomic/Environmental Justice				2				3						5
Section 4(f) & 8(f) Resources				2				3						5
Utilities				2				3						5
Material Sources & Waste Sites				2				3						5
Secondary/Cumulative Impacts				2				3						5
Environmental/Subconsultant Coordination				2				3						5
NEPA planner/SD				18				36		36				90
Cultural & Biology/ACS				18				36		36				90
Subtotal 470 - Draft Environmental Document			58					105		84				247
480 - Final Reviews & Approvals														
PROJECT TEAM MEETING (UDCR & Environmental Document)														
Prepare for Meeting				6				3		6				29
Travel to Meeting				3				3		3				15
Attend Meeting				3				3		3				15

ESTIMATED STAFF HOURS

TASK	Scale	No Shs	Proj Prin	Proj Mgr	Sr Proj Eng	Proj Eng	Eng/ Des	Analyst	Sr Neps Pin	Neps Pin	Tech/ Draft	Admin	Clerical	Total
484			\$ 220.00	\$ 190.00	\$ 188.00	\$ 148.00	\$ 130.00	\$ 98.00	\$ 185.00	\$ 115.00	\$ 125.00	\$ 95.00	65.00	
Meeting minutes and distribution				2										2
AGENCY MEETING (LDCR & Environmental Document)														10
Prepare for Meeting				6	3				5	3				23
Travel to Meeting				1					1	1				5
Attend Meeting				3					3	3				15
Meeting minutes and distribution				2						3				10
486														
PUBLIC HEARING (LDCR & Environmental Document)														2
Prepare for Meeting				8	3				5	4				40
Travel to Meeting				4					4	4				20
Attend Meeting				4					4	4				20
Meeting minutes and distribution				2					4	4				12
Final record/documentation of meeting				6					6	8				30
COMMENT RESOLUTION & CONSENSUS														2
Review, Summarize, Document & Incorporate				9					9	12				42
Subtotal 480 - Final Reviews & Approvals				61	17		61	16	49	58				24
490 - Final Design Concept Report														
Final DCR														
Address comments from Initial DCR				16			24		9	24				9
Prepare Draft Final DCR				12			24		12	24				130
Quality control			12		9									128
Revise per County comments / prepare Final DCR				9			12							21
Submit Final DCR				3			6							42
Project delimitation and closeout				12			24			24				23
														8
Subtotal 490 - Final Design Concept Report			12	52	9	90		108	21	54	33			412
495 - Final Environmental Document														
Preparation & Data Compilation														
Cultural Resources				1					20	20				41
Biology				1					20	20				41
Hazardous Materials				1					20	20				41
Technical Studies and Memorandums (LSD Lead)														
Water Resources				1					2	1				4
Floodplain Considerations				1					2	1				4
Prime and Unique Farmlands				1					2	1				4
Socioeconomic/Environmental Justice				1					2	1				4
Section 4(f) & 6(f) Resources				1					2	1				4
Utilities				1					2	1				4
Material Sources & Waste Sites				1					2	1				4
Secondary/Cumulative Impacts				1					2	1				4
Subtotal 495 - Final Environmental Document				11					76	68				155
500 - 30% Plans & Estimates														
Plan Sheets														
Face Sheet										1				2
Standard Drawings				1						1				4
Design Sheets & Index (Typical Sections, Tables, Length of Project)				2						6				20
Barrier Summary Sheets				1						8				15

ESTIMATED STAFF HOURS

TASK	Scale	No Shrs	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Napa Pln	Napa Pln	Tech/ Draft	Admin	Clerical	Total
Pipe Summary Sheets			\$ 220.00	\$ 190.00	\$ 188.00	\$ 148.00	\$ 130.00	\$ 98.00	\$ 165.00	\$ 115.00	\$ 125.00	\$ 95.00	65.00	
Detail Sheets				1	2	4	12	6			4			12
Geometry & Geometric Control Sheets				1	1	8	8				24			37
Plan and Profile Sheets				1	6	16	36				16			31
Construction Phasing & Traffic Control Sheets				1	1	12					48			107
Pavement Marking & Signing Sheets				1	1	6					24			46
Bridge Plan, Elevation, Typical Section & Aesthetic/Rustication Concept Sheets				12	12	12	24				24			43
Right-of-Way Plans				1	1	12					36			132
Cross Sections											24			61
One to One @ 50' Intervals				1										21
Reports, Estimates & Specifications														
Summary of Earthwork Quantities - Earthwork Report				1	4	9	8							13
Cost Estimates				4	2	9								27
Final Structure Selection Report				9	4	18								46
Right-of-Way Report				4	2	8								28
Subtotal 500 - 30% Plans & Estimates				42	47	95	118	102			236			645

550 - Final Design 80%, 95%, 100%

TASK	Scale	No Shrs	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Napa Pln	Napa Pln	Tech/ Draft	Admin	Clerical	Total
Plan Sheets														
Face Sheet					1									3
Design Sheets & Index														
Typical Sections				1	2	3	6				8			18
Pavement Structural Sections				2	1	2					4			7
General Notes				2	1	1					3			8
Earthwork Table														
Summary Sheets (Culvert, Barrier)				1	1	2	9				4			6
Special Detail (if required)				2	4	12	20				12			24
Drainage Plan & Profile and Drainage Details				2	1	16	36				40			78
Geometric Sheets (scale - 1"=100', full size)				4	1	3	8				12			40
Selected Alternative Plan & Profile Sheets (scale - 1"=60', full size)				4	12	24	30				24			24
Staking Plans (scale - 1"=20")				1	2	6	10				6			25
Intersection Plans & Details (scale - 1"=20', full size)				2	6	12	18				24			62
Side Road/Turnout Plan & Profile Sheets (scale - 1"=20')				2	4	8	16				24			54
Traffic Control Plans, Details				3	5	9	14				24			55
Construction Phasing				2	6	12	24				36			66
Signing & Pavement Marking Plans (scale - 1"=40')				1	6	12	36				48			103
Utility Relocation Plans, Details (if required)				4	6	12	18				24			40
Stormwater Pollution Prevention Control Plan				1	4	6	18				24			53
Selected Alternative Cross Sections (50 foot intervals)				1	4	6	18				24			23
Bridge Plans for Selected Alternative				2	110	220	250				110			1,072
Bridge Scour, Berms/Training Dikes Plan, Profile & Typical section Sheets				18	40	80	96				100			434
Right-of-Way Plans				12	9	24	12				36			105
404/Jurisdictional Delineation Permit														
Individual Permit Application														
Alternatives Analysis														
Mitigation Plan														
Post Submittal Coordination with CORPS														
Meetings with Agencies														
Aid CORPS with EA preparation														
Reports, Estimates & Specifications														
Summary of Earthwork Quantities				3	12	15	24				20			200
Cost Estimates				12	16	24	36				48			54

ESTIMATED STAFF HOURS

TASK	Scale	No Shfts	Proj Prin	Proj Mgr	Snr Proj Eng	Proj Eng	Eng/ Des	Analyst	Snr Nepa Prin	Nepa Prin	Tech/ Draft	Admn	Clerical	Total
Special Provisions			4	9	12	12	36	24						97
Reproduction & Submittal Distribution				9	9			18						54
Subtotal 550 - Final Design 60%, 95%, 100%			6	292	274	465	739	578	120	240	661	-	48	3,423
600 - Contract Administration														
Project Administration (24 months @ 4 hours)				96										96
Misc coordination/correspondence with Gila County, FHWA, ADOT other Agencies				24				12						60
Project Website Updates & Maintenance				24				24						96
Project Management														-
Project budget control (24 months @ 2 hours)			9	12	48				12					48
Develop work plan (Resources/Check lists)			9	12	48				12					45
Maintain work plan (24 @ 2 hours)				24	24			24						48
Design documentation														144
Quality Control														-
Develop quality control plan			9	12	48				6					39
Maintain quality control plan (24 months @ 2 hours)			24	48	48				48					48
Quality control														168
Monthly Invoices (24 months @ 2 hours)														96
Subtotal 600 - Contract Administration			42	240	240	96	-	60	66	48	-	96	-	888
Totals		100	73	1,413	924	1,849	1,250	1,903	826	1,027	1,449	111	264	11,089

**New Bridge over Tonto Creek near Punkin Center
Tonto Basin, AZ**

**Contract No: xxxxxx
FHWA Project No: HPP-GG1-0(204) A
TRACS No: SS 71803D**



**Kimley-Horn
and Associates, Inc.**

Phase I - DCR & Environmental Studies

Fee	\$1,035,148
Kimley-Horn	\$317,120
LSD	\$130,052
ACS	\$79,652
JE Fuller	\$67,051
AMEC	\$42,600
Alpha	\$0
D. Lopez	\$73,374
Expenses	
Total	\$1,744,997

Phase II - Final Design*

Fee	\$508,965
Kimley-Horn	\$0
LSD	\$0
ACS	\$0
JE Fuller	\$200,000
AMEC	\$10,000
Alpha	\$10,000
D. Lopez	\$10,000
Expenses	\$18,344
Total	\$747,309

** estimate for budgetary purposes*

Total Phase I & II: \$2,492,306