

ARIZONA DEPARTMENT OF TRANSPORTATION

OFFICE MEMO

DRAFT

January 28, 2002

TO: ROADWAY PREDESIGN PERSONNEL

**FROM: HERMAN H. MOZART
MANAGER
PREDESIGN PROGRAM MANAGEMENT SECTION**

SUBJECT: PROJECT ASSESSMENT/SCOPING LETTER/DCR GUIDE

The attached revised guide is provided to you to use when developing a Scoping Document on a project that has been assigned to you. The guide begins with the assignment of the project and ends with the Records Tech transmitting the project file to the Project Manager.

PA/SL GUIDE (IN-HOUSE)

After project has been assigned:

A. OBTAIN DATA:

- See Records Tech for active project number.
- See Records Tech for Project Manager. If no PM is assigned, you act as PM until scoping document is completed.
- Check to see if a PA/SL/FR or DCR/CS has been prepared.
- Obtain "As-Built". (Listing from Control Desk or As-Builts from Eng. Records)
- Obtain Problem Statement from Transportation Planning (A. Burnham, some are available in this office). For Pavement Preservation project see Manager for computer printout of proposed work.
- Request pavement structural data from Pavement Design (Jim Demaree) for other projects.
- Check Corridor Study/Small Area Study, Corridor Profiles and State Highway System Plan 1990 for future/proposed project(s) or typical section. (Most Corridor Studies\Profiles are available in this office or check with TPD.)
- Check for projects in the area. (Five-Year Plans, Corridor Studies, etc.)
- Obtain ADT and K, D, and T factors from Transportation Planning. (Joe Flaherty)
- Include ramps & crossroads for TI's (if required because of extensive work on TI).
- Obtain Accident data from Traffic HES Section.
- Submit Bridge Evaluation sheet to Bridge Management Section, if project has bridge within its limits (not CBC) (Jean Nehme). A multi-barrel box culvert (bridge culvert) with a structure number and/or bridge barrier has to be submitted to structures for evaluation.
- Obtain R/W ownership (general) for proposed limits (Sam Andrea in R/W is your contact).
- Complete preliminary estimate to compare project cost with programmed amount if project is presently programmed.

B. AASHTO CONTROLLING DESIGN CRITERIA:

- Determine if project will utilize "Procedural Guide"; If yes
- Fill out the AASHTO Criteria Report
- Include ramps and crossroads for TI's (if required)

B. AASHTO CONTROLLING DESIGN CRITERIA: (continued)

- If design exception is needed, send AASHTO Criteria Report to Traffic Design for accident analysis (Tech will run memo to distribute for analysis)
- If DCR is required, may have to wait until Initial DCR is completed to request DE's.
- Send AASHTO Criteria Report to FHWA Area Engineer (Tech has memo to distribute), if Federal-aid (and administered under OPA cat. A) job as soon as possible

C. FIELD REVIEW

- Schedule field review (provide a minimum of two weeks of notice time)
- Invite the following to field review:
 - District (District Engineer and/or Development TES Maintenance Engineer)
 - Requestor of project (if other than District) (Pavement Preservations are done by Pavement Design Section.)
 - Project Manager
 - Involved Sections (Environmental, R/W, Utilities, Materials, Roadway Support, Roadside, Bridge, Transportation Planning ,etc.)
 - Traffic (Central and Regional) ask for any problems they may be aware of
 - FHWA (if Federal-aid and not OPA cat P); (Usually Area Engineer)
 - Local Forest Ranger (if in National Forest allow three week notice)
 - If project is on N.F. land the Roadside and Environmental rep should attend.
 - At field review determine level of environmental effort that is required by F.S.
 - National Monument or Park representative (if within limits)
 - City Representative (if within City limits) (if abutts city limits)
 - County (if project affects their roadways)
 - Indian and BIA Representative (if on a Reservation)
 - Utilities if there is any MAJOR Railroad and/or Utility involvement.
- Prepare field review notice and distribute (Tech to distribute or E-mail with cc to Tech; include copy of Project Scoping Request.)

C. FIELD REVIEW (continued)

- Video tape project
 - Obtain tape from Records Tech and, after field review is completed, return video to Records Tech to assign a number
 - Video in both directions
 - Video all major points of interest such as culverts/pipe to be extended, cut and embankment flattening, any features that could affect the PA.
 - Video taping is done at a slow vehicle speed while riding on the shoulder. Don't tape the project at a high speed.
- Discuss design exception requirements with FHWA Representative (if Cat. A)
- Discuss extent of safety work vs programmed amount.
 - If programmed scope of work is changed, who submits RPC?
 - If project programmed amount is underfunded, who decides on course of action. Again, who submits RPC?
- Prepare minutes of field review for distribution (Tech will distribute)

D. INITIAL PROJECT ASSESSMENT (for Scoping Letter there will be a draft prepared and transmitted to only involved sections):

- Write Initial PA with detailed estimate
- Supervisor will review & Program Manager will approve and Records Tech distribute.
- Distribute Initial PA (include City, Forest, BLM, Parks, Bureau of Indian Affairs or Indian Representative, if within their limits)
- Review comments from Initial PA. Check with Records Tech if all comments have not been received.
- Hold Consensus meeting if major differences arise.

E. SUBMIT RECOMMENDED PROJECT CHANGE

- Submit for funding if 15% or 200,000 (whichever is lesser) over the programmed amount, or major change in scope or limits.
- Coordinate RPC with Project Manager, District and major involved Services. If PM wants to submit, he will do all the paper work. If not, you will submit .
- RPC must be reviewed by Section Manager before submitting to and PRB
- Record Tech needs copy of RPC for file.

F. WRITE DESIGN EXCEPTION (if needed)

Design Exception for State funded and federal aid OPA (Cat. B&P) projects are requested through the Assistant State Engineer of Roadway Group. Federal aid project which are Category A are requested through FHWA.

1. If Federal-aid, which are Category A under OPA:
 - AASHTO criteria has to be reviewed by FHWA
 - Formal letter to FHWA from Manager of Program Section
2. If State or Category P or B under OPA:
 - Formal letter to ASE of Roadway Group from Manager of Program Section
3. Tech to distribute letter and file after approval has been given.
4. Please note - When a design exception(s) is required, a design exception letter or memo is always written to either FHWA or the ASE of the Roadway Group. Also note that if a project is 100% State funded and needs a DE, that request is made to the ASE of Roadway Group. If bridge DE is required, then the Bridge Group ASE must sign.

G. PREPARE SUMMARY OF COMMENTS (No summary is prepared for SL)

- If an RPC was submitted, the RPC should be processed by the PRB prior to distribution of the SOC. It is a good idea to state the results of the RPC at the beginning of the SOC. This usually helps in answering some of the comments received on the Initial PA, as you will not have to respond to these comments but rather refer them to your statement.
- If a comment resolution meeting was held, issue(s) and resolution(s) will be stated, usually under your name at the beginning of the SOC.
- Manager will review
- Manager will sign and Records Tech distribute

H. FINAL PROJECT ASSESSMENT/SCOPING LETTER:

- Revise Initial as per comments and resolution of consensus meeting and RPC.
- Tech to fill out Project Determination (PD) form and distribution memo for review by designer
- Manager will review
- Transmit Draft Final PA to Forest Service for their concurrence (Tech to prepare transmittal letter; if concurrence is not back by due date, Tech will prepare second request which goes to the district ranger and if still no response then designer will call district ranger)

- Submit Final with P.D., Summary of Comments, Forest Service concurrence, for approval; Records Tech will prepare package for Manager review

H. FINAL PROJECT ASSESSMENT/SCOPING LETTER: (continued)

- After approval of Final PA, distribute Final with PD (include City, etc.) by Records Tech.
- Tech will send PD only to Federal Aid & Receivable Services and Resource Management Group

I. PROJECT CORRESPONDENCE FILE:

- After Final Project Assessment is distributed, turn project work file into Tech to transmit to PM (be sure to include as-builts and comments received from IPA)
- Predesign project file will include the following:
 - AASHTO Criteria Report
 - FHWA response to Criteria Report
 - Initial Project Assessment/Draft Scoping Letter (original)
 - Recommended Project Change
 - Design Exception to FHWA
 - Summary of Comments (original)
 - Approved Final Project Assessment/Scoping Letter with Project Determination (original)
 - Forest Service concurrence letter and response
 - FHWA response to the Initial PA, Design Exception, & Final PA (original)
 - Correspondence with outside agencies
 - Letter of Transmittal
 - Copies of appropriate e-mail
 - Copy of the PRB form, if applicable
- Records Tech will transmit project file to Project Manager either now if project is programmed or wait until PM is assigned.

PA/SL GUIDE FOR ON-CALL CONSULTANTS

After project has been assigned:

A: Obtain On-Call Consultant

- See Records Tech for active project number (SID number).
- See Records Tech for Project Manager and Scoping request
- Check to see if a PA/SL or DCR has previously been prepared
- Prepare Task Order/Scope of Work for on-call consultant (see John Gravelle for which consultant is available or has funds to prepare document) (Task order may be prepared after field review if scoping request is unclear)
- Task Order/Scope should have project location, type of work to be done and type of documentation etc. (See John Gravelle for example).
- On-call consultant manager reviews and approves cost proposal; monitor reviews schedule and approves (monitor to review schedule monthly with consultant)
- On-call consultant manager(John Gravelle) provides authorization to Records Clerk so she can obtain TRACS number for consultant; also provide copy of Notice to Proceed to ECS and PPMS.

B: Field Review

- Consultant to contact originator of project, investigate the problem and prepare field review notice. (If project on Forest Service determine type of report to use).
- The Project Monitor then reviews the field review notice (see PA/SL Guide In-house for participants), approves notice and has consultant distribute with cc to Tech or have Tech distribute. Notice should include where, when and project work
- Have consultant prepare preliminary AASHTO report (if required; ensure that a bridge evaluation is included) and accident & traffic data and all pertinent data required for the field review (includes as-build plans)
- Project Monitor facilitates field review (consultant to video tape project)
- Project Monitor reviews field review minutes and has consultant distribute with “cc” to Records Tech or Tech distributes

C. Consultant to prepare all supplemental reports as per Task Order

- Project Monitor and Manager Review reports and have consultant revise accordingly.
- Tech to transmit report to involved Service (Traffic report to Traffic Group and Regional Traffic Engineer, Drainage Report to Drainage etc.)
- Consultant will revise and approved report to be transmitted to involved Service and file by Record Tech.
- Review AASHTO Criteria report (if required); monitor to request accident analysis thru Record Tech
- Transmit AASHTO report to Traffic if DE is required

D. Initial PA (For Scoping Letter there will be a Draft prepared)

- Review IPA/DSL prepared by consultant
 - Manager will approve and Records Tech will distribute (Draft SL transmitted to involved parties only)
 - Review comments from IPA/DSL and transmit to consultant for preparation of SOC.
 - Hold consensus meeting if major differences arise; consultant prepares meeting minutes , monitor approves and Record Tech distributes
- E. Submit Recommended Project Change (RPC) (for programmed projects)
- Submit RPC if estimated cost is 15% or \$200,000 (whichever is lesser) over programmed amount or major change in scope or limits.
 - Coordinate RPC with PM, District and fund manager(if known) who will submit RPC; if no PM then monitor will submit
 - Records Tech needs copy of PPC for file
- F. Prepare Summary of Comments (SOC) (No SOC is prepared for a SL)
- If RPC was submitted, the RPC must have been processed by the Project Review Board (PRB) prior to preparing the SOC; also stated results of PRB at beginning of SOC.
 - If consensus meeting was held, issue(s) and resolution(s) will be stated at the beginning of the SOC.
 - Monitor review SOC
 - Manager approves for distribution
 - Records Tech will distribute
- G. Design Exception (DE) (if required)(DE may be required prior to IPA if there is a deviation in ADOT Design Guidelines.)
- Consultant prepares design exception letter and monitors reviews
 - For State funded and OPA Category P & B projects, DE's are requested through the Assistant State Engineer (ASE) of Roadway Group.
 - For Federal-aid Category A, the DE's are requested through FHWA.
 - Formal letter from Consultant thru Manager of Program Section
- H. Final PA/SL
- Consultant to revise IPA as per comments, consensus meeting and PPC; monitor reviews.
 - Manager approves for distribution
 - Records Tech transmits FPA/SL to Forest Service for concurrence if on forest service land.
 - Records Tech prepares Project Determination form and distributes for approval.
 - After approval of FPA/SL, Records Tech distributes.
- I. Project File

- When notified the Consultant to submit project file to Records Tech.
- Records Tech to filter file and transmit file to PM and keep originals as per in-house guide.

STUDIES GUIDE

After project has been assigned:

A: Obtain consultant for preparation of Design Concept Report (DCR) or Location Design Concept Report (L/DCR) see Records Tech (RT) for TRACS number and Project Manager)

- Check to see if Project Assessment/Scoping Letter (PA/SL) or other report has been prepared.
- Determine if on-call or design consultant is to be used (if on-call, cost cannot exceed 200,000)
- If on-call, prepare Task Order (see John Gravelle for example)
- Monitor reviews consultant cost proposal and on-call manager approves for distribution to Engineering Consultant Section (ECS)
- On-call manager provides authorization to Records Clerk for TRACS number for consultant; also provides copy to ECS and Program & Project Management Section (PPMS).
- If design consultant, prepare Scope of Work (SOW) and have SOW reviewed by involved sections
- Transmit SOW to ECS for printing of Request for Proposal (RFP)
- After proposals have been submitted, ECS requests team to evaluate proposals.
- A consultant is selected and he submits his cost proposal - monitor reviews and approves and authorization letter is submitted to ECS and Records Tech who will get TRACS number for consultant.

B. Prepare Initial Reports

- Consultant obtains data (as-builts, accident data, etc.) and contacts originator of project
- Consultants hold field review and/or agency scoping meeting; may also require a public information meeting (Minimum 3 weeks for field review notice)
- Consultant prepares supplemental reports as per SOW (traffic, drainage, etc.)

B. Prepare Initial Reports (continued)

- Monitor reviews reports and transmit to section involved (traffic report to Traffic & Regional Traffic, Drainage to Drainage Section, etc.)
 - Consultant revises report, monitor approves and Records Tech distributes
 - Consultant prepares typical section and design criteria, monitor reviews and transmit to Predesign Program Manager (PPM) for review; if design exceptions are required with respect to typical section or design criteria, the request must be submitted now to John Louis on consultant letterhead.
 - Consultant prepare Alternate Selection Report (if required), monitor and Predesign Program Manager reviews; consultant revises and RT distributes
 - Consultant prepares initial DCR/LDCR and Environmental document (if required)
 - Monitor has progress meeting(s) with consultant; keep Project Manager (PM) and District informed Monitor reviews initial documents and provides copy of DCR or L/DCR; environmental document reviewed by monitor and EPG
 - Consultants revise initial documents and RT distributes documents for review
 - Consultant prepares Summary of Comments (SOC) and monitor & PPM review; consultant revises SOC and RT distributes or consultants holds resolution meeting and they prepare minutes of meeting; monitor reviews; RT distributes
 - Hold Public Hearing if required
 - Consultant prepare final documents then monitor and manager review; PPM reviews DCR/LDCR; environmental gets transmitted to EPG; consultant revises documents; RT submits final DCR/LDCR for approval and EPG submits final environmental document for approval.
- If Change of Access Report is required, consultants prepare document; monitor and manager review; consultants revise. Revised document transmitted to FHWA for approval.
- Consultant transmit file to RT who will filter and transmit to PM

g/predesign/herman/prdguids

**ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

**REPORT DEVELOPMENT GUIDE
FOR
CONSULTANTS**

June 2002

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INTRODUCTION

This document is a supplement to the Scope of Work for the Roadway Pre-Design On-Call Consultant Contract. Originally this data was part of the scope of work; however, it was best to incorporate it into a guide. The Scope of Work is intended to be general, so changes in ADOT's Procedures and Organization will not substantially affect it.

As part of the On-Call Contract, the Consultant will be asked to prepare three types of documents – Scoping Letter (SL), Project Assessments (PA's) and Design Concept Reports (DCR's). All reports developed by the Consultant shall conform to specific formats and include certain data identified by the Roadway Pre-Design On-Call Monitor (POM). In general SL's and PA's shall conform to ADOT Policy and Implementation Memorandum 88-2, and DCR's shall conform to ADOT Policy and Implementation Memorandum 89-5 (see appendices).

The Consultant may also be asked to conform to formats shown in special templates or example reports provided by the POM. The Consultant shall follow the exact order and provide all data as shown in the guide, example, or template in force at the time. It is important to be consistent in the presentation of data and format used, so readers of the reports will not be confused.

The Consultant shall request the POM to resolve any conflicts between the Memorandums, Scope of Work, Templates, or Example Reports. The POM shall review all reports at different stages of completion and, if directed, the Consultant shall revise the reports to bring them into conformance with the formats and data requirements specified.

The remainder of this guide describes the report formats, data requirements, development procedures, and supplemental activities the Consultant will be involved in during development of these two types of reports. The Consultant may be asked to develop supplemental reports, such as Change of Access, Traffic Studies or Drainage Reports; however, these documents are described in the Scope of Work and will not be addressed in this guide.

ADOT Procedures are continually evolving, and the procedures formats and data requirements described in this guide are subject to change. This document should be considered a guide only and not a standard.

FORMAT AND DEVELOPMENT PROCEDURES FOR PROJECT ASSESSMENT REPORTS

Format and Data Requirements for Project Assessment and Scoping Letter Reports

A. Cover Sheet

All PA's shall have a Cover Sheet. The following information shall be included on the Cover Sheet:

1. The Transportation Accounting System (TRACS) Project **Construction** Number shall be listed. If a TRACS Number is not available, a partial number will be listed such as the following: 180 CO 215 H __ 01 C. The POM will provide the project numbers for all projects.
2. The Federal Reference Project Number shall be listed. If a Federal Aid Number is not available, a partial number will be listed. All numbers will be provided by the POM.
3. The name of the highway section
4. The name of the project
5. The route number of the highway
6. The words "INITIAL PROJECT ASSESSMENT" or "FINAL PROJECT ASSESSMENT"; "DRAFT SCOPING LETTER or FINAL SCOPING LETTER"
7. The words "Prepared for the ARIZONA DEPARTMENT OF TRANSPORTATION by [name of Consultant firm]"

B. Introduction Section

All reports shall have an Introduction Section. The following information shall be included in the section:

1. The TRACS and Federal Reference Project Numbers
2. The name of the project
3. The **programmed** milepost limits of the project shall be specified. These limits may or may not be the same as the actual construction limits proposed for the project. The actual limits of the project will be specified in the Scope Section of the report.
4. The type of project (ADOT Program Category)
5. The route number of the highway

6. The name of the town or city the project is located in (or the names of the two nearest towns or major features the project is located between)

7. The name of the county the project is located in
8. The ADOT District the project is located in
9. The current programming status of the project shall be stated. If a project is listed in the ADOT Five-Year Transportation Facilities Construction Program, the following program information shall be included: the item number, year of advertisement, type of funding, and the programmed budget. If not programmed, state so.
10. The standard AASHTO classification of the existing highway (minor or major collector, minor or major arterial, interstate, etc.)
11. A brief narrative shall be included concerning the purpose of the project.

C. Background Section

All reports shall have a Background Section. The following information shall be included in the section:

1. A listing of the original and subsequent construction projects that incorporated all or part of the project segment. The project numbers and the year each project was constructed shall be included in the list.
2. A description of the surrounding terrain and corridor
3. The posted speeds within the improvement section shall be listed. If there are multiple posted speeds, each speed and its associated milepost limits shall be listed.
4. The Construction and Design Year Traffic Volumes (ADT's), Peak Hour Factor (K), Distribution Factor (D), and Percent Trucks (T)
5. The total number of accidents within the improvement section during the last five years shall be listed. The starting and ending dates of the five year period shall also be noted. The total number of injury accidents and accidents resulting in deaths shall be listed.
6. The total number of major structures and underpasses within the improvement section shall be listed. Any irrigation ditches, storm drains, or other hydraulic conveyances within or adjacent to the improvement section shall be identified and listed. The names of any organizations that control/administer water delivery systems within the improvement section (such as a local water user group) shall be identified.
7. The name and characteristics of the surrounding watershed(s) shall be included. The existing drainage system within the improvement section shall be briefly described, and any outfalls shall be identified. Any drainage studies that have been developed for the improvement section or the local governing jurisdictions shall be identified.
8. The existing right-of-way within the improvement section shall be described. The minimum and maximum widths of the right-of-way shall be noted. If

utility relocation is anticipated, the type of right-of-way, easement or deed, shall be identified. Any special use permits or highway easement deeds granted to ADOT by the US Forest Service or other government agencies shall be identified. Also, the type of ownership of the surrounding land - private, US Forest Service, Indian Reservation, or other - shall be listed.

9. Any potentially hazardous sites (abandoned gas stations, printing plants, industrial enterprises, medical facilities, etc.) within or adjacent to the improvement section shall be identified and described.
10. Any utilities and railroad crossings within the improvement section shall be identified and described.

D. Project Scope Section

All reports shall have a Project Scope Section. The following information shall be included in the section:

1. A complete description of the proposed improvements or additions.
2. A description of the proposed highway cross section - number of lanes, lane widths, median width, shoulder widths, etc.
3. A description of the proposed paving improvement shall be included: mill and replace; overlay; seal & crack/overlay; the type of the surface course; the type of base and sub-base courses; the type of surface treatments; and the type of any special shoulder construction. The ADOT Materials Section shall, upon request, provide the preliminary pavement section to the Consultant.
4. The type of striping and pavement markers proposed shall be identified. In addition, the party (the District or Contractor) responsible for applying the striping and installing the markers will be identified.
5. The project termini, including a description of the transitions or tie-ins to any past or future projects, shall be described. The exact mileposts of the project termini shall be determined and listed. These limits may or may not be the same as the **programmed** limits listed in the Introduction Section. The limits listed in this section are the **actual** construction limits proposed for the project.
6. Any proposed signing improvements, whether they be new or reconstructed.
7. A description of any proposed detours, or temporary transitions to adjacent projects
8. Any proposed new or reconstructed drainage and irrigation facilities (culverts, bridges, storm drains, ditches, bank treatments, scour protection, etc.) shall be described. If a drainage study is needed to develop the drainage concept for a project, this fact shall be noted, and the reasons for the study shall be described under section "E".
9. A description of the type and quantity of earthwork required for the project

10. All proposed safety improvements (elimination/reconstruction of guardrail, slope flattening, culvert extensions, bridge rail replacement, hazard removal, etc.) shall be described
11. Any proposed intersection improvements (signal reconstruction, phasing, controls, etc.) shall be described.
12. Any proposed geometric improvements (curve reconstruction, widening, realignment, etc.) shall be fully described. The new geometry will be specified in a sketch. The sketch will include: A north arrow, the existing geometry (dashed line), the new geometry (solid line), curve data, grades, dimensions, centerlines, etc. If certain features are to be upgraded to meet current AASHTO Criteria, a description of the improvements shall be included.

E. Development Section

All PA's shall have a Development Section. The following information shall be included in the section:

1. If a DCR is needed to further develop the scope of a project, this fact shall be noted. The alternatives to be considered and issues to be resolved in the DCR shall be discussed.
2. If an Environmental Study or Public Hearing is required, this fact shall be noted. If the consultant has visually identified **potential** hazardous waste sites within or adjacent to the project right-of-way, these sites shall be described. If project construction activities (clearing, grading, excavation, etc.) will disturb more than 1 acres of land area, a National Pollutant Discharge Elimination System (NPDES) Permit will be required or if a Storm Water Pollution Prevention Plan (SWPPP) is required. If the project is in a non-attainment area. Whether a 401 or 404 permit is needed.
3. All public and private groups, agencies, or others affected by a project, shall be identified. A project's specific impact on each group shall be described.
4. If new right-of-way will be needed for a project, this fact shall be noted. The amount of new right-of-way (in acres) shall be specified, or if a TCE is required. If no R/W or TCE is required, state so.
5. If certain utilities will be relocated or reconstructed, these utilities and their associated impacts shall be identified and described.
6. If design exceptions are to be requested, the exceptions shall be identified and described. If the project is state funded (or to be administered under Operating Partnership Procedures), the ADOT Assistant State Engineer (Roadway Group) shall be requested to approve the exceptions, and supporting reasons will be included with the request (the request is made via a letter separate from the report). If the project is federally funded and is administered under Operating Partnership Procedures, Category N or X design exceptions will be requested from the FHWA in a separate letter;

however, this fact shall be noted in the PA. Also the design speed should be noted.

F. Other Requirements Section

All PA's shall have an "Other Requirements" Section. The following information shall be included in the section:

1. If the project is not listed in the ADOT Five Year Program, this fact shall be noted.
2. If the project is listed in the Five-Year Program, the program year and type of funding shall be stated.
3. If the project has been scheduled by PCEM, the schedule model and advertisement date shall be identified. If the project has not been scheduled, this fact shall be noted.
4. The responsible design party (ADOT or Design Consultant) shall be identified. The design and construction durations and the month the District wants to advertise or contract.
5. If the schedule has to be adjusted to allow for delays not originally perceived, these delays shall be noted and discussed. Such delays include additional time for utilities/railroad coordination, traffic involvement, seasonal (recreation, elevation, irrigation) conflicts, etc.

G. Estimated Cost Section

All PA's shall have an Estimated Cost Section. The following information shall be included in the section:

1. Any special assumptions or basis used for a cost estimate shall be described and explained. The thicknesses of the paving materials proposed for a project shall be noted.
2. The reference used to obtain the unit costs for an estimate shall be noted (this is usually the latest edition of ADOT's publication entitled "Construction Costs").
3. A summary of the itemized cost estimate shall be included. If applicable to a project, the costs are summarized into four categories: Preliminary Engineering (used if design will be performed by a consultant), Right-of-Way (used if new right-of-way will be purchased), utilities and Construction.

H. Action Required Section

All PA's shall have an "Action Required by the Priority Planning Action Committee" Section (PPAC). This section includes a list of the actions that must be requested and approved by the ADOT PPAC). The PPAC may or may not approve these actions. If a request for action is denied, the scope of the project may be subject to change. One or more of the following actions may be requested:

1. Program and/or fund design
2. Program and/or fund construction
3. Program and/or fund right-of-way
4. Increase the funding for a project - requested when the project estimate exceeds 15% or \$200,000 (whichever is lesser) of the programmed budget
5. Delete the project from the Five Year Program
6. Change the Advertisement Date of a project to another fiscal year

Before requests of this nature can be proposed to the PPAC, they must first be reviewed and approved by the ADOT Project Review Board (PRB). If the PRB approves a request, and the action is pending before the PPAC, this fact will be noted.

I. Service Involvement Sheet

All PA's shall have a Service Involvement Sheet. On request, the POM shall provide the Consultant with an example Service Involvement Sheet. A Service Involvement Sheet is a table that lists each of the involved parties and the type of involvement they have with the project. The following information shall be included on the Service Involvement Sheet:

1. The sheet shall have eight columns, and the first column shall have the heading "Field Review". If a listed party attends the field review, an X shall be placed in this column.
2. The second column shall have the heading "Contact". If a listed party has been contacted concerning the project, an X shall be placed in this column.
3. The third column shall have the heading "Service Involvement". The name of an involved party's affiliation (Forest Service, ADOT Location Services, etc.) shall be listed in this column, not the name of an individual.
4. The fourth through the seventh columns shall have the headings "Significant", "Minimum", "None", and "Unknown" respectively. An X shall be placed in the column best describing the degree of involvement of a listed party.
5. The eighth column shall have the following heading: "Comments - Identifying issues which make involvement significant or minimal." The type of involvement of each listed party, shall be briefly described in this column. For example, if Location Services will be responsible for performing a survey for the project, the following will appear in the column: "Location Survey required."

J. Itemized Cost Estimate

All PA's shall have an Itemized Cost Estimate. The following information shall be included in the estimate:

1. The estimate shall be in the format of a table with five columns. The columns will have the following headings: "Item", "Unit", "Quantity", "Unit Price", and "Amount".
2. Pay items applicable to the project will be listed in the "Item" Column. Pay items will be taken from the current edition of the ADOT "Construction Costs" Publication. For pavement preservation projects, pay items are grouped under two categories: Pavement and Safety. Examples of the different types of cost estimates will be provided by the POM.
3. The ADOT standard unit of measure for each pay item shall be listed in the "Unit" Column. The standard unit of measure for a pay item is listed in the ADOT "Construction Costs" Publication. Also, the ADOT Publication entitled "Standard Specifications for Road and Bridge Construction" can be used to determine how a pay item is measured.
4. The estimated quantities for each pay item shall be listed in the "Quantity" Column.
5. The unit price for each pay item shall be listed in the "Unit Price" Column. The unit price used shall be based on a sampling of previous construction projects located in the general vicinity of the project. This information can be obtained from the ADOT "Construction Costs" Publication or from the ADOT "Bid Tabs". A copy of the "Bid Tabs" can be viewed at the Advance Engineering Services Office.
6. The product of the "Unit Price" and "Quantity" for each pay item shall be listed in the "Amount" Column.
7. Subtotals shall be calculated and listed at several intervals within the estimate. The POM shall provide an example of an itemized cost estimate showing the proper subtotals.
8. The total itemized cost shall be listed at the bottom of the estimate.

K. Vicinity Map

A project Vicinity Map shall be included with a PA to help clarify the project concept. The 8.5" x 11" map shall be reproduced from a portion of an ADOT County Atlas Map (can be obtained from ADOT Engineering Records). The beginning and ending milepost limits shall be indicated on the map. If requested, the POM will provide the Consultant with an example of such a map.

Development Procedures for Project Assessment Reports

A. Assignment of Task

The POM shall assign a Consultant a project by requesting, in writing, a cost proposal. The request will include the Task Order Scope for the project. Upon receipt of the request, the Consultant shall prepare and submit a cost proposal for preparing the report and associated documents. Once the cost proposal is negotiated and approved, the POM shall send an authorization letter to the Consultant notifying the firm to begin work and who will be the monitor for the project.

B. Obtain Project Data

The Consultant shall search for and obtain all available data for an assigned project including the following:

1. The Consultant shall obtain all "As-Built" Drawings and maps for the project from ADOT Engineering Records (1655 W. Jackson, Rm. 112F, Phoenix, Arizona, 85007). Copies of As-Built are free to Consultants under contract to ADOT. Consultants under contract can obtain up to two free copies of maps, specifications, and other types of documents from Engineering Records. The Consultant shall obtain existing right-of-way maps and plans from ADOT Right-of-way Plans Services (205 S. 17th Ave, Rm. 354E, Phoenix, Arizona, 85007).
2. The Consultant shall obtain the following project information: programming data (from current ADOT Five-Year Highway Construction Program); milepost/station data (from ADOT Milepost or System Log); and bridge data (from ADOT Bridge Record). The Consultant shall obtain other available structural information from ADOT Bridge Operation Services (205 S. 17th Ave, Rm. 280E, Phoenix, Arizona, 85007).
3. The Consultant shall obtain Traffic Data from the ADOT Priority Programming Section - Travel and Facilities Branch (206 S. 17th Ave., Rm. 320B, Phoenix Az. 85007).
4. The Consultant shall obtain Accident History Data from the ADOT Traffic Design (2828 N. Central Ave ste#900 85034 MD 061R,).
5. The Consultant shall contact any ADOT sections necessary to obtain available information. The Consultant shall record all pertinent verbal communications.

C. Field Review

The Consultant shall organize a field review for the project. A field review is a meeting of all the involved parties, and the meeting is held at the project site. The Consultant shall describe the project to the involved parties and "drive" the project with them. For this reason, it is preferable to use a large van for the review of the project.

In some cases the POM shall provide and drive a van to the field review; however, in most cases, the POM shall direct the Consultant to provide a van and transport any of the involved parties needing transportation to and from the

project site. Some of the involved parties may elect to meet the Consultant at the site.

The Consultant shall prepare a letter of invitation and list of the involved parties to be invited to the field review. The Consultant shall submit the letter and list to the monitor for review and approval. Once approved, the Consultant shall invite the involved parties to the field review.

The Consultant shall note all major conflicts, comments, and preferences voiced by the involved parties during the field review. The Consultant shall prepare the "minutes" of the field review and submit it to the monitor for review and approval. Once approved, the minutes shall be distributed to the involved parties by the Consultant or Pre-Design

The "minutes" shall be a brief description of the project scope of work as conceptualized by the Consultant and based on the remarks of the involved parties. All noted conflicts, preferences, and suggestions voiced by the involved parties shall be noted in the minutes.

D. Video Tape Project

The Consultant shall videotape the project in both directions. A running commentary of the project shall be included on the videotape. The Consultant shall submit the videotape, with the report file, to Pre-Design at the conclusion of the report.

E. AASHTO Criteria Report

If required, the Consultant shall prepare an AASHTO Controlling Design Criteria Report for the project and submit it to the Pre-Design for review and approval. The Consultant shall make any revisions requested by the Pre-Design. If design exceptions are needed, Pre-Design shall submit the report to ADOT Traffic to prepare an accident analysis for the project. When the accident analysis is returned, the conclusions in the analysis will be noted in the Report and Final AASHTO Criteria Report and, if applicable, used as reasons to justify the design exception requests.

F. Develop Preliminary Project Concept

Based on the field review, as-built drawings, and other available information, the Consultant shall develop a preliminary project concept. All major project decisions shall be recorded and placed in the report file.

G. Prepare Cost Estimate

The Consultant shall prepare a cost estimate for the project based on the preliminary concept. The Consultant shall contact ADOT Materials Pavement Services (206 S. 17th Ave, Rm. 127A, Phoenix Arizona, 85007) to obtain a preliminary design of the pavement section for use in estimating the project cost.

Unit values used in the cost estimate shall be based on costs listed in the current version of the "ADOT Bid Tabulations". The bid tabs are prepared and

distributed by ADOT Contracts and Specifications Services (1651 W. Jackson, Rm. 121F, Phoenix, Arizona, 85007)

H. Prepare Initial Project Assessment Report/Scoping Letter

The Consultant shall prepare the Initial Project Assessment Report in the format described in the previous chapter. Depending on the complexity of the Scoping Letter report, data in addition to that specified in the previous chapter may be required. The monitor shall specify what additional information, if any, is to be obtained and reported by the Consultant.

I. Submit Initial Report for Review and Approval

The Consultant shall submit the report to the Pre-Design for review and approval. The Consultant shall make any revisions requested by the Pre-Design.

Once approved, Pre-Design shall distribute copies of the report to the involved parties for review and comment. When all the comments from the involved parties have been returned to Pre-Design, the monitor shall transmit the comments to the Consultant.

J. Prepare a Summary of Comments (SOC) (For PA's only)

Within five (5) working days of receiving the comments, the Consultant shall prepare and submit a "SOC" to the Pre-Design for review and approval. The table shall include: the name of each involved party; the organization/affiliation represented by each of the involved parties; a brief summary of the comments made by each party; and the actions proposed by the Consultant to address each of the comments. If necessary, the Consultant shall revise the Comments Table as requested by the Pre-Design.

K. Prepare Request Project Change

During preparation of the Initial PA and resolution of the comments, Pre-Design shall determine if a Project Change Request is necessary. A PCR is required when:

1. The estimated cost exceeds the programmed cost by 15% or \$200,000 (whichever is less)
2. The programmed "Bid Advertisement" or "Plans to C&S" Date will not be met.
3. The scope proposed is significantly different from that programmed
4. The proposed limits of the project are significantly different from those programmed

The Consultant shall prepare the PCR Form and submit it to the Pre-Design for review. The Consultant shall make any revisions requested by the Pre-Design. Until the PCR for a project has been submitted and resolved, the comments table for a project shall not be distributed. If the resolution of an PCR affects the actions and responses in the comments table, the consultant shall revise the

comments table as needed. Once approved, Pre-Design shall distribute the table to the involved parties.

L. Prepare Final Project Assessment/Scoping Letter and Project Determination Memo

The Consultant shall revise the PA/SL report according to the actions/responses in the comments table. When all revisions have been made, the Consultant shall submit the final report to the Pre-Design for review and approval.

Pre-Design shall submit the final report to ADOT Management for formal approval and sign off. The Consultant shall make any revisions requested by the Pre-Design. Once the report is approved, Pre-Design shall distribute the final report to the necessary parties.

M. Completion of Assigned Task

When a project has been completed to the satisfaction of ADOT, the POM shall notify the consultant in writing. Upon receipt of the notification, the Consultant shall transmit the complete report file. The Consultant may be directed by the POM to retain the file for the development of other reports.

**FORMAT AND DEVELOPMENT PROCEDURES
FOR DESIGN CONCEPT REPORTS & LOCATION DESIGN CONCEPT
REPORT**

Format and Data Requirements for Design Concept Reports (DCR)

A. Cover Sheet

All DCR's shall have a Cover Sheet. The following information shall be listed on the Cover Sheet:

1. The words "DESIGN CONCEPT REPORT"
2. The name of the highway and highway section
3. The TRACS and Federal Reference Project Numbers
4. The route number of the highway
5. The statement "Prepared for the ARIZONA DEPARTMENT OF TRANSPORTATION by [name of Consultant firm]"
6. The date the report is published

B. Title Sheet

All DCR's shall have a Title Sheet. The Title Sheet shall contain the same information as the Cover Sheet. In addition, the Title Sheet shall contain the following information:

1. The ADOT District in which the project is located
2. The county in which the project is located

C. Executive Summary

All DCR's shall have an Executive Summary. The summary shall include, but not be limited to, the following data:

1. The TRACS and Federal Aid Project Numbers
2. The project location, milepost limits, route number, county, and length of the project
3. The programmed budget and or estimated cost

4. The responsible design party (ADOT or Consultant)
5. Future or concurrent projects that will be adjacent to, or within, the improvement section
6. A Description of any Inter-governmental Agreements (IGA's) or other types of agreements that have been made in regards to the project
7. The purpose of the project shall be discussed, and a brief narrative, describing the project scope, shall be included. The recommended alternative shall be identified.
8. The amount and cost of any new right-of-way that is needed (for the recommended alternative only)

C. Table of Contents

All DCR's shall have a Table of Contents.

D. List of Figures

All DCR's shall have a List of Figures.

F. Introduction

All DCR's shall have an Introduction Chapter. The Chapter shall contain the following sections:

1. Foreword

The Foreword shall include, but not be limited to, the following data:

- a. The AASHTO Classification for the highway - major or minor collector, major or minor arterial, interstate, etc.
- b. The posted speed shall be listed. If there is more than one posted speed, the speeds and their associated milepost limits shall be listed.
- c. The major traffic generators shall be identified and discussed.

2. Need for the Project

This section of the report should include a complete analysis of why the project is needed. The analysis should describe how the existing highway is functioning and the reasons that prompted ADOT to program a project at this location. Any cause/effect relationships suggested by review of existing data and interviews with the parties involved (District, Traffic, Materials, etc.) shall be identified and discussed.

3. Description of the Project

The "Description of the Project" Section shall include a complete description of the proposed scope of work for the **recommended alternative only**. The following data shall be included in the description:

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

This Section of the report should completely describe the objectives of the project. The data in this section is dependent on the analysis presented in the "Need for the Project" Section (Section 2) of the report. The objectives to be accomplished by the project should be the remedies needed to correct the problems identified in Section 2.

5. Characteristics of the Corridor

The "Characteristics of the Corridor" Section shall include, but not be limited to, the following data:

- a. The width of the existing pavement and the type of pavement section
- b. The lane and shoulder widths of the existing highway shall be listed. If curb and gutter is present, the locations shall be listed.
- c. The design speed of the existing highway shall be listed. If there is more than one design speed, the speeds and their associated milepost limits shall be listed.
- d. All previous projects constructed within the improvement section shall be identified. The project numbers and construction dates shall be listed in a table.
- e. The horizontal and vertical alignments of the existing highway shall be described.
- f. A description of the existing right-of-way shall be included. The minimum and maximum right-of-way widths shall be noted, and the type of right-of-way, easement or deed, shall be identified. The types of ownership within the project - private, Forest Service, Indian Tribe, etc. - shall be identified.
- g. The drainage characteristics of the corridor shall be described. Any watersheds, drainages, or waterways within or adjacent to the project shall be identified. A description of all drainage and irrigation facilities within or adjacent to the project shall be included. If there are any agencies or other authorities responsible for the drainage or irrigation facilities, they shall be identified.
- h. The total number of each type of existing drainage structure (bridges, pipes, and concrete box culverts) shall be listed. A brief description of the major bridge structures within the project shall be included.
- i. The surrounding topography and terrain shall be described. The primary geology, soils, and vegetation shall be identified.
- j. The future land use proposed for the area shall be described. If there are any major developments proposed, they shall be identified and described.
- k. Project Location and Vicinity maps shall be included.

G. Traffic and Accident Data

All DCR's shall have a "Traffic and Accident Data" Chapter. The Chapter shall contain the following sections:

1. Traffic Analysis

The "Traffic Analysis" Section of the report should include the following data:

a. Source of Data

The sources that provide traffic data for the report shall be referenced. In most cases, there will only be one traffic data source - the ADOT Travel and Facilities Branch.

b. Traffic Data

1. The Average Daily Traffic (ADT) Volumes, in vehicles per day, shall be listed. The volumes for both the construction and design years shall be listed.
2. The Design Hour Traffic Factor (K), in percent
3. The Directional Distribution Factor (D), in percent.
4. The Truck Factor (T), in percent
5. If needed, intersection counts (including turning movements) and diagrams shall be included.
6. If the project is a Traffic Interchange or Intersection, the data listed above will be expanded to include ramps, crossroads, or all legs of the intersection. The data may also be expanded to include projections of traffic on adjacent interchanges and area wide systems.

c. Traffic Operational Analysis

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

2. Accident Analysis

The "Accident Analysis" Section of the report should include the following data:

a. Source of Data

The sources that provide traffic data for the report shall be referenced. In most cases, there will only be one accident data source - the ADOT Traffic Studies Branch.

b. Accident Data

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

involving deaths shall be listed. The accidents shall be itemized according to type - rear end, ran off road, hit fixed object, etc.

2. The beginning and ending dates of the accident sample shall be listed.

c. Review of Accident Data

If ADOT Traffic has reviewed the accidents within the improvement section and prepared a report, the report shall be referenced and any conclusions reached shall be cited. The consultant shall not draw any conclusions from reviewing accident data unless the ADOT Traffic Studies Branch has reviewed and approved these conclusions.

H. AASHTO Controlling Design Criteria

Data described in this chapter of the report will be taken from the AASHTO Controlling Design Criteria Report (which is a supplement report to the DCR). The following sections will be included in this chapter:

1. Introduction

This section will describe the non-comforming AASHTO design elements of the existing highway which will be upgraded as part of the project, and those elements for which design exceptions will be requested. The recommended alternative will be used to make this determination.

2. Lane and Shoulder Widths

This section will compare the existing lane and shoulder widths to the minimums recommended by AASHTO. The proposed lane and shoulder widths for the recommended alternative will be noted, and if the proposed widths do not conform to AASHTO, the reasons shall be discussed.

3. Vertical Alignment and Stopping Sight Distance

In this section, the existing vertical curve stopping sight distances will be compared to the minimums recommended by AASHTO.

4. Horizontal Alignment and Stopping Sight Distance

In this section, the existing horizontal curve stopping sight distances, superelevations, and degree of curvature will be compared to the AASHTO recommended guidelines.

5. Design Speed

The minimum design speed(s) recommended by AASHTO shall be noted and discussed. If different design speeds are to be used for different segments of the improvement section, the speeds and there associated milepost limits

will be noted. The reasoning used to select the design speed(s) shall be discussed. Factors such as type of terrain and functional classification of the highway will be cited as reasons used to select a particular design speed.

6. Grades

In this section, the existing maximum grade will be compared to the maximum grade recommended by AASHTO. The length of the grade will be noted, and the operational impact on truck traffic will be discussed.

7. Cross Slopes

In this section, the existing cross slope will be compared to the range of cross slopes recommended by AASHTO.

8. Vertical Clearance

In this section, the vertical clearances of all underpasses shall be compared to minimums recommended by AASHTO.

9. Bridge Structures

In this section, the clear width (curb to curb) , rail type and strength, and the structural capacity of the bridge shall be compared to AASHTO recommended guidelines.

10. Other Considerations

In this section, other elements of the highway (those that are not any of the "thirteen criteria" ADOT has agreed to evaluate) will be evaluated and discussed. These other elements may include intersection sight distance, recovery areas, lateral clearance, etc.

I. Location Analysis (For the Location Design Concept Report only)

When location is an issue for a project, a "Location Analysis" Chapter shall be included. The Chapter shall contain the following sections:

1. Introduction

Reasons why location is an issue shall be discussed. The discussion should include background information explaining why particular alternative locations are being evaluated and what the issues are driving development of the different alternatives.

2. Description of Alternative Corridors

This section shall include a complete description of each alternative corridor proposed. The alignments and impacts of each alternative shall be fully described.

3. Evaluation of Alternative Corridors

The pros and cons of each alternative location will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, drainage, earthwork, floodplains, utilities, structures, socio-economic considerations, and design exceptions.

A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

4. Conclusions

The recommended location shall be identified, and the reasons and logic used to select it shall be explained.

J. Design Concept Alternatives

The Chapter shall contain the following sections:

1. Introduction

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

2. Design Concept Alternatives Considered and Discontinued

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

3. Design Concept Alternatives Studied

This section shall include a complete description of each Design Concept Alternative that was considered for further development. The alignments and impacts of each alternative shall be fully described.

4. Evaluation of Alternatives

The pros and cons of each alternative corridor will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, capacity, level of service, drainage, earthwork, floodplains, utilities, structures, socio-economic considerations, and design exceptions.

A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

5. Conclusions

The recommended alternative shall be identified, and the reasons and logic used to select it shall be explained.

K. Major Design Features of the Recommended Alternative

This Chapter shall contain the following sections:

1. Introduction

This section shall describe the purpose of this chapter

2. Design Controls

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

- a. Project Design Year
- b. Design Speed(s)
- c. Slope Standards
- d. Typical Section (Lane & Shoulder width)
- e. Superelevation
- f. Maximum Degree of Curve
- g. Maximum Grade
- h. Type of Access Control
- i. Right-of-Way Width

3. Horizontal and Vertical Alignments

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

4. Access

The "Access" Section shall include a description of the access control for the recommended alternative. The following data shall be included:

- a. The type of access control shall be described.
- b. Any special features that are needed to provide access control (such as fencing, gates, and curbs) shall be identified and discussed.
- c. Any special access roads or entrances (such as substation entrances) shall be identified.
- d. Any access required for future developments shall be identified and described.

5. Right-of-Way

This section shall include a complete discussion of the right-of-way requirements for the recommended alternative. The following data shall be included:

- a. The quantity (in acres), width, and station limits of any new right-of-way required
- b. Any private or public groups who control the needed right-of-way, such as the Forest Service, Bureau of Land Management, Arizona State Land Department, Railroads, or Indian Tribal Councils, shall be identified. If special right-of-way impacts are involved, they shall be described. For example, if only a partial take of a parcel is needed, the associated impacts on the landowner should be discussed. If operations of a business located on the property will be affected, this should be noted.

6. Drainage

This section shall include a description of the drainage impacts associated with the recommended alternative, and a description of the proposed improvements. The following data shall be included:

- a. If a drainage study is completed or additional study is needed for the project, this fact shall be noted. The drainage work to be addressed by the study shall be described.
- b. Any drainage facility improvements proposed for the project - cut ditches, channels, storm drains, catch basins, culverts, bank protection, scour protection, channel reconstruction, etc. - shall be identified and described.

- c. Upstream and downstream impacts caused by drainage improvements shall be identified and discussed.

7. Section 404 of the Clean Water Act

This section shall include a statement concerning whether or not the recommended alternative qualifies for any nationwide or individual permits required under Section 404 of the Clean Water Act. If permits are required, the following standard declaration shall be included: "ADOT Environmental Planning Services shall apply for all permits required."

8. Floodplain Considerations

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

9. Earthwork

This section shall include a description of the earthwork impacts for the recommended alternative. The following data shall be included:

- a. The estimated total embankment, borrow, or waste shall be specified.
- b. Any special earthwork, such as cut ditches or slope flattening, shall be described.
- c. Any nearby borrow pits or waste disposal sites shall be identified
- d. If the right-of-way is controlled by the Forest Service, Indian Tribal Council, or other involved party, the preferences of the party concerning the earthwork shall be noted. The Forest Service often has specific requirements concerning the location of pits, interim stockpiling of materials, treatment of side slopes, and the disposal of waste.
- e. A statement shall be included concerning whether or not the earthwork will be balanced. If the earthwork will not be balanced, the quantity of borrow or waste shall be specified.

10. Constructability and Traffic Control

This section shall include discussion of the constructability and traffic control issues of the recommended alternative. The following data shall be included:

- a. Any special features of the project that will make the improvements difficult to construct will be identified and discussed. For example, when a bridge will be constructed in stages on the existing alignment and the existing bridge is to remain as a detour, constructability will be an issue.

- b. A detailed description of proposed detours, tie-ins to adjacent projects, construction phasing, and other traffic control measures
- c. The following sentence shall be included: "Traffic control shall be specified by a traffic control plan or procedures and guidelines in the ADOT Traffic Control Manual for Highway Construction and Maintenance."
- d. The following sentence shall be included: "Access to adjacent properties shall be maintained during construction." If special measures are to be taken to provide access, a description of the measures shall be included.

11. Intersections

This section shall include discussion of any intersections that will be upgraded as part of the recommended alternative. All intersection improvements including signalization, signing, and marking shall be identified and discussed.

12. Utilities

This section shall include a description of all utilities and railroads located within the recommended alternative, and their associated impacts. If any of the utilities or railroads are to be relocated or reconstructed, this fact shall be noted.

13. Structures

The "Structures" Section shall include a description of all new structures or structure upgrades proposed for the recommended alternative.

14. Pavement Design

This section shall include a description of the pavement design proposed for the recommended alternative.

15. Design Exceptions

16. Implementation

This section shall include a description how the projects are to be implemented in sequence and their associated costs and construction year.

This section shall contain the following information:

- a. All features (limited to the 13 Criteria) of the existing highway that do not conform to current AASHTO recommended design guidelines shall be identified.
- b. A statement shall be included concerning whether or not design exceptions shall be requested for the recommended alternative. If all or some of the non-conforming features are to be upgraded as part of the project, this fact shall be noted and the features identified.

- c. If the project is state funded (or project is to be administered under Certification Acceptance Procedures) and design exceptions are required, the Assistant Deputy State Engineer (Location Section) shall be petitioned for his approval of the exceptions. The supporting reasons for the request shall be fully explained. The petition will be made by a letter separate from the DCR; however, the fact that that approval has been requested will be noted in the DCR.
- d. If the project is federally funded and will not be administered under certification acceptance procedures, the Consultant shall petition the FHWA for approval of the non-conforming features; however, this petition will be made in writing, separate from the Design Concept Report. The consultant shall note in the report that the FHWA will be petitioned for the exceptions.

L. Social, Economic and Environmental Concerns

This section shall include the social and economic impact of the project in the immediate vicinity . The air, noise and visual quality and water resources. Any special coordination requirements.

This chapter shall contain an itemized cost estimate for the recommended alternative. Itemized cost estimates for other alternatives shall be placed in a separate appendix.

M. Itemized Cost Estimate

N. Appendices

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

1. Analysis of Existing Roadway Alignment (AASHTO Controlling Design Criteria Report)

This appendix will contain the review (inventory) of the thirteen AASHTO Controlling Design Criteria. This same report will be submitted with a cover letter to either the ADOT Assistant Deputy State Engineer (Location Section) or the FHWA Division Director when requesting design exceptions for the project (if required).

2. Detailed Cost Estimates for Other Alternatives

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

3. Typical Sections

This appendix will contain the typical cross sections proposed for the project. The effective milepost limits for each typical section will be noted at the top of the sheet. If alternative sections were evaluated and dropped, these sections will also be shown and clearly identified. The recommended sections will be clearly identified as the recommended ones and separated from the others.

4. Plan and Profile Sheets

Drawings for all Horizontal and Vertical Alignments proposed and evaluated shall be placed in this appendix. The alignments for the recommended alternative shall be placed before the others and noted as the recommended alternative. Each alternative will be clearly identified and separated from the others.

Development Procedures for Design Concept Reports

The Consultant shall follow the procedures listed below to develop a DCR.

A. Assignment of Task

Same as PA Procedures

B. Obtain Project Data

Same as PA Procedures

C. Field Review

Same as PA Procedures

D. Video Tape Project

The consultant shall follow PA Procedures; however, if a project has been previously filmed (as part of the development of a PA Report), no taping will be required.

E. AASHTO Criteria Report

If an AASHTO Criteria Report has been previously prepared (as part of the development of a PA Report), this report will be utilized. If necessary, the report shall be revised to conform to the recommended alternative. The AASHTO Criteria Report will be included in an appendix of the DCR.

F. Special Reports and Tasks

The Consultant may be asked by the Pre-Design to perform special tasks or develop special reports as listed below:

1. Surveys and Mapping
2. Materials Investigation

3. Environmental Studies
4. Public Meetings or Hearings
5. Utilities Analysis
6. Traffic Operational Analysis
7. Right-of-Way Requirements Determination
8. Drainage Studies
9. Change of Access Reports
10. Joint Sponsorship Agreements

G. Develop Alternatives

Based on the field review, as-built drawings, and other information, the Consultant shall develop alternatives for the project. If a PA has been prepared, the scope presented in the PA shall be used as the basis for the different alternatives. The number of alternatives considered shall not be fixed, but shall be dependent on the number of alternatives suggested by review of the project, the involved parties, and the ADOT.

The Consultant shall develop conceptual drawings and exhibits that illustrate the different concepts. As a minimum, the Consultant shall evaluate the following impacts on each alternative: social, economic, environmental, conformance to design standards, constructability, and right-of-way.

The DCR shall include concept drawings for each alternative in sufficient detail to identify the significant differences and impacts of each alternative. The Consultant shall prepare a cost estimate for each alternative considered.

H. Hold Alternatives Selection Meeting

The Consultant shall hold a Alternatives Selection Meeting to present the different alternatives that have been developed. All parties involved with the project shall be invited. The Consultant shall present the alternatives and discuss the pros and cons of each one. After presenting the alternatives, the Consultant shall recommend one and explain the reasoning and logic used to select it. Comments will then be solicited from the involved parties.

The Consultant will prepare a minutes of the meeting and distribute a copy to each involved party.

I. Prepare Initial Design Concept Report

The Consultant shall prepare an Initial Design Concept Report in the format described in the previous section. The Consultant shall submit the report to the POM for review. The POM may direct the Consultant to make revisions.

J. Distribute Initial Report for Comment

Once approved, Pre-Design shall distribute copies of the the report to the involved parties for review and comment. The Consultant shall provide the Pre-Design with all the copies needed for the distribution. If a public hearing is required for the project, it would be held at this time in the development of the report meeting.

K. Prepare Comments Table

Same as PA Procedures

L. Hold Final Alternatives Selection Meeting (Optional)

The Consultant shall hold another Alternatives Selection meeting to present the final recommended alternative. All parties involved with the project shall be invited. The Consultant shall present the final alternative and discuss the reasons, logic, and decisions used to select it. Comments will then be solicited from the involved parties. If necessary, the Consultant shall revise the report to reflect the comments and issues discussed at this meeting.

The Consultant will prepare a minutes of the meeting and distribute a copy to each involved party.

M. Prepare Final Design Concept Report

The Consultant shall prepare a Final DCR based on the comments received and results of the final Alternatives Selection Meeting. The Consultant shall submit the Final DCR to the POM for review. The Pre-Design may direct the Consultant to make revisions.

N. Prepare Recommended Project Change

Same as PA Procedures

O. Circulate Final Report for Approvals

Pre-Design shall submit copies of the final report with associated documents to the necessary parties for their approvals. Once the report has been approved, Pre-Design shall distribute copies to the involved parties. The Consultant shall provide the Pre-Design with all the copies needed for approvals and distribution.

P. Completion of Assigned Task

Same as PA Procedures

APPENDIX A
EXAMPLE PROJECT ASSESSMENT REPORT

APPENDIX B
EXAMPLE OF SUMMARY OF COMMENTS

APPENDIX C
EXAMPLE OF FINAL PROJECT ASSESSMENT