ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

STATEMENT OF QUALIFICATIONS PACKAGE
FOR CONTRACT NO. 08-01

I-10 Papago Widening, Verrado Way to Sarival Avenue

JULY 2007

STATEMENT OF QUALIFICATIONS PACKAGE
FOR

CONTRACT NO. 08-01
I-10 Papago Widening, Verrado Way to Sarival Avenue

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PUBLIC ADVERTISEMENT

FOR PUBLICATION July 13, 2007 and July 20, 2007
IN THE TRIBUNE NEWSPAPERS.
(Mesa Tribune, Chandler Arizonan & Tempe Daily News)

ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

PUBLIC NOTICE FOR CONSULTANTS INTERESTED IN PROVIDING ENGINEERING SERVICES
FINAL DESIGN OF I-10 PAPAGO WIDENING,
VERRADO WAY TO SARIVAL AVENUE
IN MARICOPA COUNTY

ECS CONTRACT NO. 08-01
TRACS NO. H721101D

Statements Due: AUGUST 1, 2007

The ARIZONA DEPARTMENT OF TRANSPORTATION is accepting Statements of Qualifications from firms to provide professional engineering services for the final design of I-10 Papago Widening, Verrado Way to Sarival Avenue.

Statements of Qualifications will be received until 4:00 p.m. Arizona Time on the above referenced date at ADOT Engineering Consultants Section, 205 South 17th Avenue, Room 293E, Mail Drop 616E, Phoenix, Arizona 85007. No Statements will be accepted after the time specified.

Effective this date July 13, 2007, no further contact is allowed with the Project Manager with the following exception.

A Pre-Submittal Conference has been scheduled by the Project Manager for July 19, 2007 at 10:30 am to in auditorium-room 107 of 206 S. 17th Avenue, Phoenix, Arizona, 85007. All questions must be addressed at this time. Following the Pre-Submittal meeting, no further contact regarding this project will be allowed with ANY ADOT personnel except for those in Engineering Consultants Section. "Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Margie Cerda 602-712-8369. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation."

For further information contact ADOT Engineering Consultant Section, (602) 712-7525 or www.azdot.gov/Highways/ECS. Statement of Qualification packages for Contract 08-01 are available for pickup at the ADOT Engineering Building, 205 South 17th Avenue, Room 293E, Phoenix, Arizona 85007.

SECTION II

INFORMATION COPY TO CONSULTANTS

ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

INFORMATION COPY TO CONSULTANTS

REQUEST FOR STATEMENTS OF QUALIFICATION FOR CONSULTANTS INTERESTED IN PROVIDING ENGINEERING SERVICES FOR FINAL DESIGN OF I-10 PAPAGO WIDENING, VERRADO WAY TO SARIVAL AVENUE IN MARICOPA COUNTY

ECS CONTRACT NO. 08-01
TRACS NO. H721101D

Statements Due: **AUGUST 1, 2007**

Statements of Qualifications expressing interest in the project will be received until 4:00 P.M. (Arizona Time) on the date shown above, at the office of Engineering Consultants Section, 205 South 17th Avenue, Room 293E, Mail Drop 616E, Phoenix, Arizona 85007. NO Statements will be accepted after the time specified.

Statements will be accepted from any firm or corporation who is properly registered with the Arizona Board of Technical Registration and who has a principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.

The selected consultant will provide professional engineering services for final design of widening the I-10 from Verrado Way to Sarival Avenue with General Purpose Lanes.

The consultant may be required to perform services including, but not limited to: the preparation of construction plans and drawings, special provisions, quantity and cost estimates for adding general purpose lanes, drainage, traffic control, lighting, traffic design, and all the components of civil design for construction.

Effective this date July 13, 2007 no further contact is allowed with the Project Manager with the following exception.

A Pre-Submittal Conference has been scheduled by the Project Manager for July 19, 2007 at 10:30 am to in auditorium-room 107 of 206 S. 17th Avenue, Phoenix, Arizona, 85007. All questions must be addressed at this time. Following the Pre-Submittal meeting, no further contact regarding this project will be allowed with ANY ADOT personnel except for those in Engineering Consultants Section. "Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Margie Cerda 602-712-8369. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation."

Questions of an administrative or contractual nature can be directed to Margie Cerda, Contract Specialist, Engineering Consultants Section, telephone (602) 712-8369.

The Engineering Consultants Section Statement of Qualifications format for Contract No. 08-01 shall be followed when expressing interest in this project. The Statement of Qualifications package, or information regarding same, may be obtained from the address shown above, telephone (602) 712-7525. Statements of Qualifications not following the correct format will be rejected.

In order to qualify for selection, a firm must have on file with the Department a current "Prequalification Statement" or submit same with the Statement of Qualifications. Prequalification Statement forms may be obtained from the address shown above, telephone (602) 712-7525.

Previous experience with traffic interchanges and crossroad improvements will be a factor in the selection.

All material submitted in accordance with this solicitation becomes the property of the State of Arizona.

Lobbying certification/disclosure certification statement will be required in the introductory letter from those submitting Statements of Qualifications.

The right is reserved by the Department to reject any and all Statements of Qualification.

Professional Liability Insurance will be required.

The Boiler Plates for all Engineering Consultant Section Contracts are not negotiable.

Partnerships (joint-ventures) will not be considered.

Reviewing the successful Proposal(s) would be allowed but copying is not permitted.

Inclusion of work hour and/or plan sheet estimates in the SOQ will not be allowed.

SECTION III

STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS

ENGINEERING CONSULTANTS SECTION
STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS
CONTRACT NO. 08-01

Provided for your use is the format for submission of a **STATEMENT OF QUALIFICATION**.

1. **(6) COPIES OF THE STATEMENT OF QUALIFICATION ARE REQUIRED BY ADOT**.

2. **There is a TOTAL PAGE LIMIT of 12 pages. The proposal may include clear report covers, covers, dividers, table of contents, tables, figures, maps, etc., but these must fit within the 12 page limit. A page shall be 8 1/2 X 11 inches, blank, or printed on one side only. Fold out pages are not allowable.**

3. **The SOQ proposal must follow the format outlined below:**

	FORMAT CONTENT	MAXIMUM POINTS	TOTAL NUMBER OF PAGES
	FRONT COVER **(Optional, but if included will count as a page)**		
PART A	INTRODUCTORY LETTER		
PART B	EVALUATION CRITERIA **May include information to support Criteria.**		
	1. Project Understanding & Approach	40	
	2. Project Team	35	
	3. Firms Capability	20	
	4. Location of Work	5	
PART C	CONSULTANT FIRM INFORMATION PAGE		
	BACK COVER **(Optional, but if included will count as a page)**		
		TOTAL POINTS	**TOTAL PAGES**
	TOTAL POINTS	100	12

4. **Any amendments issued on the SOQ and included in the SOQ, as required, will NOT be counted as pages.**

5. **Submissions failing to follow all instructions outlined above will be rejected and the Consultant notified in writing of the reason(s) for rejection.**

ENGINEERING CONSULTANTS SECTION
Statement of Qualifications
Format and Evaluation Criteria
for Contract No. 08-01

The following describes more specifically, the content of each part.

PART A, INTRODUCTORY LETTER

The introductory letter should be addressed to:

Arizona Department of Transportation
Engineering Consultant Section
205 South 17th Avenue
Room 293E, Mail Drop 616E
Phoenix, Arizona 85007

The introductory letter should contain the following items:

- An expression of the firm's interest in being selected for the project.
- A statement that the firm is pre-qualified with ADOT, or that the necessary pre-qualification information is being submitted with the proposal.
- A statement confirming the commitment of the key personnel identified in the submittal to the extent necessary to meet ADOT's quality and schedule expectations.
- Provide name and Professional Engineers registration number of the principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.
- A summary of key points regarding the firm's qualifications.
- A statement that the Consultant certifies, by signing and submitting this proposal to the best of his or her knowledge and belief, that no Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned for the purpose of lobbying (Refer to Section V).

PART B, EVALUATION CRITERIA

The information that should be included in the discussion of qualifications is outlined here.

1. Project Understanding and Approach

   a. Discuss generally the tasks involved in this project. Identify any special issues or problems that are likely to be encountered. Demonstrate clearly and concisely your understanding of the technical and institutional elements with which the consultant must deal.

   b. Outline your proposed approach for dealing with the tasks and issues of this project. Provide a tentative schedule indicating the duration and functional relationship of major tasks and key events. A graphical depiction may be included with the evaluation criteria.

   c. Explain how your firm will use Partnering in this project. (Relates to Construction Administration only.)

2. Project Team

Identify your proposed project team and its collective qualifications for this particular project. In particular, discuss the following:

a. Project Principal. Identify the person who (1) will be responsible for ensuring that adequate personnel and other resources are made available for this project; (2) will handle contractual matters, and; (3) will be ultimately responsible for the quality and timeliness of the consultant's performance. State that person's position and authority within the firm. Discuss previous similar projects for which this person has performed a similar function.

b. Project Manager. State who will actively manage this project. Identify any projects that person will be involved with concurrently and time committed to each project. List recent similar projects for which this person has performed a comparable function. Discuss relevant experience, professional registrations, education and other components of qualifications applicable to this project.

c. Project Engineer(s) and/or Other Key Personnel. Identify other members of the project team including subconsultants that provide special expertise or will perform key tasks. Describe their anticipated roles. Discuss their relevant experience, registration, education and other elements of qualification applicable to this project.

d. Construction Cost Estimator. Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

3. Firm Capability

a. Discuss recent relevant experience of the firm. Projects listed should be similar in nature to the current project and to the extent possible involve team members proposed for this project.

b. Discuss quantitatively how this project would impact the current and anticipated workload of the office, which will perform this work. If "staffing up" will be necessary, discuss which areas and how that would be accomplished.

c. Describe any special equipment, software or other resources your firm has which will enhance your ability to accomplish this project. If you propose to use CADD, describe the applicable training and experience of your staff and identify any previous projects for which you have used CADD.

d. Describe your internal procedures for developing, monitoring and maintaining project schedules and budgets.

e. Describe your internal quality control procedures.

f. Describe any notable expertise, increase in capacity or other special capabilities of your subconsultants that are critical to your proposal.

g. Describe how your quality program would enhance the development of this project.

h. Describe your internal procedures for providing partnering education and development. (If applicable)

4. Location of Work

Describe where the key elements of this work will be performed by the Prime Consultant and the Subconsultants. ECS will award points based on the following criteria:

Less than 50% of all work done in state	0 points
At least 50% but less than 95% of all work done in state	1 point
At least 95% of all work done in state	3 points
100% of all work by the Prime and Subconsultants must be performed in State. Prime must be project convenient (within 35 miles of principal job site).	5 points

PART C, CONSULTANT FIRM INFORMATION SHEET

Complete the form provided or a facsimile thereof and include as a part of your submittal.

ENGINEERING CONSULTANTS SECTION
Proposal Evaluation Form

Questions, which the review panel will generally be seeking to answer in their evaluation, are listed here. The maximum points available for each category are indicated, though the relative weighting of items within each category is up to the discretion of the individual reviewers.

1. PROJECT UNDERSTANDING AND APPROACH (Maximum 40 points)

- Does the consultant understand the nature and scope of the project and the major tasks and issues that will need to be addressed?
- Has the consultant correctly identified any special problems that are likely to be encountered?
- Does the consultant appreciate the interrelation and relative importance of the various project issues?
- Has the consultant's understanding of the project been expressed clearly and concisely?
- Has the consultant proposed logical approaches for dealing with the project tasks and issues?
- Does the schedule incorporate all the major tasks and events? Does it reflect the interrelationship of important project elements and events? Is the proposed timing realistic?
- Does the consultant understand its responsibilities for the project?

2. PROJECT TEAM (Maximum 35 points)

- What is the level of ability and experience of the proposed project manager? What is the person's record of accomplishing similar projects in the past in terms of (1) quality of work?
  (2) Meeting schedules, (3) responsiveness to special needs and concerns of the client? Is this individual familiar with specific ADOT standards and procedures?
- Does the person identified as ultimately responsible for the consultant's performance have the authority necessary to commit firm resources, and to act on behalf of the consultant regarding contractual matters and disputes? What is this person's experience and record of performance on past projects of similar type and magnitude? Has this individual been responsive to ADOT and/or other clients in the past?
- Do other key members of the project team (including subconsultants) provide the range and level of expertise necessary to deal with the scope of this project? Are these individuals familiar with specific ADOT standards and procedures? Have they worked together as a team before?
- Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

3. FIRM CAPABILITY (Maximum 20 points)

- What level of experience <u>relevant to this project</u> does the consultant have? Are the firm's employees with the relevant experience participating in this project? Is the consultant familiar with ADOT standards and procedures? Has the firm shown a particular commitment to this type of work?

3. FIRM CAPABILITY (continued)

- Has the consultant provided quantitative data indicating that qualified personnel will be available for this project? Does the consultant realistically have the ability to add qualified staff if needed for this project or other projects that happen to come on line before this project is completed?

- Will this project benefit from the use of CADD? If so, does the consultant have the type and amount of CADD equipment appropriate for this project? Is the consultant's staff suitably trained and experienced in the use of CADD? Has the consultant successfully used CADD on past ADOT or similar projects?

- Does the firm have other special equipment or software that will be beneficial to this project? Are current staff members familiar with its use? Has it been used successfully before on ADOT or other similar projects?

- Is the consultant's approach for developing and maintaining the project budget and schedule sound? Has the consultant used these procedures successfully on ADOT or similar projects in the past? Are proposed measures to avoid or make up slippage on the schedule realistic?

- Is the consultant's quality control program suitable? Has it been used successfully by the consultant on ADOT or similar projects in the past?

- If one or more subconsultants are critical to the consultant's proposal, do these firms have the technical expertise, available personnel and record of performance appropriate for their anticipated roles?

F. CONTRACT NO. _____

STATEMENT OF QUALIFICATIONS/SELECTION PANEL COMMENT FORM

FIRM NAME_____ **#**_____ **PANEL MEMBER**_____ **#**_____

1. PROJECT UNDERSTANDING AND APPROACH

What did you like about the firm's understanding and approach?

_____
_____
_____

What did you dislike about the firm's understanding and approach?

_____
_____
_____

What did you think about the way the firm handled special problems and/or special situations?

_____
_____
_____

What did you think about the schedule?

_____
_____
_____

What parts of the understanding and approach did you think were well done?

_____
_____
_____

What suggestions would you make to the firm to improve this section for the next time?

_____
_____
_____

SCORE (40 Maximum) _____

CONTRACT NO. _____

PANEL COMMENT FORM - PAGE TWO

FIRM NAME_____ #_____ PANEL MEMBER_____ #_____

2. PROJECT TEAM

Team Strengths:

_____
_____
_____

Team Weaknesses:

_____
_____
_____

How are the team member's qualifications geared to this specific project?

_____
_____
_____

SCORE (35 Maximum) _____

3. FIRM'S CAPABILITIES

Firm's strong areas as related to this project:

_____
_____
_____

Firm's weak areas as related to this project:

_____
_____
_____

F. PANEL COMMENT FORM - Page Three CONTRACT NO. _____

FIRM NAME_____ #_____ PANEL MEMBER_____ #_____

3. FIRM'S CAPABILITIES, CONTINUED

How did the firm fit the subconsultant's qualifications/duties into overall picture?

_____
_____
_____

SCORE (20 Maximum) _____

(SCORES ARE TO BE ENTERED AND TOTALED ON SCORE SHEET)

==========

OTHER:

Any comments on the format and presentation of the SOQ?

_____
_____
_____

Any other comments or suggestions?

_____
_____
_____

SECTION IV

CONSULTANT FIRM INFORMATION PAGE

PART C - CONSULTANT FIRM INFORMATION PAGE

CONTRACT NO.: _____

CONTACT PERSON: _____

E-MAIL ADDRESS: _____

CONSULTANT FIRM: _____

ADDRESS: _____

_____

_____

CITY, STATE ZIP: _____

TELEPHONE: _____

FAX NUMBER: _____

ADOT CERTIFIED DBE FIRM? _____

AFFIRMATIVE ACTION ON FILE WITH ADOT? _____

SUBCONSULTANT(S)	TYPE OF WORK	ADOT CERTIFIED DBE FIRM

NOTE: The Consultant Firm Information Page <u>must be a separate full page and is included in the total page count.</u> This page is not evaluated by the Selection Panel, but is used by Engineering Consultants Section for administrative purposes.

SECTION V

LOBBYING CERTIFICATION

Lobbying Certification

The Consultant certifies, by signing and submitting this proposal (see statement in "Introductory Letter"), to the best of his or her knowledge and belief, that:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Copies of Form-LLL "Disclosure Form to Report Lobbying', are available at ADOT Engineering Consultants Section, 205 S. 17th Avenue, Mail Drop 616E, Room 293E, Phoenix, AZ 85007.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, and U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The proposer also agrees, by submitting its proposal, that it shall require that the language of this certification be included in all subcontracts and lower tier subcontracts which exceed $100,0000 and that all such subcontracts and lower tier subcontractors shall certify and disclose accordingly.

The Department will keep the Consultants certification on file as part of their original proposals. The Consultant shall keep individual certifications from all subcontractors and lower tier subcontractors on file. Certifications shall be retained for 3 years following completion and acceptance of any given project.

Disclosure forms for the Prime Consultant and or their subcontractors and lower tier subcontractors shall be submitted to the Contract Manager at the date Statements of Qualifications are due, when said subcontracts exceed $100,000. During the performance of the contract the Consultant and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Contract Manager to the Federal Highway Administration for further processing.

SECTION VI

ADOT EMPLOYEE POST EMPLOYEE EMPLOYMENT RESTRICTIONS

SUPPLEMENTAL SERVICES RESTRICTIONS

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ENGINEERING CONSULTANTS SECTION
205 South 17th Avenue - Room 293E, Mail Drop 616E
Phoenix, Arizona 85007

FIFE SYMINGTON
Governor

LARRY S BONINE
Director

THOMAS G SCHMITT
State Engineer

March 7, 1996

Engineering Consultants Section

INFORMATION BULLETIN 96-04

TO: CONSULTANTS

FROM: ENGINEERING CONSULTANTS SECTION

SUBJECT: ADOT Employee Post Employment Restrictions

The purpose of this bulletin is to provide guidance to consultants in the employment of current or former ADOT employees to work on contracts administered by the Engineering Consultants Section. The following guidelines and policy are intended to avoid actual or perceived conflicts of interest. The reference to "current ADOT employee" applies to both full time employees and temporary employees.

1. A current ADOT employee cannot be employed by a consultant to work on active ADOT contracts.

2. A current ADOT employee cannot be included in a Statement Of Qualifications proposal for an ADOT consultant contract as an owner, an individual, or as a member of the consultants team. If an employee resigns to comply with this rule their last day of ADOT employment must be prior to the date that the proposals are due.

3. If a current or former ADOT employee is employed by a consultant which has an active ADOT contract for which the employee was a decision maker in the selection process or negotiated/approved billings or contract modifications, the employee is prohibited from working on these contracts (Policy and Implementation Memorandum 92-12)

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

Debra Brisk
Deputy Director

August 18, 2004

REVISED
INFORMATION BULLETIN NO. 04-05

TO. ADOT Project Managers/Monitors, Resident Engineers
And Consultant Engineering Firms

FROM. Engineering Consultants Section

SUBJECT: CONFLICT OF INTEREST
SUPPLEMENTAL SERVICES RESTRICTIONS

The purpose of this bulletin is to provide guidance to firms supplying supplemental service employees to ADOT under contracts administered by the Engineering Consultants Section (ECS).

The following restrictions are intended to avoid actual or perceived conflicts of interest. The reference to "ADOT contract employee" applies to both full time and part time contract employees

1. A current ADOT contract employee cannot be included in a Statement of Qualifications proposal for an ADOT consultant contract as a member of the consultant's team. Exceptions would be:

    a. if the contract employee resigns to comply with this rule their last day of ADOT contract employment must be prior to the date that the proposals are due; or

    b. if the employee's contract is in it's third year and within 4 months of the contract completion date; or

    c. if the Department exercises it's option not to extend the existing contract.

2. If a current or former ADOT contract employee is employed by a consultant which has an active ADOT contract for which the contract employee was a decision maker (for example. involved in the final scope preparation, involved in the selection process or negotiated/approved billings or contract modifications), the employee is prohibited from working on these contracts.

As of this date, a copy of this information bulletin will be included in each ECS Statement of Qualifications package

If a waiver is requested from the above restrictions, a statement must be submitted to ECS describing the nature of their involvement prior to proposal submittal or work assignment. Resolution of potential conflicts of interest will be determined by ECS in conjunction with the applicable Deputy State Engineer

SECTION VII

PROJECT SUMMARY
REFERENCE MATERIAL AVAILABILITY

REFERENCE MATERIAL
FOR
CONTRACT NO. 08-01

I-10 Papago Widening, Verrado Way to Sarival Avenue

The following documents regarding this project will be available at the following location for the Consultant to review:

ftp://ftp.az.dot.gov

User Name: ECS
Password: Ecs_01
(case sensitive)

FDCR combined for printing 041406.pdf - Final I-10 Median Widening DCR, SR 85 to 303L and SR 303L to SR 101L
Final CE_H6877-H6879 01L.pdf - Final Categorical Exclusion I-10 Median Widening, SR 85 to 303L and SR 303L to SR 101L
H6877 BSR Citrus Rd.pdf - Preliminary Bridge Selection Report for Citrus Road
H6877 BSR Jackrabbit Trail with Appendices.pdf - Preliminary Bridge Selection Report for Jackrabbit Trail
H6877 BSR Perryville Road with Appendices.pdf - Preliminary Bridge Selection Report for Perryville Road
H6877 Drainage Report complete with Appendices.pdf - Preliminary Drainage Report, I-10 Median Widening, SR 85 to Citrus
H6877 Initial Utility Report.pdf - Initial Utility Report, I-10 Median Widening, SR 85 to Citrus
H6877 Plans.pdf - I-10 Median Widening, SR 85 to Citrus Project Plans
H6877 Traffic Analysis Report.pdf - I-10 Median Widening, SR 85 to Citrus Traffic Analysis Report

SECTION VIII

SCOPE OF WORK

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
VALLEY PROJECT MANAGEMENT

SCOPE OF WORK

010 MA 120 H7211 01D

I-10 (PAPAGO) WIDENING
VERRADO WAY TO SARIVAL AVENUE
GENERAL PURPOSE LANES
FINAL DESIGN SERVICES

June 2007

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SECTION 100 - GENERAL INFORMATION

NOTE: The Project Scope of Work is contained in this section. It includes information specific to this project.

The section Dictionary of Standardized Work Tasks is presented as a section within the scope of work. It includes information that is common to consultant design contracts. The description of work tasks is presented in Dictionary of Standardized Work Tasks. Not all the work tasks described are necessary on every project.

110 Location

Interstate 10 (Papago) is located in the Arizona Department of Transportation's (ADOT) Phoenix District within Maricopa County in south-central Arizona. A project vicinity map is provided in Appendix A.

120 Description

Interstate 10 (I-10) (Papago) is a major element of the Maricopa Association of Governments (MAG) adopted Regional Interstate System in the central portion of Maricopa County. Traffic demand is causing the I-10 corridor to become increasingly congested during the morning and evening peak travel periods. Future growth and traffic projections indicate the congestion will worsen.

The project will construct an additional general purpose (GP) lane in the median in each direction from Verrado Way to approximately 1700' east of Sarival Avenue. The existing asphaltic concrete mainline pavement will remain. From Verrado Way to approximately 2230 feet east of Citrus Road, the widening will be constructed of Portland Cement Concrete Pavement. From 2230 feet east of Citrus Road to 1700 feet east of Sarival Avenue, the widening is interim in nature and will be constructed of asphaltic concrete. The improvements within this area are considered interim in nature because this stretch is planned to be removed and replaced with a new roadway realigned slightly to the north as part of the I-10/SR 303L System Traffic Interchange (TI).

Stage II plans and technical documents will be available late Summer of 2007.

A detailed description of project improvements is included in Section 400.

Work on this project includes the following:

A. The Design firm shall design and prepare construction plans, technical specifications, quantity computations and related construction documents. All shall be in English units.

B. The project involves the design of proposed GP lanes on I-10 from Verrado Way to approximately 1700 feet east of Sarival Avenue.

C. The design shall include and incorporate all mitigation measures identified in the Final Environmental Categorical Exclusion (CE) and available late Summer of 2007.

D. The team for the design effort shall include at a minimum the Federal Highway Administration (FHWA), Town of Buckeye, City of Goodyear, Maricopa County Department of Transportation (MCDOT), Flood Control District of Maricopa County (FCDMC), ADOT, and other agencies or interested stakeholders.

E. Provide post-design services as necessary for successful construction of the project, by contract modification.

130 Purpose

The purpose of this project is to improve the safety and operational characteristics of I-10 by providing an additional GP lane to extend a 3-lane section, west to Verrado Way. The construction of this project will implement improvements identified in the Statewide Transportation Acceleration Needs (STAN) and the Regional Transportation Plan Freeway Program.

140 Construction Cost

The project has been proposed for construction in FY 2009 at an estimated cost of $43,200,000.

150 Organization

The Arizona Department of Transportation (ADOT) retains design consultants to perform a variety of engineering services.

160 Length of Services

The length of service is estimated to be 365 calendar days for design. This begins with the notice to proceed, and includes all reviews by the team and stakeholders through the award of contract. The I-10 widening design contract documents shall be completed so that a construction advertisement date no later than July 1, 2008 can be achieved.

170 Schedule

The Consultant shall develop a plan for the design and pre-construction activities necessary for delivering the project in a timely manner consistent with the length of service described in Section 160. The plan shall include a list of activities, estimated duration, and resources.

171 Project Schedule

The Consultant shall provide a Critical Path Method (CPM) schedule compatible with ADOT's Primavera scheduling system. It shall include the 20 milestones/flags requested by ADOT. An initial schedule shall be submitted within 6 weeks of the notice to proceed. The schedule submitted shall be customized to reflect the exact needs of the project. Work elements for which ADOT has responsibility shall be included in the schedule.

172 Project Schedule Updates

The Consultant shall update progress on activities in the schedule in accordance with a schedule furnished by ADOT. Changes to the schedule logic will be submitted to the ADOT project manager for approval. If the milestones show negative float, the Consultant shall include a narrative of corrective solutions to put the design schedule back on time for delivery.

173 Monthly Progress Meetings

The Consultant shall attend regularly scheduled monthly progress meetings. The Consultant shall record notes of the progress meeting and distribute them within five (5) calendar days of the meeting.

180 Responsibility Chart

Appendix B is a chart indicating the division of responsibilities between the Consultant, ADOT and other stakeholders. This chart is intended as a "checklist," in the event of conflict, the written Scope of Work shall take precedence.

190 Environmental Documents

The Final Environmental Categorical Exclusion (CE) should be used as a reference. Final mitigation measures listed in the CE shall be incorporated into the project design.

SECTION 200 - DESIGN REFERENCES

Design references developed and published by ADOT and other agencies and adopted by ADOT for use in the design of this project are listed in the ADOT Project Development Process Manual, ADOT Landscape Design Guidelines, ADOT Erosion and Pollution Control Manual for Highway Design and Construction, and the ADOT Roadway Design Guidelines. The Consultant is advised that while possession of all of these documents is not necessary to successfully complete the project, the Consultant is responsible for designing in accordance with the applicable documents and current revisions and supplements thereto. The following documents were produced for this project and will be available to the selected design Consultant.

210 Miscellaneous Reports and Studies for this project

A. I-10 (Papago) Median Widening, Final Design Concept Report, SR85 to SR303L and SR303L to SR101L - March 2006.

B. I-10 (Papago) Median Widening, Stage II Plans, SR85 to Citrus Road – May 2006
- Initial Utility Report
- Preliminary Drainage Report
- Initial Bridge Selection Report – Jackrabbit Trail TIOP
- Initial Bridge Selection Report – Perryville Road OP
- Initial Bridge Selection Report – Citrus Rd OP

C. I-10 (Papago) Widening, Stage II Plans, Verrado Way to Sarival Ave – late Summer 2007
- Initial Utility Report (Citrus to Sarival Only)
- Preliminary Drainage Memo (Citrus to Sarival Only)

D. Categorical Exclusion – Final Pending, late Summer 2007

E. Noise Study Technical Report, I-10 Median Widening, SR 303L to SR 101L – April 2006

F. Noise Study Technical Report, I-10 Median Widening, SR 85 to SR 303L – April 2006

220 AASHTO Publications

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

SECTION 300 - DESIGN CRITERIA

Design of this project will be guided by the basic design criteria listed in the Stage II Plans. These design criteria will serve as the basis for referencing the project design standards and guidelines referenced in Section 200.

301 Supplemental Design Criteria

The design criteria listed in this section and the Project Design Guidelines may be supplemented by Project Design Memorandums provided by ADOT during the course of the project.

310 General

- Design Year: 2030
- Design Speed
  - Mainline: 65 mph
- Pavement Design Life: 20 years

320 Geometry

In accordance with Roadway Design Guidelines, the following are specific criteria to be used.

- Slope Guidelines: 6:1 Max Median Slopes
- Maximum Gradient:
  - Mainline: match existing
- Minimum Vertical Clearance:
  - Mainline: 16'-6"
  - Sign Structures: 17'-6"
  - Crossroads: 15'-6"
- Maximum superelevation: match existing
- Lane width: 12 feet
- Shoulder widths:
  - Permanent Mainline: Inside 10 feet + 2 feet offset to guardrail/concrete barrier
  - Interim Mainline: Inside 4 feet + 2 feet offset to guardrail/concrete barrier

330 Drainage

Refer to Chapter 600 of ADOT's Roadway Design Guidelines.

340 Traffic

- Signing Permanent (Freeway Urban - Conventional Highway)
- Signing Temporary (Traffic Control during Construction)
- Pavement Marking (Signing and Marking Standards)

350 Other Features

- Guardrail/Barrier Type - Standard C-10 Series, Chain Link Cable Barrier and High Tension Median Cable Barrier
- Retaining Walls - Std B-18 Series or alternate proprietary retaining wall systems (if appropriate)
- Sound Barrier Walls – N/A

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for the design work and preparation of construction documents outlined in this section in accordance with the standard design tasks listed in the Dictionary of Standardized Work Tasks. The Consultant shall perform all work in accordance with the most current policies and procedures, unless otherwise directed.

401 Design Features

The Consultant shall be responsible for the development of the final design and construction plans, specifications, estimates (PS&E) for the construction of one GP lane in each direction on I-10 from Verrado Way to approximately 1,700 ft. east of Sarival Avenue within the existing open median.

The Consultant shall prepare plans indicating the removal of the existing asphaltic concrete inside shoulder for the entire length of the project.

The Consultant shall utilize the Stage II and CE documents as the framework for this project. The Consultant shall coordinate closely with the ADOT Project Manager and other members of the project team.

The freeway passes over a five crossroads and one canal within the project limits. The existing freeway overpasses were originally constructed with 32" height barrier along the median shoulder. The Consultant shall design and prepare construction plans to modify three of the existing bridges to accommodate the proposed GP lane widening throughout the project area. Additionally, replacement of the outside barrier on the bridges shall be evaluated in consultation with the ADOT PM. High Tension Median Cable Barrier shall be included in the construction plans in lieu of concrete median barrier, where applicable.

405 AASHTO Design Criteria Report

AASHTO design criteria were reviewed in the DCR stage within the area of permanent improvements, with no design exceptions being noted. A design exception for shoulder widths is required within the area of interim improvements and has been submitted to ADOT for review and approval.

410 Surveys and Mapping

A photogrammetric and section control survey has been conducted for this project. A Results of Survey will be provided to the Consultant. All information has been developed in English units.

The Consultant shall use the aerial mapping and digital terrain model (DTM) provided by ADOT to prepare roadway cross-sections, drainage cross-sections, and structures surveys.

If additional detailed surveys are required for the design of this project, the Consultant shall provide complete field surveys suitable for contract document preparation and which meet the technical requirements of ADOT and the Arizona State Board of Technical Registration.

The Consultant shall obtain any permits required prior to the beginning of field work. A traffic control plan may be required by the granting agency to obtain a permit for survey work.

416 Geotechnical Investigation

A geotechnical investigation shall be required for final design purposes. The Consultant shall perform the geotechnical investigations necessary to prepare the Final Geotechnical and Final Foundation Reports.

Geotechnical investigations, analysis and design shall be performed in accordance with the requirements of the ADOT Materials Section, Preliminary Engineering and Design Manual (MPE&D Manual), and the accompanying Guidelines for Geotechnical Investigation and Geotechnical Report Preparation; the AASHTO Manual of Subsurface Investigations; and the AASHTO Standard Specifications for Highway Bridges (AASHTO LRFD Bridge Design Specifications). These shall be considered as minimum requirements, and are not intended to preclude innovative methods of geotechnical investigation and testing that the Consultant may propose. Laboratories selected by the Consultant to perform construction materials testing and analyses must meet requirements of the ADOT "System for the Evaluation of Testing Laboratories."

The Consultant shall meet with representatives of Valley Project Management (VPM) Group, Materials Group and Environmental Planning Group (EPG) to determine the geotechnical investigation requirements.

417 Earthwork

This project is anticipated to be a borrow project. The Consultant shall recommend an ADOT approved borrow source where the Contractor can obtain material.

The Flood Control District of Maricopa County (FCDMC) has identified a number of basins and channels to be constructed within the project vicinity. The design team shall coordinate with FCDMC and Phoenix Construction District to determine suitability of potential borrow sites.

419 Pavement Design

The Consultant shall prepare a pavement design in accordance with the requirements of the ADOT MPE&D Manual. The Consultant's pavement design recommendations shall be included in the Pavement Design Summary and Materials Design Memorandum, including recommendations for special provisions and construction procedures, and use of "Material Sections Design Report Standard Items."

420 Environmental Studies

A Categorical Exclusion (CE) has been prepared for this project. The Consultant shall be responsible for incorporating mitigation measures stipulated in the CE into the design of the project.

Activities (i.e., geotechnical investigations, survey, etc.) that require soil or vegetation disturbance may not begin until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or biological evaluations) is issued. ADOT EPG, in cooperation with the affected federal,

state or local agency, will issue the required clearances. The Consultant will be required to prepare the environmental clearance document for issuance by ADOT EPG.

422 Noise Analysis Technical Report

A study of the present and future noise environment adjacent to the project was conducted during preparation of the I-10 Median Widening CE with five potential noise barriers identified during the analysis. None of the potential noise barriers identified are located within the project limits. The Consultant will coordinate with VPM and EPG to determine potential additional locations and develop plans for noise mitigation as required within the project limits, as required. Supplemental noise modeling may be required at several locations within the project limits.

425 Public Information Meetings and Public Hearings

Three "roadshow" public information meetings will be held during the project. The Consultant shall provide design staff and presentation boards to support the public meetings.

430 Utilities and Railroad

During preparation of the DCR and Stage II Plans, an inventory of existing utility facilities was conducted to determine the locations of all existing utilities. Utility companies were contacted and requested to provide records of existing and planned installations. The Consultant will be required to perform any design work or coordination necessary to facilitate all utility conflict resolution.

The Consultant shall conduct coordination meetings with utility companies. The Consultant shall also inform the utility companies of the permits and licenses required by ADOT and other agencies in order to complete any utility relocations that may be necessary.

All existing utility "pothole" work shall be completed by ADOT. The Consultant shall coordinate with ADOT U&RR to obtain the utility potholes necessary to identify potential conflict areas and complete the project design.

The Consultant shall coordinate with the utility companies to provide any utility services that may be necessary in support of the new lighting systems or other project improvements.

440 Roadway Design

The Consultant shall prepare all plans and documents consistent with a final submittal as defined in the Project Management Development Process Manual.

The Consultant shall review and implement the revised Notes 1 and 2 in Section 440 of the Dictionary of Standardized Work Tasks.

445 Bridge Design

The Consultant shall design and prepare construction plans to widen three existing bridges to accommodate the proposed GP lane widening. Additionally, replacement of the outside barrier on the bridges shall be evaluated in consultation with the ADOT PM. The three structures are:

- Jackrabbit Trail TI OP
- Perryville Road OP
- Citrus Road OP

446 Bridge Structure Selection Report

The Consultant shall be responsible for preparation of a Final Bridge Structure Selection Report for three bridges: Jackrabbit Trail TI OP, Perryville Road OP, and Citrus Road OP.

Construction of the piers for the RID OP widening may need to be coordinated with a two-week dry-up window in November. The final report should address the possible use of alternative construction or pier placement methods to avoid being restricted by two week dry-up period.

447 Noise Walls

Noise walls may be required in accordance with the recommendations provided in the Noise Analysis Technical Reports. The Consultant shall meet with ADOT Project Manager and EPG Noise Specialist to determine appropriate mitigation at each site specified in the report. The Consultant shall design and prepare construction plans for these walls in accordance with current ADOT policies and procedures, if required.

450 Drainage Design

The Consultant shall perform the drainage design for all drainage pipes and structures on the project. The size and location of drainage structures shall be included in the project plans. The Consultant shall be responsible for preparation of a Final Drainage Report for the project.

455 Landscape Architectural Design and Erosion Control

The Consultant shall prepare temporary and permanent erosion control plans, specifications and estimates and integrate into the project the required environmental mitigation identified in the CE.

The Consultant shall be responsible for the preparation of the Storm Water Pollution Prevention Plan (SWPPP) to meet the requirements of Section 402 of the Clean Water Act, Arizona Pollutant Discharge Elimination System (AzPDES). This shall include the preparation of:

1. The SWPPP Standard Sheet and the preparation of temporary and permanent erosion control plans, details, special provisions and cost estimates for the project, all in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from Roadside Development Section.

The Consultant shall be responsible for completing all necessary plans, specifications and estimates required to:

1. Identify and salvage existing plant material as required.

2. Preserve and protect existing landscape vegetation and key visual elements on or adjacent to the work site that do not unreasonably interfere with work requirements.

3. Site potential Contractor staging area, including community sensitive equipment yards and batch plants. Additionally, a plan for temporary onsite storage of adequately sized topsoil stockpile sites, as well as various earth, waste and demolition components.

462 Traffic Control Plans

The Consultant shall prepare construction phasing and traffic control plans necessary for the construction of the project. Summary quantities shall be included on the traffic control plans.

A minimum of two lanes of interstate traffic and two through lanes of crossroad traffic will be carried through the construction work zone at all times during this project.

463 Roadway Lighting and Signalization

The Consultant shall comply with ADOT's current lighting policy. The Consultant shall provide a complete set of roadway lighting construction documents including, but not limited to, underdeck lighting. All existing gore lighting shall be retained.

If necessary, the Consultant shall coordinate with the local utility company to provide electric service in accordance with the requirements of Section 430 of this Scope of Work.

464 Signing Plans

The Consultant shall prepare signing and pavement marking plans for all roadways within and approaching the project limits. The Consultant shall coordinate with ADOT's Traffic Engineering Group to ensure the signing and pavement marking plans are prepared in accordance with the most current policies and procedures. Any new signs not shown in the ADOT Manual of Approved Signs shall be detailed in the plans.

465 Pavement Marking Plans

The Consultant shall prepare pavement marking plans for all roadways within the project limits, per Section 464.

466 Intelligent Transportation Infrastructure

The Consultant shall coordinate with ADOT's Transportation Technology Group to evaluate future Freeway Management System (FMS) components that will be incorporated into this project. The Consultant will be required to prepare construction plans, specifications and estimates for FMS elements that will be incorporated into this project.

FMS loop detectors shall be placed in the new lanes at the locations identified in the Stage II plans. The loop detector conduit and conductors shall be extended across the pavement to the existing FMS conduit. The design of the project shall also consider elements of the FMS system that interface with the median widening including variable message (VMS) signs, loop detectors, conduit and pullboxes, and any other elements placed within the median.

The Consultant shall coordinate with Maricopa Association of Governments on an ITS demonstration project planned within this segment of I-10. Incorporation of infrastructure on existing or new overhead structures may be required to facilitate the demonstration project.

470 Right-of-Way

471 Right-of-Way Requirements Determination

Acquisition of new right-of-way is not anticipated for this project. Temporary construction easements may be required for areas if sound walls are constructed with the project.

472 Right-of-Way Acquisition

The Consultant shall determine the requirements for temporary construction easements prior to the Stage III submittal. No revisions or additions to the R/W requirements will be allowed after the Stage III submittal without the approval of the Project Manager. This information will be used by ADOT to initiate the preparation of R/W plans and documents.

475 Bid Advertisement

The Consultant shall support ADOT in the preparation of the advertisement for bids.

480 Cost Estimates

The Consultant shall prepare estimates for each design stage. The estimates shall include combined and detailed estimates, and a recapitulation sheet which summarizes the project's construction components by funding source.

The Consultant shall also enter the project estimates into the Department's E2C2 cost estimate system at each design stage.

The Consultant shall also provide updates to the project and estimate information in the 'Valley Project Management Construction Cost Estimate Summary' format at each submittal stage.

490 Special Provisions

The Consultant shall prepare Special Provisions for items, details, and procedures not adequately covered by ADOT's Standard Specifications and Stored Specifications.

495 Contracts and Specification Process

The Consultant shall provide support to the Contract and Specification Process.

SECTION 600 - POST-DESIGN SERVICES

The Consultant shall provide post-design services as listed in Section 600 of the Dictionary of Standardized Work Tasks. This service will be added to the contract by modification.

The Consultant shall prepare record drawings (as-builts) for the project based on red-lined construction plans provided by the ADOT Resident Engineer. The record drawing submittal shall also include electronic files consistent with ADOT's electronic archiving process.

SECTION 700 - MATERIAL FURNISHED BY ADOT

See section 210 of this Scope of Work for a complete list of materials to be provided to the selected Consultant.

SECTION 1000 - CONTRACT ADMINISTRATION

The work in this contract shall be administered in accordance with Section 1000 of the Dictionary of Standardized Work Tasks. Additional information is provided below.

1027 Site Visit

A site visit will be held within thirty (30) working days of the receipt of written Notice to Proceed.

1050 Value Analysis

A Value Analysis (VA) is anticipated for this project. One member of the selected final design consultant will be invited to participate in the VA.

1060 Reviews and Submittals

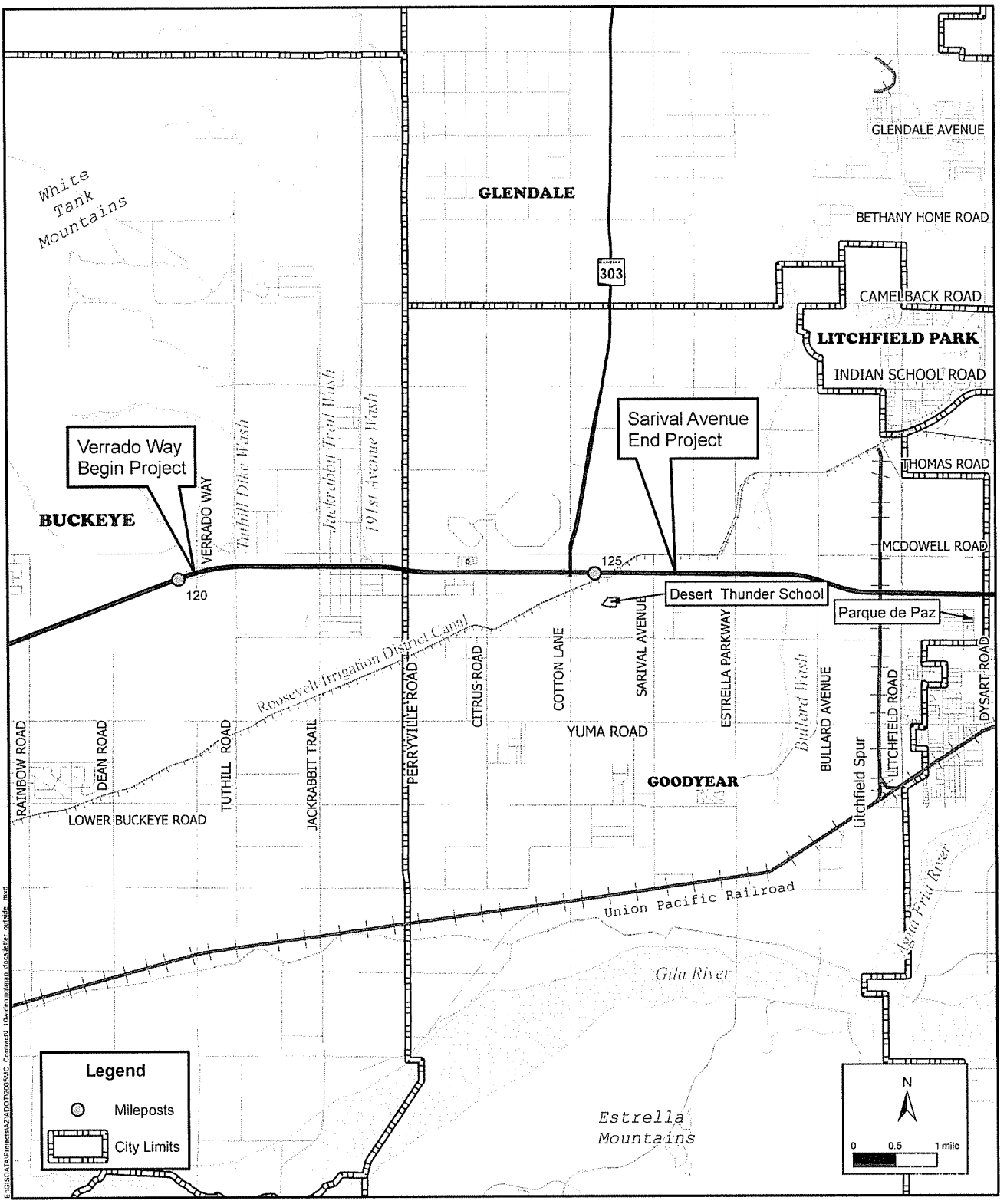
All plans and roadway cross sections submitted for review shall be half size (11" x 17") black and white sheets, which shall be scaleable.

The Consultant shall review the revised Sections 1060 through 1065 of the Dictionary of Standardized Work Tasks. A Construction Partnering seminar is planned for this project.

1063 Stage II Design Submittal

The Consultant shall attend the Stage II comment resolution meeting coordinated by ADOT's Management Consultant for the I-10 (Papago) Corridor.

APPENDIX A
LOCATION MAP



RESPONSIBILITY CHART
APPENDIX B

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
A		**AERIAL MAPPING**	410			
	1.	Geodetic Control			X	
	2.	Photogrammetric Control & Panels			X	
	3.	Aerial Photography			X	
	4.	Plotter Compilation				
		a. Planimetric Map			X	
		b. Contour			X	
		c. Topographic Map			X	
B		**CONTROL SURVEYS**	410			
	1.	Geodetic Control			X	
	2.	Horizontal			X	
	3.	Vertical			X	
	4.	Topographic Map			X	
	5.	Utility Locations		X	X	
	6.	Right-of-Way			X	
	7.	Roadway Cross Sections		X		
	8.	Drainage Cross Sections		X		
	9.	Structures Surveys		X		
C		**ENVIRONMENTAL**	420			
	1.	Environmental Analysis Document	421	X	X	
	2.	Air Quality Technical Report	422		X	
	3.	Noise Analysis Technical Report	422	X	X	
	4.	Cultural Resources Survey	423		X	
D		**MATERIALS INVESTIGATION**	415			
	1.	Provide Soil Survey	416	X		
		a. Roadway		X		
		b. Lateral Ditches		X		
		c. Earthwork	417	X		
		d. Retention/Detention Ponds		X		
	2.	Provide Retaining/Sound Wall		X		
		Foundation Investigations	416			
	3.	Provide Testing and Analysis	417	X		
	4.	Provide Pavement Design	419	X		
	5.	Materials Memorandum	419	X		

RESPONSIBILITY CHART

APPENDIX B

Page 2 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
E		**DESIGN TRAFFIC DATA**	460			
	1.	Gather Statistics	**N/A**			
		a. 2-Way ADT	**N/A**			
		b. Turning Movements	**N/A**			
		c. 24 Hour Traffic Counts	**N/A**			
	2.	Prepare Traffic Data Sheets	**N/A**			
	3.	Prepare Equivalent 18 Kips	**N/A**			
	4.	Prepare Traffic Analysis	**N/A**			
	5.	L.O.S. Analysis	**N/A**			
	6.	Comp. Traffic Control Device Plan	467	**X**		
F		**RIGHT-OF-WAY**	470			
	1.	Develop Requirements (const easements)	471	**X**		
	2.	Secure Title Search	472		**X**	
	3.	Prepare R/W Plans and Legal Descriptions	472		**X**	
	4.	Prepare Transfer Documents	472		**X**	
	5.	Provide Appraisals	472		**X**	
	6.	Negotiate Right-of-Way	472		**X**	
	7.	Condemnation Proceedings	472		**X**	
	8.	Testify in Court (by contract modification)	472	**X**	**X**	
	9.	R/W Cost Estimates	472		**X**	
	10.	Relocation Assistance	472		**X**	
	11.	Property Management	472		**X**	
	12.	Clearance Letter	472		**X**	
G		**CONSTRUCTION PLANS**				
	1.	Plot Design Survey	410	**X**		
	2.	Roadway Plans & Retaining/Sound Wall Design	440	**X**		
	3.	Drainage Design	450	**X**		
	4.	Bridge Design	445	**X**		
	5.	Roadway Lighting Plans	463	**X**		
	6	Traffic Signal Plans	**N/A**			
	7	Signing & Pvmt Marking Plans	464-465	**X**		
	8	Utility Adjustment Plans	433	**X**		**X**
	9	Maintenance of Traffic Requirements	462	**X**		
	10	Landscape Architectural Design	455	**X**		
	11	Architectural Design	N/A			
	12	Plumbing and Mechanical Design	N/A			

RESPONSIBILITY CHART

APPENDIX B

Page 3 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
H		**SECTION 404 PERMIT**	**N/A**			
	1.	Coordinate with Permitting Agencies				
	2.	Prepare Permit Application				
		a. Forms				
		b. Sketches				
		c. Hydraulic Calculations				
		d. Supporting Documents				
	3.	Process Permit Application				
I		**UTILITY & RAILROAD**	430			
	1.	Utilities Conflict Identification	431	X		
	2.	Prior Rights Information			X	
	3.	Conduct Utility Pre-Design Conference		X	X	
	4.	Review Utility Adjustment Plans		X		
	5.	Secure Utility Relocation Schedule		X		
	6.	Secure Utility Agreements			X	
	7.	Process Relocation Schedule & Agreement			X	
	8.	Clearance Letter		X	X	
J		**COST ESTIMATES**	480			
	1.	Prepare Construction Cost Estimates		X		
	2.	Prepare R/W Cost Estimates	N/A			
	3.	Enter Construction Cost Estimates into E2C2		X		
K		**SPECIAL PROVISIONS**				
	1.	Roadway Construction Plans		X		
	2.	Bridge Plans		X		
	3.	Signing & Pavement Markings		X		
	4.	Traffic Signal Plans	**N/A**			
	5.	Preparation for pre-bid conference		X		
	6.	Attend pre-bid conference		X		

RESPONSIBILITY CHART

APPENDIX B

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
L		**CONTRACTS AND SPECIFICATIONS PROCESS**	490			
	1.	Respond to questions on Final		X		
	2.	Final Revisions		X		
	3.	Addenda to Final, as required		X		
	4.	Preparation for pre-bid conference		X		
	5.	Attend pre-bid conference		X		
M		**POST DESIGN SERVICES**	600			
	1.	Respond to questions on project under construction		X		
	2.	Review and approve shop drawings		X	X	
	3.	Provide contact person		X		
N		**VALUE ANALYSIS**	1050			
	1.	Roadway Construction Plans Review		X	X	
	2.	Bridge Construction Plans Review		X	X	
	3.	R/W Plans Review	N/A			
O		**SUBMITTAL REVIEWS**	1060			
	1.	Roadway Construction Plans Review		X	X	X
	2.	Bridge Construction Plans Review		X	X	X
	3.	Design Concept Report Submittal	N/A			
	4.	Environmental Reports	N/A			
	5.	Stage III Design Submittal	1064	X	X	X
	6.	Stage IV Design Submittal	1065	X	X	X
	7.	Final Design Submittal	1066	X	X	X

The following is the distribution of reports, plans, estimates and special provisions as specified in Paragraph 1060 of the Scope of Work.

APPENDIX C
DISTRIBUTION LIST
Page 1 of 2
PLANS - SPECIAL PROVISIONS - COST ESTIMATES (Stage I, II, III & IV)

Location	Title	No. of copies
Valley Project Management	Project Manager	1
City of Goodyear	City Traffic Engineer	1
Bridge Group	Bridge Design Leader	1
Contracts & Specifications	Transportation Engineer	1
District	District Engineer	4
Environmental Planning	Manager	1
FHWA	Area Engineer	1
Materials	Sr. Pavement Design Engineer	1
Materials	Geotechnical Section Engineer	1
Right-of-Way Plans	Manager	1
Roadside Development	Manager	1
Roadway Design Section	Engineer-Manager	1
Roadway Drainage Section	Engineer-Manager	1
Town of Buckeye		1
Traffic Design	Traffic Engineer	1
Traffic Electrical Design	Traffic Engineer	1
Utilities & Railroad	Engineer-Manager	1
Transportation Technology Group	Engineer-Manager	1

CROSS SECTIONS

Valley Project Management	Project Manager	1
District	District Engineer	4
Materials	Geotechnical Section Engineer	1
Roadway Design Section	Engineer-Manager	1
Traffic Design	Traffic Engineer	1

DRAINAGE REPORT

Valley Project Management	Project Manager	1
Bridge Group	Bridge Design Leader	1
District	District Engineer	1
Roadway Drainage Section	Engineer-Manager	1
Roadway Design Section	Engineer-Manager	1

APPENDIX C
DISTRIBUTION LIST
Page 2 of 2

FOUNDATION REPORT

Location	Title	No. of copies
Valley Project Management	Project Manager	1
Bridge Group	Bridge Design Leader	1
Materials	Geotechnical Section Engineer	3
District	District Engineer	1

GEOTECHNICAL REPORT

Valley Project Management	Project Manager	1
Materials	Sr. Pavement Design Engineer	1
Materials	Geotechnical Section Engineer	3
District	District Engineer	1
Roadway Design Section	Engineer-Manager	1

MATERIALS DESIGN REPORT/PAVEMENT DESIGNS

Valley Project Management	Project Manager	1
Contracts & Specifications	Transportation Engineer	1
District	District Engineer	1
Materials	Sr. Pavement Design Engineer	3
Materials	Geotechnical Section Engineer	3
Roadway Design Section	Engineer-Manager	1

APPENDIX D
FINAL COST PROPOSAL

APPENDIX E
PAYMENT REPORT

APPENDIX F
EVALUATION SCHEDULE

PHASING AND EVALUATION SCHEDULE FOR DESIGN PROJECTS

On consultant design contracts, the project design milestones are after the Stage II (30%), Stage III (60%), and Final (100%) design submittals. Contract Constructibility will also be evaluated by District personnel. Evaluations at these milestones provide indications of how the design is progressing and what steps have been taken to assure effective and efficient practices during construction. The evaluations should be completed after all major issues of a design submittal have been resolved. When this schedule is followed the evaluation document is an extension of the design submittal review process.

It is recommended that the letter of transmittal to the design consultant from the Project Manager be similar in content to the attached sample transmittal.

RECOMMENDED EVALUATION FILING DATES

~~**Stage II Design Submittal (30%)**~~	~~**5 DAYS after all major design submittal review issues have been resolved**~~
Stage III Design Submittal (60%)	**5 DAYS after all major design submittal review issues have been resolved**
Final Design Submittal (100%)	**5 DAYS after all major design submittal review issues have been resolved**
Contract Constructibility (Partnering Close-out form will be used)	**5 DAYS after construction is complete and project has been accepted.**

Notes: 1. A design submittal evaluation should not be more than six weeks after the design submittal date.

EVALUATION MEASUREMENTS/COMMENTS

The following measurement standards for performance evaluation factors may be used:

"5" rating is for outstanding performance which exceeds the Scope of Services. Examples are design and/or construction cost savings, substantial time savings, unprecedented level of community involvement, error free plan submittals, etc. The award of this rating will be infrequent, as Consultants are selected on their qualifications and are expected to produce the best product possible.

"3" rating is for performance which has met the Department's expectations based on the Scope of Services. Examples are within scope, budget, and on time; acceptable communication and coordination; minimal changes to plan submittals, etc.

"1" rating is for unsatisfactory performance which has not met the Department's expectations based on the Scope of Services. Examples are not meeting schedules, exceeding the design and/or construction budgets, major revisions required on plan submittals, poor communication and coordination, etc.

NOTE: Additional comments are required in the space provided for the ratings.

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
VALLEY PROJECT MANAGEMENT

PART B:

DICTIONARY OF STANDARDIZED WORK TASKS

February 2005

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PART B: DICTIONARY OF STANDARDIZED WORK TASKS

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for providing the engineering services required to accomplish the work products identified in the Project Scope of Work. The services may include the tasks of data preparation, data interpretation, and document preparation including scoping documents, reports, corridor management plans, contract plans, special provisions, construction estimate, and post-design services.

402 Partnering Process

The Consultant and subconsultants shall participate in a Partnering Process consisting of the following items:

- Scope Clarification Meeting
- Design Partnering Kick-Off Workshop
- Participation in the Partnering Evaluation Program (PEP)
- Construction Partnering Workshop
- Project Close-Out

405 AASHTO Design Criteria Report

Any changes to the design criteria which result in the need for a design exception shall be submitted to the Roadway Group for approval. The request shall describe the deficiencies not previously approved which are not being corrected, and the justification for the design exception. The report shall be developed consistent with Section 200. ADOT will forward the design exception request to FHWA, if necessary. The Consultant is responsible for providing copies for ADOT and FHWA. The request shall be submitted a minimum of fifteen (15) calendars days prior to the Stage II design submittal, in accordance with Section 1060.

410 Surveys and Mapping

The Consultant shall review data provided by ADOT. Any field surveys required shall be suitable for contract documents preparation and meet the technical requirements of ADOT and the State Board of Technical Registration.

A. All surveys and mapping for projects utilizing existing roadway(s) shall be referenced and tied directly to the existing as-built roadway centerline. The centerline shall 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 ADOT. The centerline stationing of the project shall be on ADOT's established field stationing.

B. Completed surveys shall be submitted in permanently bound books (3-ring binders are not acceptable) with the final plans. The surveys shall include locations, stakes and references of control points, (including the beginning and ending points of the project), PC's, PT's, TS's, SC's, CS's, ST's, and PI's (if possible) of curves, POT's with a maximum interval of one thousand (1,000) feet, and bench marks on alternate sides of the roadway with a maximum interval of five hundred (500) feet. Any survey data provided must be certified by an Arizona Registered Land Surveyor. Any coordinates used shall comply with the Arizona State Plane Coordinate System.

C. Surveys may include, as applicable:

1. Base line control

2. Control for aerial mapping

3. Right-of-Way surveys

   a) Section corner and land ties

   b) Existing right of way monumentation

   c) Staking of new right of way for appraisal purposes

   d) New right of way monumentation

   e) A "Results of Survey" map

4. Topographic surveys

5. Roadway drainage surveys

6. Utility locating - set control points with coordinates and elevations at five hundred (500) ft. maximum intervals adjacent to the road and along the utility lines (See Section 430)

7. Centerline staking, centerline of each roadway, as applicable for field review (lath stakes at PC, TS, SC, CS, ST, PT, and PI (if possible) at approximate two hundred (200) ft. intervals, and at selected locations if required to define the approximate limits of construction).

8. Centerline and edge elevations of existing pavement at fifty (50) ft. intervals

9. Ties to Arizona State Plane Coordinates

10. Final alignment staking

11. Crossroads tie-ins, turnouts and driveways

12. Above ground utilities

D. The Consultant shall obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required. Preparation of surveys shall conform to applicable documents referenced in Section 200, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

E. Unless otherwise directed by the ADOT project manager, the Consultant shall be responsible for selecting a scale that results in good plan clarity. The following scales are suggested:

1. 1" = 500' (Drainage map and R/W key sheet)

2. 1" = 50' (Construction Plans and R/W maps)

3. 1" = 30' (Landscape and Irrigation Plans)

4. 1" = 20' (Intersections, urban streets, and other items of considerable detail)

F. The Consultant may be responsible for setting R/W markers. R/W markers shall be set by an Arizona Registered Land Surveyor after acquisition of R/W, or, in some instances, after construction. All R/W drawings and legal instruments shall be approved and sealed by an Arizona Registered Land Surveyor.

G. The Consultant may be responsible for delineating the R/W so that utility companies may prepare relocation plans. Delineation with strips of plastic flagging attached to lath located at intervals shall provide a clear delineation of the R/W. This work shall be completed immediately prior to the date that utility company personnel are scheduled to conduct a field survey of the project.

H. Completed surveys and maps shall be recorded in an acceptable format. Upon final approval, the books, maps and CADD files, and other diskettes, shall be submitted to the ADOT project manager.

415 Materials Design

416 Geotechnical Investigation

Geotechnical requirements contained in the Materials Preliminary Engineering and Design (MPE & D) Manual and AASHTO Manual (Reference Section 200) on Subsurface Investigations shall be considered as minimum requirements. These are not intended to preclude innovative methods of Geotechnical investigations and testing that may be proposed by the Consultant. Laboratories selected by the Consultant to perform construction materials testing and analyses must meet the requirements of ADOT's "System for the Evaluation of Testing Laboratories." The Geotechnical Investigation will include appropriate reports, as required, for bridge and retaining/sound barrier wall designs and pavement design. Coordination with ADOT Material Geotechnical Section in developing recommendations is required.

A. The Consultant shall perform a Geotechnical investigation of the project in accordance with the requirements of ADOT - the MPE & D and Materials Testing Manuals. (Reference Section 200).

B. The Consultant shall secure an access permit from the appropriate agency, if required, which may at a minimum require the preparation of an equipment access plan, description of equipment types, a plan of the test hole locations, etc. The Consultant shall adhere to all traffic control requirements when taking samples on existing roadways. A traffic control plan may be required.

C. The results of the Geotechnical investigation shall be contained in the Geotechnical Report and the Bridge Foundation Report, if applicable. The Geotechnical investigation shall include all necessary sampling and laboratory testing and analyses of materials.

Upon approval of the Geotechnical report, the Consultant may proceed with preparation of the pavement and/or foundation designs and the Materials Design Memorandum.

D. The Consultant's Geotechnical investigation shall include, but not be limited to the following as appropriate:

1. Roadway structural section requirements and the availability of structural section materials

2. Location and depths of topsoil

3. Soil shrinkage/swell characteristics

4. Slope stability in embankment/excavation locations

5. Groundwater pH and resistivity conditions requiring design considerations

6. Design values for active, at rest, and passive soil pressures

7. Allowable design loads or pressures for each foundation type

8. Design methods for shallow and deep foundations

9. Potential imported borrow site(s) meeting the requirements for the material(s) required (see also Section 417)

10. Design alternatives based on Geotechnical findings

E. The Consultant shall include in the Special Provisions all notes related to materials found on the final construction plans and not already covered by the Specifications.

417 Earthwork

The Consultant shall attempt to achieve an approximate earthwork balance for the project consistent with good engineering practice based upon the type of material and with consideration given to environmental mitigation measures unless otherwise directed. This may be accomplished by: a) refining roadway geometry (alignment and/or profile) utilizing ADOT Standard Drawings C-02 for slopes; b) adjustment of ditch widths and/or back slope rates to obtain excavation of additional suitable material; c) flattening of embankment slopes or creation of 'false cuts' to dispose of excess material; or combinations of a), b) and c). Adjustments shall not adversely affect water quality and must be coordinated with the project team, including the USFS coordinator, if applicable. Cost of additional right-of-way and environmental concerns must be weighed in determining the most feasible solution for the project.

When a project requires borrow or waste sites, the Consultant shall investigate and recommend the site requirements as outlined under paragraphs A, B, C and/or D below:

A. Current ADOT Borrow Pits

The investigation shall begin with a review of current borrow pit information available in the ADOT Material Section. "Current" in this context means that ADOT has or is expected to have licenses for any recommended pits that will not expire until after the estimated construction completion date. Note that ADOT is not necessarily licensed for wasting at all current borrow pits. The results of the investigation shall be included in the Consultant's Geotechnical investigation (see Section 416).

B. Commercial Borrow Pits

Commercial borrow pits are an acceptable alternative to ADOT borrow pits. If recommended, the analysis and test results of the commercial borrow materials shall be included in the Consultant's Geotechnical investigation (see Section 416).

C. New Borrow Pits

The licensing of new borrow pits for ADOT use is a lengthy process and should be considered only in the absence of acceptable current ADOT or commercial borrow pits. If the locating, testing and environmental analysis of any new borrow pits is required to complete the design of the project, this work will be added to the contract by contract modification. The analysis and test results shall be contained in a separate report submitted by the Consultant not later than the Stage III submittal.

D. Waste Sites

If it is determined that a designated waste site is required, the Consultant shall investigate and recommend the nearest site where material can be wasted. (See Section 455)

418 Special Materials

In the case where a special material(s), i.e. a material with characteristics and design values out of the normal range, is required to meet exacting design requirements, the Consultant shall coordinate with the ADOT project manager, Materials Section, and/or the Engineering District before changing the design or researching the location of such material(s).

419 Pavement Design

A. The Consultant shall prepare a pavement design in accordance with the requirements of the ADOT MPE & D Manual.

B. New pavement design shall conform to the approved AASHTO method. Structural overlay design shall conform to the Structural Overlay Design for Arizona (SODA) method.

C. The Consultant's proposed pavement design recommendation shall be included in the Pavement Design Summary as described in the ADOT MPE & D Manual, section 505.00. "Materials Section Design Report Standard Items" shall be used in the preparation of the pavement design report.

D. The Material Design Memorandum shall contain the Consultant's final recommendations for the proposed pavement design, including recommendations for special provisions and construction procedures, as described in the ADOT MPE & D Manual section 505.00, including the use of "Material Section Design Report Standard Items".

420 Environmental Studies

Activities that require soil and/or vegetation disturbance such as Geotechnical investigations, surveys, etc. may not begin until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or biological evaluations) is issued. The project's environmental footprint shall consider all utility relocation work required for the project. ADOT Environmental and Enhancement Group, in coordination with the affected federal, state and local agencies and jurisdictions, will issue the required clearance.

425 Public Information Meetings and Public Hearings

The Consultant shall provide staff and/or materials for public information meetings as outlined below if they are found to be necessary. ADOT will be responsible for advertisement and will make arrangements for the public information meeting. ADOT will provide a moderator and any liability insurance required.

A. Public Information Meetings

The Consultant and staff shall be available, at five (5) workdays notice, to attend meetings or make presentation at the request of ADOT. The purpose of these meetings shall be to inform the public of and answer questions regarding the scope, details, and anticipated schedule of the project. Such meetings and presentations may be held at any hours between 8:00 AM and 12:00 midnight on any day of the week, except legal holidays. The Consultant will be

responsible, as applicable, for the preparation of graphics, hand-out materials, minutes of the meetings, audiovisual displays and similar material for such meetings. All such materials shall prominently identify ADOT. The Consultant shall expect to work with the team to finalize the agenda for any public meetings.

B. Public Information News Releases

The Consultant and staff shall be available, with one workday of notice, to support the ADOT preparation of newspaper articles, newsletters, flyers, radio and TV announcements, etc. and to assist ADOT with responses to verbal and written questions from the media and the general public. The purpose of these news releases shall be to provide the media and public with the latest information on the project scope, details and schedule of the project.

430 Utilities and Railroads

A. General

All work shall be performed in accordance with ADOT's *Guide for Accommodating Utilities on Highway Right-of-Way* and *Utility Coordination Guide for Design Consultants.*

B. Definitions

Utility - A facility which transmits or distributes communication, cable television, electricity, heat, gas, oil, crude products, water, sewer, waste or any other similar commodity which directly or indirectly serves the public.

Utility Company - A municipality, public service corporation, utility district, etc., which owns and operates utilities that serve the general public. Unless otherwise noted, the procedures to be used with railroad companies will be the same as those used with utility companies.

Prior Rights documentation - Documents showing that the utility company's facility predates the acquisition of the property for highway purposes, or that it occupies an easement or other compensable land right. Such documents provide verification that the State is obligated to compensate the utility company for the cost of relocations or adjustments required to accommodate the highway project.

U & RR - Utility and Railroad Engineering Section, Arizona Department of Transportation.

C. Previous Information

The Consultant shall use all available utility location information including that obtained during the DCR phase. This information, and additional information gathered later, shall be shown on the plans prior to submittal to the utility companies for review.

D. Identification of Utilities

1. By Design Consultant - The Design Consultant shall contact and coordinate with all the utility companies serving the project area to obtain utility facility location records and as-built information.

2. By Locating Consultant - The Design Consultant shall prepare and furnish a base map with ground controls at intervals of no more than five hundred (500) feet together with a description of the desired area to U & RR for horizontal utility designation. This mapping will be used by the locating consultant for identification and horizontally locating all utilities. This will be accomplished prior to the completion of Stage II plans. The map shall be presented on diskettes or CDs using current ADOT CADD standards. The Design Consultant shall provide a list of requested potholes to U & RR, for use by the Locating Consultant, for utilities that may conflict with the project. This pothole data will be obtained prior to completion of the Stage III plans.

3. Railroad information - The design Consultant shall request U & RR to make the initial contact with the railroad company to obtain railroad information if railroads are involved in the project prior to the design kickoff meeting.

431 Utilities Conflicts and Adjustments

A. The Consultant shall determine all utility conflicts which require the utility to be relocated or adjusted and shall advise U & RR and the utility company.

B. The Consultant shall advise U & RR of upgrades or betterments requested by utility companies.

C. When property is acquired for a highway project, private utility issues are resolved as part of the right of way acquisition. The Consultant shall coordinate these and any private utility issues with the ADOT Right of Way Coordinator and Project Manager.

D. The Consultant shall arrange and conduct utility coordination meetings to facilitate identification and resolution of conflicts based on project needs as requested by the ADOT Project Manager and the U & RR Coordinator.

E. The Consultant shall be responsible for reviewing relocation plans produced by utility companies to assure that all utility conflicts with project plans and with planned utility relocations are eliminated, that proposed utility installations conform to ADOT's *Guide for Accommodating Utilities on Highway Right-of-Way* and that the plans meet ADOT permit requirements.

F. The Consultant shall solicit submittal of and verify that prior rights documentation submitted by utility companies represent the correct relocation area and shall submit this reviewed documentation to the U & RR coordinator. The request for prior rights shall take place after the Stage II submittal. Complete prior rights documentation shall be submitted to U & RR no later than the Stage III submittal.

G. Only U & RR will authorize utility companies to start design for relocation of their facilities where they have prior rights and want reimbursement for their design.

H. The Consultant shall prepare draft Utility Special Provisions and submit them to U & RR for comment. This includes Section 107, Force Accounts and Line Item Specifications. Specifications shall be drafted starting at Stage III and progress with the project to the PS&E Stage.

I. With each stage submittal listed below the Consultant shall submit a Utility Report. The Report shall detail the recent events with regard to the progress of the utility conflicts and mitigation effort. The efforts made shall be in accordance with a sequence of events established in the *"Utility Coordination Guide For Design Consultants"*.

1. Within the first thirty (30) days after Notice to Proceed (NTP) the Consultant shall prepare a Utility Report containing a list of all utility companies in the project area, the utility company contact person and their phone number for submittal to U & RR.

2. At Stage II the Utility Report shall contain an update of the listing provided in item 1 above plus an initial cost evaluation. All right of way necessary for utility relocations shall also be identified.

3. At Stage III the Utility Report shall contain all of the above plus a list by prior rights of who is responsible for payment of relocation work, a list of the mitigation measures by utility, a summary of the meetings held with each utility company - what was discussed and when, what actions were taken to arrive at the selected mitigation measure, what pothole data were requested and provided, a copy of all correspondence between the Consultant and each utility company, a preliminary estimate of ADOT's cost for utility relocations and betterment requests by utility company for work to be included into the ADOT project. Final mitigation measures shall be approved by the Utility and Railroad Engineering Section.

4. At Stage IV the Utility Report shall contain all of the above plus any changes to what was previously presented, a notification of approval of utility company relocation plans as to conformity with the project design and standard ADOT procedures and practices, a construction schedule for each utility, a final cost estimate for each utility with approved prior rights, a final cost estimate for each utility desiring betterments be included in with the project design and the Final Utility Clearance Letter.

J. The Consultant is to work closely with the utility company and the U & RR coordinator to determine the relocation requirements of the utility facility. The Consultant shall inform ADOT Right of Way on or before the Stage II submittal if new right of way is required which exceeds what is needed for the highway improvements.

K. ADOT's Roadside Development Section (landscape and irrigation), Transportation Planning Division (Traffic Counter Systems) and Transportation Technology Group (FMS) shall be treated as utilities and consulted about their needs during the project development process. New electric service drops and water connections for planned landscape irrigation systems, lighting, traffic signals and FMS facilities shall be included in the scope of the project.

432 Utility Plans

A. The Consultant shall indicate all existing utilities in plan view on the Stage II plans. This should include utility poles, pedestals and other aboveground appurtenances with an indication of overhead line direction and all underground utilities, including drainage facilities.

B. The Consultant shall indicate potential areas of conflict between utility facilities and project improvements. The Consultant shall work with the utilities to resolve all conflicts. Project plans are to be adjusted as much as possible to avoid utility conflicts without impacting the needs of the project or public safety. Vertical locations of underground utilities shall be shown in profiles and on cross sections or details at Stage II at approximate normal elevation. Pothole data will be made available to utility companies no later than Stage III plans.

C. The Consultant shall furnish copies of the Stage II, III, IV and PS&E project plans to U & RR and each utility which has facilities in the area. The Consultant shall furnish copies of cross sections to U & RR and, upon request, to the utility company . Cross section plans will be required when existing utility facilities have been installed parallel to the roadway centerline within ADOT's right of way. Cross section plans shall show the location and depth of utilities running parallel to the roadway centerline. The size of the plans, 1/2 size or full size, shall be as requested by the utilities. In all cases, plans shall be scaleable, i.e., full size or true half-size. The Consultant shall send plans to the utility companies, receive the comments and responses, and provide U & RR copies of all correspondence to and from the utility companies. Utility comments and their resolutions shall be included on the appropriate Stage Comment Resolution Form and distributed to all team members ten working days after the Comment Resolution Meeting.

D. The Consultant shall include utility relocation plans no later than the Stage IV submittal.

433 Utility Relocations and Adjustments

Where a utility relocation may be required:

A. The Consultant shall identify possible alternatives (including joint use of trenches) to minimize the number of utility conflicts and minimize the cost of mitigating conflicts.

B. The Consultant shall notify U & RR promptly upon determination that relocation of a utility company facility is required. Where the utility relocation is to be included as part of the project and where the ADOT contractor will perform the work, the Consultant shall provide U & RR with design cost details, drawings and a summary of the construction costs for the work to be billed. The Consultant shall use input and drawings supplied by the utility company to the extent possible.

C. U & RR will determine, by examination of prior rights documentation provided by the utility company, the utility's rights to occupy the area of conflict and who is responsible for the cost of the relocation. U & RR will notify the utility company to relocate at its own expense, or will obtain the necessary cost estimates and prepare the necessary utility agreements to allow for payment of utility relocation work when it is at ADOT expense.

D. At the request of the utility and/or the U & RR coordinator, utility adjustments or installations may be included in the plans and specifications for work to be performed by ADOT's contractor. This may require a JPA or Utility Agreement between the utility and ADOT. The PM would prepare a JPA and the U & RR coordinator would prepare a Utility Agreement. The decision to include this work shall be determined no later than the Stage III submittal date. Initial cost estimates shall be provided with the Stage III submittal to assist programming and budgeting efforts.

1. Utilities with prior rights--ADOT is responsible for cost:

   a. Consultant shall advise U & RR of utility company's request for work to be included with ADOT's contract.

   b. Consultant shall provide an estimate of the cost, or review and comment on cost estimates provided by the utility company.

   c. Consultant shall cooperate with each utility company to ensure that adequate information is included in the bid package.

2. Additions, betterments, and utilities lacking prior rights--utility company is responsible for cost:

   a. Consultant shall advise U & RR of utility company's request, and shall advise the utility company that approval of its request is subject to concurrence by ADOT.

   b. Consultant shall provide an estimate of the cost, or review and comment on cost estimates provided by the utility company.

   c. Consultant shall cooperate with utility company to ensure that adequate information is included in the bid package.

   d. The Consultant shall provide U & RR and the Project Manager the actual cost of design and expenses for utility relocation and adjustments for inclusion in the JPA or Utility Agreement.

434 Utility Special Provisions and Clearance Letter

A. Special Provisions

The Consultant shall prepare Special Provisions and submit them to each affected utility company and U & RR for comment at Stage III, IV and at PS&E.

The Utility Special Provisions shall include the following:

1. List of utility companies in the area, and contact person's name and telephone number.

2. A statement that there are no utility conflicts or a list of utilities that are in conflict.

3. Work to be performed by utility companies in conjunction with the contractor during project construction.

4. Completion date or schedule for each utility conflict to be resolved by each utility company.

5. Work to be performed for each utility company by the Contractor.

6. Utility license, permit, insurance, or right of entry requirements.

7. Indication of all workday windows or any restrictions required by the utility the contractor should be aware of for construction scheduling purposes, including utility outage/shut-down limitations.

8. Indicate special conditions, locations or clarifications in direction related to utility facilities or work that might affect a contractor's bid or schedule.

B. Clearance Letter

The Consultant shall prepare a Utility Clearance Letter prior to Stage IV and submit it at Stage IV, together with copies of correspondence from utility companies verifying the information, to U & RR for review and concurrence. This shall include the Consultant's final review and submittal of Section 107 or other Special Provisions related to utility work.

1. If there are no conflicts:

   A statement that there are no utility conflicts with the project shall be used only when there are no utility facilities needing adjustment or when all adjustments have been completed prior to writing the Clearance Letter.

2. If adjustments are needed:

   The Clearance Letter shall list each utility company separately, showing:

   a. The name of the company, address, contact name and phone number.

   b. The nature of required adjustment

   c. The status of Agreements and applicable permits (City, County, Forest, State Land, etc.)

   d. The status of the utility adjustment

      (1) Completed

      (2) To be done by contractor during construction

(3) To be done by utility company during construction, with estimated completion date or number of working days required following milestone achievement

(4) In progress, with estimated completion date

435 Establishing Utility Service Connection

Utility service connections are required to facilitate operation of lighting, signals, irrigation controllers, pump stations and FMS systems, etc. The Consultant is responsible for securing establishment of service connections prior to construction.

A. Steps for securing service:

1. Consultant shall determine service need(s) based upon concept and preliminary work. This shall be done shortly after Stage II submittal.

2. Consultant shall determine which utility serves the area and who the utility's coordinator is. This shall be done within thirty (30) days after NTP.

3. Consultant shall meet with the utility's Coordinator to review the project's proposed construction and determine how service can be brought to the desired location(s). Preferred location for service Load Centers and meters is just inside ADOT right of way and outside Controlled Access. This shall be done shortly after the Stage III submittal.

4. Consultant shall prepare a service request letter on ADOT letterhead for ADOT signature to the utility with a copy to U & RR that contains the following:

   a. Number of electrical services required

   b. The address of each service

   c. The required voltage/volume/pressure of each service

   d. The load breakdown for each service

   e. A brief description of the work required

   f. Who is responsible for signing the utility's service agreement and who will pay connection/extension charges.

   g. Who is responsible for paying the utility bills and to whom and where to send the monthly billings

5. The Consultant shall receive and review the service agreement from the utility company which will provide service at the location(s) requested in the service request letter.

6. The Consultant shall forward service agreements to the ADOT utility coordinator to complete the agreement signing process and prepare the applicable payment agreement.

7. The Consultant shall include the name and phone number of the utility contact person responsible for arranging the new service in the Special Provisions with instruction to the Resident Engineer to contact the utility for scheduling the work when service is desired.

8. Consultant shall place the service address on the plans adjacent to the appropriate Load Center and/or meter.

9. Consultant shall show the location of the utility service source so the contractor will know where to excavate to/from.

10. The service agreement shall be signed shortly after the Stage IV (95%) submittal

B. The Consultant shall assist in the development of exhibits for transfer of right of way to utilities with prior rights.

440 Roadway Design

The Consultant shall prepare design plans on ADOT standard sheets and construction documents for the roadway improvements including but not limited to the following:

A. Face sheet and List of Standard Drawings (ADOT will provide these sheets for incorporation into the design plans)

B. General notes

C. Design sheet and index

D. Typical roadway and detour sections

E. Roadway and detour plans and profiles

F. Intersection plans and profiles, including staking plans

G. Cross road and frontage road plans and profiles

H. Retaining wall and sound barrier wall plans and profiles

I. Earthwork quantities

J. Details

K. Special provisions

L. Annotated cross sections

M. Arizona State Plane Coordinate Ties

NOTES:

1. Standard plan sheet size is 22" x 34" (ANSI "D" Size) with borders as specified by ADOT. All plan sheets shall be suitable for plotting at true half scale.

2. Cross sections will not be part of the plans, but will be reviewed and made available to contractor's bidding on this project. Therefore, the cross sections must be suitable for reproduction. Horizontal and vertical scales shall be the same. Preferred scale: 1"=10', (1"=5' or 1"=20' are also acceptable if special conditions warrant). Each cross section shall show the plotted finished grade roadway template(s) including the subgrade superimposed on the plotted natural terrain (dashed line) and shall include as a minimum the following annotation: centerline finished grade elevation and station value of controlling roadway template on each cross section, R/W limits indicated with symbol. Slope rates (X:1) should be shown on the cross sections, on each side of the controlling roadway, on the last slope that connects to the existing ground. Connecting slopes from adjoining roadways, such as median slopes, should have both connecting slopes annotated, if applicable. The slope rate information may be provided separately in a station by station listing as an alternative. Construction phasing, temporary roadways and detours shall be shown on cross sections, if applicable. Manually plotted cross sections shall be drawn on vellum grid paper. CADD computer generated cross sections shall be plotted with a 1" grid and shall have an appropriate horizontal and vertical tick marks (10 tick marks per inch) with 1" datum annotations (elevation on vertical and distance on horizontal) and shall be plotted on vellum paper suitable for reproduction. Submittals shall be on standard 22"x 34" sheets. Cross sections shall normally be prepared at one hundred (100) foot intervals, as a minimum, with additional sections at breaks in the terrain unless otherwise directed by the ADOT project manager. (Cross sections shall be included in all submittals to utility companies and as requested by other members of the team).

3. All designs shall conform with the latest Americans with Disabilities Act Accessibility Guidelines Title I and II.

4. The Consultant shall provide the various ADOT Technical Sections involved in the design of this project with roadway base sheets as required.

445 Bridge Design

The Consultant shall prepare designs and construction documents for structural design including, but not necessarily limited to:

A. General plan

B. General notes and quantities

C. Foundation sheets

D. Abutment details

E. Pier details

F. Superstructure sheets

G. Screed elevations

H. Special details (if applicable)

I. Stage construction sequencing details (if applicable)

J. Pile records (if applicable)

K. Special provisions and cost estimates

446 Bridge Selection Report

During Stage II, prior to preparation of final designs and construction documents, the Consultant shall submit a Bridge Selection Report for the new bridge and/or for renovation of the existing bridge. The report shall be prepared in accordance with the ADOT Bridge Designing and Detailing manual. ADOT must approve the report prior to the Consultant beginning the final design of the bridge.

The final structural plans shall reflect the most current design standards, specifications and ADOT policy. Therefore, the Consultant shall be responsible for studying revisions to the plans made during the development of the project and ascertaining how the structural design will be affected. The Consultant shall work with the ADOT project manager, who will give the final authorization, in determining the propriety of modifying the design to accommodate the revised standards, specifications and ADOT policy. The Consultant will be compensated by Contract Modification for any significant redesign resulting from this requirement. A final review of the applicable standards and specifications will be conducted by the Consultant at Stage IV.

450 Drainage Design

451 Drainage Reports

A. The Consultant shall be responsible for preparing the Initial and Final Drainage Reports for drainage.

B. The Consultant shall conduct hydrologic and hydraulic analysis and/or obtain available public information to identify flood plains and probable flood plain impacts. The Consultant shall determine existing and developed conditions, discharges for all pertinent drainage systems, and existing flow patterns; assess possible drainage problems, identify possible solutions, and propose tentative hydraulic improvements.

   Part A of the Initial Drainage Report, hydrologic information, may be submitted and informally discussed with the ADOT Bridge Drainage Section prior to detailed hydraulic analysis in order to facilitate proper progress of the study. The Drainage Report may require

additional data as it relates to NPDES, i.e., flow analysis in ditches, intersecting drainage's, etc., in order to adequately design temporary erosion control structures.

Following Part A, Hydrologic Information Review, the Consultant shall conduct hydraulic analyses of proposed flood plain modifications, hydraulic structures, and drainage-related improvements which are proposed. The Consultant will then prepare an Initial Drainage Report consisting of both Part A, Hydrologic and Part B, Hydraulic studies and their supporting documentation.

C. The Consultant shall prepare a Final Drainage Report, pursuant to comments and approval of the Initial Drainage Report, based on refined hydraulic structure selections and sizing. The report shall provide analysis of changes to existing flow patterns and the design of channels, culverts and other drainage structures.

The Final Drainage Report shall be submitted concurrent with the Stage III Design submittal unless other arrangements are made with the ADOT project manager.

452 Drainage Designs

The Consultant shall prepare designs and construction documents for drainage features including, but not limited to:

A. Drainage culverts and underpass structures for cattle/game crossings

B. Catch basins, manholes and connector pipes

C. Drainage Pipe and Concrete Box Culvert Summary Sheets

D. Drainage details

E. Drainage culvert profiles

F. Retention/Detention Basins

453 Section 404 Permit

ADOT with the Consultant, as appropriate, in consultation with the Corps of Engineers, will determine the need for a Section 404 permit. If a permit is required, ADOT will process the permit application. The Consultant shall be responsible for providing ADOT with technical data for the roadway cross drainage-ways (i.e. typical sections, location and approximate areas of cut and fill within each drainage way) to support the determination of need for a permit and/or the permit application.

454 Evaluation of Alternative Pipe Culvert Materials

The Consultant shall be responsible for evaluating all forms of ADOT approved pipe culverts. Evaluation documentation shall be included with the design calculations per Section 1040. Valid designs shall be indicated on the New Pipe Summary Sheet.

455 Landscape Architectural Design and Erosion Control Design

A. The Consultant shall be responsible for completing all temporary and permanent erosion control plans, specifications and estimates in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from Roadside Development Section.

B. The Consultant shall be responsible for completing necessary plans, specifications and estimates required to implement the necessary environmental mitigation as required by the Final Environmental Assessment, currently in approved draft form. This will include but not be limited to the following:

1. Prepare a resource protection plan that will preserve and protect existing vegetation on or adjacent to the work site that does not unreasonably interfere with work requirements, identify sensitive areas within the project limits to include riparian areas and key visual areas such as rock outcrops and vegetation that are to be retained, identify potential Contractor staging sites, equipment yards, batch plants, waste earthwork disposal sites, etc.

2. Prepare site-specific reclamation and re-vegetation plans and seeding specifications in coordination with Roadside Development Section.

3. If the project earthwork cannot be balanced and waste site(s) are proposed on Forest lands, the Consultant shall coordinate with the National Forest on possible waste sites and recommend treatments for disposal of the materials. If waste sites are approved on Forest lands, the Consultant shall develop complete contour grading plans that will provide variable slopes with smooth and rounded transitions and will preserve existing vegetation, land forms and drainage patterns.

C. The Consultant shall be responsible for the preparation of the Storm Water Pollution Prevention Plan (SWPPP) to meet the requirements of Section 402 of the Clean Water Act (NPDES). This shall include the preparation of the SWPPP Standard Sheet and the preparation of erosion control plans for the project in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from Roadside Development Section. The erosion control plan shall show the location of the temporary erosion and sediment control features necessary to prevent storm water pollution and shall include erosion control summary sheets, erosion control details, erosion control plan sheets, specifications and estimates. The permanent erosion control features shall be shown on the roadway plans and as appropriate, specified in the special provisions.

460 Traffic Engineering Design

461 Traffic Engineering Study

The Consultant shall perform a Traffic Engineering Study which addresses those concerns that are appropriate for the project. The study shall provide all necessary data not already furnished by the

Department. It is expected that the Consultant will make one or more visits to the project site to familiarize themselves with any issues that may have any bearing on the success of the project.

The Traffic Study should also address the items listed below. The items listed are intended only as a guide and are not meant to necessarily limit the scope of the study:

A. Average Daily Traffic

B. Turning movements at each intersection

C. Accident Data and Analysis

D. Access Control

E. Signing

F. Pavement Markings

G. Pass/No Pass Zones

H. Speed Zones

I. Signal Warrants

J. Left and Right Turn Warrants

K. 30th Hour Design Hour Volume

L. Peak Hour Volume

M. Bicycle Activity

N. Pedestrian Activity (ADA Requirements)

O. Parking

P. School Zones

Q. Appurtenances (guardrail, barriers, etc.)

R. Channelization, Turning Templates

S. Signal Phasing & Timing

T. Capacity

Note: The need for these items will vary depending on the nature and locale of the work.

462 Traffic Control Plans

When required by the complexity of the project, the Consultant shall prepare an appropriate phasing plan for the project. The plan shall be consistent with good constructability, taking into account the contractor's probable approach to the work and the cost and inconvenience to local businesses and residents. Phasing and project duration should be coordinated through the Project manager, the Construction District and Contract & Specifications Services.

Once the project phasing has been determined, the Consultant shall prepare a traffic control plan which may be as simple as a few paragraphs in the Special Provisions outlining which setups in Part VI of the MUTCD or the ADOT supplement are to be used or may be a set of detailed plans showing exact configurations of traffic control devices for the project. A summary of quantities and duration along with an estimate of costs and any special provisions shall be provided by the Consultant at each stage of the project beginning with Stage II.

New construction, reconstruction, pavement rehabilitation, overlays, bridge widening or repairs and other similar work generally will have a significant impact on traffic operations and will normally require a set of Traffic Control Plans with quantities, duration, unit prices, and special provisions.

The following categories of projects generally have a low impact on traffic operations and do not normally require traffic plans:

A. Landscaping projects of short duration

B. Signal projects

C. Scour protection projects

D. Fencing projects

E. Sound wall projects

F. Signing projects

G. Lighting and other electrical projects

H. Sidewalk and ADA ramp projects

I. Bike lane projects

J. Rest area construction projects

K. Minor surface treatments (Chip Seals)

Special Provision 701 DETRM can be used for projects that fall into the low impact categories. This special provision provides pre-determined unit prices for all of the likely pay items. There are, however, two lump sum items which must be computed. Item 7010001 is intended to provide a summary of the anticipated cost of the devices to be used on the project. This item shows in the bid

schedule as a fixed price. The second lump sum item, 7010006, allows the contractor to recover his costs for furnishing, placing, and removing the various devices during the construction.

Two other pay items may be included in the bid schedule, when appropriate. Both items require the contractor to provide a bid amount. The items are 7010010, Temporary Concrete Barrier and 7010012, Temporary Impact Attenuation Devices.

463 Intersection Signalization and Roadway Lighting

The designer shall prepare construction documents for installation of traffic signals. Installations for future signals may require only conduits and pullboxes.

The designer shall comply with ADOT's current lighting policy and provide a complete set of roadway lighting construction documents including, but not limited to:

A. Complete freeway lighting including mainline, entrance and exit gore areas, ramps, and crossroads.

B. Underdeck Lighting.

C. Sign Lighting.

The designer shall in accordance with Section 430 of the Dictionary of Standardized Work Tasks and the project scope of work coordinate with the local electric utility to provide electric service. If warranted, the designer shall advise the project manager of the need for an IGA with the local jurisdiction for funding, maintenance, and energy costs.

464 Signing Plans

The Consultant shall prepare designs for signing that are consistent with current signing practice and in conformance with the Manual on Uniform traffic control Devices (MUTCD), the Traffic Engineering Design Manual, the Manual of Approved Signs(MOAS), and Traffic Group's Sign Sheeting Guidelines, dated May 31, 1996. Freeway signing within the MAG system shall in addition conform to the MAG network Signing Plan, dated January 1992.

A signing summary shall be provided in the project plans. Non-standard signs shall be detailed on the project plans following the formats given in the above referenced documents. The signing summary , a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

465 Pavement Marking Plans

The Consultant shall prepare permanent pavement marking designs for the roadways within the project limits to show center, edge and lane line striping, stop lines, crosswalks, arrows, legends, and symbols, raised or recessed pavement markers, object markers, delineation or other markings as may be consistent with the needs of the project and in conformance to the requirements of the MUTCD, the Traffic Design Manual, and the Standard Drawings. The Consultant shall confer with the district representative and Traffic Group to determine which types of marking or delineation

materials are appropriate for the project. The summary of quantities, a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

466 Intelligent Transportation Infrastructure

The designer shall prepare construction documents for elements to be included in the project for accommodation of the Intelligent Transportation Infrastructure in accordance with the ADOT Freeway Management System Design Guidelines.

470 Right-of-Way

471 Right-of-Way Requirements Determination

The Consultant shall determine the requirements for new right-of-way (R/W) and easements, including, but not limited to, new roadway R/W, slope easements, drainage easements, temporary construction easements, waste site R/W, access control R/W, borrow source R/W and haul road R/W.

The Consultant shall submit to ADOT, in writing, the preliminary R/W requirements on or before the Stage II design submittal and the final R/W requirements on or before the Stage III design submittal. No revisions or additions to the R/W requirements will be allowed after the Stage III submittal without the approval of the ADOT project manager.

The new R/W requirements shall be submitted in triplicate to ADOT for review and shall include the following as a minimum:

A. A letter indicating the project name, contract number, project location, originator of report (Firm's Name), submittal date and submittal type (Stage II or III).

B. A plan of sufficient scale and detail to show the existing and proposed roadway R/W and proposed easements.

C. Type of acquisition required:

   At the Stage II submittal, the new requirements may be estimates of the final R/W with enough definition to identify all ownership's that will be affected. The preliminary requirements should be large enough to cover all possible R/W needs.

   At the Stage III submittal, the new requirements shall be accurately defined with widths, lengths, stations, offsets, etc.

472 Right-of-Way Acquisition

If new R/W is required for the project, ADOT will acquire all necessary R/W and easements. Based on the requirements provided by the Consultant, ADOT will:

A. Prepare final R/W plans and associated documents necessary for R/W acquisition (Final plans may be prepared by others)

B. Acquire necessary R/W including easements, material sites and waste sites

C. Obtain the necessary authority to proceed with the various phases of property acquisition

D. Prepare the necessary data for Transportation Board resolutions and project clearance letters

473 Temporary Entry Documents

A temporary entry document for entry to each parcel for any or all of the following activities is required: Geotechnical investigations, and design or construction survey work. The Consultant shall notify ADOT of the need for any temporary entry documents no later than thirty (30) days after the notice to proceed. ADOT will obtain the appropriate owner's signature. The Consultant may not enter any such property prior to approval of the temporary entry documents by ADOT.

480 Cost Estimates

The Consultant shall prepare combined and detailed estimates (cost estimates) in the format recommended by Contracts and Specifications Section. The cost estimate shall include a recapitulation sheet concurrent with each review submittal. Computer generated estimate forms may be used, provided the format is approved by the Contracts and Specifications Section. At the Stage II review, the Consultant shall prepare a bidding schedule and concurrently with each review submittal thereafter. ADOT will provide the necessary format.

The budgeted cost for this project is indicated in Section 140 of this Scope of Work. The Consultant shall immediately advise ADOT, in writing, if there is any reason to believe the project cannot be constructed within the allocated budget. The Consultant shall identify options to maintain the project within budget, including shortening the project, revising criteria, or phasing changes.

485 Specifications

The Consultant shall 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.

490 Special Provisions

The Consultant shall 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 shall also be included. Special Provisions shall be submitted at the Stage III and Stage IV project reviews. Final Special Provisions shall be sealed by the engineer in responsible charge. The Consultant shall be responsible for incorporating any specifications provided by ADOT technical sections into the draft and final Special Provisions. ADOT shall review all submittals of Special Provisions and the Consultant will prepare the final Special Provisions.

495 Contracts and Specifications Process

The Consultant shall, under the direction of ADOT, support the 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 shall be prepared immediately upon request. Addenda may be required based on the project inspection with the assigned ADOT Resident Engineer, questions developed in the pre-bid conference, or conditions discovered by bidders during the bid period.

D. The Consultant shall, prior to the pre-bid conference be prepared to walk the project with the assigned ADOT Resident Engineer to discuss the plans and details.

E. The Consultant shall 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 shall 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. The Consultant shall respond to questions related to the plans, details and special provisions.

F. The Consultant shall 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.

SECTION 600 - POST DESIGN SERVICES

ADOT will coordinate all post-design services and will act as the principal initial contact for post-design questions. The Consultant shall be responsible for the post-design services described below. Post-design services will be added to the contract by contract modification.

A. The Consultant shall be available, within twenty-four (24) hours of notification, to respond to questions in the field that may arise relative to the plans, details, or special provisions during construction.

B. The Consultant shall review and approve shop drawings, erection procedure plans, and form work details, review proposals for substitutions or "approved alternates," assist the resident engineer in developing change orders, and provide other engineering services required to facilitate construction of the project.

C. The Consultant shall appoint a responsible member of the firm to be the contact person for all post-design services. This person shall be continually available during the course of construction for review and updating of design plans.

D. The Consultant shall make every reasonable effort to process any material presented for review in a prompt manner.

E. The Consultant may be required to attend the Pre-Construction Partnering Workshop and/or utility coordination meetings.

SECTION 700 - MATERIALS FURNISHED BY ADOT

710 Surveys and Mapping

ADOT will provide the following materials, as available:

A. Horizontal and vertical control for existing alignments

B. Descriptions and values for Geodetic control

C. Field Survey

1. Planimetric maps
2. Topographic maps
3. Digital Terrain Model
4. Profile maps

D. Control for aerial maps

E. Photogrammetric Mapping (Contour Interval = 2 ft.)

1. 1" = 50' photogrammetric mapping
2. 1" = 100' photogrammetric mapping
3. 1" = 50' Digital Terrain Model
4. 1" = 100' Digital Terrain Model

F. Photo mosaic

G. Aerial photos

H. ADOT State Plane Coordinate Grid Adjustment Factor(s)

720 Materials Investigation

ADOT will provide the following materials:

A. Geotechnical Report if applicable

B. Pavement Design Summary if applicable

C. Materials Design Report if applicable

D. ADOT will provide review of all submitted reports prepared by others for this project.

730 Record Documents

The Consultant shall obtain the following ADOT drawings:

A. Available "as built" plans, of existing conditions

B. Available right-of-way plans of existing conditions

740 Traffic Data

The Consultant shall obtain from ADOT the following design traffic data:

A. Current and design year ADT

B. K, D, and T factors

750 Environmental Studies

In addition to the Final Environmental documents, ADOT will provide, at the Consultant's request, any available environmental data prepared for this project (such as cultural resource surveys and investigations).

760 Base Sheets

ADOT will provide the Consultant with one (1) reproducible copy of each of the following base sheets as required for completion of the project plans. For Intergraph compatible CADD systems, these items will be provided on computer diskettes.

A. Roadway Design Section sheet

B. New Pipe Summary sheet

C. Barrier Summary sheet

D. Reinforced Concrete Box Culvert Summary sheet

E. Roadside Development Section sheet

F. Corrugated Aluminum Pipe Extensions Summary sheet

G. Corrugated Steel Pipe Extensions Summary sheet

H. Combination Barrier and Pipe Summary sheet

I. Cell Libraries (CADD only)

J. Font Libraries (CADD only)

K. Face sheet

L. List of Standard Drawings sheets

M. Traffic Engineering Group sheets

N. Traffic Operations Section sheets

O. Right-of-Way Plans Section sheet

770 Final Design Concept Report

The Final Design Concept Report will be provided to the Consultant.

SECTION 1000 - CONTRACT ADMINISTRATION

1010 Arizona Department of Transportation

ADOT's Project Manager shall:

A. Conduct ongoing reviews of the Consultant's progress in performing the work and ensure timely comments from the technical units.

B. Direct design consensus status and team building meetings with all appropriate partners at the start and on a monthly basis during the project development period.

C. Review the Consultant's billings

D. Review and evaluate the Consultant's requests for extension of time and supplemental agreements

E. Review all correspondence with public agencies prior to the Consultant's mailing of any correspondence

F. Coordinate the distribution of public information

G. Provide a focal-point contact for all questions, requests, and submittals

H. Coordinate project scheduling with the Consultant, ADOT sections, and ADOT Program and Project Management Section.

1020 Consultant

The Consultant shall:

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 the Consultant'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. Include the complete TRACS number and project name on all correspondence related to this contract.

F. 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. If requested by the ADOT project manager, the Consultant shall act as the lead.

The Consultant 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 ADOT technical sections for conformity with ADOT procedures and the terms of the contract. **Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.**

1021 Project Control

The Consultant shall provide data, in the format specified by ADOT, upon request to monitor costs and manpower and to report progress.

The project control system may include features to:

A. Determine and highlight critical path work from initial plans as work progresses

B. Identify progress against schedule for each identified work item

C. Forecast completion dates from current progress

D. Highlight rescheduled work in any area which is out of the required sequence

E. Determine any physical area that requires more resources than originally allocated

F. Forecast future conflicts in any area

G. Provide estimates of time, manpower, and dollars required at the lowest work element tracked, based upon current expenditures versus schedule

H. Provide the capability of random inquiry concerning the status of any work element in terms of schedule, manpower, and dollars

1022 Subcontract Services

Due to the nature and scope of the required services, it may be desirable for the Consultant to subcontract portions of the work. However, the subcontracting firms must be approved in writing prior to initiation of any work. The volume of work performed by the subcontractors shall not exceed 49 percent (49%) of the total contract value.

1023 Project Related Correspondence

The Consultant shall furnish written documentation of communications between the Consultant and any party pertaining specifically to this project to ADOT for their records within one week of the communication. The Consultant is responsible for recording and distributing to the participants the minutes of all meetings pertaining to this project within one (1) week of the meeting.

1024 Quality Control

The Consultant is responsible for the accuracy and completeness of the plans and related design prepared under this contract and shall check all such material accordingly. The Consultant shall have a quality control plan in effect during the entire time work is being performed under this contract. The plan shall establish a process whereby plans, calculations and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. Non-compliance will be sufficient cause for rejection of submittal. Periodic Quality Control audits may be performed by the ADOT project manager.

The Consultant shall submit the quality control plan to ADOT for approval within fifteen (15) working days of receipt of written Notice to Proceed. The plan shall comply with the requirements of Section 1025. The plan shall address as a minimum: checking procedures, training of employees in quality requirements, methods of monitoring and documenting quality control activities.

1025 Quality Control Plan Requirements

A. Identification of key personnel and definition of specific responsibilities:

The plan will identify, by name, the specific project personnel and their individual responsibilities relative to the project and the Quality Control process.

B. Technical review process:

Technical review shall be distinguished from checking. Checking is for verification of the accuracy of the documents; technical review is for the verification of the overall design concept of the project. As a minimum, technical review will do the following:

1. Determine the adequacy of the design process to achieve the desired goals
2. Evaluate the general selection and sizing of materials and equipment
3. Determine if all viable alternatives have been considered
4. Determine the practicality of the design concept
5. Determine if legal and physical restraints were considered
6. Determine if the design theory, concepts, and project layout are logical
7. Determine applicability of computer programs used
8. Determine if the technical specifications are sufficiently comprehensive
9. Determine the constructability of the selected design

C. Checking procedures:

The checking process should assure that all documents produced, including, but not limited to, plans, reports, calculations, specifications, special provisions, estimates, and schedules, are thoroughly checked by an individual equally competent to the originator of the document to verify accuracy. The process will address resolution of conflict and assure agreement of computer programs and procedures for checking computer input and output. Checking shall not only confirm the accuracy of calculations, but shall include a thorough review of the proper use of Standard Drawings, Drafting Guide, Project Design Guidelines, and other manuals and documents referenced under Section 200.

D. Program to train employees in the quality control requirements:

The training program should provide an opportunity for all project staff to become familiar with the design and the quality control process that will be required on this project. Particular attention should be directed to defining specific individual responsibilities and assuring their understanding.

E. Process to monitor and document quality control activities:

A method for monitoring and documenting the required processes is essential to achieve desired results. This process should easily and quickly verify the entire Quality Control process. A checklist should be developed for quick reference and periodic review by the Project Principal and ADOT.

1026 Consultant Personnel

The Consultant's work shall be performed and/or directed by the key personnel identified in the technical/fee proposal presentations by the Consultants. Any changes in the indicated key personnel or the Consultant's officer-in-charge of the work, as identified in the Consultant's proposal, shall be subject to review and approval by ADOT.

1027 Site Visit

The Consultant shall make arrangements to visit to the project site, with agency representatives as appropriate (ADOT, FHWA, National Forest and other interested persons), at least two (2) weeks prior to the visit. The visit will be held within fifteen (15) working days of the receipt of written Notice to Proceed, or as otherwise instructed by the ADOT project manager. Within seven (7) calendar days of the site visit, the Consultant shall issue to ADOT a brief written report including observations, discussions, and any questions pertaining to the scope or level of effort of the project. The purpose of this visit is to acquaint key personnel with the details and features of the project to facilitate the design process.

1030 Acceptability of the Work

The plans, design, requested calculations, reports and other documents furnished under this Scope of Work shall conform to "standards-of-the industry" quality. Criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and with the designer, maker and checker identified.

1040 Design Documentation

A. If requested, the Consultant shall submit any design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the contract documents to ADOT for review.

B. Structural calculations will only be submitted when requested by the Bridge Group and for specific elements.

C. At the project completion (immediately prior to the bid advertisement), a final set of project documentation sheets, sealed by a Professional Engineer, Landscape Architect, or Architect, registered in the State of Arizona, shall be submitted with the record set of plans and tracings.

D. Project Documentation shall include, but are not necessarily limited to, the following data:

1. Design criteria used for the project

2. Right-of-Way calculations (including easements)

3. Geotechnical reports for the pavement and/or bridge design

4. Documentation of decisions reached resulting from meetings, telephone conversations or site visits

5. Drainage reports

6. Field survey notes and computations

7. Calculation of quantities

E. Computer-Aided Design and Drafting (CADD)

1. General Specifications

All drawings to be archived shall conform to ADOT drafting and CADD standards. The current ADOT approved version of Bentley's MicroStation software will be used. All graphic files shall be provided in MicroStation's native design file (.DGN) format, and contain data in vector format only. Digital Terrain Model (DTM) files shall be produced with Bentley's InRoads/Site/Survey Select CAD compatible file formats. Raster data shall not be accepted unless otherwise stated by ADOT. Use of non-MicroStation vector format and subsequent translation of graphic files to the .DGN format shall not be acceptable. No zipped files will be accepted. Reference files are not to be copied into the plan sheets master file.

All final project documentation, electronic (.DGN, ASCII, ALG, DTM, project wide reference files, etc.) or hard copy, shall be packaged separately, suitably labeled and delivered to the assigned ADOT project manager with 2 copies on CD-ROM (multiple CD's will be allowed) and are the sole property of the State of Arizona. ADOT cells are not to be modified unless approved by ADOT.

All CD deliverables shall contain an electronic Index of Files on the CD and a letter of transmittal to the designated areas and shall be labeled with the information stated below:

<u>Identification Label for CD and Case:</u>

- Prepared By:
- Federal Project Number:
- Route:
- Milepost (Beginning/Ending):
- Prefix (Rt, Co, MP) and TRACS Number:
- Project Name:
- Type of Files:
- Creation Date:
- Disc (#) of (total #)

2. Specific ADOT Group Requirements

In addition to the CADD requirements stated above in the General Specifications, all designers of ADOT projects shall provide the following information requested by the individual technical areas. If unclear about items needed for your project, please contact the Project Manger.

Bridge Group Identification Label

a. Structure Number (4 digit number)
b. Structure Name (i.e. Wildcat Wash Bridge)
c. Type of work category:
   - Major Structure – New Bridge
   - Bridge Replacement
   - Minor Structure
   - Deck Rehabilitation
   - Hinge, Deck or Joint Repair
   - Barrier Replacement
   - Bridge Widening
   - Scour Protection
   - Seismic Retrofit

Materials Group (Geotechnical)

The ADOT and Geotechnical Consultant Engineers shall turn in the Engineer stamped vellums and electronic files to the ADOT Project Manager. The Geotechnical Consultant Engineer shall also provide one copy of the electronic files to the ADOT Geotechnical Engineer.

Roadway Engineering

See General Specifications.

Right of Way Group

All R/W plans to conform with current R/W Plans Standards and Manual. When all comments have been addressed, the designers of ADOT projects shall submit the following:

a. Beginning and Ending Mileposts in tenths of a mile
b. Revised Calculation Book sheets and Point ID sheets, if necessary.
c. An ASCII coordinate electronic file in the following format: Point Number, Northing, Easting, Description using commas as delimiters. Designers of ADOT projects shall ensure this file is free of extraneous text such as page numbers, headers, batch commands, etc. This file shall be such that it can be imported into a COGO program without reformatting by ADOT Right of Way Plans Section. Only numeric numbers shall be accepted.
d. One (1) half-size print of the Final Right of Way Plans set.
e. One (1) full-size set of sealed and signed mylars trimmed to 22" x 34"

Traffic Engineering

Upon final design approval for any and all work that involves Traffic Engineering/Design, the Traffic Engineering Group requires that the following CADD

related deliverables be submitted to the Traffic Engineering Project Manager for adherence to ADOT's CADD Standards:

a. All SignCad files shall be submitted in ADOT's current version of SignCad (.SGN).
b. All design CADD files associated with Traffic Design, including Traffic Signals, Signing, Pavement Marking, Traffic Control, Pre-Design, HES Projects, and Permit Designs, shall be submitted in ADOT's current version of MicroStation 2D format (.DGN)(2D).

Engineering Surveys (Location Surveys and Photogrammetry)
In addition to the CADD requirements stated in the General Specifications, all designers of ADOT projects shall provide the following information to the Engineering Survey Section:

- Ground Adjustment Factor (GAF):
- Contour Interval (CI):
- Project Scale:
- Horizontal and Vertical Datums:
- Arizona Zone:
- Hard copy of reports including any plots

Based on the Scope of Work, select the items to be delivered:

a. Hard Copies shall consist of the following:
    - Field notes
    - Sketches
    - Transit and Level books
    - Plots
    - Reports

b. (.DGN) file containing graphical representation of the project (i.e. Planimetrics and contours).

c. (.3D) file containing graphical representation (i.e. breaklines and random points) to produce the DTM.

d. (.DTM) containing Engineering Surveys approved features that make up a correct surface representation.

e. (.ALG) file containing the project alignments. (.RPT) file including curve data from the alignment.

f. ASCII (.CSV) files shall contain the following:
    1. File Header information:
        - Project GAF
        - Project Datums
        - Arizona Zone
        - Basis of Alignment
        - Basis of Stationing
        - Basis of Horizontal Control

- Basis of Elevation
- Basis of Bearing

2. All Project Control
3. Section Corners
4. R/W Monumentation
5. Structures
6. Edge of pavement
7. Centerline and driving stripes
8. Other features as requested

Note: Two (.CSV) files shall be submitted, one containing the RAW survey data and another containing the Edited survey data.

g. All film negatives used to map a project

h. Scanned images and/or diapositives used to map project

i. Aerotriangulation files used to control photography

j. Orthophotos produced for the mapping project

k. Record of Survey: When requested, Record of Survey shall be in electronic (.DGN / .PDF) format with a stamped original.

l. Pictures: Upon Request pictures shall be taken for all structures including end of pipes, and headwalls, caps, and any unnatural terrain feature in a (.JPG or .BMP) file format (check scope of work).

If unclear about items needed for your project, please contact the Engineering Survey Section.

ADOT PROJECT MANAGER:
All survey and photogrammetry projects shall be submitted to the Engineering Survey Section through the ADOT and Consultant project manager, for verification of deliverables and archiving purposes. A notification of findings shall be sent to the project manager after completion of project review.

1050 Value Analysis

"Value Analysis", also know as "Value Engineering" consists of those tasks performed by a Value Analysis Team in accordance with the Value Analysis Program Manual as referenced in Section 200 of the Scope of Work and available from the ADOT Value Analysis Section. Any studies or other activities of a similar nature, shall not be referred to as "Value Analysis" or "Value Engineering."

The design team is encouraged to recommend value analysis for ADOT standards and specifications, as well as for elements of the project.

1051 Value Analysis Team

The value study will be performed by a value analysis team consisting of ADOT personnel, personnel from consultants or outside agencies, or some combination of these sources. The design team shall cooperate fully with the value analysis team, providing necessary background information for analysis. At the discretion of the project manager, the design team may be requested to assign one of its representatives to the value analysis team.

1052 Design Team Responsibilities

A. The design team, upon notification of the approval of a value analysis, shall compile appropriate data for analysis and make a presentation to the value analysis team, in accordance with the Study Plan prepared by the value engineer. The design team shall communicate and cooperate fully with ADOT's value engineer and the value analysis team.

B. It is expected that the elements necessary for a value study can be assembled and delivered by the design team with minimum expenditure of effort and time under its normal design procedures in approximately four (4) working days. The design team will be allowed to budget thirty-two (32) man-hours for data compilation, the presentation, and study response, if appropriate. If the design team is requested to furnish a representative to participate as a member of the value analysis team, additional hours may be necessary. Although costs for value analysis activities are not identified as a separate expense item for accounting purposes, the design team shall report the hours expended and estimated costs of labor and materials to the ADOT value engineer for cost tracking and value analysis program evaluation purposes.

C. In accordance with the Program Manual, the findings and recommendations of the value study will be forwarded to the ADOT project manager for review. The project manager will review the value analysis recommendations with the project team and respond to the Value Analysis section as soon as practical indicating acceptance, possible acceptance pending further investigation, or rejection of each recommendation. The design team shall implement the approved recommendations of the value study. If significant effort is required, the additional work will be added to the Scope of Work by contract modification.

1060 Reviews and Submittals

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

B. Partnering Workshops

1. If requested by ADOT, the Consultant shall participate in joint progress meetings and consensus sessions with other designers on this corridor.

2 The Consultant shall participate in a Construction Partnering Seminar after the project has been awarded and prior to the start of construction.

C. Submittals for review shall be made when the studies and/or plans have been developed to the following levels of completion:

1. Quality Control Plan

2. Stage I design

3. AASHTO Report

4. Stage II design

5. Stage III design

6. Stage IV design

D. This project may be subject to a constructability review. The Resident Engineer or other assigned District representative will be the leader of the constructability review which would normally occur after the Stage III submittal and before the Stage IV submittal.

E. Copies of review submittals and finalized documents shall be distributed by the Consultant in accordance with the Distribution List maintained by the Statewide Project Management Section (see Appendix C) or as per the ADOT project manager's instructions. The appropriate name for each position may be obtained from the ADOT project manager upon request one week prior to any submittal deadline. All deliveries shall be by hand or overnight courier. All plans and cross sections shall be half-size black and white sheets.

1061 Environmental Reports - N/A

1062 Stage I Design Submittal

An informal review and discussion of the project shall be held prior to the Stage I review submittal. The meeting shall take place as soon as the Consultant has established pre-initial roadway alignment, typical roadway sections, and a tentative plans layout for the project.

The attendees shall consist of the Consultant, the assigned design team including ADOT staff involved in the project design, the ADOT project manager and other concerned personnel invited by the ADOT project manager.

A. The following material shall be developed and submitted to the ADOT project manager for review:

1. Initial typical roadway sections

2. Initial roadway plan and profile sheets at the scales set in Section 410.

3. Tentative plans layout

4. Initial environmental mitigation measures

5. Request for utility designation services

1063 Stage II Design Submittal

A. The following material shall be developed and submitted for review:

1. Typical roadway and detour sections

2. Final roadway geometry and preliminary roadway and detour plan and profile sheets

3. Location of existing utilities and identification of initial utility conflicts

4. Utility report

5. Preliminary R/W and easement requirements

6. Preliminary roadway drainage plans and details and Initial Roadway Drainage Report

7. Bridge Drainage Report

8. Bridge Selection Report

9. If required, draft applications for environmental permits including preliminary input for Section 404 permit

10. Any significant change in engineering data supporting previous environmental decisions or applications

11. Preliminary summary of required environmental mitigation measures

12. Preliminary Landscape Architectural plans with proposed sources of power and water.

13. Preliminary development of intersection plans including basic geometry and channelization

14. Preliminary layouts for proposed retaining and sound barrier walls

15. Preliminary construction sequencing plans

16. Final Geotechnical Report

17. Final survey information

18. Initial quantities and cost estimate

19. Preliminary roadway cross sections at one hundred (100) ft. intervals, as a minimum, with additional sections at breaks in the terrain. See Section 440, Roadway Design.

20. Preliminary summary of earthwork quantities

B. The Geotechnical Report shall be submitted to ADOT for review and approval a minimum of fifteen calendar days prior to the Stage II Design Submittal.

1064 Stage III Design Submittal

A. The following material shall be developed and submitted for review:

1. Final typical roadway and detour sections

2. Pre-final roadway and detour plan and profile sheets

3. Identification of final utility conflicts and preliminary plans of utility installations and/or re-locations to be included in project construction

4. Pothole data made available to utility companies

5. Utility report

6. Final R/W and easement requirements

7. Pre-final roadway drainage plans and details and Final Roadway Drainage Report

8. Completed applications for environmental permits including final input for Section 404 permit

9. Any significant change in engineering data supporting previous environmental decisions or applications

10. Final summary of required environmental mitigation measures

11. Pre-final intersection plan sheets

12. Final construction sequencing plans

13. Pre-final layouts for retaining and sound barrier walls

14. Preliminary landscape architectural plans, summaries, and details and proposed sources of water and power

15. Preliminary design sheet with index and general notes, summary sheets and special details

16. Preliminary summary sheets

17. Preliminary special details

18. Preliminary bridge structure plans

19. Preliminary traffic control plans

20. Preliminary pavement marking and signing plans

21. Preliminary traffic signal plans

22. Preliminary lighting plans

23. Preliminary erosion control plans, summaries and details

24. Preliminary special provisions including ADOT Stored Specifications

25. Preliminary quantities, cost estimate and bidding schedule

26. Preliminary construction schedule in bar chart format

27. Preliminary roadway cross sections at one hundred (100) ft. intervals, as a minimum, with additional sections at breaks in the terrain. See Section 440, Roadway Design.

28. Preliminary summary of earthwork quantities

29. Preliminary Utility Special Provisions

An office review and field review will be held following submittal of the Stage III plans to review the proposed roadway alignments and bridge site. See Section 410 of this Dictionary of Standardized work tasks for field review staking requirements.

1065 Stage IV Submittal

A. The following **final** material shall be completed, checked and submitted for review:

1. Design sheet(s) with index and general notes

2. Summary sheets

3. Special details

4. Typical roadway and detour sections

5. Roadway and detour plan and profile sheets

6. Drainage plans and details

7. Intersection plans and details
8. Construction sequencing plans
9. Traffic control plans
10. Traffic signal plans
11. Signing and pavement marking plans
12. Lighting plans
13. Bridge plans
14. Retaining wall and sound barrier wall design plans
15. Landscape Architectural plans and details
16. Utility installation/relocation plans and details to be included in project construction
17. Utility report
18. Utility Special Provisions
19. Utility relocation schedule and costs
20. Erosion control plans
21. Roadway cross sections (see Section 440, Roadway Design)
22. Final summary of earthwork quantities
23. Quantities, cost estimate and bidding schedule (provide hard copy and diskette in Microsoft Excel)
24. Special provisions (provide hard copy and diskette in Microsoft Word)
25. Construction schedule
26. Environmental permits
27. Summary of environmental mitigation measures and disposition
28. Final design calculations

NOTE: The ADOT technical reviewer may require checked computations and checked data on the plans for all of these items prior to submittal.

B. ADOT's review of this submittal will include technical content, incorporation of previous comments, and completion of design and details, as well as:

1. Conformance with ADOT requirements

2. Completeness of the contract documents

3. Compatibility of plans, specifications, and special provisions

4. Coordination between disciplines, phases, and outside parties

5. Clarity of the contract documents

6. Consistency of presentation

If additional submittals at this level are required due to noncompliance with this Scope of Work or ADOT's review comments, the work shall not entitle the Consultant to any additional design fees.

The Consultant shall prepare and submit to U & RR a Utility Clearance Letter in the style and manner as outlined in the *Utility Coordination Guide for Design Consultants*. The clearance letter shall be sent before the Final Submittal is made.

1066 Final Submittal

A. The following material shall be submitted for completion of the project:

1. A complete reproducible set of sealed and signed contract document originals necessary to construct the road and/or bridge improvements identified in this contract.

2. A complete sealed and signed reproducible set and one copy of special provisions to cover design items not identified in the ADOT Standard Specifications for Road and Bridge Construction, current edition.

3. An electronic version of all plan sheets as specified in Section 1040. The Consultant shall also provide a separate CD containing all plan sheets in PDF format. Filenames shall conform to the format provided by ADOT.

4. Final and complete quantity summaries and cost estimates

5. An estimate of the contract time for the project construction

6. Final survey computations and original field books

7. Approved environmental permits if required

8. A reproducible set of earthwork cross sections by station showing the plotted roadway template superimposed on the plotted natural terrain (see Section 440, Roadway Design)

9. A reproducible set of final earthwork quantities, calculations and overall summaries

10. Return any documents and other materials provided for use on this project

NOTES:

1. All seals must be of reproducible quality and all signatures in black ink.

2. All final plan sheets shall be trimmed to 22" by 34".

3. All final plan sheets shall be printed on 20 pound vellum not less than 3 mil nor more than 5 mil.

4. Plan sheets shall be black printing only.

5. Do not use paste-ups, tape or sticky back.

6. Do not use pencil on final drawings.

All review submittal prints of the construction plans shall be clearly stamped "**PRELIMINARY - NOT FOR CONSTRUCTION**". The percentage of completion and date submitted should be clearly evident. Failure to comply may be cause for rejection of the submittal. Only the final approved plans, properly sealed by an Arizona Registered Professional Engineer, shall be issued without the above stamped notation.

SECTION IX

ADVANCE AGREEMENT CHECKLIST

ARIZONA DEPARTMENT OF TRANSPORTATION

ENGINEERING CONSULTANTS SECTION

ADVANCE AGREEMENT CHECK LIST
(See FAR 31.109)

1. Direct Labor

Direct labor will be billed at actual costs, as defined in FAR 31.001, unless a specific classification or individual's billing rate is capped. However, for partners, sole proprietors and Limited Liability Companies (LLCs) where owners may not be paid an hourly wage or salary, direct labor will be billed at rates agreed to by ADOT. (Also see **Compensation for Personal Services.**)

Only the pay rates of those employees who will likely be expected to be directly involved on the Project stated in the Contract can be used in developing cost proposal rates.

2. Home Office Allocations or Similar Allocated Costs

FAR 31.109(h)(14) states, "General and administrative costs (e.g., corporate, division, or branch allocations) attributable to the general management, supervision, and conduct of the contractor's business as a whole." These costs may represent a significant portion of indirect (Overhead) costs.

All Cost Principles addressed in the Contract Cost Allowability Guidelines and Policies ("CCAGP") must be followed by a Consultant/Subconsultant's home office, division or other related entity that allocates costs to the Consultant/Subconsultant (see the CCAGP **A.5. Allocability of Costs**). These costs should be identified and agreed to in advance as to the amounts considered reasonable and allocable to ADOT contracts.

3. Overhead Rates by Type of Engineering Discipline or Specialty

Firms qualified to provide more than one engineering discipline or specialty must be able to substantiate separate overhead rates for each of the following disciplines:

- Construction Administration (CEI)
- Design
- Geotech
- Supplemental Services

4. Compensation for Personal Services

See CCAGP **B.31.205-6 Compensation for Personal Services**.

Compensation for personal services is normally the most significant element of indirect cost. The components of compensation for personal services should be identified and the amounts to be considered reasonable and allocable to ADOT contracts agreed to in advance.

In particular, the following elements of Compensation for Personal Services, if applicable, should be agreed to in advance:

- Both the reasonableness and allocability of compensation paid to partners, sole proprietors, or owners and family members of same, along with highly compensated employees.
- Allowability of bonuses. Under above reference, see 2. *Bonuses and incentive compensation*.

5. Cost of Money

If this item is requested, it must be properly proposed as a separate line item in the Derivation of Costs Proposal, and documented in accordance with 31.205-10. Also see FAR 31.201-1.

6. Bid and Proposal Costs (see FAR 31.205-18) and Selling/Marketing Costs (see FAR 31.205-38)

Bid and proposal costs and selling/marketing costs will be looked at carefully in the preaward review. Any unreasonable and/or unallocable costs being claimed will be disallowed. Adequate documentation will be expected for such claimed costs. Unallowable portions will be expected to be properly identified.

7. Other Direct Costs

It will be expected that Other Direct Costs (any expense/cost other than Direct Labor and Subconsultants) be included in the Overhead cost pool. If a Consultant/Subconsultant proposes Other Direct Costs, it will need to obtain prior approval of its accounting methods by ADOT's Office of Audit & Analysis—External Audit Team before it can include such costs in its Derivation of Costs Proposal submitted to ADOT's Engineering Consultants Section.

7. Other Direct Costs, continued

The list of incidental costs that follow should not be considered to be "all-inclusive". However, the items noted below are specific costs ADOT has identified as being onerous to deal with as Other Direct Costs. Most Consultants/Subconsultants already include such costs in Overhead cost pools.

- Audio/Video equipment and supplies, including VCRs and video cameras
- Cell phones
- Copy machines
- Densometer
- FAX
- Internet/electronic mail
- Mileage for company vehicles
- Office space considered to be "extra". (Exception is for Construction Administration field office.)
- Postage and/or Courier
- Survey supplies
- Telephone calls--both local and long distant

Additional points to consider:

- If a Consultant/Subconsultant does not have separate cost pools (for example CADD and Reproduction Costs), ADOT believes it will be very difficult to adequately substantiate such costs.

- Be aware that if the costs of specific services normally provided by a Consultant/ Subconsultant are included in its Overhead Cost Pool, then any unexpected costs that may be incurred to provide those same services must be charged to an Overhead cost account. Any questions regarding this matter should be directed by ADOT's Office of Audit & Analysis—External Audit Team.

8. Incidental Costs Which Should Normally Be Charged Directly to the Contract

- Lease/rental of vehicles or other specialty equipment. (This cost should be substantiated by evidence of appropriate bidding including support for the bid accepted.)
- Mobilization of equipment.
- Travel and Lodging, including per diem, following ADOT's Travel Authorization Policy.
- Special reproduction costs provided by outside vendors

SECTION X

BOILER PLATE CONTRACT

Contract No.: 08-01
TRACS No.: H721101D
Project No.:

A.G. Contract No: KR94-1408ALS

CONSULTANT CONTRACT

This CONTRACT is made and entered into on _____, 20____ by and between the State of Arizona, Arizona Department of Transportation, Intermodal Transportation Division, acting by and through the Director, hereinafter called STATE, and

(Consultants Name and Address Inserted Here)

hereinafter called the CONSULTANT.

The Description and Location of the CONTRACT and related project(s) are as follows:

Description:

Final design of I-10 Papago Widening, Verrado Way to Sarival Avenue

Location:

IN MARICOPA COUNTY

RECITALS

1. The STATE desires that design plans be prepared for the above location. The trained personnel needed for the CONTRACT and related project(s) are not currently available within its own organization.

2. The CONSULTANT firm with its principals and employees is considered to be qualified and otherwise capable of performing the work required by this contract in the time allotted.

3. Therefore, pursuant to Arizona Revised Statutes, Section 28-1803(5) it is deemed to be in the public interest to enter into this contract.

AGREEMENT

Therefore, in consideration of these premises and of the mutual clauses and agreements herein contained, and the faithful performance thereof, the CONSULTANT and the STATE contract and agree:

2.01 SCOPE OF WORK

The CONSULTANT shall perform engineering services for the satisfactory completion of the CONTRACT and related project(s) as detailed and described in the following Scope of Work dated JUNE , 2007 which is considered to be a part of this CONTRACT.

(Scope of Work Inserted Here)

3.01 CONTRACT SCHEDULE AND COMPLETION DATE

Work on the CONTRACT and related project(s) is scheduled to commence on _ _____. Work is to be completed within 365 calendar days from notice to proceed for an estimated completion date of _____, 20_. The STATE assumes no liability for work performed or costs incurred prior to the beginning date or subsequent to the CONTRACT completion date. Extensions of time allowed for completing the CONTRACT may be granted under appropriate circumstances.

3.02 CONSULTANT'S COMPENSATION - LUMP SUM - DESIGN - MULTIPLE PHASES

1. PHASE I - DESIGN - MULTIPLE PHASES

a. The method of payment for this CONTRACT is Lump Sum. Total compensation for the work performed shall not exceed the sum of $_____ plus approved adjustments. The Negotiated Provisional overhead rate of _____% will be set until receipt the Pre-Negotiation Audit Review. A contract modification will be executed to establish the Negotiated overhead rate for the term of the contract. The Overhead rate, Direct Expenses and Fee are subject to change pending Pre-Negotiation Audit Review. A one time redetermination adjustment in the total amount paid or to be paid on all payment reports shall be made to reflect the established overhead rate and any resulting additional payments, refunds, or credits shall be made promptly. The contract Notice to Proceed date will be the effective date for all redetermination of costs.

b. The STATE shall pay the CONSULTANT in installments based upon Monthly Progress Reports and Progress and Final Payment Reports submitted by the CONSULTANT, with payments subject to the following limitations:

(1) Prior to approval of the Stage II Design Submittal, the billed amount shall not exceed 30% of the total contract amount.

(2) Prior to approval of the Stage III Design Submittal, the billed amount shall not exceed 60% of the total contract amount.

(3) Prior to approval of the Final Design Submittal, the billed amount shall not exceed 95% of the total contract amount.

c. The STATE, at its discretion may, by written notification, waive the above limitations. Approval authority shall be the same as for interim payments.

2. PHASE II - POST DESIGN SERVICES

CONSULTANT'S compensation for work on Phase II, Post Design Services, will begin at construction bid date and will be at specific hourly rates (to include direct labor, overhead and fixed fee) as set forth in the CONTRACT, plus direct expenses approved by the Department. Rates are subject to negotiation prior to execution of this phase. Identification of personnel within each classification may be required by the ADOT Project Manager. Authorization for post-design services will be executed by Contract Modification.

3. Costs are to be identified separately for each project number. Costs for each category must not exceed the amounts budgeted for those specific categories during the contract time frame without prior written approval of the STATE.

4. The CONSULTANT is required to submit a Monthly Progress Report in a format furnished by the STATE showing the status of the work and the degree of completion thereof.

5. The STATE shall not withhold retention on progress payments. However, if satisfactory progress has not been made, the STATE may first retain a maximum of 10% of the current and subsequent billings, or secondly, the STATE may refuse to make full progress payment(s) of such sums which are considered necessary.

6. When all work is delivered, accepted and approved as complete by the STATE, the ADOT Office of Audit and Analysis may prepare a report showing allowable costs incurred. Preparation of this report may require an audit examination of the CONSULTANT'S records. This may also include an examination of subconsultants or subcontractors records.

7. Final payment shall be made as soon as possible after 60 days from the date of acceptance of the audit findings, if applicable, by the STATE and the CONSULTANT.

8. In the event the STATE requires substantial changes in the scope, character or complexity of the work on the CONTRACT, the total compensation as well the fixed fee portion may be re-evaluated and adjusted to a greater or lesser amount by mutual agreement between the CONSULTANT and the STATE.

9. In the event this CONTRACT is terminated by the STATE as herein provided, the CONSULTANT may be paid all the allowable costs incurred, including mobilization and demobilization expense, plus that portion of the fixed fee earned to date of termination as determined by the STATE. Mobilization and demobilization expenses shall include only reasonable costs of marshalling personnel (and equipment if specifically provided for in the contract) for performing this work and of terminating employment of such personnel. No costs will be allowable in connection with termination of employment if incurred later than fifteen (15) days after the date of termination. Costs will be determined as provided in the Federal Acquisition Regulations and may be verified by an audit.

4.01 CONSULTANT AND SUBCONSULTANT PAYMENT

The CONSULTANT shall submit invoices on a regularly monthly basis in accordance with a timetable agreed to in contract negotiations. Invoices should be sent directly to ADOT Project Manager or Project Monitor.

The CONSULTANT will submit invoices for work performed by their Sub-consultants even though the prime CONSULTANT may not have performed working during the preceding month.

On or before the seventh day after the STATE makes a progress payment to the CONSULTANT, the CONSULTANT shall pay the Sub-consultants for the work performed to the extent of each Sub-consultant's contractual interest in the progress payment.

4.02 CONTRACT MODIFICATIONS

1. Contract modifications, defining and limiting the terms of the contract and compensation, must be approved by the STATE, and shall be submitted in the form and format provided by the STATE. The CONSULTANT will be compensated only with prior written authorization by the STATE. Any administrative/technical costs associated with the preparation of said modifications are solely the responsibility of the CONSULTANT.

   a. Supplemental Agreements

   Significant changes in the scope, character, or complexity of the work may be negotiated if it is mutually agreed that such changes are desirable and necessary. Contract changes defining and limiting the work and compensation must be authorized by the STATE. Such supplemental agreement(s) shall be made in writing, and it is expressly understood and agreed that no claim for extra work performed or materials furnished shall be made by the CONSULTANT until authorization to proceed is granted, in writing, by the STATE.

   b. Changes Orders

   The STATE may at any time, by written order, and without notice to sureties, if any, make (or direct) changes within the general scope of this CONTRACT in the services to be performed.

4.03 DELAYS AND EXTENSIONS

The CONSULTANT agrees that no charges or claims for damages shall be made against the STATE for any delays or hindrances during the progress of this CONTRACT. Such delays or hindrances, if any, will be covered by an extension of time for such reasonable period as mutually agreed upon between the parties. It is agreed and understood, however, that permission to proceed with the CONTRACT after the established completion date, shall not be construed as a waiver by the STATE of any of its rights herein.

4.04 LATE SUBMITTAL OF INVOICE

Unless waived by the STATE, in writing, all invoices for work performed under this CONTRACT shall be submitted within 60 days from date of acceptance of the completed portion of the work performed.

4.05 PERFORMANCE EVALUATIONS

The CONSULTANT'S performance will be evaluated periodically in accordance with the schedule set forth in Appendix F of this CONTRACT.

4.06 GENERAL COMPLIANCE WITH LAWS

The CONSULTANT shall comply with all Federal and State laws, and local ordinances and regulations.

4.07 LITIGATION

In the event of litigation between the CONSULTANT and the STATE involving this CONTRACT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction of the Federal or State Court System within the geographical boundaries of the State of Arizona.

4.08 DISPUTE ESCALATION (Administrative Review)

A written dispute escalation process will be utilized to resolve questions of fact during the course of this CONTRACT. The final determination will be made by the STATE.

4.09 ARBITRATION

The parties agree to use arbitration, after exhausting applicable administrative reviews, to resolve disputes arising out of this agreement where the sole relief sought is monetary damages of $100,000, or less, exclusive of interest and costs.

4.10 TERMINATION, POSTPONEMENT OR ABANDONMENT

1. The right is reserved by the STATE to terminate, indefinitely postpone work, or abandon the CONTRACT. The STATE may terminate this CONTRACT in any one of the following circumstances:

    a. Failure of the CONSULTANT to perform the services as detailed herein and in any modifications to this CONTRACT.

    b. Failure of the CONSULTANT to complete this CONTRACT within the time specified herein and in any modifications to this CONTRACT.

    c. Failure of the CONSULTANT to comply with any of the terms of this CONTRACT.

    d. When, for any reason, the STATE shall determine that such termination is in its best interest.

2. If the STATE contemplates termination under the provisions of paragraphs 1.a., 1.b., or 1.c. above, the CONSULTANT shall have five (5) days in which to cure such failure. In the event the CONSULTANT does not cure such failure, the STATE may terminate the CONTRACT without further consideration.

3. If, after Notice of Termination of this CONTRACT under the provisions of 1.a., 1.b. or 1.c. of this clause, it is determined that the CONSULTANT was not in violation or default, the Notice of Termination shall be deemed to have been issued under the terms of 1.d. of this clause.

4. Termination shall be effected by delivery to the CONSULTANT of a Notice of Termination specifying whether termination is for default of the CONSULTANT or for the convenience of the STATE, the extent to which performance of the CONTRACT is terminated, and the date upon which such termination becomes effective.

5. In the event of termination, the STATE shall be liable to the CONSULTANT only to the extent and as provided in SECTION 3.02 (CONSULTANTS'S COMPENSATION) of this CONTRACT.

6. In the event this CONTRACT is terminated, the STATE shall have the option of completing the CONTRACT, or entering into an agreement with another party for the completion of this CONTRACT according to the provisions and agreements herein.

7. If the STATE exercises this option, all costs and charges incurred by the STATE, together with the cost of completing the work under CONTRACT, will be deducted from any monies due or which may become due the CONSULTANT.

4.11 CANCELLATION OF STATE CONTRACTS

In accordance with Arizona Revised Statutes 38-511, the STATE may cancel any CONTRACT, without penalty or further obligation, made after the effective date of this section by the STATE or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating the CONTRACT on behalf of the STATE or any of its departments or agencies is, at any time while the CONTRACT or any extension of the CONTRACT is in effect, an employee of any other party to the CONTRACT in any capacity or a CONSULTANT to any other party of the CONTRACT with respect to the subject matter of the CONTRACT. The cancellation shall be effective when written notice from the STATE is received by all other parties to the CONTRACT unless the notice specifies a later time.

4.12 SUCCESSORS AND ASSIGNS

The CONSULTANT and all successors, executors, administrators and assigns of CONSULTANT'S interest in the work or the compensation herein provided shall be bound to the STATE to the full legal extent to which the CONSULTANT is bound with respect to each of the terms and agreements of this CONTRACT.

4.13 CONTINUING OBLIGATION

The CONSULTANT agrees that if because of death or any other occurrence it becomes impossible for any principal or employee of the CONSULTANT to render the services required under this CONTRACT, neither the CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, the STATE may terminate this CONTRACT if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect the CONSULTANT'S ability to satisfactorily complete the performance of this CONTRACT.

4.14 INSURANCE

1. Without limiting any liabilities or any other obligations of the CONSULTANT, the CONSULTANT shall provide and maintain the minimum insurance coverage listed below. Coverage will be provided with forms and insurers acceptable to ADOT and maintained at a minimum until obligations under this CONTRACT are satisfied.

a. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of one hundred thousand dollars ($100,000). Evidence of qualified self-insured status shall suffice for this section.

b. Architects' and Engineer's Professional Liability insurance in the amount of one million dollars ($1,000,000) each claim, with said coverage to remain in force and effect for a minimum of one year past ADOT's acceptance of the CONTRACT.

c. Comprehensive General Liability insurance with a minimum combined single limit of one million dollars ($1,000,000) each occurrence. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. Said policy shall contain a severability of interest clause.

d. Commercial Automobile Liability coverage with a combined single limit for bodily injury and property damage of not less than one million dollars ($1,000,000) for all owned, leased, hired and non-owned vehicles. The State of Arizona and the Arizona Department of Transportation must be named as Additional Insureds and Certificate Holder on the policy.

e. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports, or other similar data relating to the work of the CONSULTANT used in the completion of this CONTRACT.

f. The policy required by Sections c. and e. above shall be endorsed to include the STATE and ADOT, its agents and officials and employees as additional insureds and shall stipulate that the insurance afforded CONSULTANT shall be primary insurance and that any insurance carried by ADOT, its agents, officials or employees shall be excess and not contributory insurance to that provided by CONSULTANT.

g. A certificate of insurance acceptable to ADOT shall be issued to ADOT prior to commencement of the CONTRACT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to ADOT.

4.15 INDEMNIFICATION - RESPONSIBILITY FOR CLAIMS AND LIABILITIES

1. For Professional Liability

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

2. For Other than Professional Liability

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

4.16 ANTITRUST VIOLATIONS

The CONSULTANT and the STATE recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact borne by Purchaser or ultimate user: in this case, the STATE. Therefore, CONSULTANT, acting as a Vendor, hereby assigns to the STATE any and all claims for such overcharges.

4.17 LIQUIDATED DAMAGES

(This is an optional provision applied, on an exception basis, primarily to contracts initiated and administered by the Arizona Transportation Research Center - Not applicable to this contract)

4.18 CONSULTANT'S RESPONSIBILITY

The CONSULTANT has total responsibility for the accuracy and correctness of plans and related data prepared under the terms of this CONTRACT, and shall check all such material accordingly for completeness, missing items, correct multipliers and consistency. The plans will be reviewed by ADOT for conformity with ADOT procedures and contract terms. Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.

4.19 ACCURACY OF WORK

Acceptance of the work by the STATE will not relieve the CONSULTANT of the responsibility for subsequent correction of any such errors and the clarification of any ambiguities. The CONSULTANT shall make all necessary revisions or corrections resulting from errors and omissions on the part of the CONSULTANT without additional compensation.

4.20 CONSULTANT'S ENDORSEMENT OF PLANS, ETC.

The CONSULTANT'S seal shall be endorsed and affixed to plans, reports and engineering data furnished under this CONTRACT.

4.21 PROFESSIONAL CONDUCT

The CONSULTANT shall comply with the provisions of A.C.R.R.R4-30-301 (which is the official compilation of the Administrative Rules and Regulations for the State of Arizona), entitled Rules of Professional Conduct, Rules of the State Board of Technical Registration for Architects, Assayers, Engineers, Geologists, Landscape Architects and Land Surveyors, which are incorporated herein by reference and hereby made a part of the CONTRACT.

4.22 IMPROPER EXERCISE OF AUTHORITY

It is further understood and agreed that the CONSULTANT shall not in any way exercise any portion of the authority or powers of the State of Arizona, and shall not make a contract or commitment, or in any way represent itself as an agent of the State of Arizona beyond the scope of this CONTRACT unless expressly authorized, in writing, by the STATE.

4.23 CONFLICTS OF INTEREST

1. The CONSULTANT shall not engage the services on this CONTRACT of any present or former STATE employee who was involved as a decision maker in the selection or approval processes or who negotiated and/or approved billings or contract modifications for this CONTRACT.

2. The CONSULTANT agrees that no public or private interest exists and none shall be acquired directly or indirectly which would conflict in any manner with the performance of the CONTRACT.

4.24 ORGANIZATIONAL CONFLICTS OF INTEREST

1. No contract for the construction of a project shall be awarded to the firm that designed the project, or its subsidiaries, affiliates, the parent company or subconsultants, except with the written approval of the STATE.

2. The applicability of the above also applies to a Management and/or General Consultant or any of its subsidiaries, affiliates, the parent company or subconsultants that were involved in any aspect of the design process.

4.24.1 CONSULTANT - CONTRACTOR CONFLICTS OF INTEREST

The CONSULTANT agrees that it shall not perform services on this project for the contractor, sub-contractor or any supplier.

The CONSULTANT shall not negotiate, contract, or make any agreement with the contractor, subcontractor or any supplier with regard to any of the work under this project, or any services, equipment or facilities to be used on this project.

4.25 ORGANIZATION EMPLOYMENT DISCLAIMER

1. The CONTRACT is not intended to constitute, create, give to, or otherwise recognize a joint venture agreement or relationship, partnership, or formal business organization of any kind, and the rights and obligations of the parties shall be only those expressly set forth in the CONTRACT.

2. The parties agree that no persons supplied by the CONSULTANT in the performance of CONSULTANT's obligations under the CONTRACT are considered to be STATE employees, and that no rights of State civil service, retirement or personnel rules accrue to such persons. The CONSULTANT shall have total responsibility for all salaries, wages, bonuses, retirement, withholdings, workmen's compensation, occupational disease compensation, unemployment compensation, other employee benefits and all taxes and premiums appurtenant thereto concerning such persons, and shall save and hold the STATE harmless with respect thereto.

4.26 NONPROCUREMENT DEBARMENT AND SUSPENSION

1. In accordance with 49 CFR 29.505, and by signature on this CONTRACT, the CONSULTANT certifies its' compliance, and the compliance of any subconsultants or subcontractors present or future, by stating that any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position of authority involving Federal Funds:

   a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal Agency;

   b) does not have a proposed debarment pending;

   c) has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal Agency within the past 3 years; and

   d) has not been indicted, convicted, or had a civil judgment rendered against the firm by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years as specified by 49 CFR paragraph 29.305(a).

   Where the CONSULTANT or subconsultant is unable to certify to the statement in 4.26.1(a) above, the CONSULTANT or subconsultant will be declared ineligible to enter into CONTRACT or participate in the project.

   Where the CONSULTANT is unable to certify to any of the statements as listed in 4.26.1 (b), (c) or (d), the CONSULTANT shall submit a written explanation to the STATE. The certification or explanation will be considered in connection with the STATE's determination whether to enter into CONTRACT.

2. The CONSULTANT shall provide immediate written notice to the Department if at any time the CONSULTANT or any subconsultants or subcontractors, present or future, learn that its Debarment and Suspension certification has become erroneous by reason of changed circumstances.

4.27 COVENANT AGAINST CONTINGENT FEES

The CONSULTANT warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this CONTRACT, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this CONTRACT. For breach or violation of this warranty, the STATE shall have the right to annul this CONTRACT without liability, or in its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

4.28 SUBLETTING, ASSIGNMENTS AND TRANSFERS

The CONSULTANT firm was chosen to perform the work on this CONTRACT based upon training and qualifications of its members. Therefore, subletting, assignment or transfer of any work to subconsultants and lower tier subconsultants, unless approved in writing by the STATE prior to performance of work, is expressly prohibited.

4.29 SUBCONSULTANTS

1. The CONSULTANT may retain Subconsultants on an "as required" basis, provided that the Subconsultants selected, and the rates to be paid, are identified on each Subconsultant's DERIVATION OF COST PROPOSAL located in the SCOPE OF WORK section, Appendix D of the CONTRACT, or are approved by contract modification, or by Administrative Determination Letter, as applicable. All Subconsultants shall be required to follow the terms and conditions of this CONTRACT.

   a. Subconsultants' Compensation

      Each Subconsultant will be expected to follow covenants set forth in 3.02 2. unless the subcontract is considered a Lump Sum by Task (fixed price) subcontract and not a Costs Plus Fixed Fee subcontract. However, with respect to 3.02 2.b.(5), the Indirect Costs (Overhead) rates for each Subconsultant, when applicable, will be the actual allowable overhead rate or the Negotiated Provisional rate stipulated in each Subconsultant's final DERIVATION OF COST PROPOSAL, as concurred with by the STATE. Each Subconsultant's actual allowable overhead rate or the negotiated provisional Overhead rate is separately determined and may not be the same rate as stipulated for the CONSULTANT.

   b. CONSULTANT'S Responsibility Regarding Subconsultant's Costs

      The Subconsultant's allowable costs shall be governed by 3.02 2. The CONSULTANT shall monitor the billings received from the Subconsultants and ensure that all costs are documented and supported.

Regarding Indirect Costs (Overhead), the CONSULTANT is responsible for determining that the Subconsultants comply with 3.02 2.b.(6) with respect to the actual allowable or negotiated provisional Overhead rates. The Overhead rates for Subconsultants are "actual allowable" or "negotiated provisional", and must be accounted for annually. A Subconsultant may not bill more than its actual allowable Overhead rate or the negotiated provisional Overhead rate. In the event any Subconsultant violates this subsection, the penalties set forth in 3.02 2.b.(6)(a) will be assessed to the CONSULTANT.

All costs of the Subconsultants are subject to audit unless waived by the STATE. The cost to the STATE for Subconsultants shall be in amounts equal to the actual allowable costs paid to the Subconsultants.

2. The volume of work performed by the Subconsultants shall not exceed 49% of the total contract value unless waived by the STATE.

4.30 SUBCONTRACTS

The CONSULTANT agrees to insert in all subcontracts the clauses hereof entitled "Civil Rights," "Affirmative Action," "Ownership of Documents," "Patents and Copyrights", "Anti Lobbying and Disclosure," "Retention of Records" and "Immigration". The CONSULTANT further agrees to insert in any subcontract exceeding $100,000 the clause hereof entitled "Environmental Protection."

4.31 KEY PERSONNEL

Any substitution or transfer of personnel specifically identified in CONSULTANT'S proposal as assigned to the work of this CONTRACT shall be subject to prior written approval by the STATE.

4.32 EMPLOYMENT OF PERSONNEL OF PUBLIC AGENCIES

The CONSULTANT shall not engage the service of any person or persons then in the employ of the STATE for work covered by the terms of this CONTRACT without the prior written approval of the STATE.

4.33 ANTI-LOBBYING

1. The CONSULTANT agrees to comply with the provisions of Section 1352 of Title 31, U.S.Code (Public Law 101.121) as codified in Title 48, Federal Acquisition Regulations Subpart 3.8 and Subpart 52.203-11. The legislation prohibits federal funds from being expended by a recipient or any lower tier subrecipients of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence a Federal agency or Congress in connection with the award of any Federal contract, cooperative agreement, including the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement. All disclosure statements are to be furnished to the STATE.

2. The CONSULTANT agrees to require all subconsultants and lower tier subconsultants who have agreements exceeding $100,000 to complete the Certification of Federal Contracts (ECS Form 90-1) and, when appropriate, the Disclosure of Lobbying Activities (ECS Form 90-3) prior to execution of the Prime Consultants Agreement with the STATE. Lower tier certifications are to be maintained by the CONSULTANT.

4.34 OWNERSHIP OF DATA

1. The CONSULTANT agrees to maintain (in sufficient detail as will properly reflect all work done and results achieved in the performance of this CONTRACT) tracings, plans, specifications and maps, basic survey notes and sketches, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, computer programs and documentation thereof, and other graphic or written data generated in connection with the work called for in the CONTRACT; all such information and documentation to be termed "Data" under this CONTRACT.

2. All Data procured hereunder for the work funded by ADOT shall become the property of ADOT and delivered to ADOT upon request, and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE; provided however, that CONSULTANT shall not be required to retain any Data not requested by ADOT within five years from the date of final payment to the CONSULTANT hereunder; and provided further that until such delivery to ADOT the CONSULTANT agrees to permit representatives of ADOT and the Federal Highway Administration to examine and review at reasonable times all Data still in the possession of the CONSULTANT.

3. All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

4.35 ADOT PRODUCTS

ADOT will provide the consultant with the ADOT developed software for the sole purpose of completing this contract, as set forth in the Site License Contract (which includes a detailed list of Software that will be provided to the consultant). The software is provided to the consultant solely for the purpose of completing this contract and for no other purposes. ADOTdeveloped software including: manuals, electronic information, programs, and associated materials, remains the property of ADOT. Any use of this software for purposes other than the fulfillment of this contract is strictly prohibited. The consultant shall not copy the software or provide, distribute or demonstrate the software to other entities. Upon completion of the contract or when otherwise notified by ADOT, the contractor will return all software, backup copies, manuals, electronic information and associated materials to ADOT.

4.36 RETENTION OF RECORDS

1. The CONSULTANT and any subconsultant/subcontractor/vendor shall keep and maintain all books, papers, records, accounting records, files, accounts, reports, costs proposals with backup data and all other material relating to the CONTRACT and related project(s), and shall make all such material available at any reasonable time during the term of work on the CONTRACT and related project(s) and for five (5) years from the date of final payment to the CONSULTANT for auditing, inspection and copying upon the STATE'S request, or at the request of the Federal Highway Administration or any other authorized representative of the Federal Government.

2. The CONSULTANT shall insert in each of its subcontracts the above requirement and also a clause requiring its subconsultants to include the above requirement in any lower-tier subcontracts or purchase orders.

4.37 REVIEW AND INSPECTION

Representatives of the STATE and the Federal Highway Administration are authorized to review and inspect the CONTRACT activities and facilities during normal business hours.

4.38 PROPERTY OR EQUIPMENT

Except as otherwise provided in this CONTRACT, the lease, rental or purchase of property or equipment to perform the work herein described must have the prior written approval of the STATE. The control, utilization and disposition of property or equipment acquired using FEDERAL/STATE funds shall be determined by the STATE in accordance with the property management standards set forth in 49 CFR Part 18 , ADOT Manual - FIN 11.02, and Highways Division Policy and Implementation Memorandum No. 89-04.

4.39 CIVIL RIGHTS

1. The CONSULTANT is required to comply with Executive Order 75-5, "Non-discrimination in Employment by Government Contractors and Subcontractors," which is hereby included in its entirety by reference and considered a part of this CONTRACT.

2. The CONSULTANT is required to comply with Title VI of the Civil Rights Act of 1964, as amended. Accordingly, Title 49, Code of Federal Regulations, Part 21 through Appendix H and Title 23, CFR 710.405 (b) are made applicable by reference and are hereinafter considered a part of this CONTRACT.

3. The CONSULTANT is required to comply with the provisions of Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor Regulations (41-CFR Part 60). Said provisions are made applicable by reference and are hereinafter considered a part of this CONTRACT.

4. The CONSULTANT shall post in conspicuous places available to employees and applicants for employment, the following notice:

> It is the policy of this company not to discriminate against any employee, or applicant for employment, because of race, color, religion, creed, national origin, sex, age, handicapped, or disabled veterans and Vietnam era veterans. Such actions shall include, but are not limited to: employment, upgrading, demotion, transfer, recruitment, or recruitment advertising; laying-off or termination; rates of pay or other compensation; and selection for training, and on-the-job training. Also, it is the policy to insure and maintain a working environment free of harassment, intimidation and coercion.

4.40 AFFIRMATIVE ACTION

CONSULTANT shall take the following affirmative action steps with respect to securing supplies, equipment or services under the terms of this CONTRACT:

1. Include qualified firms owned by socially and economically disadvantaged individuals on solicitation lists.

2. Assure that firms owned by socially and economically disadvantaged individuals are solicited whenever they are potential sources.

3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by firms owned by socially and economically disadvantaged individuals.

4. Where the requirement permits, establishing delivery schedules which will encourage participation by firms owned by socially and economically disadvantaged individuals.

5. Use the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.

4.41 PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES

The CONSULTANT is required to adhere to the commitment made to participation by ADOT certified Disadvantaged Business Enterprises (DBE) as indicated in the firms Technical Proposal or subsequently agreed to by the STATE during negotiations. The STATE, at its discretion on a case by case basis, may waive the above limitations.

The CONSULTANT must submit the DBE Compliance Report to the Civil Rights Office by the 3rd Friday of each month. The report shall indicate the amount earned by and paid to each DBE working on the project for the preceding month.

4.42 ENVIRONMENTAL PROTECTION
(This clause is applicable if this contract exceeds $100,000.00. It applies to Federal Aid Contracts Only.)

CONSULTANT is required to comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857 (h), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15) which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations shall be reported to the Federal Highway Administration and to the U.S.E.P.A. Assistant Administrator for Enforcement. (EN-329).

4.43 ENERGY CONSERVATION
(This clause is applicable to Federal Aid Contracts Only.)

CONSULTANT is required to comply with mandatory standards and policies, as applicable, relating to energy efficiency which are contained in the State Energy Conservation Plan issued by the State of Arizona in compliance with the Energy Policy Conservation Act (P.L. 94-163).

4.44 PUBLICATION PROVISIONS

The CONSULTANT shall provide annual, quarterly or monthly written progress reports requested by the STATE. Prior to completion of the CONTRACT and related project(s), the CONSULTANT shall prepare a final report summarizing activities, conclusions, and recommendations in a form as prescribed by the STATE, and this report shall be a prerequisite for final payment. Publication rights to all reports are reserved by the STATE. The CONSULTANT shall not release information developed under the CONTRACT prior to publication, except upon written approval of the STATE.

4.45 PUBLICATION PROVISIONS (RESEARCH AND UNIVERSITIES)
(Not applicable to this contract)

4.46 PATENTS AND COPYRIGHTS

All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

4.47 PATENTS AND COPYRIGHTS (RESEARCH AND UNIVERSITIES)
(Not applicable to this contract)

4.48 FEDERAL IMMIGRATION AND NATIONALITY ACT:

1. General: The consultant, including all subconsultant, shall comply with all federal, state and local immigration laws and regulations, as set forth in Arizona Executive Order 2005-30, relating to the immigration status of their employees who perform services on the contract during the duration of the contract. The State shall retain the right to perform random audits of consultant and subconsultant records or to inspect papers of any employee thereof to ensure compliance.

2. Compliance Requirements: By submission of a proposal, the consultant warrants that the consultant and all proposed subconsultants are and shall remain in compliance with all federal, state and local immigration laws and regulations relating to the immigration status of their employees who perform services on the contract. The State may, at its sole discretion, require evidence of compliance from the consultant shall have ten working days from the receipt of the request to supply adequate information.

   The Department will accept, as evidence of compliance, a showing by the consultant or subconsultant that it has followed the employment verification provisions of the Federal Immigration and Nationality Act as set forth in Sections 274A and 274B of that Act, including implementation of regulations and agreements between the Department of Homeland Security and the Social Security Administration's verification service.

   The Consultant shall include the provisions of Subsection 4.30 in all its subcontracts.

3. Sanctions for Non-Compliance: Failure to comply with the immigration laws or to submit proof of compliance constitutes a material breach of contract. The Department will reduce the consultant's compensation by $10,000 for the initial instance of non-compliance by the consultant or subconsultant. Should the same consultant or subconsultant commit subsequent violations within a two-year time period from the initial violation, the consultant's compensation will be reduced by $50,000 for each violation. The third instance by the same consultant or subconsultant within a two-year period may result, in addition to the $50,000 reduction in compensation, in removal of the offending consultant or subconsultant, suspension of work in whole or in part or, in the case of a third violation by the consultant, termination of the contract for default. In addition, the Department may debar a consultant or subconsultant who has committed three violations within a two-year period for up to one year. For purposes of this paragraph, a violation by a subconsultant does not count as a violation by the consultant.

   Any delay resulting from a sanction under this subsection is a non-excusable delay. The consultant is not entitled to any compensation or extension of time for any delays or additional costs resulting from a sanction under this subsection.

An example of the sanctions under this subsection is presented in the following table:

Offense by:			Reduction in Compensation
Consultant	Subconsultant A	Subconsultant B	
First			$10,000
	First		$10,000
	Second		$50,000
		First	$10,000
	Third		$50,000 *
* May, in addition, result in removal of the subconsultant and/or debarment of the subconsultant.			

In Witness whereof the parties hereto have executed this agreement as of the day and year first herein written.

FOR THE STATE

ARIZONA DEPARTMENT OF TRANSPORTATION

_____
Date

By:_____

_____
Title

FOR THE CONSULTANT

FIRM NAME

_____
Date

By:_____

_____
Title