Preliminary Investigation (PI-0317)

Caltrans Division of Research, Innovation and System Information

Scope of Work Development Procedures for A&E Multiphase Service Contracts

Requested by
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Executive Summary

Background

Many states use architectural and engineering (A&E) multiphase contracting to assign an entire project to the best qualified consultant. In 2018, California Department of Transportation (Caltrans) began to develop A&E multiphase contracts and is now seeking information to improve current practices for developing the scopes of work (SOWs) these contracts include.

A multiphase project-specific contract addresses one or more funded phases, where the SOW for the second phase depends on the work product and the decisions reached during the first phase. A prime consultant is selected based on qualifications and is responsible for all A&E services and related project deliverables required to complete one or more phases of a specific project. A Caltrans multiphase contract may include phases as early as the project approval and environmental document (PA&ED) stage and then proceed through design support during construction, but specifically excludes construction engineering and construction contract administration.

An SOW that includes the minimum qualifications to perform various project tasks is a critical part of the A&E multiphase contract, and a well-defined SOW is essential to the successful administration of the contract. An accurate and detailed SOW provides the basis for the consultant's cost proposal and for the negotiations between the state and the consultant.

This Preliminary Investigation is narrowly focused on best practices for development of an SOW and assignment of qualifications specifically for a multiphase contract. A survey of state departments of transportation (DOTs) sought information about other agencies' experiences with this type of contracting. Supplementing the survey results is a limited compilation of related resources.

Summary of Findings

Survey of Practice

An online survey was distributed to state DOT members of the American Association of State Highway and Transportation Officials (AASHTO) Committee on Design, which includes members from state DOTs in all 50 states and the District of Columbia. Respondents provided information about general multiphase contract development practices; developing SOWs and phase orders, including the staffing needed; and consultant personnel requirements. Finally, respondents described the successes and challenges associated with their use of multiphase contracts and offered recommendations for other agencies using this contracting method.

Transportation agencies from 12 states completed the survey:

- Alabama.
- Arizona.
- Connecticut.
- Florida.
- Indiana.
- Iowa.
- Missouri.
- Ohio.
- South Carolina.
- Utah.
- Washington.
- Wyoming.

Summarized below are survey findings in four topic areas:

- Multiphase contracting practices.
- Developing SOWs and phase orders.
- Consultant personnel requirements.
- Assessment and recommendations.

Multiphase Contracting Practices

After reviewing a brief description of Caltrans' approach to multiphase contracting, respondents described their agencies' practices for multiphase contracting in these topic areas:

- General practices.
- Contract phases.
- Tasks retained in-house.
- Consultant interaction.
- Timelines.
- Costs and payment.
- Cancellation and termination.

General Practices

The agencies with multiphase contracting practices that appear to be most similar to Caltrans' include Arizona and Connecticut DOTs. Other agency practices differ from current Caltrans practices in the execution of key tasks. For example, rather than developing phase orders after the initial solicitation, Florida, Iowa and Missouri DOTs execute supplemental agreements for successive project phases.

Each responding agency's general practices for multiphase contracting and the SOWs developed for those contracts are highlighted below. Further details are available in the **Detailed Findings** section of this Preliminary Investigation.

- The SOWs *Alabama DOT* develops for advertisement must contain all work types that could be added with a subsequent contract supplement or the later phases must be readvertised. The agency develops a fee for each phase of the initial contract or supplements the contract to cover later phases of work as they are better defined.
- *Arizona DOT's* SOWs include detailed information about the first project phase; subsequent phases are provided with a level of detail that describes the services expected. The contract modification to activate the next phase includes the consultant's detailed SOW that is negotiated with the agency and provides the necessary level of detail. All phases are included in the solicitation to avoid issues with significant scope changes that may result in having to advertise the next phase as opposed to including it in the current contract.
- *Connecticut DOT* describes the entire project in its initial scope work, but not in detail. The agency executes multiphase agreements prior to negotiation with an upset limit (contract amount and an "extra work" fee) and then negotiates phase by phase for the work. Use of multiphase contracts has allowed the agency to start on projects without having a completely defined scope at project inception.
- *Florida DOT* uses a Standard Combined Project Development and Environment (PD&E)/Design Scope of Services (SOS) template for applicable projects. (The agency's SOS is the same as the Caltrans SOW referenced in the survey.) The combined PD&E/Design SOS covers all phases in adequate detail for the services expected. Additional services deemed necessary within the intent of the original SOS and advertised contract are negotiated separately and added by supplemental agreement.

Post-design services for construction support are included in the SOS but negotiated separately through a supplemental agreement.

- The *Indiana DOT* respondent noted that the agency "does not do many multiphase contracts. We do now have a well-established policy for it. We treat it similar to single-phase contracts with an extra scoping and negotiation round." Only the first phase of the project to be contracted is described in detail. SOW development for successive phases is the same as for single-phase contracts; the contract is amended for successive phases.
- For *Iowa DOT,* only the first phase of the project to be contracted is described in detail. The agency normally breaks the work into smaller, sequential contracts so the SOW is better defined for each step. After the general advertisement and selection, the agency tasks the consultant with drafting the SOW for review and approval by the agency and use with the signed contracts. The agency relies on subject matter experts (SMEs) and contract managers to negotiate fair prices based on general guidance.
- *Missouri DOT's* initial contract includes negotiated hours for specific work and may include details on future potential phases if known. The supplemental agreement executed for subsequent phases goes through the same approval process as the initial contract solicitation. Projects can be bundled.
- For *Ohio DOT*, some advertised scope documents list all anticipated tasks through final engineering, while others list only the known initial tasks. The level of detail depends on the district drafting the scope or managing the agreement and what is known about the project. Once preliminary engineering is complete, the consultant will develop SOWs for successive phases, including the work tasks and fee proposals, which are reviewed and negotiated as needed.
- *South Carolina DOT's* requests for proposal contain the same level of detail for all phases but state which are future phases. The consultant awarded the initial phase is usually awarded additional phases. Projects can be bundled; currently there is no mechanism in place to ensure consistency across contracts.
- The *Utah DOT* respondent noted that the agency "really only perform[s] multiphase [contracts] for alternative delivery projects in the U[tah] DOT. It is not that they are not a good thought, it is because we have clearly defined activities in the PDN [Project Delivery Network, the agency's "road map" for project teams]. This helps us to be able to separate the contracts out independently and still have time, if needed, in between the contracts. Our Consultant Services staff really help[s] in processing contracts and prioritizing processing of contracts when we need them faster."

  Rather than identifying specific phases, the agency uses multiphase contracts for alternative delivery projects that involve construction and design. Planning and some preliminary design are completed prior to the solicitation for a multiphase contract, and the agency usually breaks up planning and preliminary design into separate contracts.
- *Washington State DOT's* initial solicitation includes a summary SOW with a summary of phases. For subsequent phases, scoping meetings with the consultant begin with a template and produce an initial draft scope that is reviewed internally. After the internal review is complete, estimate negotiation begins and is followed by internal approval and execution of the scope.

  Business processes differ among divisions but follow overarching policies of the agency's Consultant Services Office (CSO). CSO supports administration of the statewide consultant services program. The respondent described another type of

alternative contract—a master contract with individually scoped and negotiated task orders (also known as an indefinite delivery, indefinite quantity (IDIQ) contract). Projects can be bundled.

- *Wyoming DOT's* multiphase agreements are narrow in focus and well-defined and typically used for activities such as observing contractors during construction activities. The agency issues a change order that includes a cost proposal for the project's second phase.

  Only the first phase of the project to be contracted is described in detail in the initial solicitation. For successive phases, a new SOW and cost proposal are requested from the consultant. The agency reviews this SOW to ensure all needed tasks are covered and the cost proposal matches preapproved billing rates.

Contract Phases

All respondents include final design in the typical multiphase contract. All but one—Wyoming DOT—includes preliminary design, and construction support is included in all respondents' multiphase contracts but Iowa DOT's. Respondents are least likely to include planning in their multiphase contracts.

Tasks Retained In-House

The tasks that respondents are most likely to retain in-house are related to environmental work and surveying. Other tasks that may be retained include geotechnical engineering, right of way and real estate, and utility-related work. Some respondents identified the factors that determine when a task will be retained in-house:

- Contract scope or project (Connecticut, Florida and Indiana).
- Staff workload (Connecticut, Missouri and Utah).
- Time and cost (Alabama).
- District in which the project is constructed (Florida).

Consultant Interaction

Most of the responding agencies reported providing technical studies or data specific to a project electronically before a multiphase contract is advertised. Only Alabama and Wyoming DOTs do not.

Respondents tend to respond in similar ways to consultant questions, both before and after a multiphase contract is advertised:

- Before a multiphase contract is advertised, inquiries are directed to a project manager or other agency staff (five agencies).
- After a multiphase contract is advertised, inquiries are directed to the procurement office (six agencies).
- Responses are shared with other interested consultants or more broadly on a web page (six agencies).

Timelines

Most responding agencies require a proposal to be submitted within two to three weeks of the advertisement (Alabama, Florida, Indiana, Iowa, Missouri, South Carolina, Utah and Wyoming). Some respondents provided additional context:

- *Alabama DOT* has a two-week minimum.
- For *Florida DOT,* contracts are generally identified in one of the agency's Consultant Acquisition Plans prior to being listed on the agency's Planned Consultant Projects web site for two weeks. The project is then officially advertised for a minimum of two weeks before responses are due.
- *Iowa DOT's* typical submission deadline is two weeks but can be extended up to four weeks.
- *Wyoming DOT* applies a time limit of 14 days if the solicitation requires a request for proposal.

Most respondents spend one month or less negotiating a contract (Alabama, Indiana, Iowa, Missouri, Ohio, Utah and Washington). The Alabama and Utah DOT respondents noted it can vary depending on the project. Arizona, Florida and Wyoming DOTs reported taking two to five months to negotiate; South Carolina DOT requires six months or more for contract negotiation.

Costs and Payment

Most common among respondents is to develop cost estimates using staff hours (Connecticut, Florida, South Carolina and Washington); three agencies use historical costs (Florida, Ohio and Wyoming). Ohio DOT also uses a spreadsheet template of anticipated tasks. Cost estimates are developed independently by Arizona DOT project managers and Indiana DOT contract engineers. Most of Washington State DOT's contracts are based on an hourly rate. The agency estimates the level of effort required to complete the scope and then applies estimated rates.

All respondents use cost plus fixed fee as a method of payment, and all but two (Missouri and South Carolina) allow lump sum payments. Cost per unit of work is used by nine agencies; four agencies use specific rates of compensation. Methods of payment are determined depending on, among other things, the size, complexity and duration of the contract; level of detail in the SOW; type of work; consultation with the district managing the work; or by the project manager or contracting office. Additionally, payment methods may vary for different project phases (for example, converting to lump sum later in the contract).

Cancellation and Termination

Respondents reported various reasons for canceling a solicitation for a multiphase contract:

- Change in project (Connecticut, Indiana, Utah and Washington).
- Loss of funding (Ohio, Utah, Washington and Wyoming).
- In the best interest of the state (Arizona and Utah).
- Issue with solicitation (Arizona and Iowa).
- Decided to do in-house (Ohio).
- Insufficient bidder interest (Florida).

Most agencies with experience terminating an ongoing multiphase contract had done so as a result of a funding change or contractor performance:

- Funding change (Alabama, Connecticut, Iowa, Missouri, Utah, Washington and Wyoming).
- Poor contractor performance (Arizona, Connecticut, Florida, Missouri, Utah, Washington and Wyoming).

Developing Scopes of Work and Phase Orders

Respondents described the tools and practices their agencies use to develop SOWs; the development time required to produce the SOW and first phase order; and the staffing needed for SOW development.

Tools and Practices

Templates are the most widely used tool among respondents for developing the SOW (eight agencies), while others use step-by-step procedures (five agencies) and checklists (four agencies). See the **Related Resources** section of this Preliminary Investigation for sample templates from Arizona, Florida and Ohio DOTs.

Development Time Required

The time devoted to developing the SOW—from need identification to contract advertisement—varies significantly among respondents. Those offering a specific duration described a time period that ranged from one week (Wyoming) to two to four months (South Carolina). Other respondents reported time periods falling in between.

Developing the first phase order can be done very quickly—Iowa DOT prepares a phase order in a single day—or require significantly more time (three months for South Carolina DOT). As the Iowa DOT respondent noted, the agency "[doesn't] really put that much detail in. We keep the option to have them do almost anything." Other respondents' timing falls in between.

Staffing Needed for SOW Development

Most agencies reported the involvement of two to 10 staff members when developing SOWs, with South Carolina DOT employing 15 staff members in the SOW development process. For details of the types of staff involved in SOW development, including staff titles, expertise and required experience, see the **Detailed Findings** section of this Preliminary Investigation beginning on page 22.

Most agencies use teams generally consisting of a project manager and other SMEs or specialty staff, depending on the project. Core teams established by Ohio, South Carolina and Washington State DOTs often remain engaged throughout the life of a project.

Consultant Personnel Requirements

Naming Staff

Most respondents require only the names of a consultant's key staff in the proposals submitted in response to a multiphase contract solicitation. Only two agencies—Connecticut and Indiana DOTs—require names of both key staff and support staff. While Florida DOT requires that only key staff be identified in the response to the initial solicitation, all staff must be identified once the consultant has been selected.

Describing Needed Qualifications

Respondents described the qualifications needed for the consultant's key personnel in an initial solicitation in these categories:

- Primary roles and experience.
- Certification.
- Education.
- Licensing requirements.
- Familiarity with agency standards.

Not all respondents described qualifications in all categories.

See page 26 in the **Detailed Findings** section of this Preliminary Investigation for details. Feedback from respondents providing a more significant level of detail is followed by the practices of respondents providing more general information.

Managing Subconsultant Poor Performance

All respondents but South Carolina and Wyoming DOTs may remove or replace a subconsultant due to poor performance, though four agencies indicated such an action is rare (Alabama, Missouri, Ohio and Utah DOTs).

Seven agencies noted that the prime contractor has the authority to remove a subconsultant; of these, two (Alabama and Washington State DOTs) require amendment of the contract between the state and prime consultant if a subconsultant changes.

Addressing a Material Change in Consultant Team

When asked what constitutes a material change in the consultant's team that requires termination of negotiations or successive phases of a multiphase contract, three agencies reported that termination could be avoided if the staff member leaving is replaced by someone who is "equal or better" or "of the same caliber" (Arizona, South Carolina and Utah DOTs).

Other respondents reported that losing key personnel is the primary material change that could terminate negotiations or successive phases (Indiana); such actions are left to the judgment of the project manager administering the consultant contract (Missouri); and if mutually acceptable terms can't be reached on the contract, the agency would move toward termination and work with the next-ranked firm. If it were a successive phase, the agency would advertise for the services (Utah).

Assessment and Recommendations

Successes

When describing successes associated with their agencies' use of multiphase contracts, respondents most frequently commented on streamlined processes, improved preparations for subsequent phases, and time and cost savings.

Challenges

Respondents described challenges associated with consultant suitability, scope changes, timing and accounting for the unknowns in the project.

Recommendations

Respondents offered best practices for developing and negotiating SOWs and shared other advice for engaging with consultants, managing contract phases and risk, and engaging agency staff. See page 31 of the **Detailed Findings** section of this Preliminary Investigation for details.

Related Resources

Resources provided by respondents or identified independently include SOW templates for Arizona, Florida and Ohio DOTs and other contract-related guidance. Also included are examples, guidelines, tools and calculators provided by Florida DOT to develop SOS documents and estimate staff hours, and manuals published by Ohio, South Carolina, Utah and Washington State DOTs that describe consultant and engineering services contracts.

Gaps in Findings

A relatively small number of state transportation agencies participated in this information-gathering effort, limiting the amount of information and experience available for reporting. While many of the 12 respondents provided a significant level of detail in their responses, gaps in the information provided, such as the language used in SOWs to describe consultant qualifications, could be addressed with follow-up contacts to agencies with practices of particular interest to Caltrans.

Reaching out to other state transportation agencies not responding to the survey could also potentially increase the findings of this effort and provide additional perspective on best practices for SOW development in multiphase contracting.

Next Steps

Moving forward, Caltrans could consider:

- Following up with selected respondents to learn more about:
    - Arizona DOT's practices, which appear to be similar to Caltrans'.
    - Florida DOT's use of supplemental agreements for successive project phases and how they may be similar to the phase orders Caltrans issues.
    - Connecticut DOT's use of an upset limit for its multiphase agreements prior to phase-by-phase negotiation.
    - Addressing consultant qualifications.
- Reviewing the publications and other resources provided in the **Related Resources** section of this Preliminary Investigation to examine in detail other agencies' contracting practices and the templates, tools and guidance available to support SOW development.
- Contacting those state DOTs that did not participate in the survey to potentially uncover additional experience and recommendations.

Detailed Findings

Background

Many states use architectural and engineering (A&E) multiphase contracting to assign an entire project to the best qualified consultant. In 2018, California Department of Transportation (Caltrans) began to develop A&E multiphase contracts and is now seeking information to improve current practices for developing the scopes of work (SOWs) these contracts include.

A multiphase project-specific contract addresses one or more funded phases, where the SOW for the second phase depends on the work product and the decisions reached during the first phase. A prime consultant is selected based on qualifications and is responsible for all A&E services and related project deliverables required to complete one or more phases of a specific project. A Caltrans multiphase contract may include phases as early as the project approval and environmental document (PA&ED) stage and then proceed through design support during construction, but specifically excludes construction engineering and construction contract administration.

An SOW that includes the minimum qualifications to perform various project tasks is a critical part of the A&E multiphase contract, and a well-defined SOW is essential to the successful administration of the contract. An accurate and detailed SOW provides the basis for the consultant's cost proposal and for the negotiations between the state and the consultant.

This Preliminary Investigation is narrowly focused on best practices for development of an SOW and assignment of qualifications specifically for a multiphase contract. A survey of state departments of transportation (DOTs) sought information about other agencies' experiences with this type of contracting. Results from this survey are summarized below. Supplementing the survey results is a limited compilation of related resources.

Survey of Practice

An online survey was distributed to state DOT members of the American Association of State Highway and Transportation Officials (AASHTO) Committee on Design, which includes members from state DOTs in all 50 states and the District of Columbia. Respondents provided information about general multiphase contract development practices; developing SOWs and phase orders, including the staffing needed; and consultant personnel requirements. Finally, respondents described the successes and challenges associated with their use of multiphase contracts and offered recommendations for other agencies using this contracting method.

Survey questions are provided in Appendix A. The full text of survey responses is presented in a supplement to this report.

Twelve state DOTs responded to the survey:

- Alabama.
- Arizona.
- Connecticut.
- Florida.
- Indiana.
- Iowa.
- Missouri.
- Ohio.
- South Carolina.
- Utah.
- Washington.
- Wyoming.

Survey results are summarized below in four topic areas:

- Multiphase contracting practices.
- Developing SOWs and phase orders.
- Consultant personnel requirements.
- Assessment and recommendations.

Multiphase Contracting Practices

Central to Caltrans' multiphase contracting process is the development of an SOW that describes the consultant services expected for all project phases, with a high level of detail provided for the first phase and less detail for subsequent phases. A phase order is used to provide required details for a specific phase and is negotiated prior to work beginning on that phase. An executed phase order functions as the notice to proceed for its respective phase of work.

After reviewing a brief description of Caltrans' approach to multiphase contracting, respondents described their agencies' practices for multiphase contracting in these topic areas:

- General practices.
- Contract phases.
- Tasks retained in-house.
- Consultant interaction.
- Timelines.
- Costs and payment.
- Cancellation and termination.

General Practices

The agencies with multiphase contracting practices that appear to be most similar to Caltrans' include Arizona and Connecticut DOTs. Other agency practices differ from current Caltrans practices in the execution of key tasks. For example, rather than developing phase orders after the initial solicitation, Florida, Iowa and Missouri DOTs execute supplemental agreements for successive project phases.

Described below are each responding agency's general practices for multiphase contracting and the SOWs developed for those contracts.

Alabama Department of Transportation

SOWs developed for the initial solicitation must contain all work types that could be added with a subsequent contract supplement or later phases must be readvertised. The agency develops a fee for each phase of the initial contract or supplements the contract to cover later phases of work as they are better defined. Projects can be bundled. To ensure consistency across contracts, negotiations are based on the amount of work effort, not an overall fee.

If the contract includes activities from planning to preliminary design, the SOW for the next phase is developed toward the end of the planning work or approved environmental document.

Arizona Department of Transportation

The agency's SOWs include detailed information about the first project phase; subsequent phases are provided with a level of detail that describes the services expected. The contract modification to activate the next phase includes the consultant's detailed SOW that is negotiated with the agency and provides the necessary level of detail. All phases are included in the

solicitation to avoid issues with significant scope changes that may result in having to advertise the next phase as opposed to including it in the current contract.

Projects are not bundled. Each contract is negotiated and executed independently, though the agency applies a standard contract template. Cost proposals from the consultant and subconsultants adhere to standards regarding what to include and the level of cost breakdown.

Connecticut Department of Transportation

The entire project is generally described in the initial scope, but not in detail. Multiphase agreements are executed prior to negotiation with an upset limit (contract amount and an "extra work" fee). The agency then negotiates phase by phase for the work, and information from the current phase helps to define the next phase of work. This practice has allowed the agency to start on projects without having a completely defined scope at project inception. Projects aren't bundled, and there is too little history to date to develop a practice to maintain consistency across contracts.

Florida Department of Transportation

Note: Florida DOT is included in the subset of respondents executing supplemental agreements or smaller, sequential contracts for successive project phases.

The agency uses a Concurrent (or Combined) Project Development and Environmental (PD&E) Study and Design Standard Scope of Services (SOS) template for applicable projects. (The agency's SOS is the same as the Caltrans SOW described in the survey.) This SOS generally describes the entire project, covering all phases in adequate detail for the services expected. Additional services deemed necessary within the intent of the original SOS and advertised contract, such as post-design services for construction support, are included in the SOS but negotiated separately and added by supplemental agreement.

The agency may also use a multiphase general engineering support consultant contract. Typical PD&E studies that may be combined with design phases are Type 2 categorical exclusions (CEs) or state environmental impact reports that do not involve segmental concrete bridges or movable span bridges. (Florida DOT describes a CE as "a project or action which does not individually or cumulatively have a significant environmental impact, and is excluded from the requirement to prepare an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).")

Sometimes only the PD&E phase is advertised with design overlap activities, with the option to include the rest of the design phase at a later date. In that case, the PD&E phase with design overlaps will be executed and a design supplemental agreement is executed later for final plans.

The agency's web-based guidance on scope of services and staff hour estimation provides direction for development of the SOS and provides links to tools, user guides, forms and instructions.

Indiana Department of Transportation

The respondent estimates that less than 5% of the agency's professional service contracts are multiphase. While the agency does not execute many multiphase contracts, it does have a well-established policy for such contracts, treating them as single-phase contracts with an extra scoping and negotiation round. Projects are not bundled.

Only the first phase of the project to be contracted is described in detail. SOW development for successive phases is the same as for single-phase contracts; the contract is amended for successive phases.

Iowa Department of Transportation

Note: Iowa DOT is included in the subset of respondents executing supplemental agreements or smaller, sequential contracts for successive project phases.

Only the first phase of the project to be contracted is described in detail. The agency normally breaks the work into smaller, sequential contracts so the SOW is better defined for each step. After the general advertisement and selection, the agency tasks the consultant with drafting the SOW for review and approval by the agency and use with the signed contracts. Projects can be bundled. The agency relies on subject matter experts (SMEs) and contract managers to negotiate fair prices based on general guidance.

Missouri Department of Transportation

Note: Missouri DOT is included in the subset of respondents executing supplemental or smaller, sequential contracts for successive project phases.

The initial contract includes negotiated hours for specific work and may include details on future potential phases if known. The supplemental agreement executed for subsequent phases goes through the same approval process as the initial contract solicitation. Projects can be bundled.

Ohio Department of Transportation

Some advertised scope documents list all anticipated tasks through final engineering, while others list only the known initial tasks. The level of detail depends on the district drafting the scope or managing the agreement and what is known about the project. Projects can be bundled. The agency uses a fee guidance document, created in conjunction with agency staff and American Council of Engineering Companies of Ohio, to benchmark reasonable hours per task based on task complexity. The document is available for agency staff and consultants to reference when negotiating fees.

Once preliminary engineering is complete, the consultant will develop SOWs for successive phases, including the work tasks and fee proposals, which are reviewed and negotiated as needed.

South Carolina Department of Transportation

Requests for proposal contain the same level of detail for all phases but state which are future phases. In a multiphase contract, the consultant awarded the initial phase is usually awarded additional phases. Projects can be bundled; currently there is no mechanism in place to ensure consistency across contracts.

Utah Department of Transportation

The respondent noted that the agency “really only perform[s] multiphase [contracts] for alternative delivery projects in the U[tah] DOT. It is not that they are not a good thought, it is because we have clearly defined activities in the PDN [Project Delivery Network]. This helps us to be able to separate the contracts out independently and still have time, if needed, in between the contracts. Our Consultant Services staff really help[s] in processing contracts and prioritizing processing of contracts when we need them faster.”

Note: The agency's Project Delivery Network is described as a "road map for project teams. This documentation outlines and describes the activities, deliverables and tasks typically required to successfully advertise a UDOT Project. This map will provide teams with expectations for each deliverable required on the project along with resources to determine how to accomplish the tasks for each deliverable. The PDN will allow the team to perform at a high level and achieve the project scope, schedule and budget."

The respondent provided more context when asked to identify the phases included in a typical multiphase contract. Rather than identifying specific phases, he noted that the agency's use of multiphase contracts is limited to alternative delivery projects that involve construction and design. Planning and some preliminary design are completed prior to the solicitation for a multiphase contract, and the agency usually breaks up planning and preliminary design into separate contracts.

Large environmental projects (EAs and EISs) are contracted separately from other project phases. After that work is completed, the agency moves forward with contracting the design phase (final design). Firms working on previous phases are allowed to submit proposals for subsequent phases of a project; other firms may also submit proposals. In most cases, the prime firm for final design is not allowed to participate in the construction oversight of the project as the prime contractor. Exceptions to this include final design phase contracts for structures with design elements that need to be verified. These contracts are continued during the construction support phase.

The agency doesn't prohibit specific contracting mechanisms but does provide guidance on when to use several types of contracts in the 2020 Consultant Services Manual of Instruction.

Washington State Department of Transportation

The initial solicitation includes a summary SOW with a summary of phases. For subsequent phases, scoping meetings with the consultant begin with a template and produce an initial draft scope that is reviewed internally. After the internal review is complete, estimate negotiation begins and is followed by internal approval and execution of the scope.

Business processes differ among divisions but follow overarching policies of the agency's Consultant Services Office (CSO). CSO supports administration of the statewide consultant services program. The respondent described another type of alternative contract—a master contract with individually scoped and negotiated task orders (also known as an indefinite delivery, indefinite quantity (IDIQ) contract). Projects can be bundled.

Wyoming Department of Transportation

Multiphase agreements are narrow in focus and well-defined and typically used for activities such as observing contractors during construction activities. The agency issues a change order that includes a cost proposal for the project's second phase.

Only the first phase of the project to be contracted is described in detail in the initial solicitation. For successive phases, a new SOW and cost proposal are requested from the consultant. The agency reviews this SOW to ensure all needed tasks are covered and the cost proposal matches preapproved billing rates.

Contract Phases

All respondents include final design in the typical multiphase contract. All but one—Wyoming DOT—includes preliminary design, and construction support is included in all respondents' multiphase contracts but Iowa DOT's. Respondents are least likely to include planning in their multiphase contracts. Table 1 summarizes survey responses.

Table 1. Phases Included in Typical Multiphase Contract

State	Planning	Preliminary Design	Final Design	Construction Support
Alabama	X	X	X	X
Arizona		X	X	X
Connecticut	X	X	X	X
Florida		X	X	X[1]
Indiana	X	X	X	X
Iowa	X	X	X	
Missouri	X	X	X	X
Ohio	X	X	X	X
South Carolina		X	X	X
Washington	X	X	X	X
Wyoming			X	X
Total	**7**	**10**	**11**	**10**

1 Post-design services for construction support are covered in the SOW but negotiated separately through a supplemental agreement.

Tasks Retained In-House

Tasks that respondents may retain in-house are summarized in Table 2, with environmental work and surveying the most common. Some respondents identified the factors that determine when a task will be retained in-house:

- Contract scope or project (Connecticut, Florida and Indiana).
- Staff workload (Connecticut, Missouri and Utah).
- Time and cost (Alabama).
- District in which the project is constructed (Florida).

Table 2. Tasks Retained In-House

State	Geotechnical Engineering	Environmental[1]	Right of Way/Real Estate	Surveys	Utilities	Other Tasks
Alabama	X	X		X		
Arizona			X			
Connecticut	X			X		Hydraulics
Florida					X	
Indiana			X[2]			

State	Geotechnical Engineering	Environmental[1]	Right of Way/Real Estate	Surveys	Utilities	Other Tasks
Missouri	X	X		X		Certain design elements
Ohio		X				
South Carolina		X		X		
Utah			X		X	Design oversight; traffic and safety
Washington						Contract administration; program management and accounting
Wyoming						Construction administration
Total	**3**	**4**	**3**	**4**	**2**	

1 This task area includes environmental-related issues, National Environmental Policy Act (NEPA) and archeology.

2 The respondent noted that this response applied to single-phase, not multiphase, contracts.

Consultant Interaction

Provision of Technical Studies or Data

Most of the responding agencies reported providing technical studies or data specific to a project electronically before a multiphase contract is advertised. Only Alabama and Wyoming DOTs do not.

Responding to Consultant Questions

Respondents may address consultant questions before or after a multiphase contract is advertised, as summarized in Table 3.

Table 3. Practices for Responding to Consultant Questions

Practice for Responding to Consultant Questions	State	Details
Before multiphase contract is advertised; inquiries directed to project manager or other agency contacts	Arizona, Florida, Ohio, South Carolina, Utah	*Arizona. C*onsultants contact applicable technical sections within the agency or the project manager directly. *Ohio*. Consultants may contact the department to ask questions and schedule “meet-and-greets” prior to advertisement. *Utah.* Consultants may discuss the project scope with various staff members, who strive to convey a consistent message to all consultants.
After multiphase contract is advertised; inquiries directed to procurement office	Alabama, Arizona, Connecticut, Florida, South Carolina, Utah	*Utah.* Process is governed by statute, which prohibits a consultant from communicating with any member of the selection team. Consultants can request a meeting with the project manager.

Practice for Responding to Consultant Questions	State	Details
Responses shared with other interested consultants or more broadly on a web page	Alabama, Arizona, Iowa, Ohio, Washington, Wyoming	*Alabama*. Questions posed to the contract administrator are answered prior to the letter of interest deadline. Depending on the type of questions and answers, responses may be sent to all consultants in the agency's database. *Arizona*. Restriction on contact after advertisement. Questions are submitted as part of the procurement, answered via amendment and posted to the agency's web site. *Iowa*. Questions are submitted and responded to via web site. *Ohio*. During the advertisement, questions that are deemed relevant to the project are answered and posted to the department's web site for viewing by other consultants. *Washington*. Advertisement usually includes a deadline for questions; a Q&A document is posted on the advertisement web page. *Wyoming*. All questions are submitted to the Engineering Services program, which gathers answers from other agency programs and shares them with all consultants responding to the solicitation.
Other	Florida, Indiana, Missouri	*Florida*, *Missouri*. Contact for questions listed in advertisement. *Indiana*. Same practices as for single-phase contracts.

Timelines

Timeline to Submit Proposal

Most responding agencies require a proposal to be submitted within two to three weeks of the advertisement (Alabama, Florida, Indiana, Iowa, Missouri, South Carolina, Utah and Wyoming). Some respondents provided additional context:

- *Alabama DOT* has a two-week minimum.
- For *Florida DOT,* contracts are generally identified in one of the agency's Consultant Acquisition Plans prior to being listed on the agency's Planned Consultant Projects web site for two weeks. The project is then officially advertised for a minimum of two weeks before responses are due.
- *Iowa DOT's* typical submission deadline is two weeks but can be extended up to four weeks.
- *Wyoming DOT* applies a time limit of 14 days if the solicitation requires a request for proposal (RFP).

Three state DOTs require a submittal within three to four weeks (Arizona, Connecticut and Ohio), with the Ohio DOT respondent noting that the agency strives to execute agreements within 90 days of selection. In Washington, timing varies but at minimum is five weeks. The Utah DOT respondent noted that multiphase contracts and alternative delivery projects are usually advertised for an average of five months, depending on the project scope, size and time of year.

Time to Negotiate Contract

Most responding agencies spend one month or less negotiating a contract (Alabama, Indiana, Iowa, Missouri, Ohio, Utah and Washington). The Alabama and Utah DOT respondents noted the timing can vary depending on the project. Arizona, Florida and Wyoming DOTs require two to five months to negotiate; South Carolina DOT's negotiations require six months or more. The Florida DOT respondent provided additional context:

> Typically, the [d]epartment and [c]onsultant independently estimate hours and swap estimates a few days prior to negotiations. Negotiations are focused on those activities where they differ, which may be a few hours to a few days per discipline/component. Generally, we only have 11 weeks to negotiate (11 weeks is from the final selection to contract execution, so actual negotiation time is more around six to seven weeks). This may also vary by [d]istrict as to how they approach meeting the procurement time frame. It does also depend on the complexity of the project and activities. More time may be given for a more complex project.

Costs and Payment

Developing Cost Estimates

Most common among respondents is to develop cost estimates using staff hours (Connecticut, Florida, South Carolina and Washington); three agencies use historical costs (Florida, Ohio and Wyoming). Ohio DOT also uses a spreadsheet template of anticipated tasks. Cost estimates are developed independently by Arizona DOT project managers and Indiana DOT contract engineers. Most of Washington State DOT's contracts are based on hourly rate. The agency estimates the level of effort required to complete the scope and then applies estimated rates.

Other respondents offered additional details:

- *Alabama DOT* develops a fee for each phase of the initial contract or supplements the contract to cover later phases of work as they are better defined.
- *Iowa DOT* has generalized rules for cost that include percentage of construction.
- *Missouri DOT* bases estimates on a percentage of anticipated construction costs and staff experience.
- *Utah DOT* estimates costs based on experience, with inexperienced project managers receiving guidance from other project managers and co-workers.

Methods of Payment

All agencies use cost plus fixed fee as a method of payment, and all but two (Missouri and South Carolina DOTs) allow lump sum payments. Table 4 summarizes respondents' methods of payment and describes how payment methods are determined and applied.

Table 4. Methods of Payment

State	Lump Sum	Cost Plus Fixed Fee	Cost Per Unit of Work	Specific Rates of Compensation	Determination and Application
Alabama	X	X	X	X	Based on the type of work or time constraints.

State	Lump Sum	Cost Plus Fixed Fee	Cost Per Unit of Work	Specific Rates of Compensation	Determination and Application
Arizona	X	X	X	X	Based on the size, complexity and duration of the project and SOW's level of detail.
Connecticut	X	X	X		Uses lump sum when the scope is well-defined; uses cost plus fixed fee when the scope is variable.
Florida	X	X	X	X	Uses lump sum for a well-defined scope; uses limiting amount if there is uncertainty. *Note*: Project managers from the agency and consultant negotiate the payment method based on the available payment methods listed on the executed contract.
Indiana	X	X			Uses lump sum unless a lump sum fee cannot be successfully negotiated.
Iowa	X	X	X	X	Uses cost plus fixed fee unless there is reason to change it.
Missouri		X			
Ohio	X	X	X	X	Determined in conjunction with the district managing the agreement based on type of work.
South Carolina		X			*Note*: The respondent reported that the agency is trying to move toward lump sum payments.
Utah	X	X	X		Determined by the contract's primary contact (typically, the project manager).
Washington	X	X	X	X	Determined by the Consultant Services Office after review of the scope.
Wyoming	X	X			Based on the type of work being performed and what the unknowns are once the consultant begins their work.
Total	**10**	**12**	**8**	**6**	

Some respondents provided additional details of their agencies' payment practices:

- For *Alabama DOT*, some contracts start out as fast track cost plus with a limiting amount and convert to lump sum when negotiations are complete (subtracting cost plus payments).
- *Arizona DOT's* predesign service contracts may use cost plus fixed fee; contracts for final design may use lump sum.
- For *Florida DOT*, some services such as geotechnical engineering and surveying and mapping are paid under a limiting amount agreement. Florida DOT procedures indicate that under such an agreement, "the consultant is obligated to complete the services with compensation based upon documented actual hours worked and/or expenses incurred up to the agreed upon limiting amount." On task work order contracts, each task work order could have different or multiple payment methods.

- *Indiana DOT's* payment methods may be dependent on the negotiation for the second phase fee.
- *Iowa DOT* normally breaks the work into smaller, sequential contracts so the SOW is better defined for each step. Subconsultants can also have different payment methods.
- For *Ohio DOT*, preliminary engineering tasks are typically paid using cost plus fixed fee, but once studies are completed and the scope is well-defined, lump sum may be used for final engineering tasks. Geotechnical services are typically paid using cost plus unit of work.

Cancellation and Termination

Respondents reported various reasons for canceling a solicitation for a multiphase contract:

- Change in project (Connecticut, Indiana, Utah and Washington).
- Loss of funding (Ohio, Utah, Washington and Wyoming).
- In the best interest of the state (Arizona and Utah).
- Issue with solicitation (Arizona and Iowa).
- Decided to do in-house (Ohio).
- Insufficient bidder interest (Florida).

The Alabama DOT respondent does not recall canceling a solicitation; the Missouri DOT respondent reported canceling solicitations "if something changes." The Utah DOT respondent described a preferred evaluation process that attempts to address performance-related issues midcontract. Typically, the evaluation process identifies mitigation measures that produce a course change.

Most agencies with experience terminating an ongoing multiphase contract had done so as a result of a funding change or contractor performance:

- Funding change (Alabama, Connecticut, Iowa, Missouri, Utah, Washington and Wyoming).
- Poor contractor performance (Arizona, Connecticut, Florida, Missouri, Utah, Washington and Wyoming).

Respondents also offered other reasons for termination:

- At will or in the best interest of the state (Alabama and Arizona). (Alabama DOT's contracts are written so the agency can cancel at any time if it chooses.)
- Breach of contract (Florida).
- Failure to agree on SOW or fee (Alabama).
- Project scope change (Missouri).
- Although rare, a stop work order might be issued if unforeseen circumstances lead to the project not moving forward to construction (Ohio).

Developing Scopes of Work and Phase Orders

For Caltrans, the advertised SOW for a multiphase contract contains the consultant services expected for all project phases. A phase order, developed after the initial solicitation, is used to provide required details for a specific phase and is negotiated prior to work beginning on that phase.

Respondents described the tools and practices their agencies use to develop SOWs; the development time required to produce the SOW and first phase order; and the staffing needed for SOW development.

Tools and Practices

Templates are the most widely used tool among respondents for developing the SOW (eight agencies), while others use step-by-step procedures (five agencies) and checklists (four agencies). Table 5 summarizes survey responses.

Table 5. Tools and Practices Used to Develop the SOW

State	Templates	Checklists	Step-by-Step Procedures	Additional Comments
Alabama		X	X	
Arizona	X			Consultants are provided with sample forms, templates and checklists. General engineering consultant contracts, some design concept report contracts and supplemental services contracts use a more general narrative of services in SOWs rather than a template. See **Related Resources** on page 33 for a link to the agency's template.
Connecticut	X		X	Project complexity determines whether a template is used.
Florida	X			See **Related Resources** on page 33 for a link to the agency's template.
Indiana			X	
Iowa				The respondent reviews and approves the SOW drafted by a consultant.
Missouri	X	X		
Ohio	X			See **Related Resources** on page 34 for a link to the agency's template.
South Carolina				The agency uses the SOW from an executed contract as a template. The respondent is currently chairing a research project to develop a template.
Utah	X	X	X	The agency usually modifies the template from its original form; the SOW is then reviewed by a team of individuals and approved by the alternative delivery engineer and others, if needed.
Washington	X		X	
Wyoming	X	X		
Total	**8**	**4**	**5**	

Development Time Required

Time to Develop the Scope of Work

The time devoted to developing the SOW—from need identification to contract advertisement—varies significantly among respondents. Those offering a specific duration described a time period that ranged from one week (Wyoming) to two to four months (South Carolina).Other respondents reported time periods falling in between:

- Fifteen days (Missouri); and two to four weeks (Alabama).
- One month (Connecticut, Ohio and Washington); and one to two months (Florida).

Time to Develop First Phase Order

Developing the first phase order can be done very quickly—Iowa DOT prepares a phase order in a single day—or require significantly more time (three months for South Carolina DOT). As the Iowa DOT respondent noted, the agency "[doesn't] really put that much detail in. We keep the option to have them do almost anything." Other respondents' timing falls in between:

- Two weeks (Alabama).
- Several weeks (Ohio). The timing is variable by district due to project complexity, the disciplines affected and staff workload. The respondent estimated several weeks to finalize the scope document for advertisement.
- Thirty days (Missouri).
- Fifty calendar days (Arizona). The phase order is issued by contract modification with a target of 50 calendar days. This time period could be exceeded depending on the size and complexity of the project and contract modification.
- One to three months (Washington). This time period applies to development of a task order.

Staffing Needed for SOW Development

Respondents characterized the staffing needed for SOW development, including the expertise of each type of staff member and required experience. In some cases, respondents opted to describe the level of participation rather than staff expertise.

Most agencies reported the involvement of two to 10 staff members, with South Carolina DOT employing 15 staff members in the SOW development process. Most agencies use teams generally consisting of a project manager and other SMEs or specialty staff, depending on the project. Core teams established by Ohio, South Carolina and Washington State DOTs often remain engaged throughout the life of a project.

Alabama DOT

Three to four staff members are involved in developing the agency's SOW for multiphase contracts. Most participants are professional engineers (PEs). A team approach may be used based on the type of project and the specialists needed. Below is a description of the staff members participating in SOW development.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Consultant Management Engineer	Oversees consultant plan development	PE with eight years of experience
Staff Type 2	Location Engineer	Surveying, corridor studies and	PE with eight years of

	Staff Title	Staff Expertise	Required Experience
		traffic studies	experience
Staff Type 3	NEPA Environmental Administrator	NEPA and USACOE[1] documents	PE with eight years of experience; non-PE with 12 years of experience
Staff Type 4	Geotechnical Engineer	Soils, materials, pavements and slope studies	PE with eight years of experience
Staff Type 5	State Bridge Engineer	Structural engineer, bridge design	PE with 12 years of experience

1 U.S. Army Corps of Engineers.

Connecticut DOT

Two to four staff members participate in developing a generic scope of services for solicitation. The project manager coordinates production of the solicitation with the agency's procurement office.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Transportation Supervising Engineer (Project Manager)	Depends on type of project (highway, bridge, traffic, etc.)	Typically, seven to 10 years of general experience with two to three years managing consultant contracts
Staff Type 2	Transportation Engineer 3 (Project Engineer)	Depends on type of project (highway, bridge, traffic, etc.)	Typically, four to seven years of general experience with two to three years managing consultant contracts

Florida DOT

The number of staff members participating in SOW development depends on the specific project and its requirements. Three staff members are required, at a minimum. Additional staff may participate from district materials offices if geotechnical engineering is part of the project. The project manager takes the lead in organizing the team and brings in other experts as needed.

	Staff Title	Participation	Required Experience
Staff Type 1	Project Manager	Responsible for developing the SOW and coordinating as necessary	Experience managing projects
Staff Type 2	District Surveyor and Mapper	District surveying and mapping office is always consulted	Not provided
Staff Type 3	District Utilities Administrator	Participates when utility coordination is handled in-house (district preference)	Not provided

Indiana DOT

The number of staff needed to prepare the SOW varies depending on project complexity and is similar to development of a single-phase contract. Before selection, the capital program project manager will rely on agency owner offices (bridge, geotechnical engineering, environmental services, construction, etc.) and other district personnel to determine general scope items. After selection, the same people come together in an in-person meeting with the consultant team's representatives.

Missouri DOT

Two to five staff members are needed to develop the SOW depending on the project and the core team. More complex projects have a multidisciplinary core team that meets regarding project details.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Project Manager	PE	Minimum six years; waiving down to four years due to staffing challenges
Staff Type 2	Construction representative	Local construction office	
Staff Type 3	Bridge Project Manager or Bridge Design Liaison	PE	Minimum six years; waiving down to four years due to staffing challenges
Staff Type 4	Design staff	Design experience	
Staff Type 5	Maintenance personnel	Maintenance in the area	

Ohio DOT

The number of staff needed to prepare an SOW varies according to the disciplines involved. An average of six SMEs will contribute. SMEs visit the project site and discuss all disciplines needed in the project. One scope writer will produce the document; the team will continue to answer questions and provide guidance for the duration of the design agreement.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Scoping Engineer	Varies	Varies
Staff Type 2	Roadway Engineer	Varies	Varies
Staff Type 3	Bridge Engineer	Structures	Varies
Staff Type 4	Environmental Specialist	Environmental studies and documents	Varies
Staff Type 5	Real Estate Specialist	Real estate and right of way	Varies

South Carolina DOT

The team of 15 developing an SOW includes the project manager, design manager, four design discipline leads (roadway, hydraulics, geotechnical engineering and structures) and SMEs for other tasks needed for the project (survey, environmental impacts and permitting, public involvement and right of way). This core group will be involved throughout the life of the project.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Program Manager	Project management	Varies
Staff Type 2	Design Manager	Overall understanding of all four design disciplines and an expertise in one discipline	Varies
Staff Type 3	Design Discipline Lead	Leads the in-house design staff in one of the four design disciplines (roadway, hydraulics, geotechnical engineering, structures)	Varies

	Staff Title	Staff Expertise	Required Experience
Staff Type 4	SME	In-house lead for other tasks needed for project (survey, NEPA, permitting, right of way, etc.)	Varies

Utah DOT

Five to eight team members participate in developing an alternative delivery scope. Teams include representatives from technical areas based on the primary components of the work; managers and central staff participate to ensure consistency.

Three teams review alternative delivery proposals:

- Analysis committee reviews the technical aspects of the project.
- Evaluation committee composed of a project manager, engineering manager II, program manager and consultant advisers conducts the evaluation of proposals.
- Selection committee of senior agency leaders reviews scheduling, costs and recommendations from the technical team.

	Staff Title	Staff Expertise	Required Experience
Staff Type 1	Consultant Management Engineer	Normally a PE	Bachelor's degree; no other required experience but usually has seven or more years of agency experience
Staff Type 2	Engineering Manager II	PE	At least four years after receiving PE license; usually at least 12 years of agency experience
Staff Type 3	Environmental Program Manager	Depends on area needed	Archaeology, landscape architecture or biology degrees are typical; most staff have a master's degree or at least 10 years of experience
Staff Type 4	Senior leader	Depends on position in the agency	Usually a PE or a minimum bachelor's degree; usually at least 20 years of agency experience
Staff Type 5	Technical experts	Structures, utility, right of way or design	Depends on the area; most have a bachelor's degree and/or engineering license and at least five years of experience, depending on complexity of project

Washington State Department of Transportation

Staff teams developing the SOW range from two to 10 members, varying with the complexity and need for specialty experts. Teams are typically led by the project manager, who will bring on SMEs as needed for specific elements. Each contributes to initial development, review and finalizing the scope. All members usually remain in service through negotiation and often support management of the executed agreement.

	Staff Title	Staff Expertise
Staff Type 1	Project Manager	Not provided
Staff Type 2	Contract Administrator	Familiarity with contracting policies, regulations, procedures and laws
Staff Type 3	SMEs	Varies; may be environmental, civil, structural, etc.

Consultant Personnel Requirements

Respondents were asked to describe how an initial solicitation addresses the key personnel that will be participating on a consultant's team in these topic areas:

- Naming staff.
- Describing needed qualifications.
- Managing subconsultant poor performance.
- Addressing a material change in consultant team.

Naming Staff

Most respondents require only the names of a consultant's key staff in the proposals submitted in response to a multiphase contract solicitation. Only two agencies—Connecticut and Indiana DOTs—require names of both key staff and support staff. While Florida DOT requires that only key staff be identified in the response to the initial solicitation response, all staff must be identified once the consultant has been selected.

Describing Needed Qualifications

Respondents described the qualifications needed for the consultant's key personnel in an initial solicitation in these categories:

- Primary roles and experience.
- Certification.
- Education.
- Licensing requirements.
- Familiarity with agency standards.

Some respondents also described other factors.

Not all respondents described qualifications in all categories. Feedback from respondents providing a more significant level of detail appears immediately below; the practices of respondents providing more general information follow.

Alabama Department of Transportation

Primary roles and experience	Statement of experience in the fields that the proposed services are requested and work of similar nature the proposed staff was responsible for.
Certification and licensing requirements	Statement of professional registration of the firm and names and professional numbers of the individuals involved in the project.

Arizona Department of Transportation

Primary roles and experience	Only requests qualifications of the project (contract) manager as key personnel. The firm can identify any other individuals to showcase and identify as key members of the team. Any individual listed in the Statement of Qualifications becomes key.
Certification, education and licensing requirements	Based upon a standardized labor classification list with definitions that were developed by the agency in collaboration with the local chapter of the American Council of Engineering Companies. Applicable certifications are identified by each labor classification.
Familiarity with agency standards	Not requested; could restrict competition to consultants that have previously worked with the agency. Typically, consultants provide this information voluntarily in the Statement of Qualifications.
Other factors	Other factors are listed specific to the type of work, not the agency (for example, previous experience in urban traffic interchange systems).

Florida Department of Transportation

Primary roles and experience	Consultants must be prequalified by the agency in the advertised work types. Work types determine qualifications needed to perform the work described in the SOS.
Licensing requirements	May include licensure in engineering, surveying, architecture and landscape architecture.
Familiarity with agency standards	Consultants must be familiar with applicable agency policies, procedures, manuals, criteria and standards as described in the SOS.
Other factors	There may be conflict of interest restrictions that would preclude a firm from responding to an advertisement.

Missouri Department of Transportation

Certification	Prequalification as a design consultant for the agency.
Licensing requirements	Missouri engineering registration.

South Carolina Department of Transportation

Primary roles and experience	*From an agency RFP*: Qualifications are provided for key individuals and all other individuals that are considered critical to the success of the project. Qualifications should include information or experience related to similar projects and previous project work. *From the technical scoring criteria*: Demonstrate that the project team has the personnel and experience to provide the full range of services necessary for optimal project success. Detail the specific experience of the proposed project manager and design leads in managing corridor and interchange improvement projects. Demonstrate the ability to be responsive to and to collaborate with South Carolina DOT.
Education	No specific wording other than what appears on Standard Form 330 (SF330), Architect-Engineer Qualifications, a form used by federal agencies to obtain information from architectural-engineering firms about professional qualifications.

Licensing requirements	*From an agency RFP*: Prior to contract execution, all consultant firms, key individuals and all other individuals that are considered critical to the success of the project, shall hold or obtain licenses required for performing work on the project under state and local laws. Any design reports, plans and design calculations shall be signed and sealed by an unrestricted Professional Engineer registered in the State of South Carolina.
Familiarity with agency standards	*From the technical scoring criteria*: Familiarity of the firm/team with state transportation agency practices and procedures.
Other factors	*From the technical scoring criteria*: Past performance and quality of past performance of the firm/team's key individuals on similar type projects according to consultant performance evaluations and references.

Wyoming Department of Transportation

Primary roles and experience	The consultant is asked to describe previous projects that are similar to the work being sought.
Licensing requirements	State statutory requirements are referenced when it is necessary to have a PE or professional land surveyor.
Familiarity with agency standards	The consultant is asked to describe previous work with the agency.

Other agency practices are highlighted below:

- *Connecticut DOT's* consultants are required to have a corporate or individual PE license; other required qualifications depend on the project scope.
- *Indiana DOT* addresses staff requirements in the RFP's item description and examines the qualifications of a consultant's team as part of a prequalification process.
- *Iowa DOT* conducts the vast majority of its work with on-call qualifications-based selection contracts for which the agency selects multiple firms and awards specific contracts that fit expertise and workloads.
- *Ohio DOT* prequalifies consultants in various design categories and lists the appropriate prequalification categories for each project. An electronic consultant letter of interest (LOI) system confirms that the consultant team meets the posted prequalification requirements for the project before the consultant's LOI can be submitted. Prequalification requirements for each design category are included in the agency's 2021 Consultant Prequalification Requirements and Procedures manual.

Managing Subconsultant Poor Performance

All respondents but two—South Carolina and Wyoming DOTs—reported removing or replacing a subconsultant due to poor performance, though four agencies noted that it is a rare occurrence (Arizona, Missouri, Ohio and Utah DOTs). Agency practices are described below.

For *Alabama DOT*, replacement of the subconsultant can happen at the request of the agency or if work is substandard or a fee cannot be negotiated. Fees are adjusted up or down depending on rates of the new subconsultant. While it is not typical, *Arizona DOT* may offer several opportunities for informal issue resolution. If the issue is not rectified, formal notice is provided identifying the issue and the action required to improve or resolve it. If the issue

remains unresolved at this step, meetings are held with the applicable agency heads and consultant principal that may lead to the subconsultant's replacement.

Connecticut DOT's contracts are with the prime consultant, which "can hire or terminate anyone as required or necessary." Similarly, *Indiana DOT* only directly contracts with the prime consultant. Any changes are subject to the contract language between the prime and subconsultant. In *Ohio*, the prime consultant may choose to add or remove subconsultants. At the conclusion of the agreement, the prime consultant receives an evaluation score from the agency, so prime consultants typically team with subconsultants familiar to them.

At *Utah DOT*, though rare, issues with a subconsultant would be documented by the project manager in a midproject performance review. If a subsequent review continues to identify performance issues, the project manager asks the prime consultant to identify a qualified replacement for the subconsultant. This exercise is done in consultation with the agency's consultant services manager.

After *Iowa DOT* informs the prime consultant that the subconsultant's performance is unacceptable, the prime consultant typically removes the subconsultant rather than lose the contract. Similarly, *Missouri DOT* has a discussion with the prime consultant, as needed, as does *Washington State DOT*. If the issue cannot be corrected, Washington State DOT's prime consultant typically proposes a replacement. If the replacement is from a different subconsultant firm, the contract is amended and hours are negotiated for the new firm.

Addressing a Material Change in Consultant Team

When asked what constitutes a material change in the consultant's team that would require termination of negotiations or successive phases of a multiphase contract, three agencies reported that termination could be avoided if the staff member leaving is replaced by someone who is "equal or better" or "of the same caliber" (Arizona, South Carolina and Utah DOTs).

The Florida DOT respondent described when consultant staff changes can be made:

> After submittal of letters of interest and through contract execution, proposed subconsultants/subcontractors/subvendors, teaming arrangements and key consultant staff cannot be changed or substituted except in instances of force majeure or in the event of circumstances that cannot reasonably be anticipated and/or are beyond the control of the prime consultant. In these cases, changes or substitutions are subject to the discretion of the department and cannot be made without written approval of the department. All such requests made during contract procurement must be routed through the Professional Services Unit.
>
> After contract execution, subconsultant/subcontractor/subvendor, teaming arrangement[s] or key staff changes/substitutions require preapproval of the department's project manager before implementing. All qualification/certification requirements of the original advertisement shall govern, where applicable. Other consultant restrictions shall also apply, as referenced in the contract advertisement and Standard Notes.

Other respondents reported these practices:

- *Connecticut DOT* has no history of material changes in the consultant team.
- For *Indiana DOT*, losing key personnel is the primary material change that could terminate negotiations or successive phases.

- *Iowa DOT* considers each issue on a case-by-case basis, but rarely terminates negotiations or contracts.
- *Missouri DOT's* actions are left to the judgment of the project manager administering the consultant contract.
- In *Ohio,* if a firm goes out of business or loses a large number of its project staff, the agency may need to terminate or re-evaluate the agreement.
- In *Utah*, if mutually acceptable terms can't be reached on the contract, the agency would move toward termination and work with the next-ranked firm. If it were a successive phase, the agency would advertise for the services.
- For *Wyoming DOT,* any change in the consultant's team would need to lead to poor performance for negotiations or successive phases to be terminated.

Assessment and Recommendations

Successes

When describing successes associated with their agencies' use of multiphase contracts, respondents most frequently commented on streamlined processes, improved preparations for subsequent phases, and time and cost savings. Their responses are summarized below.

Greater accuracy

- Helps to negotiate more accurate fees for complex projects like interchange modifications (Indiana).

Helpful for large projects

- Derives benefits from two-phase contracts (first phase is through environmental review; the second phase includes final design through services for the design construction phase), especially for large, complicated projects that require an EA or EIS (South Carolina).

Improved preparations for subsequent phases

- Allows for completion of more surveying and mapping during the PD&E phase, which allows the agency to be better prepared for the right of way phase (Florida).
- Helps to identify possible red flags and encourage brainstorming for solutions prior to the design phase through the use of site visits and involving all relevant SMEs during the scoping phase (Ohio).

Streamlined processes

- Permits a seamless transition from one phase to the next without having to advertise additional contracts or involve different consultants (Arizona).
- Allows the agency to start projects without having a completely defined scope at the project's inception (Connecticut).
- Establishes a streamlined project development process by conducting PD&E and design phases concurrently, allowing the agency to realize efficiencies from early identification of the project scope, cross-functional reviews and elimination of rework or redundant activities (Florida).

Time and cost savings

- Saves time by not having to resolicit and/or pay more for a new consultant to learn about the project (Missouri).
- Provides efficiencies related to time, quality and price for alternative delivery projects; the agency continues to modify processes as needed (Utah).

Challenges

Respondents described challenges associated with consultant suitability, scope changes, timing and accounting for the unknowns in a project. Their responses are summarized below.

Consultant suitability

- Ensuring that multiphase is the best choice. While this practice may be more efficient for solicitation and onboarding, a consultant may not be suited for preliminary or environmental tasks as well as for final design (Missouri).

Scope changes

- Managing a scope that changes as the project progresses (Alabama).

Timing

- Ensuring that the procurement or contract modification process for the second phase is timely so the project is not delayed due to negotiations (South Carolina).
- Defining standards for the final project and gathering input from the owner as a project moves quickly (Utah).

Unknowns

- Estimating the unknowns, such as how many alternatives and how many refinements are needed. Discussing potential issues early on and clearly can help (Florida).

Recommendations

Respondents offered best practices for developing and negotiating SOWs and shared other advice for engaging with consultants, managing contract phases and more. Their recommendations are summarized below.

Consultant engagement

- Hold consultants accountable for quality (Missouri).
- Fully engage the consultant community in the process of developing the SOWs (South Carolina).
- When appropriate for the project, do not prescribe the specific fix for the project, but leave creativity and innovation to the consultant team (Ohio).

Developing and negotiating the SOW

- Be as specific as possible but allow for flexibility (Alabama).
- Plan and budget for the worst case scenario when appropriate (for example, bridge rehabilitation versus bridge replacement) (Ohio).
- Negotiate hours and don't hesitate to go to the next-ranked proposer if the total cost exceeds expectations (Missouri).

Developing supporting documents

- Develop procedures that include timelines for when a multiphase contract is appropriate (South Carolina).
- Develop a scope template for all phases of work that makes clear the work will be done in multiple phases (South Carolina).

Managing risk

- Identify potential project risks early in both project development and construction (Florida).

Managing phases

- Properly scope activities that overlap the PD&E study and design phases to minimize linear sequencing of tasks to expedite project development, reduce rework, eliminate redundancy and shorten schedules (Florida).
- Include as much surveying, mapping and geotechnical engineering in the PD&E phase as possible. Surveying and mapping will help expedite the right of way process, and having geotechnical tasks completed early will assist with a better construction cost estimate, especially with projects involving bridges (Florida).
- Include all phases in the original solicitation to avoid Brooks Act-related issues (Missouri). (The Brooks Act, as described in a Federal Highway Administration Q&A publication, is "the primary method of procurement for [f]ederal-aid highway program (FAHP) funded engineering and design related service contracts associated with a construction project" and "requires the selection of engineering and design related services on the basis of demonstrated competence and qualifications for the type of professional services required and negotiation of fair and reasonable compensation for the services provided."
- Keep the process moving (Washington).

Staff engagement

- Visit the project site with relevant SMEs (Ohio).
- Hire contract administrative staff members who are familiar with requirements (Washington).

Related Resources

Cited below are resources provided by respondents or identified independently that support agency practices in executing multiphase contracts.

Arizona

Engineering Consultants, Arizona Department of Transportation, undated.
https://azdot.gov/business/engineering-consultants
This web site provides information for professional services consultants, including forms, sample contracts and the following:

- Template for a cost plus fixed fee multiphase contract.
- Template for lump sum multiphase contract.

Connecticut

Consultant Design Administration Manual, Bureau of Engineering and Construction, Connecticut Department of Transportation, August 2016.
https://portal.ct.gov/-/media/DOT/documents/dconsultdesign/manual/ConsultantDesignAdministrationManualpdf.pdf
From page 13 of the manual, page 19 of the PDF:

> 10.2 MULTI-PHASE AGREEMENT
>
> A multi-phase agreement is a project-specific contract where the solicited services are divided into phases, whereby the specific scope of work and associated fees may be negotiated and authorized by phase as the project progresses. The Department will prepare a multi-phase agreement following the Assignment Meeting. The Lead Division shall coordinate with the Agreements Section and establish an upset limit (i.e., contract amount and Extra Work fee) for the Agreement. The Consultant shall prepare and submit a written scope of work for each phase of the assignment. Each phase of the assignment will be negotiated by the Negotiations Committee and will be on a lump sum or cost plus fixed fee basis, as determined by the Lead Division.

Florida

Procurement Office, Florida Department of Transportation, 2021.
https://www.fdot.gov/procurement
Resources available on this site include the Professional Services Procurement Manual, which outlines the contracting process, a web page describing prequalification applications, and a web page devoted to negotiating professional services contracts.

Concurrent (or Combined) PD&E Study and Design Standard Scope of Services, Florida Department of Transportation, January 2022.
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/designsupport/scope/concurrentpdande/2022/combinedpde-designscope-v-2022-01.docx?sfvrsn=ddb2698e_2
Agency staff are advised to "[u]se this file to prepare the scope of services for a project with both PD&E and Design phases procured concurrently in one contract. The scope file is the complete Standard Scope which includes both PD&E and design activities. All changes and/or additions to the Standard Scope shall be made in ***bold italics*** to help draw attention to the users of project specific changes."

Scope of Services and Staff Hour Estimation, Florida Department of Transportation, 2021.
https://www.fdot.gov/designsupport/scope\
This web site provides a wealth of information for agency staff preparing SOSs, including templates, examples, guidelines, tools and calculators. Among the resources included on this site are the SOS template cited above and a January 2022 Design Scope of Services Tool that "assists scope developers through an intuitive process that pulls Work Program information to create a scope output (MS Word document) that includes project-specific information along with all anticipated design activities." An April 2020 PowerPoint presentation describes how to use the design SOS tool.

Missouri

Consultant Resources, Missouri Department of Transportation, 2020.
https://www.modot.org/consultant-information
From the web site: In order to deliver projects, there may be occasions when additional engineering professional services and expertise are needed for a variety of reasons. EPG 134 Engineering Professional Services is a guide for soliciting, selecting and managing consultant contracts. Professional services are defined under the federal law, The Brooks Act, 40 USC 1102. Most consulting services used by MoDOT [Missouri DOT] are included in the federal description of professional services, therefore MoDOT must follow the federal guidelines outlined in the Brooks Act for soliciting and selecting a consultant.

Ohio

Phased PDP Template Scope, Ohio Department of Transportation, August 2021.
https://www.dot.state.oh.us/Divisions/Engineering/Consultant/_layouts/15/WopiFrame.aspx?sourcedoc={FE15DA25-7A3B-4DBA-8365-ED230CA45900}&file=Phased%20PDP%20Template%20Scope.docx&action=default
This template scope serves as "the initial scope for development of the agreement. As the project moves through additional project development [p]hases, the project specific scopes of services for these additional [p]hases shall be developed and incorporated herein. This Agreement will be implemented in [p]arts appropriate to the PDP [project development process] [p]hases."

Administration of Contracts for Professional Services, Volume 1, Consultant Contract Administration, Ohio Department of Transportation, 2021.
https://www.dot.state.oh.us/Divisions/Engineering/Consultant/ConsultDocs/Volume%201%20Consultant%20Contract%20Admin%20Manual_Dec%202021%20Edition.pdf
From the purpose and objectives:

> It is intended that this [m]anual be a single source of reference for O[hio] DOT's internal procedures regarding consultant contract administration and the consultant selection process. Any and all ODOT employees having any role in the administration of a consultant contract must either possess or have ready access to a copy of this manual.
>
> A few of the important points that are emphasized throughout this [m]anual include:
>
> - Uniform application of consultant administration procedures throughout the Department.
> - The identification of an ODOT Project Manager as the single point of contact for each consultant contract.

- The importance of good documentation and filing practices required for effective contract administration, internal and external audits, the [s]tate's fiscal control agencies, the Legislature, and public records requests.
- What to do when contractual obligations are not met.

Other volumes in this manual series include:

- Volume 2: Invoice and Project Schedule (IPS).
- Volume 3: Scope and Fee System (SAFe).
- Volume 4: Consultant Fee Estimation Guidance.
- Volume 5: Consultant Evaluation System.

Links to these publications and other consultant-related guidance are available on the agency's web site.

Specifications for Consulting Services, Ohio Department of Transportation, 2016.
https://www.dot.state.oh.us/Divisions/Engineering/Consultant/ConsultDocs/Specifications%20for%20Consulting%20Services%202016.pdf
The specifications described in this publication are "incorporated by reference in each Agreement for professional services, thereby substantially reducing the Agreement text. All references to the ORC [Ohio Revised Code] will be construed to mean the current text of the law."

Consultant Prequalification Requirements and Procedures, Ohio Department of Transportation, 2021.
https://www.transportation.ohio.gov/wps/wcm/connect/gov/0e15da1d-6bf4-4b74-9a00-d74fd2901b0c/Consultant_Prequal_Requirements_+Manual_+2021.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00QO9DDDDM3000-0e15da1d-6bf4-4b74-9a00-d74fd2901b0c-nQBf4HM
This publication describes the "[p]requalification of consulting engineering and environmental firms, right of way acquisition individuals and construction inspection individuals" as one element of the agency's qualifications-based selection process. As the web site hosting this publication notes, the agency "will list the minimum level of required prequalification with project notifications for projects that include services for which the [d]epartment prequalifies consultants. Only consultants that are prequalified are eligible to be selected. For projects that do not include such services, prequalification will not be required."

South Carolina

Professional Services Contracting Office, South Carolina Department of Transportation, 2020.
http://info2.scdot.org/professionalserv/Pages/Consultants-Professional-Services.aspx
From the web site: The Professional Services Contracting Office was established to provide guidance in acquisition of architectural and engineering (A&E) and other professional services in support of the construction, maintenance, and repair of bridges, highways and roads. It serves as the cradle to grave point of contact for all professional services contracting actions to include: solicitations, selection, negotiation, execution, invoicing, performance evaluation and records management.

SCDOT Manual for Procurement, Management and Administration of Engineering and Design Related Services, South Carolina Department of Transportation, May 2018.
http://info2.scdot.org/professionalserv/HostDocs/PSCO-Manual-5-1-2018.pdf
Updated annually by the agency's Professional Services Contracting Office, this manual includes guidance for the development of multiphase contracts.

Utah

Contractor Tools and Resources, Utah Department of Transportation, 2022.
https://www.udot.utah.gov/connect/business/construction/
From the web site:

> UDOT utilizes Alternative Delivery methods such as Design-Build (DB) & Construction Manager / General Contractor (CMGC) on projects as a way to provide value by reducing time/costs and improving quality.

The web site includes a page for design-build information, which includes link to an RFP template.

Project Management and Project Delivery Tools, Utah Department of Transportation, 2022.
https://www.udot.utah.gov/connect/business/project-management-project-delivery-tools/
From the web site: The Project Delivery Networks are an assortment of templates outlining the stages, activities and tasks used for producing successful projects. Each network focuses on a distinct area of project delivery from design to concept to environmental and even to closeout networks.

Consultant and Engineering Services Contracts, Utah Department of Transportation, 2022.
https://www.udot.utah.gov/connect/business/consultant-services/
The web site contains a link to the Consultant Services Manual of Instruction and other guidance for consultants entering into contracts with the agency.

Related Resource:

> **Consultant Services Manual of Instruction**, Utah Department of Transportation, 2020.
> https://drive.google.com/file/d/188_cvDY7UMlv1BdPpL3z_pf_6FyadiiR/view
> This manual describes the types of contracts Utah DOT employs. Multiphase contracts are not addressed.

Washington

Consultant Services, Washington State Department of Transportation, undated.
https://wsdot.wa.gov/business-wsdot/how-do-business-us/consultant-services
From the web site: Find architectural and engineering contracts for design and construction projects. We also manage a portion of personal services contracts for transportation studies, media and public involvement.

Consultant Services Manual, Environmental and Engineering Programs, Design Office, Washington State Department of Transportation, September 2016. https://www.wsdot.wa.gov/publications/manuals/fulltext/M27-50/ConsultantServiceManual.pdf
A description of master task orders and category-specific contracts begins on page 420-1 of the manual (page 79 of the PDF):

> For Master Task Order agreements used for category-specific on call services, the CSO [Consultant Services Office] will develop the general statement of work that will govern the boundaries of the category of work covered, the maximum amount of the contract, the end date, and other terms that govern the overall scope of the contract. The CSO will also negotiate the cost factors, expenses, and profit for the overall life of the contract and be responsible for negotiating any changes to these items through the life of the contract.
>
> Work authorized under Master Task Order contracts will be done through task order documents (TODs), if appropriate to the agreement type (see Chapter 450). Selection of the consultant to do a project on a task order, unless specific permission is given by CSO for a sole sourced task order, will require a Second Tier Competition Process (see Appendix Y). Items of work proposed for the task order contracts must be competed between at least several of the on-call agreement holders in the specific category (per specifications in Appendix Y). It is recommended that all firms on a list of agreement holders be requested to participate in the competition. However, all task order master contracts have a maximum amount allowed for a specific project task order, and the project office and ACL [area consultant liaison] involved must scope and estimate the full project amount to select the right list and to determine if the project can be accommodated on a task order rather than making the work a project specific agreement through the regular advertisement and selection processes. All Second Tier Competitive Processes are coordinated with the CSO prior to contacting the consultants.
>
> After selection of the consultant, negotiations for each TOD, or an amendment to a TOD, will follow the same steps listed above for project-specific contracts, if the MPD process is not used to develop the TOD statement of work. For TOD negotiations using the MPD [managing project (or program) delivery] process, see Section 420.01.02.

Contacts

CTC contacted the people below to gather information for this investigation.

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Appendix A: Survey Questions

The following survey was distributed to members of the American Association of State Highway and Transportation Officials (AASHTO) Committee on Design.

Caltrans Survey on Developing a Scope of Work for Multiphase Contracts

General Development Practices

1. What tools or methods does your agency employ when developing the SOW? Select all that apply.
    - Template(s)
    - Checklist(s)
    - Step-by-step procedures
    - Databases
    - Other (Please describe.)
2. If your agency usually uses an SOW template, are there times when it does not employ the template for multiphase contracts?
    - No
    - Yes (Please describe these instances.)
3. Does your agency provide technical studies or data specific to a project electronically, before a multiphase contract is advertised?
    - No
    - Yes
4. If a prospective consultant has questions about the project either before or after a multiphase contract is advertised, how are those questions handled?
5. Typically, how much time after a multiphase contract is advertised does a prospective consultant have to submit their statement of qualifications/proposal?
6. Does your agency bundle multiple projects in a single SOW/multiphase contract?
    - No
    - Yes
7. What types of tasks are most likely to be retained in-house when operating under a multiphase contract?
8. Has your agency developed guidance for when a multiphase contract can and cannot be used?
    - No
    - Yes (Please describe. If relevant documentation is available, please provide it or send any files not available online to susan.johnson@ctcandassociates.com.)
9. Under what circumstances would your agency cancel an **advertised** multiphase contract?
10. Under what circumstances would your agency terminate an **executed** multiphase contract?
11. Please identify the method of payment to the consultant that your agency uses. Select all that apply.
    - Lump sum
    - Cost plus fixed fee
    - Cost per unit of work
    - Specific rates of compensation

12. Does your agency allow for a single multiphase contract to contain different payment methods for different phases or elements of work?
    - No
    - Yes (Please explain.)
13. How does your agency determine the method of payment for a multiphase contract?
14. How does your agency develop a cost estimate for use in negotiation of a multiphase contract?
15. Typically, how long does it take for your agency to negotiate with a consultant to execute a multiphase contract?
16. How does your agency achieve consistency among the multiphase contracts you issue?

Consultant Personnel Requirements

1. Please share how your agency, in an initial solicitation, describes the qualifications needed for the consultant's key personnel for each descriptive element below.
    - Primary roles and experience:
    - Certification:
    - Education:
    - Licensing requirements:
    - Familiarity with agency standards:
    - Other factor(s):
2. For whom do you require specific names in a proposal?
    - Key staff only (Please respond to **Question 2A**.)
    - Key staff and support staff (Please skip to **Question 3**.)

2A. Has your agency encountered any issues when not requiring that a specific person on the consultant's team be identified for every role under the contract?
    - No
    - Yes (Please describe these issues.)
3. Can a subconsultant be removed or replaced due to poor performance?
    - No
    - Yes (Please describe when and how this happens.)
4. What constitutes a material change in the consultant's team that would require termination of negotiations or successive phases of a multiphase contract?

Phase Orders and Scopes of Work

1. Please identify the phases included in a typical multiphase contract. Select all that apply.
    - Project scoping and development (Planning)
    - Project approval and environmental document (Preliminary Design)
    - Plans, specifications and estimate (Final Design)
    - Construction support
    - Other (Please describe.)
2. For Caltrans, the advertised SOW for a multiphase contract contains the consultant services expected for all project phases, with a high level of detail provided for the first phase and less detail for subsequent phases. A phase order is used to provide required details for a specific phase and is negotiated prior to that phase. An executed phase order functions as the Notice to Proceed for its respective phase of work.

    Do multiphase contracts function the same way for your agency?
    - Yes
    - No (Please describe how a multiphase contract functions for your agency.)

3. Does the SOW included in the initial solicitation (contract advertisement) describe in detail only the first phase of the project to be contracted?
    - Yes
    - No (Please describe what the SOW addresses and why.)
4. Typically, how long does it take for your agency to develop the phase order for the first phase under a multiphase contract?
5. Please describe the process for developing the SOW for successive phases after the first phase is completed.

Staffing

1. How much time is typically spent developing the SOW (from need identification to contract advertisement) for a multiphase contract?
2. What is the typical number of staff members involved in developing the SOW?
3. If your agency uses a team approach, please describe how you form the team, the team's activities and how long it will remain in service.
4. Please provide a brief description of the typical SOW developers below.

    Staff Type 1
    - Title
    - Expertise
    - Required experience
    - Other comments

    Staff Type 2
    - Title
    - Expertise
    - Required experience
    - Other comments

    Staff Type 3
    - Title
    - Expertise
    - Required experience
    - Other comments

    Staff Type 4
    - Title
    - Expertise
    - Required experience
    - Other comments

    Staff Type 5
    - Title
    - Expertise
    - Required experience
    - Other comments

Assessment and Recommendations

1. What successes have you experienced with the SOWs your agency develops for multiphase contracts?
2. What have been the greatest challenges when developing SOWs for multiphase contracts?
3. What are your top three recommendations for other agencies developing SOWs for multiphase contracts?

   Recommendation 1:
   Recommendation 2:
   Recommendation 3:

Wrap-Up

1. Please provide links to documents, other than those you have already provided, that are related to your agency's use of multiphase contracts. These might include SOW examples, templates, checklists, procedures or other guidance. Send any files not available online to susan.johnson@ctcandassociates.com.
2. Please use this space to provide any comments or additional information about your previous responses.