I-15 Corridor Reconstruction Project

Special Experimental Project 14

Design/Build Contracting

Initial Report

August 19, 1997

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AUG 20 1997
I-15 CORRIDOR
*SP-15-7 (135) 296

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I-15 CORRIDOR RECONSTRUCTION PROJECT
SPECIAL EXPERIMENTAL PROJECT 14
DESIGN/BUILD CONTRACTING
INITIAL REPORT

INTRODUCTION

On April 15, 1996 the Utah Department of Transportation (UDOT) requested approval from the Federal Highway Administration (FHWA) to use design/build for the I-15 corridor reconstruction project under the provisions of Special Experimental Project 14 (SEP 14). On April 15, 1997, UDOT issued a Notice to Proceed (NTP) to Wasatch Constructors to design and construct the project. Wasatch Constructor's design/build proposal for the base price plus construction and maintenance options was $1.352 billion, making this the largest single highway contract (traditional or design/build) in the country.

This initial report covers the 14 month period from the middle of February 1996 to the April 15, 1997 NTP and describes the acquisition strategy process (deciding on the type of design/build), the steps in the process, the development of the Request for Proposal (RFP), and the evaluation and selection of the successful proposer. The visions of the SEP 14 will be developed; additions to the process will be explained; and lessons learned will be explored.

Two other papers on the process, "Utah's I-15 Design-Build Project - Preconstruction Phase" and "Utah's I-15 Design-Build Project-Evaluation and Selection Process", authored by FHWA personnel who participated in the process are included as Attachments 1 and 2 and provide insightful observations. Although the scope of the project is described in detail elsewhere in the previous documents and the attachments, the following concise summary is aimed at providing the reader with sufficient information to form a rudimentary understanding of the project and to place this initial report in the proper context.

The existing I-15 Corridor was built during the 1960's to serve projected needs through the 1980's. Time, traffic and weather combined to take their toll on the condition of the corridor's roadway and structures. Traffic demands far exceed capacity; structures are in a deteriorated state; and design/safety criteria are out-of-date. Therefore, there exists an immediate need to reconstruct the corridor to correct the structural, criteria and capacity deficiencies. The project completely removes and replaces 16 miles of the North/South urban Interstate portion through Salt Lake City including: roadway widening from 6 to 12 lanes; reconstruction of 137 structures/bridges including 3 Interstate to Interstate junctions and 8 SPUIs (single point urban interchanges); corridor and valley wide ATMS; railroad grade separations; HOV lanes (first in Utah); drainage system with outfalls to the nearby Jordan River; full corridor lighting; and weather information and weigh-in-motion systems. Attachment 3 is an overhead view of the project.

Attachments 4 through 7 are copies of UDOT's SEP 14 request, FHWA approval (including terms of the approval and unresolved issues), UDOT's response on unresolved issues, and FHWA's subsequent approval.

DESIGN/BUILD PROCUREMENT STRATEGY

Getting Started

The first step in defining the design/build procurement strategy was to assess UDOT's expertise and capability to manage the preparation and execution of a major design/build procurement. There was very little design/build experience in UDOT and, therefore, a decision was made to retain the services of a qualified design professional in a Program Manager role coupled with the services of a law firm experienced in design/build procurement. The design professional was Parsons Brinckerhoff Quade and Douglas, and the law firm was Nossaman, Guthner, Knox and Elliott. In addition, in order to avoid institutional and cultural resistence to the dramatic change that would come from a design/build approach, the I-15 Team (the UDOT project team and the Program Manager) were organizationally and physically separated from the normal UDOT organization and management. Decisions on the design/build procurement strategy/approach and the RFP development were made by the I-15 Team, reviewed and endorsed by an Oversight Committee (senior UDOT managers and an FHWA representative) who focused primarily on policy issues, and reported to the Executive Director (see Attachment 8). This arrangement proved to be extremely successful.

There are a number of benefits that can be gained from design/build. Included in the benefits are the following:

- Single source responsibility (one contractor responsible for all design and all construction of the entire project).
- Less management and coordination by the owner (owner no longer has to manage interfaces between multiple project segments (and contractors) nor the interface between the design (and designer) and the construction (and contractor)).
- Avoids adversarial interface between design and construction.
- Improved risk management with subsequent reduction in change orders and claims.
- Time savings (design and construction at same time).
- Cost savings through: increased efficiency of design and construction; economies of scale; standardization; less uncertainties and contingencies; and the time value of money.
- Quality which comes from allowing the design/builder to be innovative and creative and to maximize the strength of the contractor.

The I-15 project design/build procurement strategy needed to be defined to take maximum advantage of these benefits. Additionally, it was recognized that every design/build project is unique and that there exists an array of variations in the approach to design/build and how it can

be contracted. Variations range, at a minimum, from bidding to proposing; low price to best value to sole source; significant to little or no preliminary design; traditional to shared to almost no owner's risk; and using either prescriptive or performance specifications or a combination.

Moreover, choosing the right design/build approach (a combination of the variations) had to be accomplished within the context of the project goals and the laws and regulations within Utah and the Federal government (i.e. FHWA and 23CFR). There is a tendency to take the approach, RFP (or bidding documents) and contract provisions from another design/build project and adapt them. This might work, if the projects are very similar, but because every project is unique, it will most likely not be the best (right) approach for the current project. Early-on in the I-15 project, it was suggested that the design/build documents from the Eastern toll road project in California be adapted for I-15. However, a review of the two projects revealed that, other than both being highway projects, they had very little in common.

Project Goals

The I-15 project goals were defined within the imperatives of time, quality and cost.

- **Time**: Time became the dominant goal (driver) for the project. There were two primary time elements. First, research conducted by UDOT in 1995 by a large public relations firm revealed an overwhelming dissatisfaction from the public on the length of time it was taking to complete major capital highway projects for construction or repair. The public was willing to endure a greater level of inconvenience (impact) for a shorter period of time rather than less (but constant) inconvenience for a longer period of time. This response struck directly at traditional highway contracting: the sequential design-bid-build approach, numbers of smaller segments with multiple designers and contractors, and complete control of the schedule by the owner. For the I-15 project, the traditional approach was estimated to take from 8 to 10 years. Second, Salt Lake City was awarded the 2002 Winter Olympic Games which would take place in February 2002. The decision to complete the I-15 project before the Olympics both drove the decision to use design/build as the best (and maybe only) way to complete the project on time and placed a fixed time constraint on the project of international significance.

- **Quality**: Almost equally important as time, UDOT wanted a well-designed, reliable, durable, high quality highway that would both minimize future liability and maintenance expenses and serve the needs of State and the people and businesses that will use it.

- **Cost**: The project, to be financed predominantly with State funds, must be reasonable and prudent.

Laws and Regulations

Utah did not have legislation that allowed design/build for highway work. However, concurrent with the decision to use design/build to reconstruct I-15, design/build legislation for highway projects was introduced and passed in the 1996 legislative session (February, 1996). This 1996 legislation is reflected in the pre-amended language of Attachment 9. This legislation provided for a two-phase process including a request for qualifications (RFQ), a narrowing of prequalified proposers, an RFP with both technical and price submissions, payment of a stipulated fee to unsuccessful proposers, and award to the lowest responsible bidder. It also required that rules be made to establish the requirements of the design/build procurement. Later, as the procurement strategy moved closer to the desired use of best value contracting, it was the opinion of the Utah Adjutant General (AG) office that, with well defined rules, best value could fit within the broad definition of "lowest responsible bidder" given the proposal nature (with technical and price considerations) of the remaining portions of the legislation. The rules supporting the legislation, provided as Attachment 10, were written to allow a best value award as well as discussions and best and final offers (BAFOs). The rules also addressed other issues such as acceptable levels of bonding and modification of required contract clauses for design/build. In the 1997 legislative session (February, 1997) the 1996 design/build legislation for highways was amended ("technically corrected") to require award to the responsible proposer whose proposal is most advantageous to the state after considering price and other identified factors. The final legislation is reflected in the amended language of Attachment 9, and is consistent with the new two-phase Federal legislation for design/build. Throughout the procurement strategy process, UDOT played a role in fashioning both the rules in support of and the legislative "technical corrections" to the Utah design/build legislation.

A SEP 14 request was submitted to obtain a waiver from FHWA to use design/build (see Attachments 4 through 7). The SEP 14 contained a number of innovations, some part of and others complimentary to design/build such as: best value award, one contractor, performance criteria, stipends, incentives, long-term maintenance, contractor quality control and quality assurance (QC/QA), and ISO 9000. Although these innovations had not been fully developed, it was important that the concepts of the design/build approach be included in the initial SEP 14 so as not to lose time in RFP development. As each of the concepts were developed (none were eliminated), FHWA was kept appraised through FHWA's participation in the development, the subsequent SEP 14 response to unresolved issues, and constant communication with designated I-15 project FHWA contacts in Utah and Washington, D.C.

During the whole design/build development, FHWA representatives at every level (Utah, Denver and Washington, D.C.) were fully supportive of the design/build direction I-15 was taking. A MOU between the Administrator of FHWA and the Governor of Utah (Attachment 11) set a positive environment for cooperation.

Project Schedule

Because the 2002 Winter Olympics fixed the project completion date at October 15, 1997 (a combination of weather and a need for the highway to be functional several months prior to the start of the Olympics), the project schedule had to be "backed" from October 15, 1997 and compromises made between the time allowed for actual design and construction; time necessary to prepare proposals, evaluation, selection and award; and time to prepare and issue the RFP. These time frames became crucial in the decisions for the right design/build approach for the I-15 project. The result was 4 ½ years from NTP to completion date for design and construction of the project; 3 months to evaluate initial proposals, hold discussions, BAFO's, evaluation of BAFO's, selection, award and NTP; 3 ½ months for proposal preparation and submittal; and 7 ½ months to develop RFP including procurement strategy, performance specifications, RFQ (and prequalification), refinements to alignment and grade, geotechnical investigation, environmental permits, and agreements with utilities and railroads. The major milestones were set as follows:

Start development of RFP	Mid-February, 1996
Issue RFP	October 1, 1996
Receive proposals	January 15, 1997
Design/Build NTP	April 15, 1997

The Final Strategy

The final design/build procurement strategy came together as the project goals of time and quality were compared with variations in approach, and the responsibility and categories of the project were subjected to a risk analysis.

- **Time and the Strategy**: 4 ½ years to design and construct the project is extremely tight and ambitious. This led to probably the most important and critical decision of the strategy, and the toughest for any owner, much less a public agency, to make. That is, in order to realistically meet the 4 ½ years, maximum **flexibility** had to be put in the hands of the design/builder to plan, design, construct and control the project. The concept of relinquishing control and responsibility to the design/builder is the antithesis of institutional tradition and culture. It requires a contract concept and relationship built on trust. **Flexibility** includes: the provision of one contractor who controls the work for the entire corridor; a sequence of work and a maintenance of traffic plan developed by the design/builder; work on the entire 16 mile length at one time; contractor quality control and quality assurance; early construction prior to final design; no design submittals to or traditional review by UDOT; construction and design oversight only (and for design, "over-the-shoulder" oversight in the design/builder's offices); and very few UDOT decisions or

approvals required in the administration of the project. Any traditional control retained by UDOT would have the potential of UDOT "owning the schedule" and place the 4 ½ year time frame and completion prior to the Olympics in jeopardy. This was a big decision for UDOT.

- **Additional Time Related Strategy**: Additionally, the compressed time available to develop the RFP, coupled with the need to place maximum flexibility in the hands of the design/builder and the design/build benefit derived from allowing innovation and creativity, led to a strategy decision to limit the amount of preliminary design to: a comprehensive, corridor-long geotechnical investigation; and a refinement of the alignment and grade to define additional right-of-way acquisition needs, to identify utility conflicts and drainage requirements, and to provide a better estimate of quantities. The decision to limit design also complemented a separate decision to use performance specifications.

- **More Time Strategy**: Because the 4 ½ years is ambitious, it was decided (in conjunction with the risk analysis) to perform a number of up-front efforts in order for the design/builder to start work immediately after the NTP (April, 1997) which would be at the beginning of the 1997 construction season (i.e. jump start the design/builder). They were:

    - **Refinements to the Alignment and Grade, Termed Phase I Design**: (already mentioned above under "Additional Time Related Strategy").

    - **Complete Geotechnical Investigation**: (also mentioned above) Coupled with a decision during the risk analysis for UDOT to stand behind the investigation results (i.e. retain the risk), conducting and providing the proposers the geotechnical investigation not only saved months at the start of the 4 ½ years, but removed uncertainties and contingencies in the proposal pricing.

    - **Utility Agreements**: 1500 utility crossings, 600 potential conflicts and relocations, and 39 utility owners were identified. There was a utility information sheet completed by the utility owners for every conflict (scope and cost estimate) and agreements negotiated with each utility. The most significant accomplishment was to get almost all of the utilities to agree to allow the design/builder to design and/or construct the relocations. This placed the utility relocations under the design/builder's responsibility and schedule. All the information and agreements were included in the RFP. Examples of an information sheet, an agreement and a list of the utilities reflecting the choices for design and construction are provided as Attachments 12 through 14.

    - **Drainage Agreements**: Drainage from the corridor was not a consideration of the original 1960's I-15. The I-15 reconstruction project includes a collection system and outfalls to the Jordan River. Originally estimated at a cost of $28 million (1995 dollars), agreements were negotiated with all drainage jurisdictions to take advantage

of joint usage coupled with existing outfalls and pre-funding (with payback provisions) of 10 year planned upgrades. The result lowered the cost estimate to $14 million (1995 dollars). See Attachment 15.

- **Railroads Agreements**: These were negotiated early which covered commitments for design review, flagging, right of entry, real estate, safety, crossing permits, etc., and were included in the RFP.

- **Right of Way (ROW)**: Attachment 16 shows a comparison between traditional ROW acquisition and design/build. It was recognized early that the normal ROW acquisition process wouldn't work for design/build. Approval was obtained to vary the process as reflected in Attachment 16. The RFP contained a listing of every parcel and the date the parcel would be available for occupancy by the design/builder.

- **Environmental Permits**: The following permits (and procedures) were negotiated with the appropriate environmental agencies (DEQ, DAQ, DWQ and Corps of Engineers) by the I-15 Team and included in the RFP. All the successful proposer had to do was sign the appropriate order or permits after the award.

    - UDOT/DEQ Memorandum of Understanding for the entire project
    - DWQ Construction Permit
    - 404 Permits for wetlands and stream alterations
    - Harmful/Hazardous Materials Remediation
    - DAQ Approval Order for air emissions
    - Procedure whereby each of the three proposers would negotiate their Emissions Control Plan and a voluntary MOV for ambient air quality during proposal preparation and submit the approved plan/MOV with their sealed proposals.

- **Sealed Document Work (100% designs)**: There were several overpasses that provided access to businesses on one side of corridor and several independent projects (the 600 North intersection, railroad grade separations and various frontal roads) that were incorporated into the I-15 design/build project. It was decided to complete these designs to 100% and seal the documents in order, if the design/builder so chose, to provide immediate construction work at NTP. (In fact Wasatch Constructors did start right after NTP with 600 North using the sealed document design).

- **Others:** Besides drainage and utilities, a significant amount of coordination took place with the corridor jurisdictions (cities and county) over parameters of maintenance of traffic (MOT) and corridor aesthetics/landscaping. They provided much needed definition for the performance specifications and saved valuable time for the design/builder after NTP. The original starting MOT concept was the traditional

2 lanes open in both directions, 24 hours a day, 365 days a year with all movements accommodated at junctions and intersections. During the analysis and coordination, and because of I-215 and the extensive North/South road system in the Salt Lake Valley, there was consideration of closing a significant portion of the corridor for up to 2 ½ years. The resulting MOT parameters, a beneficial compromise between the two extremes, provides significant flexibility to the design/builder in closing intersections, movements, and even the corridor during off-peak hours. The aesthetics coordination allowed an acceptable "baseline" to be set for the RFP.

Lessons Learned: The up-front efforts (coupled with shared risk by UDOT) have been critical in allowing the design/builder to focus on immediate design and construction, and removed uncertainties and contingencies from the proposal pricing. Agreements, permits and working relationships were all in place. It has been said that ROW, utilities and railroads can complicate, frustrate and delay a project more and faster than any other issues. Significant up-front effort and approaches were undertaken to prevent these problems on the I-15 project.

- **Risk Analysis**: Closely associated with the strategy for time was the necessity to analyze and allocate risk for the project (design/builder vs. UDOT). In the traditional design-bid-build delivery method, risk rests almost exclusively with the owner. Whereas, with design/build there is a tendency to place all the risk on the design/builder. The correct allocation takes an analysis of the responsibility categories of the project considering the project goals. Attachment 17 is the worksheet that was used on the I-15 project. Discussions (analysis) occurred at all levels, the I-15 Team, the Oversight Committee and the Executive Director. The worksheet was also provided to the three proposers for comment during the draft RFP review. Attachment 18 shows how several categories were allocated on the I-15 project as compared to the "traditional/typical". The ability to recognize the relationship of risk with project goals and price contingencies and to make "shared risk" decisions was a key step in the procurement strategy. Risk decisions became the basis for many of the contract provisions.

- **Quality and the Strategy**: The decision to place significant responsibility and control in the hands of the design/builder created a concern over assuring the quality of the project. Traditionally, quality is willed by an owner through very prescriptive criteria and detail reviews during design, detailed MOT plans, prescriptive plans and specifications and owner QC/QA involving extensive inspection and testing. For the I-15 design/build project, quality was built into the contract through various ways so that UDOT felt comfortable that a quality project would be built. The ways quality was incorporated are listed below and are referred to as the project's "**quality hooks**".

    - **Design/Build with Performance Specifications**: As discussed earlier, inherent in the benefits of design/build is the ability of the design/builder to be innovative and creative and to maximize the construction contractor's strengths. This leads

to a feeling of ownership by the design/builder and pride in performance which in turn leads to quality. The use of performance specifications expands the opportunity for the introduction of innovation, creativity and maximizing strengths and, therefore, enhances the potential for quality.

- **Best Value Selection**: This involves selection and award based on a combination of price and other (technical) factors; frequently award is to other than the low priced proposer. By making quality a significant factor in the selection, the proposers will build quality into the technical factors of their proposals and in turn into the design and construction of the project. For the I-15 project that included technical solutions, management, schedule and organizational qualifications. The choice of best value selection was also consistent with the suggested guidelines of the Design Build Institute of America (DBIA) as reflected in Attachment 19 (the vertical arrows indicate the position of the I-15 project). Attachment 20 is a review of procurement processes that are consistent with design/build prepared by the project's legal consultant. It also recommends "Award based on price and other factors after discussions and BAFO" (i.e. best value), again considering the project goals.

- **Long Term Maintenance**: It was strongly felt that requiring a contractor to be responsible for the performance and maintenance of what it designs and constructs, leads to the incorporation of quality into the design and construction by the contractor. This has been observed in other design/build projects and in other transportation projects, predominantly either private toll roads or projects outside the U.S. Long term performance criteria was built into the performance specifications, and an evaluation factor for maintainability was included in the proposal evaluation process. Long term maintenance becomes in essence a warranty on the project.

- **ISO 9001**: Although ISO 9001 does not measure the final product nor assures a quality product, quality is usually the output or organizations and processes that are organized for quality, have standards and procedures for quality, and execute according to those standards and procedures. Since the design/builder would most likely be a combination of constructor and designer joint ventures that would be coming together for the first time on the I-15 project, a requirement to become ISO 9001 registered and to maintain that registration for the length of the project (through audits) was an important piece of the quality puzzle.

- **Award Fee**: The Award fee approach was picked to provide a positive incentive for quality performance. Attachment 21 reviews the aspects of award fee for the I-15 project which was set at $50 million, nominally $5 million for each of 9 award fee periods (6 months each) and an additional $5 million for finishing 3 months early (prorated for every day less than 3 months). The strongest aspect of

award fee is the ability to set and define expectations and then reward the contractor based on optimum performance against those expectations throughout the length of the project, not just at the end.

- **Stipends**: Attachment 21 also lists the rationale behind the payment of stipends to the unsuccessful proposers. It was felt that reimbursing a portion of the proposal preparation costs would encourage more effort (and quality) in the proposals. The approximately $1 million was chosen as being close to 50% of the proposal cost (estimated around $2 million). It appears that the proposal costs were probably in the range of $3 million or higher.

In summary, the design/build procurement strategy was defined considering the project goals of time (inflexible completion date), quality (high) and costs (reasonable). Key ingredients of the strategy are the concepts of placing maximum flexibility and control in the hands of the design/builder and incorporating "quality hooks", which manifest themselves in one contractor, performance specifications, best value selection, long term maintenance, ISO 9001, award fee, stipends, contractor QC/QA, design and construction oversight, early construction starts, and very limited UDOT decision or approval requirements. For most of these concepts, it is the first time they are being used on a major, publicly funded, interstate highway reconstruction project.

STEPS IN THE PROCESS

Attachment 22 lists the primary steps in the procurement process. Following is a discussion of selected steps (RFP development and the evaluation and selection steps will be discussed later in this report).

Request for Letters of Interest (LOI)

Attachment 23 is a copy of a request which was advertised internationally in engineering publications, newspapers, Commerce Business Daily (CBD), etc. Early in the process a decision was made, in anticipation of Federal Aid funds for a portion of the project, to follow the rules for Federal Aid projects in procurement and in contract provisions (ergo CBD and Davis Bacon for example). Well over one-hundred responses were received, some from foreign companies.

Informational Meeting

All who responded to the LOI request received an information package and an invitation to attend an informational meeting. Attachment 24 contains the Table of Contents for the information package. The purpose of both the package and the meeting was to provide information to perspective proposers on the project goals, concepts (i.e. procurement strategy), financing, schedule of process and the status of the concept (RFP) development. Additionally, four teams (teaming arrangements

had already been formed at this time) accepted an open invitation to meet separately with the I-15 Team for more detailed questions and answers. These meetings helped clarify the process, and meaningful suggestions were received from the potential participants (see Technical Concepts, below).

Request for Qualifications (RFQ)

RFQs were sent to all that had responded to the LOI request or attended the informational meeting. Three teams submitted Statements of Qualification (SOQ) in response to the RFQ. Attachment 25 summarizes the evaluation criteria of the RFQ and the rating guidelines used for evaluation. There was an internal UDOT set of evaluation guidelines written titled, "I-15 Corridor Reconstruction Project, SOQ Evaluation Procedures" which guided the evaluation process. Thirty persons participated in the evaluation. All three of the teams were prequalified, all with a rating of Highly Qualified. One of the teams, following a prescribed process, did subsequently request a change (deletion and addition) of joint venture members. The request actually strengthened their team, and the request was approved. Attachment 26 lists the final three prequalified proposers.

Lessons Learned: Even though the criteria for evaluations were the correct ones, the RFQ asked for too much information from the design/build teams. The submittals were not written very well (in a polished proposal sense). This, coupled with evaluators who rated very strictly (focused too much on mistakes in form), resulted in lower ratings than expected. This was a valuable lesson for both design/builders and UDOT after debriefings. Proposals in response to the RFP were high quality and to the point; RFP evaluators were focusing on the correct information (looking for positives rather than negatives). The exercise was also valuable in that UDOT, for the first time in the process, used a disciplined set of evaluation procedures and adjectival rating guidelines. This experience carried over into the proposal evaluation process.

Review of Draft RFP

As soon as possible after the prequalification, the RFP in progress (draft RFP) including the risk analysis were provided to the proposers for their review, discussion and comments. From the middle of August, 1996 through the end of September, 1996, the I-15 Team met individually with each proposer once a week to receive and discuss proposer comments. This process was extremely valuable. It provided the proposers with a much better understanding of the RFP concepts and best value selection (after October 1, 1996, no questions were asked by the proposers on best value). This reduced significantly the number of questions for clarification during the proposal preparation stage. Also, some significant issues were resolved, including the scope and time frame for both maintenance during construction and long term maintenance after construction, and wrap-up insurance. Except for a few exceptions (like not wanting long term maintenance), all of the suggestions from the three proposers were incorporated into the RFP. The draft RFP in August, 1996 was not nearly complete or polished, but it served its purpose well.

Technical Concepts Review

During discussions with the prospective proposers shortly after the informational meeting, several expressed the following concern due to their first experience with performance specifications. Given the short amount of time between discussions and BAFO, if they misinterpreted a performance specification for a critical element of the project, they would not have time to re-concept, re-design, re-plan and re-price the project before the BAFO proposals were due. They suggested a procedure whereby they could submit their concepts early in the proposal preparation phase and be told if they were in or out of the performance specification ("box" as it was informally termed). This review was included in the RFP. The submittals were "blinded" to the reviewers (they didn't know which proposer had submitted them), the reviewers in each discipline were held to a minimum number (usually only two), and the results were held strictly confidential being known only by the reviewers (blinded), one contracts coordinator on the I-15 Team and the specific proposer. The concepts and results were not shared with the other proposers. No quality evaluation or extraneous comments on the quality of the concepts was allowed; comments were limited to only whether they met or did not meet the performance specifications. Additionally, for roadway geometrics, the technical concepts review was used to consider configuration changes proposed by the proposers. There was a written set of procedures that governed how the technical concepts review would be conducted internal to the I-15 Team which became Attachment B to the "RFP Evaluation and Selection Procedures". Attachment 27 is a summary of the technical concept review. Fifty-three concepts (some multiple) were received; split fairly equally between the proposers; 77% were considered in the "box" and 23% out of the "box". This review was extremely valuable and accomplished exactly what it was intended to do. The approved concepts reappeared in the proposals in response to the RFP. One concept which was very attractive, but outside of the "box", resulted in a change to the performance specification.

DEVELOPMENT OF THE RFP

This was a critical step in the process as it involved converting the project procurement strategy into a RFP (contract) that included first time concepts for a major highway project. Again, the challenge of institutional culture came into play both with UDOT and the project management staff. Instead of the product being a design (a set of plans and specifications), the product was the RFP. Instead of being "engineers" and "solving problems", it was necessary to be "managers" and "define the problems" for solution by the design/builder. The organizational structure of Attachment 8 uses the title "manager" throughout. Also, the organization element, D/B Contract Management, which is not present in most design production organizations, became the focal point for all other activities. Key aspects of the RFP development were: developing performance specifications; the Phase I design; coordination and agreements on utilities, railway, drainage, and environmental; ROW planning and initial acquisition; obtaining waivers for alternate standard clauses and a new DBE clause consistent with design/build; an independent cost estimate; and the submission, evaluation and selection procedures for best value. Attachment 28 is the Table of Contents for the RFP.

Following is a discussion of several of the key RFP development aspects and other concepts developed during the process. Several of the other aspects have already been described above, such as Phase I design under "Additional Time Related Strategy".

Performance Specifications

A search could not locate any highway performance specifications, so they were developed from "scratch". Traditional prescriptive specifications tell "how to do it" whereas performance specifications define the "required (or desired) results". Besides defining the required long term performance, performance specifications provide an envelope or "box" within which solutions or designs are acceptable. The border of the "box" is usually defined by generally accepted design criteria such as AASHTO or other national codes and more specific constraints of the owner (UDOT) or the project (I-15). Attachment 29 graphically depicts the performance "box" and the limiting effect on flexibility and design choices when more constraints are imposed. The goal was to keep the "boxes" as large as possible and, for the most part, that was achieved on the I-15 project. Attachment 29 also lists the I-15 performance specifications. It was initially planned (because of time) to limit performance specifications to only major design elements, but the concept caught on and almost all design elements were written as performance specifications. Attachment 30, the lighting performance specification, although not as complex as some of the others, does show the specification format used.

Key to developing the performance specifications was convening a task force for each. The task forces (especially those for structures, pavement and geotechnical) were comprised of experts from around the country. They represented consultants, academia and associations (e.g. AISC, PCA, ASBI) as well as FHWA and UDOT. The goal was to get a wide variety of experience, especially outside of Utah, so that broad performance specifications could be developed and ownership and buy-in could be obtained from UDOT and FHWA. These task forces proved to be very successful as well as worthwhile, and achieved their goal. The specifications introduced new design concepts and possibilities to the Utah highway system. In several instances, such as structures, they were convened a number of times. Later, technical advisory teams evaluating the proposals contained members of the task forces which provided continuity in the process.

Disadvantaged Business Enterprise (DBE) Waiver

The size of the project (over $1 billion) and the unique aspects of design/build created exceptional situations that were not consistent with 49 CFR 23.45(h). Attachment 31 is the request and approval for the DBE waiver. Attachment 32 is the I-15 DBE Special Provision.

Alternate Contract Clauses

Due to the unique nature of design/build and the concepts of the I-15 project, alternate contract provisions were required for standard contract clauses regarding differing site conditions, suspension of work and material changes in the Scope of Work. Attachment 33 is the request and approval for

the alternate contract clauses. Due to the size of the enclosure, only the "table describing modifications" is included. The changed clauses are contained in Section 4.0, Contract Provisions, to the RFP.

Best Value Process (submission, evaluation and selection)

The best value process requires both a technical proposal and a price proposal. The RFP provides the proposers with direction and guidance on: the factors to be evaluated, what to submit in their proposals, the criteria for evaluating each of the factors, the rating guidelines to be used in the evaluation of the technical factors, and how the best value determination and award will be made. The following describes each of these pieces of the process for the I-15 project RFP.

- **Evaluation Factors**: Attachment 34 lists the factors (4 technical and 1 price) that were evaluated in determining the best value. The technical evaluation factors represent those aspects of the project deemed most important to the quality and ultimate success of the project.

    - **Technical Solutions**: Because the design and construction of the project was to be based (for the first time) on performance specifications, and because of the significance of the design/builder's choices to the project's quality ("quality hook"), it was felt that the proposers should be evaluated on their solutions within the parameters of the performance specifications. The subfactors, therefore, match the performance specifications.

    - **Work Plan/Schedule**: Given the critical importance of the project's completion date and the flexibility afforded the design/builder to plan the sequence of operations, this factor was also deemed extremely important.

    - **Management**: The contract strategy/concept places project control in the hands of the design/builder. This requires the assumption of non-traditional roles by the design/builder; roles heretofore the responsibility of UDOT. The capability of the design/builder to accomplish the work was deemed critical to the project's success. This factor encompassed a wide variety of areas including: management capabilities, quality management program (QC/QA for design and construction), subcontracting and DBE plans, coordination with agencies, community relations, and safety.

    - **Organizational Qualifications**: This factor was intended to allow the proposers to improve their SOQ ratings by updating information provided in response to the RFP. The information requested focused mainly on the legal and financial aspects of the joint venture organizations.

It was important to provide guidance to the proposers on the relative importance of the evaluation factor and subfactors to UDOT in the evaluation of proposals. Attachment 35 reflects

this guidance (bolding added for emphasis). In many best value procurements quality is deemed "more important" than price to emphasize the importance of quality to the selection. However, this being the first, major highway design/build in Utah, and the need to reinforce the "reasonable and prudent" goal for cost, technical and price were evaluated as approximately equal in weight. Although, it could easily be argued that either meeting the schedule or having exceptional management would assure success, the ability of the design/builder to solve the technical aspects of the project (especially given performance specifications) placed technical solutions as the most important technical factor. This is particularly true considering that the greatest challenge with the most risk is the solution to settlement of soils within the compressed 4 ½ year project time frame.

- **Submittal Requirements**: Section 3.4 of the RFP lists and describes the information that must be part of the proposal. Included are specific requirements for the technical and price proposals.

    - **Technical Proposal**: Attachment 36 contains several pages from RFP Section 3.4.5 which illustrate the type of information requested. Work Plan/Schedule included the requirement for a Network Baseline Plan; Management called for, among many items, a complete organizational chart and narrative, a summary of the QC/QA plans for design, construction and maintenance; and subcontracting and DBE plans. There were tradeoffs in the information requested, as the submittals needed to be only the minimum amount of information necessary to adequately evaluate the quality of the proposals.

    - **Price Proposal**: The contract award would be made on a lump sum base price which includes design, construction and hazardous/harmful remediation. The price submittal, which is outlined in Attachment 37 (Forms K and K-4), included the base price, maintenance and construction options, and a contract modification (change order) addition for price evaluation. In a very simplified description, although the award would be on the base price, evaluation of price would be on the net present value (NPV) total of the base price plus options plus change order additions. The NPV was calculated from a price loaded Baseline Plan; NPV guidance and factors were provided for all pieces of the proposal. NPV was used in order to discourage front-end loading of the price proposal as payments would be made using the price loaded schedule. The change order addition was included to simply obtain competitive change order rates to be applied during the contract. Additionally, the price proposal required the submission of a maximum payment schedule, "early start cost curve" of the price loaded Baseline Plan and a minimum performance schedule, "late start cost curve" of the price loaded Baseline Plan. The late start cost curve was needed for the financing plan being developed by the State, and the average of the two curves would form the basis for evaluating timely performance under the award fee.

- **Evaluation Criteria**: The evaluation factors told the proposers those aspects of the technical proposal that would be rated for quality. The submittal requirements told the proposers what to submit in their technical proposals. The evaluation criteria told the proposers what UDOT considered most important with regard to their submittals and against which their technical proposals would be evaluated for quality. Attachment 38 contains several pages from RFP Section 3.5.5 which illustrate the evaluation criteria.

  Since price was evaluated for price realism only and not evaluated (rated) for quality as in the case of the technical proposal, there were no specific evaluation criteria for price. The Price Evaluation Team was provided guidance that, in conducting a price realism analysis, to use analysis techniques deemed appropriate including: comparison of proposal prices for all proposers, comparison with pricing data, and comparison with UDOT independent estimate.

- **Technical Rating Guidelines**: Attachment 39 provides the rating guidelines to be used to evaluate each technical factor, subfactor and the overall technical proposal. The rating guidelines are based on adjectival descriptions, not point scoring. This method was specifically chosen as point scoring tends to narrow the range between proposers and limits the flexibility of the evaluators and the contracting officer in evaluating the differences and discriminators between proposals. This was not an easy concept to accept by engineers who naturally want to reduce everything to numbers and an equation. As the evaluation process proceeded, however, the evaluators became very comfortable with the rating guidelines. In order to allow more discrimination in the evaluation, the use of pluses (+) and minuses (-) were allowed in conjunction with the rating guidelines (i.e. A+, G-).

- **Best Value Determination**: Attachment 40 contains sections directly from the RFP which told the proposers exactly how best value would be determined and tied the determination back to the procurement strategy for the I-15 project (bolding added for emphasis). Again, deliberately, there is no formula or equation to combine the technical and price proposals. This allowed maximum flexibility for UDOT to analyze, justify and to determine the proposal most advantageous to the State; i.e. to determine in the case where a proposal contains the highest quality technical proposal but not the lowest price proposal, how much additional should be paid (and justified) in order to benefit from the added value (or said another way, does the added value justify the additional price). Preset formulas and equations do not allow a reasoned analysis or determination.

Other Concepts

As the RFP was developed, other concepts (not design/build related) were incorporated into the I-15 project. Several of the more significant were:

- **Partnering**: Partnering and design/build are compatible, if not synonymous, concepts. Both contain the principles of trust and teamwork. With the uniqueness of the design/build approach for the I-15 project, partnering was not only desirable, but a must for the project.

- **Owner Controlled Insurance Program (OCIP)**: Wrap-up insurance on large, complex projects has proven to be successful and a significant cost avoidance for the owner. The insurance coverage includes:

    - Statutory Workers' Compensation and Employer's Liability Insurance
    - Commercial General Liability Insurance
    - Umbrella/Excess Liability
    - Professional Liability Insurance
    - Contractors Pollution Liability
    - Railroad Protective Liability Insurance
    - Builders' Risk Property Insurance

  The insurers' bids on the OCIP were very competitive and UDOT has estimated a $20-25 million savings (cost avoidance) on the I-15 project. The contract also allows for the design/builder to share in any reduction in the cost of Workmans' Compensation Insurance due to a safe job. UDOT has found it to be beneficial to have a professional OCIP Administrator working for the owner to administer OCIP.

- **Expedited Payment**: The policy in Utah calls for payment of invoices within 60 days. Given the anticipated $20-30 million monthly invoices over the majority of the project, the design/builder would have to finance up to $30 million to carry the invoices for 60 days. This charge would be reflected in the price proposals. The I-15 contract commits UDOT to pay the monthly invoice within 7 calendar days of receipt. Reconcilition occurs after payment with adjustments on next month's invoice.

- **Electronic RFP**: The RFP (with all the geotechnical historic and current investigations and many reports) contained nearly 40,000 pages and over 1500 drawings. The printing cost per copy of the RFP was estimated at over $2,000 with a $400 shipping charge. It was decided to place the RFP on 4 CD-ROMS (2 of which were the CADD drawings) for a cost of $140 per set. Other than an initial learning curve for the I-15 Team and the proposers, the electronic RFP has been extremely successful including both cost and time savings. Currently, the conformed contract which includes the RFP (less Section 10, reports, and Section 20, Phase I Design drawings) and Wasatch Constructor's proposal (initial and BAFO) is contained on one CD.

- **Subcontracting**: There was concern expressed by the Associated General Contractors (AGC) in Utah that the large, national contractors would either squeeze the local contractors out of work or negotiate their prices down. UDOT coordinated on a continuous basis with the AGC. It was quickly recognized that there would be more than enough subcontract work for local contractors and suppliers. Secondly, the contract was written to require the design/builder to use a competitive process for awarding subcontracts over $3 million. The contract also set goals for the subcontracts of different sizes to provide a range of

opportunities. Proposers were required to indicate their competitive process and their subcontracting plan in their technical submittals, which in turn were rated. The execution of the design/builder's plans is evaluated under the award fee.

Independent Cost Estimate

The planning estimate of the original general development plan (GDP) had been carried forward and was being updated during the RFP. The GDP estimate was based on broad unit price factors, estimated quantities, the design-bid-build method and an 8-10 year duration adequate enough to traditionally solve engineering challenges such as settlement. At the same time the scope of the I-15 project was changing: added intersections, railroad grade separations, valley-wide ATMS, full corridor lighting, new criteria for pavements and structures, etc. Also, the requirements to provide for settlement and to design and construct the entire reconstruction within the 4 ½ years, had not been estimated. It was recognized that a bottom-up independent estimate would have to be accomplished when the RFP development and the refined quantities were completed. However, because of the unique aspects of the project including design/build and performance specifications as well as time, it was also recognized that a traditional engineering estimate based on actual plans and specifications would not be sufficient. Therefore, it was decided to do a design/build cost estimate.

A design/build estimating team was convened using a major east coast contractor, the I-15 Team engineers, and an estimating team from the program manager. The team approached the estimate as if they were a proposer. They developed solutions to the settlement challenge, design concepts, a network plan, an MOT plan, crew sizes, equipment lists, etc. The estimate was prepared in the same format as the RFP price proposal. In essence, the cost estimate was a "school solution". It came up with one unique technique that was cranked back into the related performance specification. The estimate took advantage of the cost benefits of design/build (see "Getting Started" above) which manifested themselves in lower cost. However, where design/build provided a way to complete the project in the time required and also reduced costs, expediting settlement in a compressed time frame resulted in a premium which increased costs. The validity of the cost estimate approach was answered when the proposals were within a 5% range and the independent estimate was within the same range.

Other

Worthy of mention was a decision that was made during the RFP development to release all Section Design Consultants (SDCs) who were performing the Phase I design refinements and the sub-consultants to the program manager who were assisting in developing portions of the RFP (i.e. long-term maintenance and aesthetics) to join the design/builder teams. This was important as it provided the design/builders with quality engineering firms which reflected later in the quality of the proposals.

The RFP was issued on schedule on October 1, 1996.

PROPOSAL EVALUATION AND SELECTION

Evaluation and Selection Procedures

A manual of procedures, the "RFP Evaluation and Selection Procedures" (the "Procedures"), was prepared to guide the evaluation and selection process. It was patterned after the "Source Selection Plan" required under the Federal Acquisition Regulations (FAR). The Procedures were critical to the discipline, fairness, uniformity, confidentiality and credibility of the process. It was comprehensive, setting out the total process in detail; it established positions and boards; detailed the responsibilities of everyone in the process; provided step by step procedures for each board and team; contained procedures for the Technical Concept Review; included separate manuals for technical and price evaluation; a confidentiality agreement; and an evaluation schedule. Having the Procedures and following it to the letter was a safeguard against a successful protest. Attachment 41 is the flow diagram of the Procedures, and Attachment 42 is the schedule followed for the evaluation and selection. Over 60 people participated in the process on either Technical Advisor Teams, Technical Evaluation Board, Proposal Evaluation Board, Price Evaluation Team or as observers. Again, the teams and boards had representation from UDOT, the program manager, FHWA (local and Washington, D.C.), and expert consultants. Prior to the evaluation, training was conducted for all participants.

Confidentiality

Critical to the validity of the evaluation and selection process was the absolute necessity for confidentiality. All participants were required to sign Attachment 43, an agreement covering confidentiality, non-disclosure and no conflict of interest. Early in the draft RFP review the proposers expressed concern that a State agency would not be able to keep their technical concepts and solutions and their prices confidential. UDOT was determined that the process would be completely confidential, and in fact it was. The proposers up until the moment of the announcement had no idea who was selected. The media ran several programs on the ability of UDOT to keep its deliberations and selection confidential. For the initial price proposal evaluation, the price proposals were held in a bank vault, and the analysis was conducted at the bank.

Oral Presentation

Shortly after proposals were submitted, each proposer made an oral presentation to all of the participants in the process, with the exception of the Price Evaluation Team (PET). The presentation afforded the proposers the opportunity to highlight the significant aspects of their technical proposals and their understanding of the RFP requirements. The oral presentations were a significant benefit to the evaluators as it gave them a better feel for what they were going to evaluate.

Technical Evaluation

In the process the Technical Advisor Teams evaluated their technical subfactor or factor. Subfactor ratings were compiled into a rating for Technical Solutions and the four technical factors were compiled into an overall technical rating by the Technical Evaluation Board (TEB). The overall technical ratings were briefed and reviewed in detail by the Proposal Evaluation Board (PEB) and either accepted or modified. Final technical ratings were decided by the PEB before the price proposals were briefed. During the technical subfactor and factor evaluations, individual Technical Advisor Teams conducted their evaluations in separate rooms with no interaction between teams except for technical coordination issues. These procedures were the same for both the initial and BAFO proposals, except the BAFO evaluations only addressed the new BAFO proposal information and went much quicker. Attachment 44 reflects the results of the technical evaluations showing the ratings of all subfactors and factors at the end of BAFO evaluations. The ratings in parenthesis reflect the ratings at the end of the initial proposal where they were different than the final BAFO ratings. It was obvious that after both the initial and BAFO evaluations, Wasatch Constructors had significantly higher quality in their technical proposal than the other two proposers. Their proposal was particularly exceptional in the Technical Solutions responses to MOT, Roadway Geometrics, Aesthetics and Maintainability.

Price Evaluation

As previously mentioned the PET conducted its evaluation separately from the technical evaluations. The price proposals were also "blinded" so that the PET members only knew proposers A, B and C. The price evaluation revealed very few discrepancies in the price proposals. Attachment 45 is a price evaluation cost summary showing both initial and BAFO proposals plus UDOT estimate. Some general observations:

- The range of the NPV comparison at line 53 was less than 3.5% (2% between Wasatch and Salt Lake City). The prices are remarkably close, which in a best value determination means quality of technical proposals will play a major role in selection.

- Since each proposer (including the UDOT estimate that used "at grade viaducts") had a different solution for settlement, a price realism comparison was made by adding from the construction cost summary: base courses + earthwork + pavement (mainline and other) + structures (bridges and all other). The comparison is shown at the bottom of the summary and reflects a close correlation.

- The reduction of approximately $200 million in Salt Lake City's base price between initial and BAFO ($100 million in structures). There was no change in their BAFO submittal for structures.

- The consistency of Wasatch's proposal between initial and BAFO.

- The variation (and unreasonableness) of Salt Lake City's option prices for maintenance, viaducts and SPUI at 106th S. This will be discussed further under Lessons Learned.

Discussions

After evaluation of initial proposals, the PEB recommended to the Selection Official (SO) that discussions be held with all proposers followed by a request for BAFO. There were a number of discrepancies and questions that had been developed during technical evaluations, and there was a need to issue an additional addendum (new option plus a change in evaluating the "other" subfactor that had come out of the initial evaluations). As can be seen from Attachment 45, Wasatch Constructors had both the highest quality rating and the lowest price. Also, because of the results of the initial evaluation, it was decided to limit the number of discussion items to only those with significant RFP issues and to only conduct discussions in writing. Both the Wasatch initial proposal and the discussion questions will be discussed below under Lessons Learned. The SO agreed to discussions and BAFO.

Best Value Selection

After the BAFO evaluation, Wasatch maintained a significantly higher rating over the other two proposers for their technical proposal. In price, Salt Lake City had dropped their price significantly enough to now be the lowest in NPV. However, as mentioned above, there was less than 2% difference between the NPV prices for evaluation of Wasatch and Salt Lake City. The best value determination was obvious, especially when considering the total of the actual prices from lines 30, 37 and 42 (base price plus both maintenance and construction options) of Attachment 45. Wasatch's price of $1.352 billion is lower than the $1.379 billion for Salt Lake City. This comparison is before adding the "dummy" change order addition (this addition will be discussed further under Lessons Learned). There was also concern over Salt Lake City's option prices for maintenance, viaducts and SPUI at 106th S. Lake Bonneville had both low quality and high price. Prior to the final determination, there was discussion on how much higher price (over the low price) could be justified for the added value (quality) in Wasatch's proposal. This is a discussion and a determination that many times involves value for price analysis. Value considers, not just current costs, but life cycle costs, and even impacts to the public. To guide the discussion the slides from Attachment 46 were used. The first slide (top left) is the case where the price difference shown equates to the quality difference shown (this is whatever is determined by the owner). Graphically you can not tell which proposal to select without more analysis. As the quality and price differences are varied, the best value (B.V.) choices become clear and fairly obvious. The last slide (bottom right) is the graphical depiction of the I-15 project BAFO proposals. Considering the significant added value for the very small price difference and the other considerations mentioned above, the PEB recommended award to Wasatch Constructors and the SO agreed. A comprehensive Board Report documented the recommendation and decision. Wasatch Constructors was the "right" contractor with the "best value" proposal.

Since the I-15 project was a major public project using the best value selection method which could culminate in award to other than the lowest priced proposer, the SO designated four observers during the BAFO technical and price presentations and deliberations. They represented the State Transportation Commission, the State Administration and the State Legislature. Their validation of the selection was unanimous.

As a final comment, UDOT executed all the actions required to provide an acquisition well protected against a successful protest: an RFP that told proposers what to submit, factors for evaluation, criteria for evaluation, rating guidelines and how determination would be made; a comprehensive set of evaluation and selection procedures; Procedures followed to the letter; confidentiality; and well written board reports documenting recommendations, determinations and decisions.

Lessons Learned

There were four significant lessons learned during the evaluation and selection process:

- **Award at Initial Proposal**: Notwithstanding the need for an additional addendum or discussion questions for Wasatch (which could have been dealt with in a different way), UDOT should have had the option to award to Wasatch after the initial proposals as they were high quality, low price with only minor discrepancies. What precluded award was that the price loaded network which provided NPV and maximum/minimum/average curves was not to be submitted until BAFO. This resulted partially because all three proposers complained over their inability to have the price loaded network at initial proposal. In retrospect, they could have had the data at initial proposal. The lesson learned is to require everything at initial proposal that is required for selection and award, or if not possible or feasible, provide a statement in the RFP along the lines of, "Notwithstanding the non-availability of the NPV data with initial proposals, if the Department so determines based on all other initial proposal information received that a selection is warranted, award may be made based on initial proposals".

- **Competitive Range**: Although the total proposal prices (actual and NPV) were very close and therefore all within a competitive range, the same was not true for several option prices in Salt Lake City's (SLC's) price proposal. As highlighted above, SLC's maintenance options total was $37 million ($88 million at initial), significantly higher than the $20 million and $27 million of the other two proposers. Likewise, SLC's deductive option for the viaducts shortening (Option B) was only -$7.6 million compared with -$18.1 million for Wasatch, and SLC's option for the SPUI at 106th South (sum of Options C and D) was $40.8 million in comparison with $11.9 million for Wasatch. It would have been fiscally irresponsible for UDOT to have executed any of these options. Alternatives of removing the areas of work from the project and accomplishing them in another way, notwithstanding the warranty nature of the long-term maintenance, would not have been attractive. The lessons learned is to make sure it is clear in the RFP, that competitive range applies to the base price and individual options as well as the total evaluation price.

- **The Contract Modification Addition for Evaluation**: The idea to obtain competitive rates for modifications (change orders) was good; the size of the addition for evaluation was not. In a design/build contract, 10% is too large to be consistent with the concept. Also, as can be seen in Attachment 45, a "dummy" addition in the range of $200 million is large enough to inappropriately skew the results, which it did. A better way would have been to set a number such as $20 or $30 million and have the proposers then apply their rates.

- **Questions for Discussions**: The decision was made, considering the quality and price results of the initial proposals, to limit discussion questions to only those with significant RFP issues. However, Salt Lake City reduced their proposal nearly $200 million, and their technical proposal still contained some very low rated items such as MOT. The lesson learned here is to never assume anything and take the time to fully develop and submit to the proposers a comprehensive set of questions for discussions.

FINANCING

The I-15 project started with effectively no funds for design and construction or completion of ROW acquisition. Except for $35 million in ATMS funds (on and off corridor) and $14 million in funds for ROW acquisition, there is no Federal funding to date for the I-15 project. Initial State funding in FYs 1996 and 1997 (July through June) was only enough to fund RFP development, initial ROW acquisitions and design/build monthly invoices for April and May, 1996. The legislative session (January/February, 1997) in considering FY 1998 funding, did enact a ten year funding plan for the Centennial Highway Fund which included the I-15 project. The plan includes funds from a number of State sources including a fuel tax increase of 5.0 cents, increased allocations from the General Fund, General Obligation Bonds, and UDOT efficiencies. Also included in the assumed revenue is $450 million in new Federal funding over 5 years.

SUMMARY

The I-15 corridor reconstruction project has a specific set of unique goals, time being the most critical. A design/build procurement strategy was chosen to achieve the project goals and also to maximize the benefits from the use of design/build. This resulted in a design/build approach with a number of first time concepts (best value selection, performance specifications, award fee, stipends, contractor QC/QA, design oversight) that places both flexibility and control in the hands of the design/builder. The RFP was developed through a very interactive process and issued on schedule, and the evaluation and selection process went through both initial and BAFO phases culminating in the selection, award and NTP to the "right" contractor whose proposal provided the "best value" to the State of Utah through "exceptional" technical quality and a reasonable price. Wasatch Contractors started work immediately after the NTP. SEP 14 provided the ability for UDOT through design/build to put in place a contract that appears to have every chance for total success in completion ahead of schedule with high quality in support of the citizens of Utah and the 2002 Winter Olympic Games.

This is the initial report of the SEP 14 waiver for the I-15 project. It is planned for the first interim report to be issued approximately six months from the NTP. This will cover the debriefings with all proposers and the implementation phase of the contract including the first summer construction season. The interim report will also address the implementation of award fee, partnering, design oversight, Contractor QC/QA as well as how the initiatives in ROW, railroads, utilities, MOT, expedited payment, OCIP and public information have been going.

There was an attempt to include as many meaningful attachments as possible to the report, however, several documents were too lengthy and could not be attached. They are:

- Design/Build Information Package
- Request for Qualifications (RFQ)
- SOQ Evaluation Procedures
- Request for Proposal (RFP)
- Evaluation and Selection Procedures (including Technical Concepts Review)

About the Author

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ATTACHMENTS

Utah's I-15 Design-Build Project
Preconstruction Phase

Project Description

Utah's $1.59 Billion I-15 design-build project provides for the reconstruction of 26 km (17 miles) of Interstate mainline and the addition of new general purpose and High Occupancy Vehicle (HOV) lanes. Included in the project is the construction or reconstruction of more than 130 bridges, the reconstruction of seven urban interchanges, and the reconstruction of three major junctions with other Interstate Routes including I-80 and I-215. The project also provides for the construction of an extensive region wide ATMS component. Current traffic volumes range from about 140,000 vehicles per day at the south end of the project to almost 200,000 vehicles per day near the north end. For most of its length, the existing highway is a six-lane facility. It is the largest project ever undertaken by the State of Utah and the largest single design-build highway contract in the United States.

Project Background

Over the past decade the Salt Lake County area has been one of the fastest growing urbanized areas in the United States. Interstate 15 is the main North-South transportation corridor through Salt Lake County and the State of Utah. For most of the length of the corridor there are no major parallel or substitute routes for North-South traffic.

During the mid to late 1980s, the local planning agency, the Wasatch Front Regional Council, and the Utah Department of Transportation (UDOT) recognized that the time had come to take action to address some of the problems with I-15 in Salt Lake County. The highway had become severely congested and 30 years of traffic and deicing salts had severely damaged most of the bridges. At about this same time the local transit agency, the Utah Transit Authority (UTA), identified a need for additional transit capacity in the I-15 corridor. A decision was made to make a joint highway and transit needs and environmental study of the corridor. At the conclusion of this study, early in 1990, a Draft Environmental Impact Study (EIS) was issued. In this draft EIS it was concluded that additional capacity was needed on I-15 and that a light rail transit facility was also warranted in the corridor.

Public support for the I-15 expansion proposed in the initial draft environmental document was only lukewarm at best because the proposed expansion did not address many of the traffic capacity problems in the corridor. The highway capacity expansion alternatives addressed in the draft EIS were all based on minimizing costs by confining all construction within the existing right-of-way. The alternatives, therefore, did not fully address all of the severe East-West capacity problems at the arterial street interchanges nor did they address the many operational deficiencies at the three freeway to freeway interchanges. The lack of a source of funding for a

very high cost project to better address some of these problems delayed further work on the highway alternative for a number of years. In this interim period, the UTA proceeded with the preparation of a final EIS and Record of Decision for their transit project.

Five years after the original draft EIS for the combined highway and transit project was issued, a Supplemental EIS for the I-15 highway project was circulated for public comment. The preferred alternative, which required a significant amount of new right-of-way, provided for an improved highway design and received strong public support. The Final EIS and Record of Decision for this project were issued in 1996.

Design-Build Decision

Early in 1996 and after consultation with the Governor, the local chapter of the Associated General Contractors, and other political leaders, the Executive Director of the UDOT made the decision to use the design-build method of contracting for the project. The decision was motivated by two factors. The first was the strong public support for completing the project as soon as possible to minimize the period of severe traffic congestion associated with the diversion of more than half of the traffic off of I-15 during the construction period. The second factor was the desire to have the project completed prior to the 2002 Winter Olympics, which will be hosted in Salt Lake City. It was generally accepted that use of the design-build contracting methodology was the only way to satisfy these goals. The design-build method of contracting would also relieve the UDOT of the many problems associated with the coordination of the design and construction of dozens, if not hundreds, of individual projects in a congested urbanized setting. The State procurement laws were modified ***and a rule established*** to clearly authorize the use of the design-build method of contracting and to permit the award of a contract to a firm that provided the "best value" proposal to the State even if another firm provided a bid that had a lower initial cost.

I-15 Corridor Management Team

To expedite the project, the UDOT Executive Director created a management team responsible for the I-15 project. The Project Director for this team reported directly to the Executive Director of the UDOT. The team was essentially independent from all other UDOT management units but could draw on some of these other units for assistance and support as appropriate. The team initially consisted of seven UDOT engineers ***supported by*** plus employees from the UDOT's project consultant, Parsons Brinkerhoff. An oversight team, consisting primarily of UDOT upper management, was established to provide some policy guidance to the corridor team and to coordinate some of the team activities with other departmental units. A representative of the Federal Highway Administration (FHWA) served on this oversight team.

Early Corridor Management Team Activities

One of the first activities undertaken by the UDOT was a combined education and promotion campaign on the benefits of the design-build method of contracting. Numerous presentations on the design-build process were made to legislative groups, contractor organizations, other governmental units and UDOT staff not directly associated with the project.

As one of the first action items, a very detailed and ambitious CPM schedule was developed to insure that the design-build project could be awarded to contract in approximately 12 months. This time table was selected to allow a full four and one half years to construct the project. The project was broken down into seven design sections. Each of these design sections was then let out to a consultant firm to advance ***roadway (alignment and grade)***the preliminary design sufficiently to permit identification of all needed right-of-way, and access features **, *drainage requirements, utility conflicts, and to conduct geotechnical investigations.*** . Simultaneously, work activities proceeded to solicit ***"Letters of Interest" from*** contractors ***and designers*** who could qualify to submit proposals on ***for*** the project. Coordination efforts were also initiated with utilities, railroads, and government agencies.

Federal-aid Funding

Utah's $125 million per year Federal-aid highway program obviously could not be counted on to fund a significant portion of a five-year $1.59 billion project. From the beginning, the Executive Director of the UDOT took the position that, even though there was a definite possibility that the project would be entirely state funded, he wanted to make the project eligible for Federal-aid funding. The state is vigorously pursuing additional Federal "demonstration" or "Olympic impact" funding which could be applied to the cost of this project. Making the project eligible for Federal-aid funding as an Advance Construction project gives the State the flexibility to use any special allocation of Federal funds they may receive in the future. It also provides them the option to use future Federal-aid apportionments to offset bond retirement cost. The decision to make the project eligible for Federal-aid funding may have increased the cost of the project because the Federally mandated Davis-Bacon wages are normally significantly higher than local prevailing wages. However, the massiveness of the project and Utah's strong economy and low unemployment may require the importation of skilled construction labor and increase construction wages to the point where there is minimal difference between the Davis-Bacon and market wage rates.

Special Experimental Project (SEP)-14 Approval and Waiver of Federal-aid Requirements

The project was approved by the FHWA as an experimental project under SEP-14. This approval permits the use of the design-build method of contracting which requires some deviations from normal Federal-aid requirements dealing with selection of contractors and consultants. Under the provisions of SEP-14, the UDOT will be required to provide experimental project reports on their experiences with the design-build process. Other Federal

approvals or waivers that applied specifically to this project are as follows:

Procurement: The FHWA approved the UDOT proposal to award the contract to the proposer who provides the best value offer to the UDOT considering price and other factors. This deviation from the normal practice of awarding the contract strictly on the basis of the lowest initial cost bid was approved after FHWA review of the preliminary Proposal Evaluation and Selection Procedures. This best value procurement process encourages innovative design and construction proposals which will meet the intent of the "more cost effective" criteria of 23 U. S. C. 112(b)(1). For example, if one of the proposers submits a proposal which significantly reduces traffic disruption during the construction period or offers a shorter construction period, the value to the traveling public can be taken into consideration in the award process.

Disadvantaged Business Enterprise (DBE) Goal: In this post-Adarand era, the implementation of the DBE goal requirements was limited to the federally funded portion of the project. Since the amount of Federal-aid funding was unknown at the time the Request for Proposals was issued and may not be finalized until after the project is completed, a decision was made to set a $20 million DBE goal based on an assumed $200 million in Federal aid funding. This $200 million figure is obviously much less than the State hopes to receive but is probably a realistic compromise amount. The $20 million in minimum DBE participation spread over five construction seasons is probably approaching the amount of additional work the local DBE contracting community can readily absorb in addition to the existing Federal-aid program. The FHWA ***U.S. Department of Transportation*** also granted relief from the requirement that bidders must submit DBE participation information; i.e., names and addresses of the DBE firms, description of the work, and dollar amount before the UDOT awards the contract. This relieves the contractor from having to deal with very specific DBE participation details prior to completing design work on the project and also eliminates some of the obvious problems associated with having relatively small DBE firms provide quotes on work that may not be started until four years in the future. The DBE special provision used on this project requires that DBE information be submitted each year.

Subcontracting Requirements: Because of the obvious difficulty involved in tracking the amount of subcontracted work on a design-build project of this magnitude, FHWA waived the provisions of 23 CFR 635.116 which requires that prime contractors perform at least 30% of the work.

Changed Conditions Clause: The UDOT was permitted to modify the standardized changed conditions clause required under the provisions of 23 CFR 635.109. Many of the standardized changed conditions clauses, such as quantity overruns, are not applicable to design-build contracts. The proposal for the project does include changed conditions clauses including clauses covering differing site conditions, delays, misrepresentations, etc. The changed conditions clauses in the contract are reflective of the UDOT's desire to assume a fair share of

the contractor's risk and minimize the dollar value of risk contingencies included in the bid price.

Stipends: The FHWA approved the UDOT's proposal to award a stipend to each of the responsive unsuccessful proposers as a means of compensating them for a portion of their proposal development costs. The intent is that the $950,000 stipends, which were originally intended to cover approximately one half of the bidder's proposal development costs, will give the UDOT the right to use concepts presented in the unsuccessful proposals. On the basis of unofficial reports, the stipend amount probably provides reimbursement for only about a third of the bidders' proposal development costs.

Procurement Process

A multi-step procurement process consisting of three major steps was utilized. The process was modeled after and followed very closely the new Federal process for the procurement of design-build contracting services. The major steps were the Request for Qualifications (RFQ) phase, the Request for Proposals (RFP) phase, and the Request for Best and Final Offer (BAFO) phase. The phases are summarized as follows:

Request for Qualifications (RFQ) Phase: The major intent of this phase was to insure that only the proposers demonstrating the highest qualifications to successfully deliver the project would proceed on to the next phase. A decision was made that a maximum of five proposers would be pre-qualified and be eligible to receive a RFP. The decision to limit the number of proposers was based on a number of factors. Among them were: the desire to avoid dealings with teams with marginal resources when better qualified teams were available; the desire to minimize bid protests; and the potential high cost***s of preparing an RFP and*** of the stipends.

The actual process started in the spring of 1996 with a public information and mailing campaign intended to inform potentially interested contractors of the upcoming project. This was followed by issuance of an information package on May 1. This initial information package described the project and provided information on the project status, financing, and scope of the planned design-build project. On May 30, the RFQ and an updated project information report were formally released. The RFQ provided information on the required content and format of the Statement of Qualifications (SOQ) and indicated how the required information would be evaluated and rated. The SOQ submission due date was July 1. At the time the RFQ was issued, it was expected that as many as five teams would be submitting SOQs. As it turned out, only three teams submitted them. One of the teams that had been expected to submit a SOQ indicated that they dropped out due to lack of a source of funding to cover the $2 to $3 million cost of responding to the RFP.

The SOQ packages for the three design-build teams, which were thick, multi volume packages, were separated into four sections: the legal and financial section, the organization and experience

section, the project approach section and the past performance section. Advisory teams, which consisted of UDOT, local, federal and private industry personnel with specialized expertise (ie. the legal and financial team included two attorneys and an accountant) were created to review and rate each of the four sections. The ratings and comments from the four advisory teams were passed on to a five member Qualifications Evaluation Board which combined the ratings of the individual advisory boards and developed a final rating and ranking for the three teams that submitted SOQs. The information developed by the Qualifications Advisory Board was passed on to the selecting official, the Executive Director of the UDOT, for a final decision. All three firms that responded to the RFQ were prequalified to respond to the RFP. The qualification notifications included any appropriate conditions for submitting a final proposal.

Request for Proposal (RFP) Phase: Development of the RFP contract documents began with the decision to use the design-build contracting approach. At the completion of the SOQ process, the prequalified design-build teams were given the opportunity to review and comment on the preliminary draft RFP. The final RFP was issued on October 1. It consisted of approximately 44,000 pages of text on two CD ROMs and the geometric design CAD information on two other CD ROMs. The due date for the initial proposal submission was January 15, 1997. There were intermediate due dates for such items as: submission of comments or requests for clarification of the RFP; ***submission of Technical concepts and Requests for Exceptions and Deviations from the RFP;*** submission of Air Quality Emission Control Plans; and for submission ***issuance*** of addendums to the RFP. During this period, five contract addendums were issued. These addendums, which included nearly 10,000 pages of text, were all incorporated into CD ROM number five.

The submitted proposals included technical solutions on such items as: maintenance of traffic, geotechnical solutions, structures, retaining walls, noise walls, pavement, maintainability, aesthetics, drainage, roadway geometry, lighting, traffic signals, signing, water quality, harmful/hazardous material remediation, concrete barriers, ATMS components, work plan and schedule, project management, quality management, subcontracting and DBE performance, coordination with other agencies, community relations, and price. Each of the proposals received was broken down into fourteen component sections. These fourteen sections were then reviewed by separate Technical Advisor teams. The Technical Advisor teams rated and ranked their assigned section of each of the three proposals received and provided a listing of any deficiencies identified. The proposals were rated based on an adjective rating system (exceptional, good, acceptable, susceptible to becoming acceptable and unacceptable) rather than a numerical ratings system.

A Technical Evaluation Board developed a single rating of the three proposals based on the recommendations of the fourteen Technical Advisor Teams. This Board also made the final recommendation on the issues that needed to be referred back to the proposers for correction. Concurrently with the Technical Advisor Team reviews, a Price Evaluation Team reviewed the

price data submitted with the initial proposals and presented it to the Proposal Evaluation Board. This Price Evaluation Team did not know the identity of the firm that had submitted the price data they were reviewing. Only the Proposal Evaluation Board and Select ing ***ion*** Official had full access to the price data and knew which firm had submitted it. As should be expected, the technical content of the proposals was also kept confidential and no official papers or notes ever left the team or board meeting rooms. The FHWA had representatives on many of the Technical Advisor teams. The FHWA also participated on the Technical Evaluation Board and on the Proposal Evaluation Board.

The Proposal Evaluation Board presented their recommendations to the Executive Director of the UDOT who concluded that all three teams had submitted competitive proposals ***within the competitive range*** and ***decided to conduct written discussions followed by a request for*** were entitled to submit a Best and Final Offer (BAFO).

Best and Final Offer (BAFO) Phase: On February 10, 1997, letters were issued to each of the proposers indicating that a request for a BAFO would be forthcoming. The letter also itemized the corrections or clarifications that were needed to the initial proposal submission. Great care was taken to prevent unintentional "technical leveling" among the proposers. Additional contract addendums ***(Nos. 6, 7, and 8)*** were also issued during this period. Some of the corrections or revisions included in these addendums were issued to correct misunderstandings which became apparent during the initial proposal review process. The formal request for the BAFOs was issued on February 21 with a submission due date of March 7. The review of the BAFOs followed the same process and utilized the same teams and boards that were used for the review of the initial proposals. Since only the changes and corrections to the initial technical proposals had to be reviewed, the review of the BAFOs took much less time than the original proposal review.

Award of Contract: The Executive Director of the UDOT held a press conference and announced the winner of the design-build competition on March 26. The winning team was Wasatch Constructors, led by Kiewit Pacific, Granite Construction and Washington Construction. The project was awarded on the basis of a best value determination; ***their overall Technical evaluation was 'Exceptional' and the amount (design plus construction) of their base price plus the construction options was*** for $1.325 Billion. There was ***only a three percent net present value spread on the total price evaluation and*** less than a six percent spread between the base price bids of the three firms, an indication that the competition was very intense. The contract was formally executed early in April and a formal ground breaking ceremony held on April 15.

Maintenance and Warranty Related Issues

Long term maintenance and warranties were key issues in the development of the RFP for this

project. The project is situated on unconsolidated sediments which were deposited in prehistoric Lake Bonneville. Embankment settlement problems are among the many complex issues that will be faced by the contractor. Primary and secondary embankment settlements ranging up to two meters in some areas are anticipated. In order to have a reasonably smooth, defect-free pavement surface, it is critical that the embankment settlement issues be properly addressed. The need for wick drains, embankment surcharges and extensive settlement monitoring instrumentation was anticipated. Early on in the RFP development process, it was anticipated that the contract would require that the contractor be responsible for all maintenance, including snow removal, for a 20 year period. This long maintenance period would facilitate the extensive use of performance type specifications which would give the contractor wide latitude in the selection of construction techniques and materials. Under this scenario, the UDOT could largely divorce themselves from embankment settlement issues and issues such as pavement type and thickness and leave them up to the contractor who would have almost sole responsibility for the consequences of the quality of the work. It would, in effect, require the contractor to design and construct a facility that could be easily and cheaply maintained to the standards specified in the RFP.

While the long term maintenance provisions were very attractive to the owner, they created some significant problems for the contractors who were not accustomed to bidding for work that would be performed up to 25 years in the future. There were also unresolved problems associated with the development of contract provisions and the procurement of a suitable performance bond for this maintenance work. The initial attempts to overcome the nervousness of the contractors, which would almost undoubtedly be reflected in high bid prices, were to: reduce the maintenance period to 15 years; include an inflation escalation clause in the maintenance costs; and limit the contractors maintenance obligation to a warranty on the pavements, ***embankments,*** structures and drainage facilities. When these actions failed to sufficiently raise the comfort level of the proposers, the maintenance period was further reduced to a maximum of 10 years; an initial 5 year maintenance option and five-one year renewable options covering years 6 through 10. Maintenance requirements and standards were restricted to pavement surfaces, ***embankments,*** structures, and drainage facilities and did not include any routine maintenance activities. As the items of work included in the maintenance after construction phase of the project are considered to be 4R type work, stage construction work or warranty repair work, they were determined to be eligible for Federal-aid funding.

The use of performance specifications, as opposed to traditional prescriptive specifications, encourages innovation in design and construction. A long contractor warranty or maintenance after construction period complements the use of performance specifications. Performance specifications, when coupled with long warranties, force the successful design-builder to make life cycle cost analyses of all design and construction options. For example, a performance specification for pavement markings might be limited to color and retro-reflectivity requirements which would apply throughout the warranty period. A penalty would be assessed for any failure

to comply with the requirements. It would be up to the contractor to arrive at the cheapest way to comply with the requirements. Initially, it was planned that the I-15 project would make very extensive use of performance specifications. When it was deemed necessary to reduce the long term maintenance requirement from 20 years to 10 years, it became apparent that it was not in the public interest to rely completely on performance specifications. Many design and construction quality related problems do not surface until 15 or 20 years after construction. For that reason, the specifications for I-15 project are generally a blend of performance specifications and prescriptive specification. They range from a lighting specification which is very close to being a pure performance specification - it basically is an illumination requirement - to other materials specifications which are simply the standard UDOT prescriptive specifications.

From the beginning, the three prequalified proposers expressed a preference for a flexible pavement design. The flexible pavement would simplify the problems associated with the maintenance of traffic during construction, simplify construction scheduling, and make it easier to deal with differential embankment settlement problems. The UDOT maintained an even stronger preference for a rigid pavement design because of the excellent performance of the older Portland Cement Concrete (PCC) pavements in the Salt Lake County area. Many of these older pavements have required virtually no maintenance in 30 years and are in remarkably good condition. There was also some concern within the UDOT that the use of a flexible pavement design could give the contractors an incentive to inadequately address the handling of the embankment settlement problems and then fix up any problems later with a pavement overlay. Life cycle cost analyses of rigid and flexible pavement alternatives do not clearly favor one type over the other. The final RFP requires a PCC pavement design which is to be developed by the successful proposer within established parameters.

Project Oversight and Quality Issues

Some of the key features of the Quality Management Plan required by the contract are as follows:

Design Quality Management Plan: The contractor has the primary responsibility for design quality. The Project Design Quality Assurance (QA) Manager, who is assigned by the contractor, is the individual responsible for overall management of the QC/QA programs for design. This individual, who reports directly to the contractor's Project Manager, is essentially responsible for all of the design QA activities normally carried out by the UDOT. This individual has the sole authority to approve the release of design plans for early construction with no separate approvals required by UDOT personnel. The Project Design QA manager will be making all of the design oversight reviews. The UDOT will participate in some of these reviews using the "over-the-shoulder" review technique. Under this procedure, the UDOT will limit their design oversight to spot checks to insure that the design work complies with the RFP requirements. The contractor will be responsible for the design details and insuring that the design and construction work mesh together properly. The actual formal UDOT acceptance of the design will occur essentially at the

time of acceptance of the construction for any work segment.

Construction Quality Management Plan: The plan requires that the contractor will have the overall responsibility for both the Quality Control (QC) and QA activities. The contractor's on-site Project Construction QA manager is required to be an employee of an independent QA firm that is not otherwise associated with the construction work. The Construction QA Manager will report directly to the contractor's Project Manager and be independent of the contractor's construction staff. The construction QA firm will perform all of the construction inspection and sampling and testing work that is normally performed by the UDOT. This includes the documentation of construction activities and acceptance of manufactured materials. The UDOT's construction role will be limited to oversight of the QA firm activities, verification sampling and testing, independent assurance sampling and testing, review of progress payments, and oversight of the contractor's construction management scheduling, document control, etc. The contractor is also required to have a QC program; however, the design of the QC program is left up to the contractor. While there are strict certification requirements for the construction QA personnel, there are no comparable formal certification requirements for contractor QC personnel. The QC and QA programs can be integrated, if appropriate, but all acceptance inspection and testing must be performed by employees of the independent entity responsible for construction QA.

ISO 9000 Quality Program: All major participants in the contract are required to provide and participate in a quality program in conformance with ANSI/ASQC Q9001 (ISO 9000). This is an internationally recognized certification process used to assess the implementation of quality control processes throughout an organization. To comply with the contract requirements, ***the joint venture contractor, the design joint venture, the maintenance entity and*** all of the major participants of the successful proposer, which includes the independent firm responsible for construction QA, must be certified within twelve months following the issuance of the notice to proceed. While the certification process by itself cannot guarantee a quality product, it does provide a documented process for integrating quality control with production activities and it is consistent with the UDOT's emphasis on a quality product.

Award Fee: The RFP provides for payment of up to $50 million in award fees throughout the life of the contract. The award fees are essentially a bonus for timely performance, quality of work, complying with project management requirements, and complying with community relations and maintenance of traffic requirements. Strict compliance with all of the specified award fee criteria will result in the contractor receiving a bonus of approximately $5 million every six months throughout the life of the contract. This $50 million fee is in addition to the contract bid price and it is desired or expected that the successful contractor will plan on earning most of this fee and use it for a part of their profit margin. A very substantial portion of the award fee is directly tied to the quality of construction and to the contractor's quality assurance programs. The award fees are being relied on as a major contributor to quality.

Miscellaneous Contract and Specification Issues

Some of the other contract features or requirements that may be of interest are as follows:

Performance Bond: Typically, highway construction projects require performance and payment bonds that equal one hundred percent of the contract bid price. The initial research by the UDOT's I-15 team indicated that it ***was not possible*** would be very difficult to find surety firms that were individually capable of or willing to underwrite billion dollar performance and payment bonds. Even if a contractor could find a surety firm willing to provide bonds of this size, the cost would be very high. After much discussion and analysis, it was concluded that a $250 million bond would be adequate to protect the interests of the State and this bond amount was required in the RFP.

Owner Controlled Insurance Program (OCIP): After many discussions with other agencies and firms that had dealt with large design-build projects, the UDOT concluded that there was a potential very large savings if the state purchased and managed most of the insurance required for the project. The UDOT procured the services of an insurance specialist who purchased and will manage most of the insurance policies and plans needed for the project. The OCIP is very comprehensive and even extends to the workman's compensation program but does not totally relieve the contractor from all insurance requirements. The contract requires that the contractor prepare a very extensive safety plan and submit it for approval early in the life of the contract. To provide an additional incentive for the design-build contractor to have a safe work site, the contract specifies that the contractor will receive a share of all insurance premium rebates received after completion of the project. The UDOT did not request Federal-aid participation in the cost of the OCIP, which was the subject of a separate procurement activity.

Buy Utah: In response to a request from the local chapter of the Associated General Contractors (AGC), the UDOT had originally planned to include contract provisions that required that Utah contractors receive a specified share of the contract work. When the decision was made to make the project Federal-aid eligible, it became impossible to meet this commitment to the AGC. As a compromise, the contract specifies that approximately $100 million in construction subcontracts be let out to bid. This will allow some of the local contractors who are not on the successful proposer's team the opportunity to submit bids on work elements.

Design/*Construction* Options: There were approximately a half dozen unresolved design/***construction*** issues remaining when the RPF was issued. For example, one of the cities along the route wanted a grade separation at a specified location but had not yet identified a source of funding for it. The RFP required that the contractor provide a fixed price quote for each of these design/***construction*** options. The RFP also sets a date when the UDOT would provide a final decision regarding the implementation of each of these design options. The use of the "design/***construction*** options" provisions provides the UDOT additional time to resolve

some of the outstanding issues, ***exact knowledge as to costs*** and eliminates the necessity ***to negotiate modifications to*** of modifying the contract should any of the options be implemented.

Right-of-Way: The UDOT is purchasing all of the right-of-way for the project; however, only a portion of the right-of-way had been purchased when the RFP was issued. For each of the approximately one hundred additional needed parcels, the RFP provides a specific date when it is anticipated that the parcel will be available to the contractor. Failure to make the right-of-way available on this specified date will make the UDOT liable for any delay costs. If the contractor needs additional right-of-way to accommodate construction operations or design revisions, it will be purchased by the UDOT but paid for by the contractor.

Railroads: Dozens of railroad overpasses and underpasses have to be constructed or reconstructed under this contract. In addition, the contractor is required to relocate several miles of railroad track and perform other work on railroad right-of-way. While the UDOT has coordinated all of their preliminary activities with the railroads, it is up to the contractor to work out most of the final agreements with the railroads. As the contractor's operations will dictate the amount of railroad flagging required, the cost of the railroad flagging will be borne by the contractor. Making the contractor responsible for dealing directly with the railroad should reduce the UDOT's liability for any railroad related delays. It is also anticipated that a private company has more avenues available for expediting the approval of railroad agreements than does a government agency.

Utilities: There are approximately 1,500 utility crossings in the corridor with up to 500 or 600 potential construction conflicts. Preliminary or master utility agreements have been executed with all of the utilities having facilities that will be potentially impacted in the corridor. The RFP includes all of the known information on the potential utility conflicts including who will be responsible for the design and construction. ***In a few cases,*** Some of the utility companies will be responsible for the design and construction of their relocated facilities. In most of these instances, the UDOT will provide direct reimbursement to the utility for their eligible relocation costs. In ***most*** other instances, the design-build contractor will be responsible for the design and construction and will have to include the relocation costs in with their bid.

Value Engineering: Although this project has already been subjected to more value engineering reviews than any other project in the UDOT's history, the project includes a standard value engineering clause and it is anticipated that the contractor will be submitting numerous value engineering proposals.

Fuel Price Adjustment Clause: The project includes a fuel price adjustment clause. To simplify contract administration, the fuel price adjustment clause used on this contract is based strictly on an assumed quantity of fuel for every thousand dollars in construction costs. The fuel usage factor was developed based on the assumption that a certain percentage of the work would

be grading work, a certain percentage would be paving work, a certain percentage would be structures, etc. The fuel price adjustment clause is triggered only if the base price of crude oil increases or decreases by more than twenty-five percent.

Progress Payments: Progress payments are based on the contractor's price loaded critical path schedule. For price comparison purposes, the contractor's bid prices were converted to present worth using a four percent interest rate. This process provided some discouragement to front end loading the contract. Progress payments will be made monthly with only two weeks processing time. ***UDOT has committed to payment of monthly invoices within 7 days if the contractor chooses to be paid via electronic funds transfer.***

Early Action Items: To allow the contractor to start construction work immediately upon issuance of the notice to proceed, the UDOT provided one hundred percent complete designs for some critical project features that need to be completed early in the life of the project. The UDOT also has all of the railroad, right-of-way and utility agreements executed for these early action items. The contractor has the right to use these designs directly or modify them within the framework of the contract.

Summary

Utah's I-15 reconstruction project presented UDOT with a significant challenge for scheduling and completion in response to citizens concerns for prolonged disruptions and the upcoming 2002 Winter Olympic Games. Traditional contracting would have taken extraordinary coordination of multiple projects and an extended delivery period for completion. The adoption of design-build as a contracting approach allows UDOT to meet scheduling demands and minimize disruptions to the public. It also allows UDOT to benefit from several private sector innovations and value added features. Design-build will continue to be assessed as the project begins and additional experience is gained.

About the Author

Mr. Roy Nelson is the Field Operations Engineer for the FHWA Utah Division. Mr. Nelson was the Division representative to UDOT's I-15 project oversight committee, and was involved in the Management Technical Advisor Team during the evaluation and selection process.

Utah's I-15 Design-Build Project
Evaluation and Selection Process

Background

On March 26, 1997, the Utah Department of Transportation (UDOT) announced Wasatch Constructors as the winning consortium to design and build the massive I-15 reconstruction project through Salt Lake City. The $1.59 billion project, 26 kilometers of freeway reconstruction and widening, and replacement of over 130 structures, was awarded as a single contract. Months of preparation went into the development of a Request for Proposals (RFP) by the UDOT, and responsive bid packages from each of the three groups vying for the project.

Numerous issues were addressed as part of the RFP development process, including the approval of a design-build approach by the FHWA under Special Experimental Project (SEP-14) procedures. These issues and the process used to develop the RFP package have been documented in a paper titled *Utah's I-15 Design-Build Reconstruction Project: Preconstruction Phase*, by Mr. Roy Nelson, FHWA Utah Division. The UDOT, as part of the SEP-14 approval, will also produce a document outlining details of the design-build process including industry's reaction to using design-build, an analysis of bids using design-build, and observations of issues to address using design-build. Interim reports will also be produced as UDOT gains experience in the administration of this unique and exciting contracting approach.

This paper will focus on the evaluation and selection process for the I-15 project.

Selection of Evaluation Teams

Given the size and complexity of this project (26 kilometers of major roadway reconstruction and the addition of lanes and HOV, 130 structures, soil settlement issues, Advanced Traffic Management System (ATMS) development, etc.), the teams chosen to evaluate the proposals consisted of a cross section of technical backgrounds. The Request for Proposals required technical and price proposals to be submitted; each would be considered to be approximately equal in weighting. The technical proposal consisted of the following four factors:

Organizational Qualifications,
Management,
Work Plan/Schedule, and
Technical Solutions.

[Among the four factors "Technical Solutions" would have the highest rating weight, followed by Work Plan/Schedule, Management, and finally Organizational Qualifications.]

The "technical solutions" factor was further divided into six subfactor areas:

Maintenance of Traffic (MOT),
Geotech,
Pavement,
Structures,
Maintainability, and
Other.

[Each of these subfactors were of equal rating weight.]

Finally, the "other" subfactor was comprised of seven subelements:

Aesthetics,
Drainage/Water Quality,
Roadway Geometrics,
Lighting/Signals/Signing,
Hazardous/Harmful Material Remediation,
Concrete Barrier, and
ATMS.

[These subelements were initially considered to be of equal rating weight. As discussed below, this was revised during the evaluation process.]

Teams were formed to evaluate each of these project factors, with membership ranging from two to nine members. Sixty-four persons participated in the process overall. Membership consisted of representatives from UDOT, Parsons Brinkerhoff (UDOT's consultant in the RFP development process), FHWA, and one representative from the Wasatch Front Regional Council (Salt Lake's MPO).

Preparation and Training

As a requirement for participation on the evaluation teams each person attended a half day training session. The training was designed to educate participants on their roles and responsibilities as evaluators. Materials were provided which explained these roles, the evaluation process, the rating criteria, and the evaluation criteria for each participant's portion of the contract. For example, if a person was assigned to the Maintenance of Traffic team, they would receive the contract requirements for that technical subfactor and the evaluation criteria.

Rating Criteria

The proposal elements were to be evaluated using the following rating guideline:

Exceptional (E) - An approach which significantly exceeds requirements with outstanding level of quality, and essentially no weaknesses.

Good (G) - An approach which exceeds requirements, offers better than acceptable quality, and minor weaknesses.

Acceptable (A) - An approach which meets the requirements with an acceptable level of quality, with weaknesses that can be corrected.

Susceptible to Becoming Acceptable (S) - An approach which fails to meet requirements, with marginal content. The proposer is capable of providing an acceptable or better proposal through further discussion with the contracting agency.

Unacceptable (U) - An approach with significant weaknesses and/or unacceptable quality. There is no reasonable likelihood of success without a major revision to the proposal.

Teams were also advised that a subdivision of the rating guideline could be applied. For example, a rating of G+ or G- could be applied.

Technical Leveling

Each Team member was advised that as part of their review process, there would be elements unique to a particular proposal - elements of higher quality or a better solution. However, those quality elements do not constitute a higher level of quality that the other proposals must meet. Taking a quality element from one proposal and attempting to raise the level of the other proposals to that new, higher level is "technical leveling." As long as a proposer met the minimum requirements of the RFP for a given element, the evaluators could not propose a better solution.

Confidentiality and Security

Each Team member was explained the importance of confidentiality throughout the evaluation process, and was required to sign a "Confidentiality and Non-Disclosure Agreement, No Conflict of Interest Statement."

Security was also an important issue in the process. All documents were retained in a secured (locked) room during non-work hours, and reviewed in a common, secured area during the day. No documents or review notes could leave this security area.

Receipt of Proposals

On January 15, 1997, the UDOT received proposal documents from each of the three prequalified groups bidding on the project. Upon receipt of the documents, a Contract Management Group ensured all required elements were received. The documents were separated into technical factors, as described above. Price information was also separated. All documents were placed in the secured area.

Oral Presentations

Each of the three groups - Lake Bonneville Constructors, Salt Lake Constructors, and Wasatch Constructors - were allowed to make an oral presentation of their proposal for reconstruction of I-15 before the 64 evaluation team members. Presentations were conducted January 20-21, and were limited to two hours. Each group was allowed full discretion as to how the presentation was conducted, including arrangement of the room itself. At the completion of the two hour presentation each group was asked to leave the room, and the evaluators were allowed to organize any questions. The questions were consolidated and presented to each group by the Chairman of the Proposal Evaluation Team (described below). The question/answer session was approximately 30 minutes.

Evaluation Process - Initial Proposal

The evaluation process consisted of two parts - the initial proposal review, and the best and final offer (BAFO) proposal review. The following describes the initial proposal review process.

Technical Advisor Team Reviews

The evaluation process consisted of several teams, described above, responsible for the review and rating of specific elements of the proposal package. Each team assembled, reviewed each proposal, rated and ranked the proposals, and also prepared a list of questions to raise during discussions - items for clarification, correction, or additional explanation. For the Technical Solutions team, which consisted of several subfactor teams, a consolidated rating was reached.

Technical Evaluation Board (TEB)

The TEB was represented in part by members who had served on one of the four major evaluation factor teams (Organizational Qualifications, Management, Work Plan/Schedule, and Technical Solutions). The Chairman of the TEB would serve as the Vice-Chairman of the PEB (see below). This was done to ensure knowledge of discussions and critical issues were passed along from one level of review to the next. The role of the TEB was to assess (and change, if deemed appropriate) the ratings of each of the technical advisor teams and recommend a single, consolidated rating to the

PEB. The TEB also ranked the proposers in descending order of technical quality. In addition, the TEB reviewed all questions forwarded by the teams. Questions considered to be "technical leveling" and issues better addressed within the development of the project were not forwarded to the PEB. The TEB also made a recommendation to the PEB to enter into the Best and Final Offer stage, based on the types of questions remaining to be resolved.

Price Evaluation Team (PET)

The PET met concurrently with but independent from the technical teams, and reviewed price information. Price information was "blinded." In other words, the PET was unaware which constructor group submitted which price proposal. This was intentional, as a security measure. Only the Contract Management Group knew at this point which price proposal belonged to which group.

Proposal Evaluation Board (PEB)

The role of the PEB was to review the recommendation of the TEB, and concur if in agreement. The PEB could further delete any questions considered to be "technical leveling" or otherwise inappropriate. The PEB could also change a rating if it felt the documentation did not support the rating. Once the technical assessment was completed and the order of technical quality was assigned, the PEB received from the PET the "blinded" price information. The PEB thus became the only group to see both rating information and an associated price for each proposal. Given this information, the PEB developed a recommendation to the select ing ***ion*** official. The recommendation included the need to proceed to a Best and Final Offer stage.

Selecting ***ion*** Official

The select ing ***ion*** official, based on the recommendation of the PEB, elected to proceed to ***discussions and to*** a Best and Final Offer stage. He also elected to not enter into discussions with each proposal group, but instead to limit ***discussions to a*** formal ***written*** interaction to those questions developed through the process.

Evaluation Process - Best and Final Offer (BAFO)

The same process used for the initial evaluation was followed in review of Best and Final Offers. As would be expected, this portion of the review process was shorter. The responses addressed specific issues, and each evaluation team was familiar with the majority of the proposal details by this time. Ratings were adjusted based on responses received, and forwarded through the process as before.

Because the contract was approached as a "best value" selection, the TEB spent a considerable effort

during the BAFO stage assessing "what if" scenarios and comparing relative strengths of the three proposals. This was done to allow the PEB and Selecting Official the opportunity to make a "best value" determination if the highest quality proposal was not the lowest price proposal. As an example, if contractor "A" presented the highest quality proposal by a considerable margin, but provided a higher price, what were the value added features that would justify additional expense. These comparisons were made for each of the three constructor groups.

At the PEB's presentation to the select ***ion*** ing official, observers were requested to participate - representatives from the Transportation Commission, the State Legislature, and the Governor's office. The intent of this was to have each of those groups fully understand the process and the basis for the final selection. This would be valuable in the event of a protest.

Announcement of Award

On March 26, 1997, UDOT Executive Director Tom Warne announced that Wasatch Constructors submitted the "best value" proposal and would design and build the I-15 project. In accordance with the RFP, the two other proposers will each receive a stipend in the amount of $950,000 to cover a portion of their proposal preparation costs.

Observations of the Process

It is likely that other Departments of Transportation have or will face similar alternative contracting decisions in the future, as the public demands fewer delays and policy makers demand quicker program delivery. Design-build offers an attractive alternative to meet these demands. The I-15 design-build project is unique in a variety of ways, including the evaluation and selection process. The process worked surprisingly well, considering its uniqueness and very limited application within the transportation industry. The process allowed for an objective and timely consideration of massive, complex proposals, using a structured team approach.

The following are specific observations of the process:

- The initial training of evaluation participants, and the required confidentiality statements and security measures, were essential to the success of the process.

- Oral presentations were essential to the success of the evaluation team representatives. It provided an overall perspective of the project and set the tone for the proposal, prior to review of specific details. It also established a basic understanding of the overall project approach.

- The size of the evaluation team (64) and the number of technical subfactors appeared to work well for this size project. The time allowed for review was also adequate. Evaluation teams generally had a week to complete initial reviews, and approximately two days to complete

BAFO reviews.

- The rating system worked well, and was flexible enough to allow for adjustments. For example, during the course of the initial evaluation of the "technical solutions" elements, and specifically the seven subelements in the "other" category, the TEB felt a priority should be given to three of the subelements. As a result, ATMS, drainage/water quality, and roadway geometrics were given a higher weighting than the other four subelements. This change was communicated ***through an addenda*** to each of the proposer groups through an addendum to the RFP, prior to Best and Final Offer submittals.

- The use of a more qualitative rating system also worked well. The scale (E, G, A, S, and U - see previous explanation of terms) took some adjustment to understand. This was particularly true for the S and U categories. The U category was never used, because it implied a major failure to understand RFP requirements and an inability to recover even after discussions with the contracting agency. The Request for Qualifications process, conducted six months earlier, had established the competencies of each group to manage and deliver this scale of project. On the other side of the rating scale, the E rating was used somewhat sparingly, and an E+ rating was never used. Some evaluators felt a more liberal use of higher ratings should have occurred, given the high quality of the proposals. Ratings established by the technical advisor teams were upheld by subsequent teams (TEB, PEB), with minor exceptions.

- The process of each evaluation team developing a list of questions to present to the proposers was somewhat confusing. This occurred because each team had a different interpretation of the meaning of "technical leveling." The TEB eliminated certain questions if they were considered to be "technical leveling." The PEB and the selecting official also had the ability to delete questions. Therefore, the final set of questions forwarded for response were not the same as those originally developed by each evaluation team. This created confusion and some frustration at the technical evaluation team level. However, the process generally worked and was necessary to ensure uniformity among the teams.

- Adherence to the process and good documentation of the evaluation rationale were critical to success. Each evaluation team prepared (and individual team members signed) reports which detailed strengths and deficiencies of each proposal against the RFP requirements. [This is an important point. The evaluation teams were advised not to compare proposals against each other, but rather against the RFP requirements.]

- There remained selected items where unacceptable responses were received. UDOT retained the flexibility to condition the contract award upon successful resolution of these issues. In all cases the proposers were required to meet the minimum requirements of the RFP.

- The design-build contracting approach resulted in competition and innovative concepts which

were higher quality than required in the RFP. For example, the Wasatch Constructors Maintenance of Traffic plan adopted I-215 as an alternate route for I-15 reconstruction traffic - an innovation very attractive to the UDOT. It also committed to installing fiber optic cable to the Utah Transit Authority dispatch center, additional surveillance cameras to monitor arterial routes, and many other "value added" features beyond the RFP requirements. The contracting approach allowed a quality baseline to be established for each technical factor. Each proposer could then engineer a higher quality while balancing cost impacts. In effect, a Value Engineering process occurred within the design-build approach. The final contract became the minimum RFP requirements plus additional features committed to in the constructor's proposal.

- The "best value" concept was a tremendous innovation in this contract, and was actually used by UDOT in the selection of Wasatch Constructors. The UDOT was able to determine a best value, balancing quality and price. As noted in the UDOT's procedures manual, "UDOT has determined that a Best Value award...provides the best opportunity to obtain the right contractor to assure a successful project.... Although price is an important factor, time and quality are the main factors in the project's success. These...Procedures are designed to provide a comprehensive evaluation of quality, that when combined with price, will result in the selection of the appropriate contractor."

- Payment of the stipend to the unsuccessful proposers allowed UDOT to, in essence, purchase their innovations and apply them to the project. UDOT and Wasatch Constructors will evaluate opportunities to apply these innovations. The stipend also assured unsuccessful proposers that UDOT would partially compensate them for competing in the procurement process. Maintaining competition contributed to design quality, innovation, and competitive price proposals.

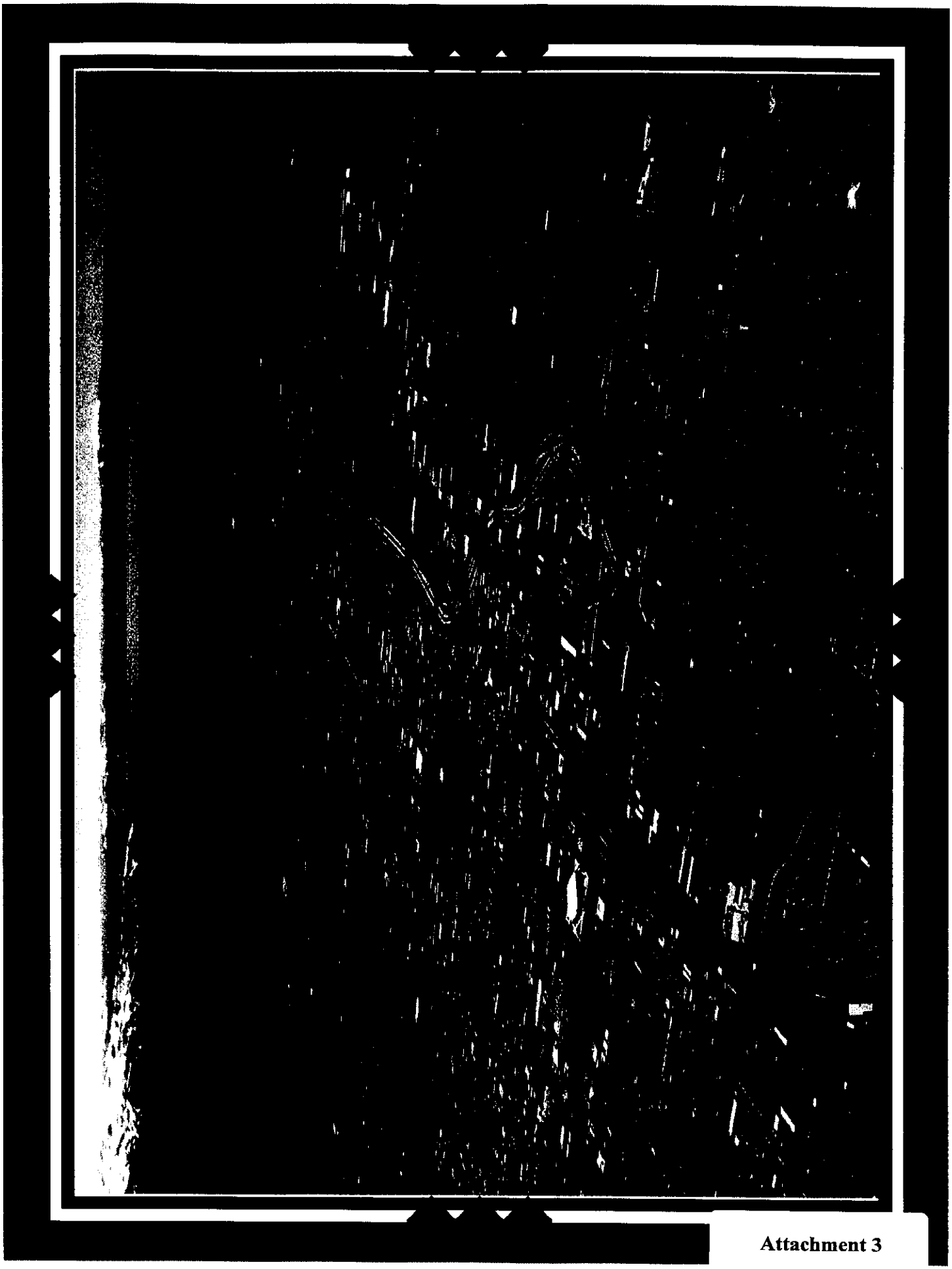
Summary

Utah's I-15 design-build project provides for excellent opportunities to implement and understand innovative contract techniques, leading to improved project quality and delivery for the transportation industry. The selection and evaluation process was one such opportunity of this innovative project. Its implementation should be considered for other projects of similar size or complexity.

About the Authors

John Baxter, Assistant Division Administrator FHWA Utah Division, and James Daves, Division Administrator FHWA Colorado Division (formerly with the FHWA Highway Operations Division in Washington, D.C., which approved the SEP-14 request) participated in the Evaluation and Selection Process. Mr. Baxter was a member of the Management Technical Advisor Team and FHWA's representative to the Technical Evaluation Board (TEB). Mr. Daves was the FHWA

representative to the Proposal Evaluation Board (PEB).



Attachment 3

Michael O. Leavitt
Governor

Thomas R. Warne
Executive Director

Clint Topham
Deputy Director

State of Utah

DEPARTMENT OF TRANSPORTATION

4501 South 2700 West
Salt Lake City, Utah 84119-5998
(801) 965-4000
Fax: (801) 965-4338

Commission
Glen E. Brown
Chairman
Todd G. Weston
James G. Larkin
Ted D. Lewis
Hal M. Clyde

April 15, 1996

Mr. Michael G. Ritchie
District Administrator
Federal Highway Administration
2520 West 4700 South
Salt Lake City, Utah 84118

Dear Mr. Ritchie:

SUBJECT: Special Experimental Project 14
Design/Build Contracting
I-15 Corridor in S.L. County

Enclosed are three copies of a work plan proposed under special Experimental Project 14 for the above referenced topic. When completed, this project will make a significant improvement to the highway operation within this highly congested corridor.

The Utah Department of Transportation is planning to use this innovative contracting technique as a method to reduce the time which would normally be required to complete this highway project. We will continue close coordination with the Federal Highway Administration (FHWA) in implementation and evaluation of our proposal. As we expect to submit a Request for Proposal package by October 1996, time is of the essence. To assist us in development of the project review processes, we request that the FHWA appoint a special-task force to work with the Department and its consultant.

During project development, we will be exploring the role that innovative finance can play in the early construction funding of the project. Such techniques as an infrastructure bank could hold promise for expediting financing of this large project. The project will also benefit from the timely construction of the Utah Transit Authority's light rail project. This effort could also be part of the innovative finance options making the I-15 Corridor a multi-modal endeavor.

If you need additional information, please let us know.

Sincerely,

Thomas R. Warne, P.E.
Executive Director

Enclosures

cc: Clint Topham
Kim Schvaneveldt
Doug Anderson
David Downs

Proposal for
Special Experimental Project 14

DESIGN/BUILD CONTRACTING
I-15 CORRIDOR IN SALT LAKE COUNTY

April 1996

Utah Department of Transportation
in cooperation with
Federal Highway Administration

I - Introduction

The Utah Department of Transportation (UDOT) is responsible for the design construction and maintenance of 5800 miles of State highways. As an integral part of that responsibility the agency is continually seeking improved processes and procedures for delivering quality products to the traveling public in a cost effective manner.

Current plans for improvement of the state highway system in Utah include the redesign and reconstruction of a 16 mile section of Intestate 15 in metropolitan Salt Lake City. Statewide needs dictate that construction must be completed by October 2001. The department estimates that the traditional design-bid-build process normally utilized would not provide a completed facility until about 2004. Experience with the Design/Build process on highway projects in other States has shown that considerable time savings can be achieved versus the normal design-bid-build process. In this case it is estimated that the Design/Build process could provide the means to complete the project by the desired October 2001 date.

UDOT is requesting approval of the Federal Highway Administration (FHWA) to use the Design/Build process on this project and to include it within the provisions of Special Experimental Project #14 (Innovative Contracting Practices).

II - Purpose

The Primary purpose for using Design/Build on this project is to meet the October 2001 completion date. However, this project provides, as a natural complement to Design/Build, the opportunity to employ other non-traditional processes for design, and construction maintenance. UDOT will be including as part of this project approaches to encourage innovation by the Design/Build team. These approaches are highlighted below in **Section III - Scope** and range from performance based specifications to utilization of incentives/disincentives, and from options for maintenance of traffic during construction to various methods to improve the quality of the finished product.

III - Scope

Following is the approach UDOT plans to take under the Design/Build concept for the reconstruction of the I-15 corridor in Salt Lake County.

There are three imperatives that guide the approach:

Time: I-15 through the Salt Lake metropolitan area was constructed in the 1960's. There is an urgent need for immediate reconstruction to accommodate the rapidly expanding traffic demands that long ago exceeded the highway's capacity, to replace already significantly deteriorated structures, to bring the corridor system up to current Interstate standards, to minimize the turmoil to the commuting public and adjacent communities, and to provide a safe and efficient highway that is the critical element in the transportation system for the 2002 Winter Olympics. Attachment 1 describes these issues in more detail.

Quality: A well-designed, high quality product that is durable and minimizes future maintenance expenses.

Cost: A lower cost that will be financed predominately with State funds.

UDOT firmly believes that Design/Build provides the best, if not only, opportunity to satisfy all three imperatives. The traditional sequential process of sections, design-bid-build, full design review, UDOT Quality Control, and multiple contractors would prove both too lengthy and too costly.

The approach recognizes the need to provide the flexibility for the Design/Build contractor to be able to plan, design, build and control the project. Major elements of flexibility are:

Contractor: Because of the tight time frame requiring work on almost the entire corridor at the same time, and the need to control both the work sequence and the maintenance of traffic for the entire corridor, one contractor is necessary.

Performance Criteria: Because of construction constraints posed by winter weather within the tight time frame, innovative design and construction solutions need to be encouraged in the critical areas of soil consolidation and enhancement, structures and pavement design, and maintenance of traffic. Design/Build experience has shown that innovation leads to higher quality.

Contractor Quality Assurance/Quality Control: This is an important element in the Design/Build concept and allows the contractor to control the job. UDOT will maintain a Quality Assurance oversight role.

Minor, but no less important, elements to flexibility are expedited design oversight (vice detail review) and approvals allowing start of construction at less than full design.

Quality will be built into the process in various ways. Providing flexibility through performance criteria has already been mentioned where quality results from the

opportunity to design around the strengths and capabilities of the contractor. It also incorporates the philosophy of value engineering as part of the Design/Build initial design. The addition of long term maintenance and/or warranties are being seriously considered as an incentive to higher quality along with requiring ISO 9000 standards for the Design/Build team. A major assurance of quality will come from the contracting process itself aimed at selecting the best Design/Build team. This includes the pre-qualification of Design/Build teams and the evaluation of technical proposals for the quality of plans and design concepts within the performance criteria, and the quality experience and management of the Design/Build teams. A related issue to quality will be the use of incentives for meeting or exceeding critical contract requirements (especially early completion dates). Also under consideration is the use of stipends to encourage innovation in proposal submissions.

The Design/Build contracting process will start with a request for Letters of Interest followed by an informational meeting with those that respond to outline the entire process. Next will be a request for qualifications (RFQ) which will require demonstration of highway design and construction experience; financial, manpower, equipment and management capability; and Design/Build experience. The pre-qualified teams will then be invited to review the draft request for proposals (RFP) and contract documents. The RFP will require both technical and price proposals. At this point there are several options being considered, two of which are consistent with the new "Federal Acquisition Reform Act of 1995", "Sec. 303M. Design-Build Selection Procedures." under Title III of the Federal Property and Administrative Act of 1949 (41 U.S.C. 251 et seq.). Both would include discussions and best and final offers (BAFOs), one would award based on the proposal most advantageous to the State of Utah (considering price and other factors) and the other would award to the proposer that met set, mandatory, quality level at the lowest price. Another option which meets current Utah law would not include discussions and would award to the lowest price that passed a set, mandatory, quality level. A modification to Utah law may be required if either of the first two options is chosen. The overall process is aimed at selecting the best possible Design/Build team.

IV - Schedule

UDOT has a set a goal to complete construction of the corridor by the end of 2001. The original schedule under the design-bid-build concept contained a completion date late in 2004. Page 6 of attachment 1 illustrates the time-frames estimated for each major task of the project. Key milestones have been established as follows:

•Request for Letters of Interest	March 1996
•Informational Meeting	May 1996
•Request for qualifications (RFQ)	June 1996
•Request for proposals (RFF)	October 1996
•Receive proposals	January 1997
•Award of contract	April 1997
•Completion of project	October 2001
•Final Report due	March 2002

V - Measures

It is projected that several items have the potential to be affected by the Design/Build process, and it is appropriate to evaluate and analyze them as part of reporting on the success of this experimental project.

As a minimum, the following items will be evaluated/analyzed on this project.

Time - It is anticipated that the project will be completed in significantly less total time, not necessarily less work hours, than would be required for a traditional design-bid-build project. Records will be maintained to allow a comparison of actual procurement time, design time, and construction time versus the theoretical time requirements for the traditional process.

Cost - Because of the ability to do work as parallel activities rather than sequentially, significant potential exists for cost savings. Those would be work item costs (such as structure costs being lower due to time of year of construction; pavement costs being reduced due to detour configuration, or road user costs due to maintenance of traffic schemes utilized).

The total cost of the project will be carefully documented as well as those areas where the Design/Build process provided the means for cost savings.

Innovation in Design and Construction - The Design/Build process should provide the opportunity for significant innovation to take place compared to "traditional" design and construction methods. They will be documented.

Quality - Improved quality is a goal of this project. Documentation will be provided to compare the quality of the finished products with the quality of usual UDOT projects by comparing items such as pavement ride, pavement skid quality, accident data (before and after construction), bridge deck ride (as well as bumps at end of bridge), and the customer survey report to obtain the feed-back from the traveling public.

VI - Reporting

Three types of reports will be prepared as part of the study as follows:

An Initial Report will be prepared within 60 days after the I-15 project is awarded to the prime contractor. This report will describe the process used to select the contractor, identify any reaction by industry to the use of the Design/Build concept, document any differences in the bids received compared to those expected under a design-bid-build concept, and discuss any problems or issues that have occurred up to this point in the project.

Interim Reports will be prepared as needed based on significant developments during the project, but the will be submitted annually as a minimum. Included in this report will be a description of the progress to this point in the project, any problems that have been encountered, and how the time and cost needed to complete the project to this point compares to needed resources expected under more traditional methods.

A Final Report will be submitted within 90 days following completion of the entire corridor. This report will provide an overall evaluation of the Design/Build concept for the I-15 project. Recommendations will be made concerning improvements to the Design/Build process, and limitations related to its use. Any contract complications encountered, or claims made during the project will be documented. Any observed innovations in the design or construction will be evaluated. The quality of the project will be addressed, and how it was affected by the Design/Build concept.

INTERSTATE 15 CORRIDOR REDEVELOPMENT

10800 South to 500 North

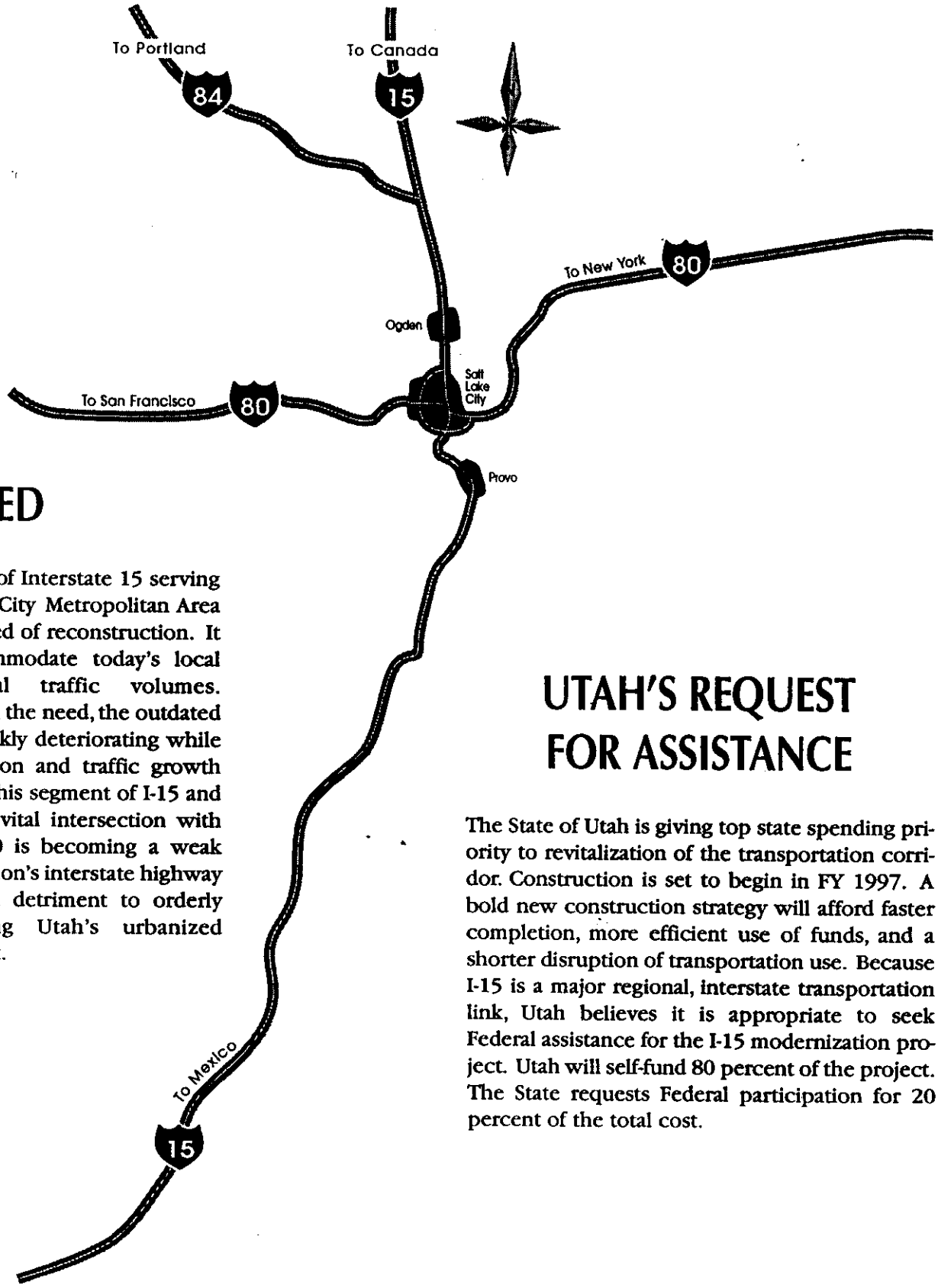
Salt Lake County, Utah

UDOT
GOING THE EXTRA MILE

I-15
UTAH DEPARTMENT OF TRANSPORTATION

INTERSTATE 15 CORRIDOR REDEVELOPMENT

10800 South to 500 North
Salt Lake County, Utah



THE NEED

Sixteen miles of Interstate 15 serving the Salt Lake City Metropolitan Area are in dire need of reconstruction. It cannot accommodate today's local and regional traffic volumes. Compounding the need, the outdated system is quickly deteriorating while local population and traffic growth are soaring. This segment of I-15 and its regionally vital intersection with East/West I-80 is becoming a weak link in the nation's interstate highway system and a detriment to orderly growth along Utah's urbanized Wasatch Front.

UTAH'S REQUEST FOR ASSISTANCE

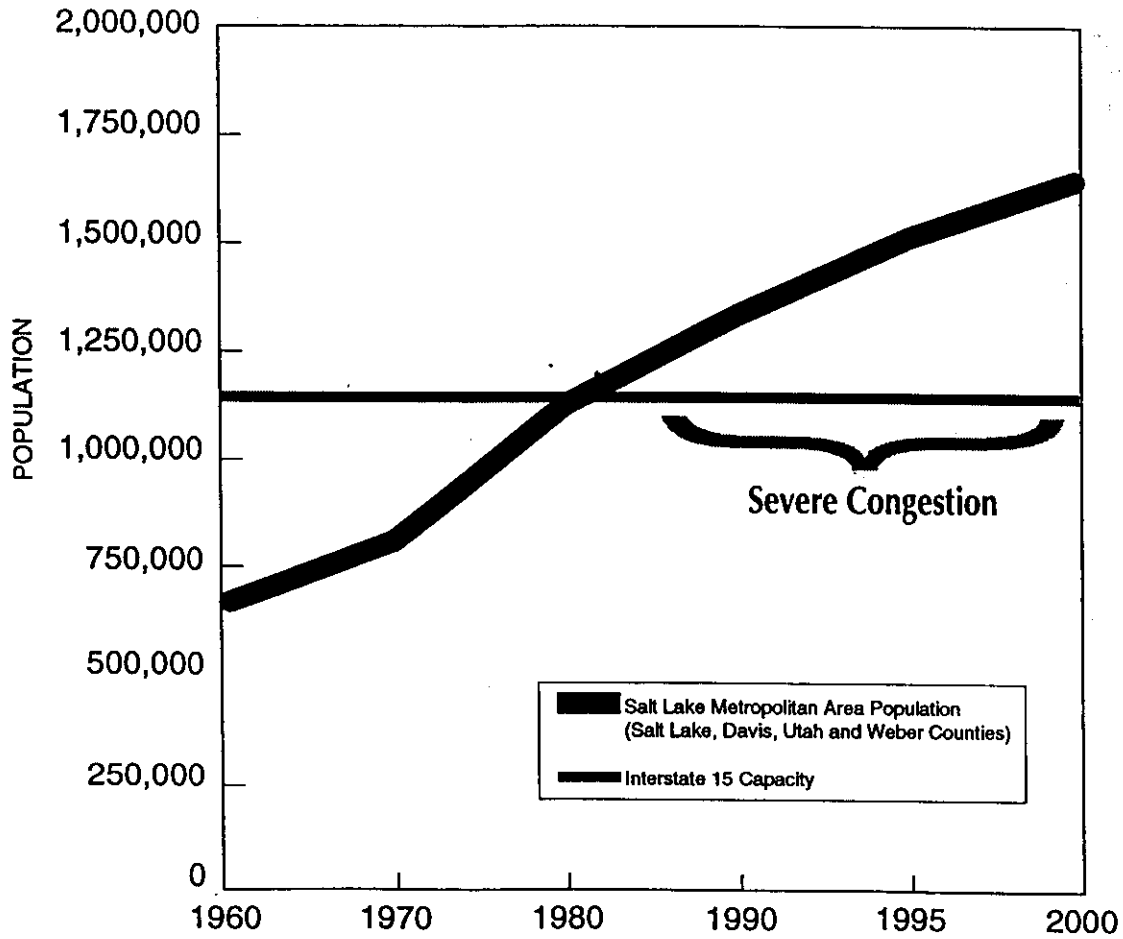
The State of Utah is giving top state spending priority to revitalization of the transportation corridor. Construction is set to begin in FY 1997. A bold new construction strategy will afford faster completion, more efficient use of funds, and a shorter disruption of transportation use. Because I-15 is a major regional, interstate transportation link, Utah believes it is appropriate to seek Federal assistance for the I-15 modernization project. Utah will self-fund 80 percent of the project. The State requests Federal participation for 20 percent of the total cost.

PROBLEMS WITH INTERSTATE 15 TODAY

When I-15 was built in the 1960's, it revolutionized highway transportation in Utah. The Interstate was designed for a 20-year expected life and it well served the needs of Salt Lake County's 383,000 people and the State's 890,000 residents. The Interstate is usable today only because of continual, aggressive efforts to prolong its life. But a 1960's design cannot adequately serve today's population. In 1996 Salt Lake County has over 800,000 residents and the State's population approaches two million - more than double the 1960 figures. Seventy-seven percent of Utahns, some 1.5 million, live and work along the urban Wasatch Front - using I-15. In the last ten years alone, resident population has increased 22 percent, the number of vehicles has increased 27 percent, and the miles traveled per vehicle has increased 57 percent.

We have more people, they're more mobile, and these trends continue. The 36 year-old, deteriorating system needs a major overhaul to meet current and future national, regional, and local transportation needs.

SALT LAKE METROPOLITAN AREA VS. I-15 CAPACITY



Today on I-15, traffic delays are frequent with substantial congestion during peak-hour use. There has been serious deterioration of pavement and bridge structures. Not only is traffic affected on the Interstate, but there are backups and congestion on cross streets and at interchanges with traffic waiting to get on or trying to get off of the Interstate.

Congested I-15 Access with Salt Lake Central Business District

Utah's need for increased capacity isn't based solely on commuter inconvenience. Sitting astride the literal crossroads of the West, I-15 represents a major NAFTA and interstate trucking route. Many other states enjoy alternate truck routes that divert major carriers around urban interstates. Along the Wasatch Front, geographic barriers sandwich 18-wheelers and compact cars alike, forcing them to share the already over-crowded corridor.

The freeway and its interchanges do not meet current design standards resulting in slow traffic speeds, low levels of service, and high accident rates.

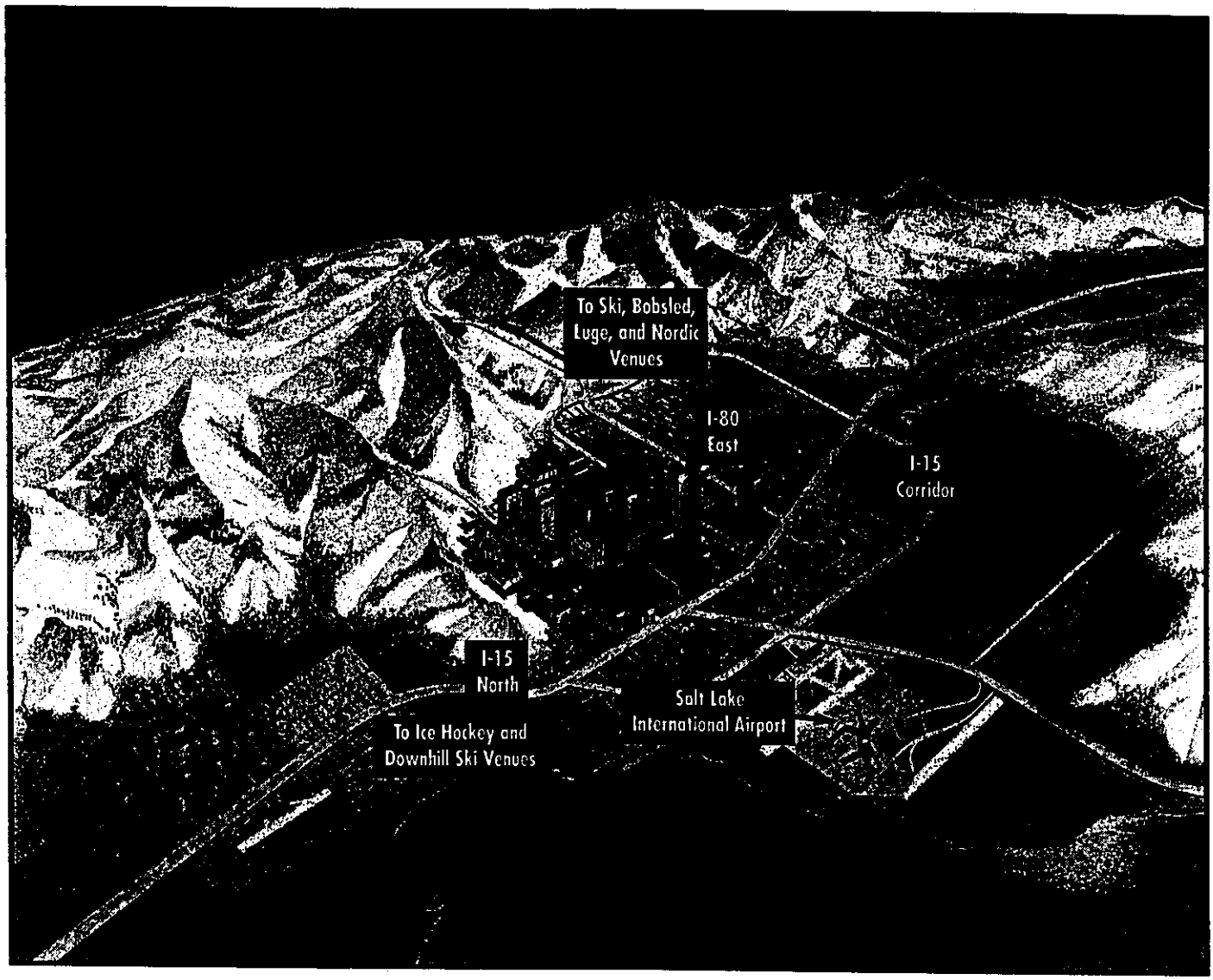
Currently, highway segments experience peak-hour breakdowns in traffic flow with long lines of vehicles, stop-and-go conditions, and extreme congestion. The I-15 access with the Salt Lake Central Business District is unable to accommodate current and future traffic volumes.

THE NEED TO ACT NOW

We must act quickly to rebuild I-15. The longer reconstruction is postponed, the greater will be the disruption during the construction phase. I-15 is becoming an obstacle to orderly growth and economic development along the Wasatch Front. As the population continues to grow, we must have the infrastructure to serve that population and the economic base for a healthy community. Traffic confusion and congestion and bridge deterioration associated with the intersection of I-15 and Interstate 80 must also be addressed soon. These two interstates are major arteries of commerce and transportation throughout the Intermountain West. Today, at their crossroads, there are immediate reconstruction needs.

In 2002, Salt Lake City and the State of Utah will host the Winter Olympic Games. For two glorious weeks, the world will focus on events in and around Salt Lake City, Utah, USA. Venues for Olympic events in the Wasatch Mountains and in communities along the Wasatch Front will be reached via I-15 and I-80.

Our infrastructure will be on display along with our deep powder snow. Winter Olympics in America in February 2002 fuels the urgency for an I-15 rebuild.



UTAH'S GOAL FOR I-15

That is Utah's goal. To rebuild I-15 by January 2002. It can be done. A bold new construction strategy (design/build) is being employed to shorten construction time, reduce the length of traffic inconvenience, improve construction efficiency, and reduce cost.

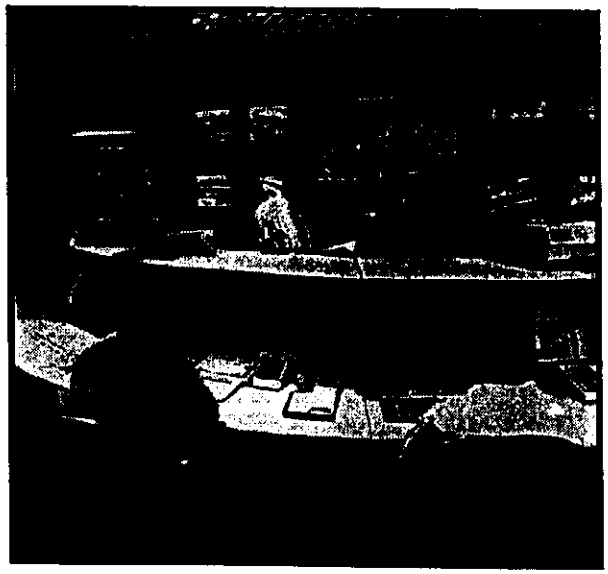
WHAT IS BEING DONE NOW TO ADDRESS TRANSPORTATION ISSUES?

The problems of transportation in the Salt Lake Valley can't be addressed simply be rebuilding I-15. Utah is taking a comprehensive approach to modernizing our transportation system, improving air quality, and enhancing non-drive options. There are constraints. Geographically the Salt Lake metropolitan area is bounded by mountain ranges on the east, west, and south, and the Great Salt Lake on the north. Communities are already built out and the limited remaining vacant lands are highly valued for preserving some open space and a vestige of our agricultural past.

Utah is working within those constraints. We are comprehensively pursuing all available alternatives:

Variable Message Sign

- incorporating Advanced Traffic Management Systems into I-15 and other major arteries to increase traffic flow efficiency;
- developing alternative high volume transit corridors to the extent practicable;
- developing a light rail system within the I-15 corridor;
- expanding bus transit service throughout the valley;
- encouraging van and car pooling;
- establishing key park and ride lot facilities throughout the County;
- encouraging employment of computer, communication, and other technological advances to reduce trip frequencies;
- requiring inspection and maintenance checks for air emissions annually;
- pursuing fleet conversions to cleaner fuels;
- seeking large employer trip reductions, and other Transportation Demand Strategies; and
- educating the public on what they can do to improve traffic and driving conditions.

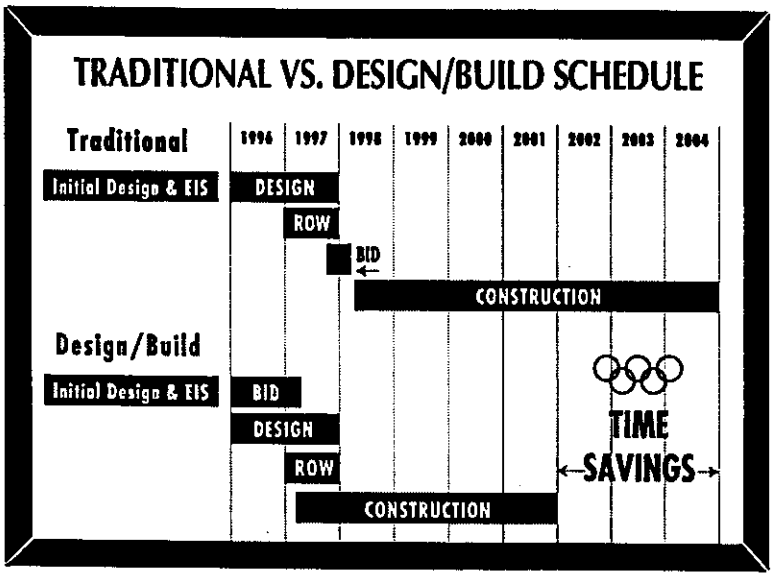


Traffic Management Center

THE INTERSTATE-15 BUILD PROGRAM

Reconstruction of I-15 involves redesign, reconfiguration, rebuilding, and expansion. Prior to work on the interstate itself, parallel traffic corridors will be improved to help handle the volume of I-15 traffic which will be displaced during reconstruction. These improvements will remain in place to enhance future traffic management.

Various segments of the 16 miles of Interstate 15 itself will have different treatments depending upon existing problems, future need projections, and other circumstances. A carpool lane will be added in the median of the interstate in each direction for the entire rebuild section.



An additional general purpose lane will be added to most of the project. New auxiliary lanes will be added between interchanges. Nine interchanges will be replaced including the interchange junctions of I-15 and I-80.

Collector-distributor roads and cross street connections will be revamped to improve flow and increase capacity. Access routes in and out of the Salt Lake City Central Business District will be rebuilt and improved with separate structures for carpool and for inbound and outbound traffic north of downtown Salt Lake.

UTAH'S COMMITMENT

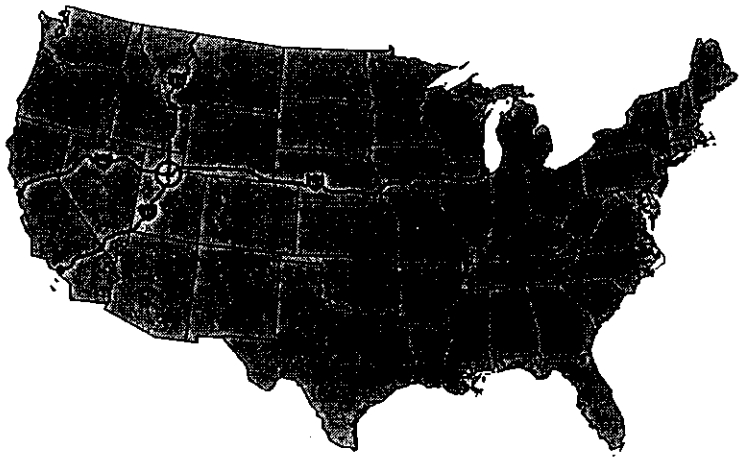
The state of Utah and its Governor have committed to increase Utah's highway capacity and particularly to reconstruction of Interstate 15, the State's top priority.

Utah will invest $2.7 billion over the next ten years in these efforts with $110 million earmarked to initiate I-15 reconstruction beginning July 1, 1996.

Utah will rebuild I-15 and it will start now.

Governor of Utah
Michael Leavitt

A SHARED PROBLEM



Utah is aggressive about revamping I-15. But it is not just Utah's problem. Interstate 15 and I-80 are vital regional, interstate, and national transportation corridors. They are critical to the entire region's transportation and commerce.

It is altogether appropriate to seek and receive assistance from the Federal Government for an I-15 rebuild.

A SHARED SOLUTION

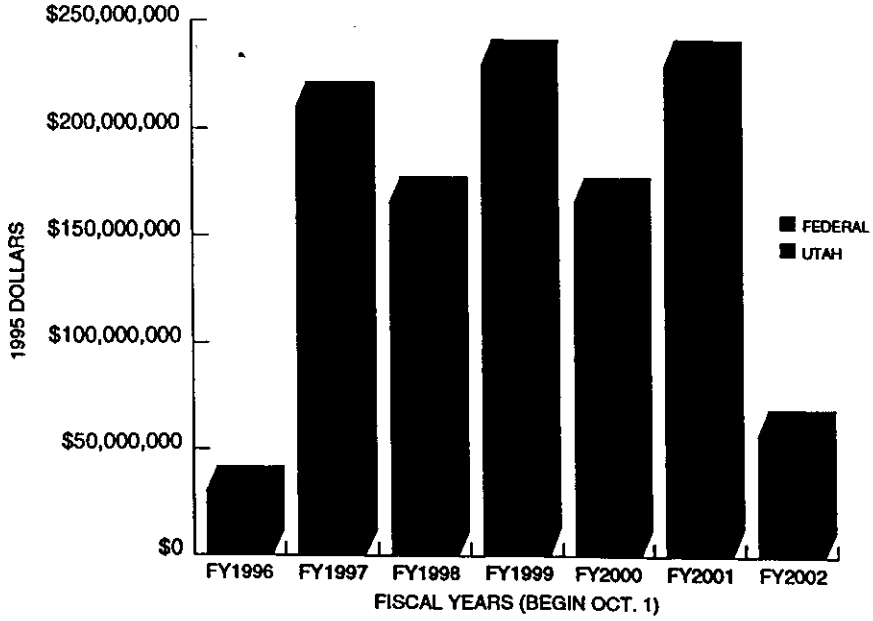
The total cost of the Interstate 15 redevelopment project is $1.09 Billion. Construction and costs will be spread out over a five year period. Utah is seeking a Federal contribution to this project of twenty percent or $40 million per year for five years plus $18 million in fiscal year 2002.

Needless to say, this is far different from the Federal/State share of Federal highway construction projects in the recent past. Utah is stepping up to the need and it requests the Federal Government to share with a part of the burden.

Several Federal funding programs would be applicable to this project.

It is Utah's intent to work with the Congress and the Federal Highway Administration to determine the most appropriate funding sources and workable allocation of funds from those sources to achieve the necessary Federal share over the five year period.

SUGGESTED I-15 CORRIDOR RECONSTRUCTION BUDGET



NOTES:

FOR MORE INFORMATION PLEASE CONTACT:

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Mr. Kent Hansen
Community Relations Director
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UDOT
GOING THE EXTRA MILE

I-15
UTAH DEPARTMENT OF TRANSPORTATION

U.S. Department
of Transportation

**Federal Highway
Administration**

Region Eight

Regional Office
555 Zang Street, Room 400
Lakewood, CO 80228

June 14, 1996

In Reply Refer To:
HOA-01

Mr. Thomas R. Warne
Executive Director
Utah Department of Transportation
4501 South, 2700 West
Salt Lake City, UT 84119

Dear Mr. Warne:

The Utah Department of Transportation's (UDOT) proposal to use design/build contracting for reconstruction of 16 miles of I-15 in Salt Lake City, under Special Experimental Project 14 (SEP 14) is approved. The terms of the approval and the specific understandings which have been reached with Utah are set forth in the attachment.

We appreciate the opportunity for early involvement provided by the Division and UDOT.

Sincerely yours,

Rodney E. Slater
Federal Highway Administrator

Attachment

Attachment 5

U.S. Department of Transportation

Federal Highway Administration

Memorandum

Subject: Action: Special Experimental Project 14, Design/Build Contracting I-15 Corridor in Salt Lake County, Utah

Date: 6/14/96

From: Director, Office of Engineering

Reply to Attn. of: HNG- 22

To: Mr. Vincent F. Schimmoller
Regional Administrator (HRA-08)
Lakewood, Colorado

The Utah Department of Transportation's (UDOT) proposal to use design/build contracting for reconstruction of 16 miles of I-15 in Salt Lake City submitted with Mr. Gary E. Larson's April 19, 1996, memorandum has been reviewed. In addition significant discussion has taken place in meetings on May 6, 7, and 21 with representatives of the FHWA's Washington Headquarters, region, and division offices. Upon consideration of Utah's proposal and those discussions, the use of the design/build contracting method for the reconstruction of I-15 under Special Experimental Project 14 is approved. The terms of the approval and the specific understandings which have been reached with Utah are set forth in the attachment. I have also included in the attachment currently known unresolved issues.

We appreciate the opportunity for early involvement provided by the Division and UDOT. Should you need to discuss the contents of this memorandum, please contact Jim Daves at (202) 366-0355.

Gerald L. Eller

Attachment

Attachment 1

Design/Build

Procurement

The Utah Department of Transportation (UDOT) has indicated a desire to use a procurement process that allows for receipt of proposals, followed by discussions, best and final offers, with award based on either lowest price or price and other factors. The FHWA currently requires award to be based on low adjusted bid considering time (A+B) or time and quality (A+B+C). If UDOT pursues the best value (price and other factors) approach the proposed selection criteria must be submitted to headquarters for review and concurrence prior to request for proposals (RFPs). UDOT has also indicated a preference for Design/Build/Maintain (D/B/M) as opposed to Design/Build/Warranty (D/B/W). We concur in this approach. Although maintenance, under 23 U.S.C. 116, is the responsibility of UDOT, many items that may be included in the successful offerer's maintenance cost (i.e. future overlays or restoration of the pavement surface, restoration of traffic control devices, restoration of safety devices, etc.) would be eligible for Federal-aid. In addition, the introduction of maintenance into the contract should provide considerable information regarding the successful offerer's approach to obtaining the lowest life cycle cost. As this information is extremely important to the FHWA, the Division should work with UDOT to establish Federal-aid participation limits consistent with existing guidance.

Financial Plan

Prior to concurrence in award FHWA will require a financial plan. This plan should be submitted as soon as possible in order to expedite Departmental coordination. The plan should address the possibility that no special federal funds will be appropriated for this project. A copy of the Financial Plan for the Central Artery /Tunnel project in Massachusetts is attached.

Provisions should be incorporated into the project agreement to adjust the federal share after the project has been authorized.

Stipends

The D/B/M contracting method will require a significant investment in time and money by all offerers. FHWA is interested in determining if the payment of a stipend will make this procurement process more accessible to small entities in the industry. Therefore, UDOT may reimburse unsuccessful D/B/M teams, who submit a responsive proposal, a percentage of the cost for developing the proposal. The amount of the stipend and supporting justification must be submitted to FHWA headquarters for review.

Disadvantaged Business Enterprise (DBE)

The DBE program is applicable to the D/B/M project. However, in this post-Adarand era the implementation of the DBE program should be narrowly tailored to the federally funded portion of this project (EEO provisions apply to the

whole project). However, we recognize that the implementation of the DBE program under the current regulations may be difficult in the context of this contract, since the scope and types of work to be performed will not be fully known at the time of the award. Although exemptions to the DBE regulations can be granted under certain circumstances, FHWA cannot grant exemptions without the concurrence of the Secretary of Transportation.

In addition, because of the Supreme Court's decision in *Adarand Construction v. Peña* the requirements set forth in the Department's regulations are currently under review, and changes may be made in the regulations prior to the award of this contract. The program is also being challenged in a number of court cases. Although not clear at this point, the impact of the *Adarand* case on the DBE program could make the award fee approach to implementing the DBE requirements problematic.

FHWA will continue to work with the State and with the Office of the Secretary to try to develop a workable solution to the implementation of the DBE requirements in this contract that is consistent with the objectives of the program and with the *Adarand* decision.

DBE Outreach Efforts

In trying to provide nondiscriminatory opportunities on the Design/Build Project, UDOT, as well as the potential contractors, should implement some Good Faith Effort (GFE) in seeking out DBE's. The GFE or outreach efforts that UDOT could implement include the following:

1. Solicit interest within sufficient time to allow DBE's to respond to the RFP. This could be achieved by publicizing the project in National and Local newspapers and magazines (Engineering News Record, Civil Engineering, Road Builders, etc.). The pre-solicitation notice should include a brief description of the project (Design/Build/Maintain, 16 miles of roadway construction, approximately 125 structures, traffic control features, potential for retaining walls, etc.). The notice should list the pre-qualified offerers with a contact person and phone number.

2. Use the services of available minority/women community organizations, contracting associations; local, state, federal minority/women business assistance offices, or other agencies to assist in the recruitment and placement of DBE's.

3. UDOT could establish a directory in addition to the in State DBE Directory. All interested offerers could provide a brief listing of the types of work they perform to UDOT, who in turn would supply this list to the pre-qualified offerers.

4. The State could implement a Mentor/Protege Program.

5. Make an effort to assist DBE's in obtaining bonding, lines of credit, or insurance required by the UDOT or contractor.

6. Make an effort to assist DBE's in obtaining necessary equipment, supplies, materials, etc.

Davis/Bacon

The provisions of 23 U.S.C. 113 apply to this project. The reporting requirements of 23 CFR 633, Appendix B, Paragraphs VI and VII may be complied with electronically, provided the submission is verifiable, legally binding and can be accepted for evidentiary purposes. If additional relief from design/build requirements is desired, then UDOT should submit its request citing specific relief with justification to the Division. The justification should demonstrate how UDOT will meet the intent of the requirements in a more efficient manner. This submission will be forwarded through appropriate channels to the Department of Labor.

Review/Approval Process

Headquarters technical specialists will be made available for review and comment as appropriate. Specifically, on site review and assistance will be provided for unusual structures, geotechnical or hydraulic issues.

Life Cycle Cost Analysis

The RFP should require the successful offerer to provide a life cycle cost analysis in accordance with Section 303 of the National Highway System Designation Act of 1995 for all usable segments of the project that cost $25 million or more (i.e. roadway and individual bridges).

Subcontracting

The subcontracting requirements of 23 CFR 635.116 are not applicable to this experimental project.

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To Dave Downs	From Roy Nelson
Co. I-15 office	Co. FHWA
Dept.	Phone #
Fax #	Fax #

U.S. Department of Transportation
Federal Highway Administration

R

Subject: *ACTION*: Special Experimental Project 14 Design/Build Contracting Work Plan I-15 Corridor in Salt Lake County, Utah

Date: April 19, 1996

Pat, FYI

From: Regional Administrator
Lakewood, CO

To: Mr. Gerald L. Eller
Director, Office of Engineering/Associate Administrator for Program Development (HNG-1)
Washington, D.C.

Reply to
Attn. of: HES-08

Attached is the Utah Department of Transportation's (UDOT's) proposed work plan, under the cover of UDOT Director Thomas R. Warne's April 15, 1996 letter. Also attached is Division Administrator Mike Ritchie's April 16, 1996 memorandum of endorsement.

We understand that the concepts presented in the work plan are commensurate with the level of detail expected. Your review and action on this work plan will allow this project to continue its advancement under the design-build concept with FHWA involvement. We will need a rapid process to make any modifications to the work plan, striving to achieve approval before May 6, the date of further formal discussions between FHWA and UDOT leadership.

Given the high priority and profile of the I-15 reconstruction, Messrs. Hakala and Rue in the Regional Office will respond rapidly to any questions or requests for information.

Gary E. Larsen
Deputy Regional Administrator

Attachments

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL | # of pages ▸ 1

To MIKE RITCHIE	From Kathy Mattody
Dept./Agency	Phone #
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Memorandum

U.S. Department
of Transportation
Federal Highway Administration

Utah Division

Subject: Special Experimental Project 14
Design/Build Contracting
I-15 Corridor in Salt Lake County, Utah

Date: April 16, 1996

From: Division Administrator
Salt Lake City, Utah

Reply to Attn. of: HOP-UT

To: Mr. Vincent F. Schimmoller
Regional Administrator (HES-08)
Lakewood, Colorado

Attached are two copies of the Utah Department of Transportation's (UDOT's) proposed Special Experimental Project 14 work plan for design/build contracting for the reconstruction of 16 miles of I-15 in Salt Lake County. Also attached are two copies of UDOT Executive Director Warne's transmittal letter dated April 15, 1996.

We are in full support of the UDOT's proposal to use this innovative contracting technique on their I-15 project. Your serious consideration and efforts to obtain headquarters office approval of the Special Experimental Project 14 work plan will be greatly appreciated. If you have questions concerning the approval of this innovative concept, please call me or Roy Nelson at 801-963-0182.

MICHAEL G. RITCHIE

Michael G. Ritchie
Division Administrator

2 Attachments (2)

cc: UDOT 01-D
UDOT 01-AD
UDOT 08-P
I-15 Mgmt Team

UDOT GOING THE EXTRA MILE

State of Utah
DEPARTMENT OF TRANSPORTATION

Michael O. Leavitt
Governor

Thomas R. Warne
Executive Director

Clint Topham
Deputy Director

4501 South 2700 West
Salt Lake City, Utah 84119-5998
(801) 965-4000
Fax: (801) 965-4338

Commission
Glen E. Brown
Chairman
Todd G. Weston
James G. Larkin
Ted D. Lewis
Hal M. Clyde

August 12, 1996

Mr. Michael G. Ritchie
District Administrator
Federal Highway Administration
2520 West 4700 South
Salt Lake City, UT 84118

SUBJECT: Special Experimental Project 14
Design/Build Contracting
I-15 Corridor in S.L. County

Dear Mr. Ritchie:

On June 14, 1996 the Federal Highway Administration (FHWA) approved, under Special Experimental Project 14 (SEP 14), our use of design/build contracting for the I-15 Corridor reconstruction project. Attached to the approval were the terms and understandings reached and known unresolved issues.

I am providing the following input to several of the issues and the status of other issues and terms.

Procurement. We have structured the project around the best value (price and other factors) procurement approach. Enclosure (1) is a group of documents that outline: the decision for best value, the state law and rules for design/build, pertinent sections of the draft Request for Proposals (RFP), and the draft RFP Evaluation and Selection Procedures. Contained within the last two documents are the selection criteria for the evaluation and selection. Please note that the RFP Evaluation and Selection Procedures is a Procurement Sensitive document and has been provided separately to Jim Daves. Your concurrence is requested.

Financial Plan. Enclosure (2) is a paper on the status of the financial plan.

Stipends. Enclosure (3) contains pertinent sections from the draft RFP and a decision paper on stipends. This concept is strongly supported and will be paid from state funds. Your review is requested.

Disadvantaged Business Enterprise (DBE). The DBE contract provisions are being written for an anticipated federal funded portion. A waiver request, enclosure (4), was submitted to allow a deviation from our approved DBE program and 49 CFR 23.45, (h), most specifically the requirement for identification of DBE firms prior to award.

DBE Outreach Efforts. We have in place a DBE Outreach program that meets the intent of the FHWA suggested efforts.

Davis/Bacon. Do not anticipate any additional relief.

Review/Approval Process. Enclosure (5) contains pertinent sections from the draft RFP on design review and approval. On site review and assistance by FHWA (Wash., D.C.) will be requested for unusual structure, geotechnical or hydraulic issues.

Life Cycle Cost Analysis. Life cycle cost analyses are being addressed.

Subcontracting. Thank you; no further action required here.

Your timely review and concurrence to the Procurement and Stipend issues will be appreciated. If you need additional information, please let us know.

Sincerely,

Thomas R. Warne, P.E.
Executive Director

Enclosures

cc: Clint Topham
Kim Schvaneveldt
Doug Anderson
David Downs
Jim Daves (FHWA)

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 2

To John Higgins	From Roy
Dept./Agency I-15	Phone #
Fax # 281-1875	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

U.S. Department of Transportation

Federal Highway Administration

Subject: ACTION: Special Experimental Project 14, Design-Build Contracting, Utah DOT (UDOT) I-15 Corridor, Salt Lake County

Date: September 20, 1996

From: Director, Office of Engineering

Reply to Attn. of: HNG-22

To: Mr. Vincent F. Schimmoller
Regional Administrator (HRA-08)
Lakewood, Colorado

Please refer to Mr. Gary E. Larsen's September 11 memorandum transmitting UDOT's response to our June 14, 1996, memorandum and Division Administrator Ritchie's endorsement. The UDOT's letter provides a status report on several issues and requests review of and concurrence with its procurement procedures and its plan to reimburse unsuccessful proposers a stipend. This office was provided a copy of the material referenced in the UDOT letter and review has been completed and coordinated with the Office of Chief Counsel. Our response to the issues raised is as follows:

Procurement

The UDOT plans to award the contract to the proposer who provides the best value to UDOT considering price and other factors. The UDOT has developed Request for Proposal Evaluation and Selection Procedures. These procedures cover the project acquisition process; evaluation and selection organization, functions and general procedures; evaluation factors; evaluation process and guidelines; and procedures for discussions, best-and-final offers, best value determinations and award. The procedures have been reviewed and are considered satisfactory for use on this experimental project. The UDOT should be requested to provide the Federal Highway Administration (FHWA) with a report which summarizes the process, identifies lessons learned and makes recommendations regarding the future applicability of the procedure to transportation construction procurement.

Specifically, the UDOT should provide an evaluation of how the best value procurement process meets the "more cost effective" criteria of 23 U.S.C. 112 (b)(1). While 23 U.S.C. 307 allows FHWA to experiment with all phases of highway construction, the FHWA needs a comprehensive evaluation of the best value procurement method to compliment our experience base of design-build projects approved under SEP-14. With adequate testing and evaluation of a variety of procurement methods, FHWA will be in a better position to evaluate the effectiveness of design-build procedures in the highway industry.

Stipend

The UDOT has decided to award a $500,000.00 stipend to each of the responsive unsuccessful proposers as a means of compensating them for their proposal development costs. "Prerequisites for a Successful

Attachment 7

Design/Build/Warranty Highway Construction Contract," prepared by Mr. L. Gary Byrd for FHWA in March of 1993, recommended that FHWA consider participation in the payment of design-build stipends. The Byrd Report references the University of Florida's evaluation of the Florida Department of Transportation's demonstration program for 11 design-build projects which also supports a recommendation to use stipends. Based on these recommendations, the FHWA concurs in awarding a stipend to responsive unsuccessful proposers and is willing to participate in this cost for the following reasons:

1. To improve the ability of smaller firms to become participants in the design-build teams competing for this project,

2. To encourage design-build teams to participate in this and future design-build efforts, and

3. To encourage innovation and to enable UDOT and FHWA to use all desirable aspects from each proposal on this and future projects without payment of any additional fees.

Davis-Bacon

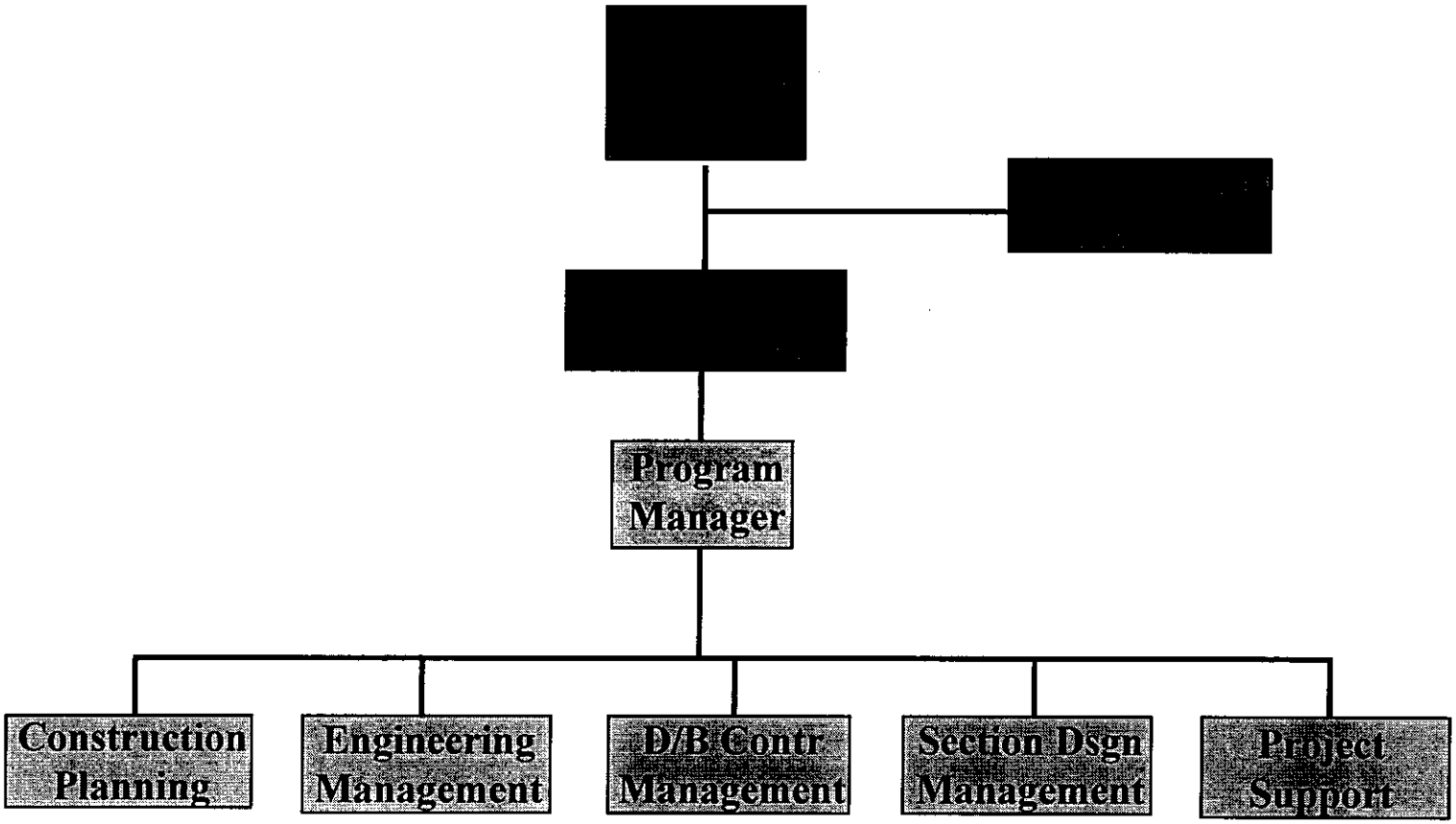
In addition to the issues raised in UDOT's letter, we have been made aware that the attachment to our SEP-14 approval letter dated June 14, 1996, contained an error. Under the Section entitled "Davis/Bacon," the reference to 23 CFR 633, Appendix B is incorrect. The correct reference is 23 CFR 633.102 which refers to the provisions contained in Form FHWA 1273. Paragraphs IV and V of Form FHWA-1273 must be complied with, but Paragraph V may be complied with electronically. Please refer to the attached August 7 memorandum for additional guidance. We are sorry for the inconvience that this may have caused.

If you have an questions regarding the contents of this memorandum please contact Jim Daves or Jerry Yakowenko at (202) 366-0355.

Gerald L. Eller

Attachment

I-15 Organization (RFP Preparation)



Attachment 8

Download Zipped Introduced WP 6.1 SB0202.ZIP 6,850 Bytes
[Status][Bill Documents][Fiscal Note][Bills Directory]

S.B. 202

1

PROCUREMENT CODE - DESIGN BUILD AMENDMENTS

2

1997 GENERAL SESSION

3

STATE OF UTAH

4

Sponsor: Lane Beattie

5 AN ACT RELATING TO PROCUREMENT; CLARIFYING PROCEDURES FOR
6 CONTRACTS FOR DESIGN-BUILD HIGHWAY PROJECTS; MAKING TECHNICAL
7 CORRECTIONS; AND PROVIDING AN EFFECTIVE DATE.
8 This act affects sections of Utah Code Annotated 1953 as follows:
9 AMENDS:
10 **63-56-36.1**, as enacted by Chapter 166, Laws of Utah 1996
11 *Be it enacted by the Legislature of the state of Utah:*
12 Section 1. Section **63-56-36.1** is amended to read:
13 **63-56-36.1. Procurement of design-build highway project contracts.**
14 (1) As used in this section:
15 (a) "Department" means the Department of Transportation.
16 (b) "Design-build highway project contract" means the procurement of both the design and
17 construction of a highway project in a single contract with a company or combination of
18 companies capable of providing the necessary engineering services and construction.
19 (2) The Department of Transportation may:
20 (a) award a design-build highway project contract by following the requirements of this
21 section; and
22 (b) make rules, by following the procedures and requirements of Title 63, Chapter 46a,
23 Utah Administrative Rulemaking Act, establishing requirements for the procurement of
24 design-build highway project contracts in addition to those required by this section.
25 (3) (a) Before entering a design-build highway project contract, the department may issue
26 a request for qualifications to prequalify potential contractors.
27 (b) Public notice of the request for qualifications shall be given in accordance with policy

---

1 board rules.
2 (c) The department shall require, as part of the qualifications specified in the request for
3 qualifications, that potential contractors at least demonstrate their:
4 (i) construction experience;
5 (ii) design experience;

Attachment 9

6 (iii) financial, manpower, and equipment resources available for the project; and
7 (iv) experience in other design-build highway projects with attributes similar to the project
8 being procured.
9 (d) The request for qualifications shall identify the number of eligible competing [~~bidders~~]
10 *proposers* that the department will select to submit a proposal, which must be at least two.
11 (4) (a) The department shall:
12 (i) evaluate the responses received from the request for qualifications;
13 (ii) select from their number those qualified to submit proposals; and
14 (iii) invite those respondents to submit proposals based upon the department's request for
15 proposals.
16 (b) If the department fails to receive at least two qualified eligible competing [~~bidders~~]
17 *proposers*, the department shall readvertise the project.
18 (5) The department shall issue a request for proposals to those qualified respondents that:
19 (a) includes a scope of work statement constituting an information for [~~bid~~] *proposal* that
20 may include:
21 (i) preliminary design concepts;
22 (ii) design criteria, needs, and objectives;
23 (iii) warranty and quality control requirements;
24 (iv) applicable standards;
25 (v) environmental documents;
26 (vi) constraints;
27 (vii) time expectations or limitations;
28 (viii) incentives or disincentives; and
29 (ix) other special considerations;
30 (b) requires submitters to provide:
31 (i) a sealed cost proposal;

---

1 (ii) a critical path matrix schedule, including cash flow requirements;
2 (iii) [~~bid~~] *proposal* security; and
3 (iv) other items required by the department for the project; and
4 (c) may include award of a stipulated fee to be paid to submitters who submit unsuccessful
5 [~~bids~~] *proposals*.
6 (6) The department shall:
7 (a) evaluate the submissions received in response to the request for proposals from the
8 prequalified [~~bidders~~] *proposers*; [~~and~~]
9 *(b) comply with rules relating to discussion of proposals, best and final offers, and*
10 *evaluations of the proposals submitted; and*
11 [~~(b)~~] *(c) after considering price and other identified factors,* award the contract to the
12 [~~lowest~~] responsible [~~bidder~~] *proposer whose proposal is most advantageous to the state.*
13 Section 2. **Effective date.**
14 *If approved by two-thirds of all the members elected to each house, this act takes effect*
15 *upon approval by the governor, or the day following the constitutional time limit of Utah*
16 *Constitution Article VII, Section 8, without the governor's signature, or in the case of a veto, the*
17 *date of veto override.*

Legislative Review Note
as of 2-10-97 7:14 AM

A limited legal review of this bill raises no obvious constitutional or statutory concerns.

Office of Legislative Research and General Counsel

[Bill Documents][Bills Directory]

R916. Operations, Construction.
R916-3-1. Design-build CONTRACTS
R916-3-1. Purpose.

This rule is to provide guidance under which the Utah Department of Transportation (UDOT) may use the design-build approach to contracting pursuant to Utah Code Section 63-56-36.1. Design-build seeks to provide: a savings of time, cost, and administrative burden; improved quality expectations as to the end product, schedule, and budget; and risk management savings due to lack of duplication of expenses and improved coordination of efforts.

R916-3-2. Authority

The provisions of this rule are authorized by the following grants of rule making authority and provisions of Utah Code: Title 63, Chapter 56, Section 63-49-4; Section 63-49-7; section 27-12-7; section 27-12-107; Section 27-12-108; and under the provisions of Title 63, Chapter 46a.

R916-3-3. Policy.

UDOT may use, where determined appropriate by the Executive Director, the design-build method of project delivery. When design-build is used, UDOT shall enter into a contract with a single entity to provide both engineering/design services, construction services, and/or maintenance services pursuant to a UDOT provided scope of work statement. Design-build is not recommended for every project. The use of the design-build method may be determined by the individual needs and merits of the project.

R916-3-4. Pre-qualification.

(1) UDOT may issue a Request for Qualifications, RFQ, soliciting qualification statements from contractors wishing to submit proposals on a UDOT design-build project. The RFQ shall state the minimum and maximum number of highly qualified proposers that will be invited to submit final proposals.

(2) Pre-qualification shall be based on an evaluation of the criteria set forth in the RFQ, including construction experience; design experience; technical competence; capability to perform, including financial, manpower and equipment resources; experience in other design-build projects; and past performance.

(3) The field of competing proposers shall be narrowed to the most qualified proposers, not to exceed the number designated in the RFQ. Failure to achieve at least two qualified proposers shall necessitate the resolicitation of the project.

R916-3-5. Preparation of Specifications.

UDOT may use any method of specifying construction items which the Executive Director determines is in the best interest of UDOT. Engineering firms who participated in preparation of specifications used in the procurement for a portion (but not all) of the project shall have the right to participate as proposers.

R916-3-6. Request for Proposals (RFP).

(1) The pre-qualified proposers shall be invited to submit proposals on the designated design-build project pursuant to an RFP. UDOT may elect to ask for initial proposals followed by discussions and best and final offers, or may elect to award the contract without discussions or best and final offers. The RFP may ask for proposals based on a stipulated sum.

(2) UDOT may award a stipulated fee to the proposers who submit responsive proposals but who are not selected for contract award. The amount of the fee (if any) shall be identified in the RFP.

(3) The RFP shall require separate technical and price proposals, meeting requirements as stated in the RFP. The RFP may require proposals to meet a mandatory technical level, and may include a request for alternative proposals.

(4) Technical solutions/design concepts contained in proposals shall be considered proprietary information unless a stipulated fee is paid.

R916-3-7. Evaluation of Proposals and Discussions with Proposers.

(1) UDOT shall evaluate the technical and price proposals separately, in accordance with the evaluation factors set forth in the RFP.

(2) UDOT may offer the proposers the opportunity to participate in presentations and/or discussions regarding their proposals. Discussions, either oral or in writing, may be held with proposers for the purpose of clarification of the proposals and/or to identify deficiencies in initial proposals. If presentations or discussions are held with one proposer, they must be held with all pre-qualified proposers.

(3) If discussions are held, best and final offers will be requested. If best and final offers are requested they will be the basis for award and will be evaluated as stated in the RFP.

R916-3-8. Acceptable Bid Security; Performance and Payment Bonds.

(1) The Executive Director shall have the right to waive the requirement to provide bid security, or may reduce the amount of such security, if he or she determines that the bid security otherwise required by Utah Code Sections 63-56-37 through 39 to be unnecessary to protect the State.

(2) The Executive Director shall have the right to reduce the amount of the payment and performance bonds below the 100% level required by Utah Code Sections 63-56-37 through 39, if he or she determines that a 100% bond is unnecessary to protect the State.

(3) Bid security, payment bonds and performance bonds must be provided on the forms included in the RFP.

R916-3-9. Required Contract Clauses.

The design-build contract documents shall include the contract clauses set forth in Utah Administrative Code R23-1-7, subject to such modifications as the Executive Director deems advisable. Any modifications shall be supported by a written determination of the Executive Director that describes the circumstances justifying the variations, and notice of any material variation shall be included in the RFP.

R916-3-10. Award and Contract.

The basis for award shall be sated in the RFP. Award may be based on any of the following approaches (all of which shall be deemed to constitute award to the lowest responsible bidder as such term is used in Utah Code Section 63-56-36.1 (6) (b)):

(1) Award to the responsible proposer offering the lowest priced responsive proposal. If the RFP includes a mandatory technical level, no proposal shall be considered responsive unless it meets that level.

(2) Award to the responsible proposer whose proposal is evaluated as providing the best value to UDOT.

(3) If the RFP provides for a stipulated sum, award to the responsible proposer whose proposal is evaluated as providing the best value to UDOT.

There is no requirement that a contract be awarded. Following award a contract shall be executed and notice given to the successful design-build proposer to proceed with the work.

June 19, 1996

MEMORANDUM OF UNDERSTANDING

This memorandum affirms the mutual commitment of the Federal Highway Administration and the Utah Department of Transportation to the upgrading of transportation infrastructure critical to the success of the 2002 Winter Olympic Games.

Major portions of the highway system in Salt Lake City are over 30 years old and are in dire need of reconstruction. The State of Utah has been successful in it's bid to host the 2002 Winter Olympics. For seventeen days in February the eyes of the world will be on Utah. The capability of the transportation portion of Utah's infrastructure to move people safely and efficiently will be under strict scrutiny. The State of Utah is actively and aggressively engaged in infrastructure rehabilitation.

Acknowledging the significant role of transportation to the future of Utah, the Federal Highway Administration and the Utah Department of Transportation hereby commit to:

- ★ Mutually accept the vision and the challenge for reconstruction of the I-15 Corridor
- ★ Seek innovative solutions to difficult situations that may arise
- ★ Cooperate in efforts to take advantage of appropriate innovative financing
- ★ Assure that the highway infrastructure contributes to the success of the 2002 Winter Olympic Games

Michael O. Leavitt
Governor
State of Utah

Rodney E. Slater
Administrator
Federal Highway Administration

Attachment 11

UTAH DEPARTMENT OF TRANSPORTATION

I-15

Utility Company ID	Section	Utility #
4	06	91
Metric (English) Station: 33+570 (796+75)	Lt./Rt.: —	Sheet No. (GDP): 33

UTILITY INFORMATION SHEET

SECTION DESIGN CONSULTANT:

1. **Utility Type:** ☐ Wire/Cable ☑ Pipe ☐ Canal ☐ Ditch ☐ Other _____
2. **Potholed?:** ☐ Yes ☑ No
3. **Location:** Sta: 33+570 to Sta: _____ Distance from CL: X-ing Rt./Lt.
4. **Description of Utility:** Size: 16" ϕ Height: _____ Width: _____ Clearance: _____ Depth: _____
5. **This Utility will be:** ☑ left alone ☐ disturbed ☐ removed ☐ replaced ☐ relocated

   Explanation: This line crosses I-15 under a moderate fill at 100 South. It appears to have been rerouted compared to the line East & West in 100 South, therefore perhaps prepared to be under this fill. Possible future settlement!
6. **This utility may be relocated to:** _____

   or between Sta: _____ and Sta: _____ Distance from CL: _____ Rt./Lt.
7. **Other proposed action:** _____

☐ **Info "A" attached**

Form completed by: KRD **Date:** 19 Apr 96

UTILITY COMPANY:

1. **This utility is planned to be:** ☐ left alone ☐ removed ☐ replaced ☒ relocated ☐ upgraded

   Sta: _____ to Sta: _____ Distance from CL: _____ Rt./Lt.
2. **This utility is now in Highway ROW by:** ☒ permit ☐ easment ☐ not in Highway ROW
3. **Who is to do the design?** ☒ Utility Company ☐ Design-Build Contractor
4. **Who is to do the construction\relocation?** ☒ Utility Company ☐ Design-Build Contractor
5. **Inspection required by utility company?** ☑ yes ☐ no
6. **Number of days required for notification prior to beginning construction:** 30 days
7. **Estimated number of days required to complete construction:** 10 days
8. **Utility can only be disconnected for:** ϕ days/hours
9. **Are there any construction details that are unique to this location?** ☐ no ☒ yes, describe

   THIS LINE CANNOT BE UNDER A FILL AREA!

☐ **Info "B" attached**

10. **Estimated conceptual cost for:** Design $ 1440 + Construction: $ 23,000 = Total: $ 24,440
11. **Estimated conceptual cost (including betterments) to be paid by the utility company:** $ _____

Form completed by: Harold Bonella **Date:** 8-22-96

FINAL DECISION: ☐ left alone ☐ removed ☐ replaced ☒ relocated ☐ upgraded ☐ other

Explain: _____

Matt Carter

☐ Info. on back ☐ **Info "C" attached**

ROUTING

	Entity	Received by:	Date		Entity	Received by:	Date	Totally Completed
1.	SDC	DHD	4/19/96 5/96	4.	Program Manager	Gene	7-3-96	
2.	Program Manager	Gene	6-7-96	5.	SDC, Final Decision O.K.	DHD	7/15/96	
3.	Utility		6-13-96	6.	Program Manager			

Attachment 12

Karen

bc: Deloy Dye, Project Engineer, P. E., Region 2, w/a
Bob Charlesworth, Region 2, w/a
Gene Kammerman, I-15 Team, w/a
Steve Reitz, I/A - Box 148230
Blaine Bailey, Const., w/a - Box 148220
Char Mitchell, P/P, w/a - Box 143600
Local, w/a
Central Records, w/a, Box 145840

RECEIVED
JAN 13 1997
PARSONS BRINCKERHOFF
UTAH OFFICE

* SP-15-7(135)296
SOP

January 6, 1997

US West Communications Inc
1425 W 3100 S
Salt Lake City UT 84119

ATTENTION: Glenda Birt
Technical Assistant

SUBJECT *SP-15-7(135)296; Salt Lake County
I-15 Corridor Reconstruction from
10800 South to 600 North
US WEST COMMUNICATIONS INC
Authority No. (19-3)

Gentlemen:

Attached is a fully executed original copy of an agreement between the Utah Department of Transportation and **US WEST COMMUNICATIONS INC** on the above noted project. This agreement is forwarded to you for your use and files.

Yours truly,

Orlando Jerez, P. E.
Engineering Coordinator,
Utilities and Railroads

OJerez/M97.003
Attachments

Attachment 13

***SP-15-7(135)296; Salt Lake County**
I-15 Corridor Reconstruction from
10800 South to 600 North
US West Communications, Inc.
Authority No. _____ (19-3)

UTAH DEPARTMENT OF TRANSPORTATION

I-15 CORRIDOR UTILITY AGREEMENT

THIS AGREEMENT, made and entered into this 12th day of Dec., 1996 by and between the **UTAH DEPARTMENT OF TRANSPORTATION**, hereinafter referred to as **"UDOT"**, and US West Communications, Incorporated, hereinafter referred to as the **"Company"**,

WITNESSETH:

WHEREAS, UDOT is engaged in preparing preliminary plans, specifications and estimates of costs toward reconstructing that certain section of highway identified as I-15 Corridor from 10800 South to 600 North in Salt Lake County, Utah, hereinafter referred to as the **Project**. Preliminary **Project** design has identified 45 locations of **Company** owned telephone facilities facilities located within the scope of the **Project** which may necessitate relocation or adjustment as shown on the UTILITY INFORMATION SHEET (UIS) copies of which by this reference are made a part hereof; and

WHEREAS, it has been agreed to be to the advantage of both parties hereto to include said work as part of **UDOT's** highway construction project, in accordance with the provisions of the 23 CODE OF FEDERAL REGULATIONS, Part 645, Subpart A, Utility Relocations, Adjustments and Reimbursement. The **Company,** should they so desire, will perform inspections to accommodate said work; and

WHEREAS, UDOT shall advertise for bids for the design/build **Project** with the successful contract bidder to complete the design and administer construction of the **Project** to completion; said successful contract bidder shall thereafter act in **UDOT's** stead and hereinafter shall be referred to as **"Contractor"**, and

UTAH DEPARTMENT OF TRANSPORTATION
COPY

1/3/97

***SP-15-7(135)296; Salt Lake County**
I-15 Corridor Reconstruction from
10800 South to 600 North
US West Communications, Inc.
Authority No. _____ (19-3)

WHEREAS, at such time that the contract has been awarded for said design/build **Project, UDOT** will provide quality control only for the **Project**; and

WHEREAS, in accordance with the 23 CODE OF FEDERAL REGULATIONS, Part 645, Subpart A, Utility Relocations, Adjustments and Reimbursement, the **Company** has determined, with the concurrence of **UDOT**, that accrued depreciation credit is not required as a result of said work; and

WHEREAS, it is the intention of **UDOT** to protect **Company's** vested rights after relocation of **Company's** facilities to public right of way where said facilities are currently on **Company**-owned easements; and

WHEREAS, for the purpose of expediting the utility work and reimbursement process, is the desire of the parties hereto to enter into this I-15 Corridor Utility Agreement with the understanding that hereafter Supplementals to this document will be entered into covering utility work to be accomplished by the **Contractor** at specific **Project** locations.

NOW THEREFORE, it is agreed by and between the parties hereto as follows:

(1). **CONTRACTOR TO HOLD PRECONSTRUCTION MEETING**

A worksheet entitled "Worksheet of Information for Supplemental" shall be provided to the **Company** upon award of **Project** contract for the purpose of developing information needed to prepare supplemental agreements at specific locations. The **Contractor**, as early as **Project** design completion makes possible, shall schedule and meet with the **Company** and **UDOT** to review **Project** design and construction scheduling for **Company's** utility work at specific locations on the **Project**.

(2). **COMPANY AND CONTRACTOR COORDINATION**

The **Contractor** and the **Company** shall consult as necessary to decide whether a conflict with the **Company's** utility facilities can be avoided by a change by the **Contractor** of the preliminary **Project** plans. The **Company** and the **Contractor** shall confer until the resolution of each location is acceptable to both parties.

(3). **COMPANY AND CONTRACTOR TO DESIGN AND COMPANY TO APPROVE**

The **Company,** with its regular engineering and construction forces at its standard schedule of wages and working hours and in accordance with the terms of its agreement with such employees, or through qualified contractors with whom it has obtained contracts upon appropriate solicitation in accordance with 23 CODE OF FEDERAL REGULATIONS, Part 645, Subpart A, Utility Relocations, Adjustments and Reimbursement, shall perform the necessary preliminary engineering to furnish the **Contractor** with design details for the relocation/adjustment of their facilities. The **Company** shall not perform any preliminary engineering until authorized in writing by the **Contractor.** The **Contractor** shall design all of the **Company's** remaining utility relocation/adjustment work based upon the **Company's** required specifications. The **Company** shall review and approve the **Contractor's** plans for said work.

(4). **CONTRACTOR TO CONSTRUCT**

The **Contractor** will incorporate the **Company** prepared plans, specifications and estimates into the **Project** plans and specifications. The **Contractor** shall complete the remaining **Project** design including plans, specifications and estimates and shall administer construction of the **Project** including **Company's** utility work. **UDOT** shall provide quality control only for the **Project.** If the **Company** has provided to the **Contractor** a list of pre-approved sub-contractors to perform the **Company's** utility relocation work, the amount paid to said sub-contractor shall be a matter negotiated between the **Contractor** and said sub-contractor.

(5). **COMPANY TO PERFORM INSPECTION**

The **Company** shall, should they desire to do so, perform inspection of the work on **Company's** facilities which will be performed by the **Contractor**. The **Company's** engineer and/or inspector shall work with and through the **Contractor**. The **Contractor** will accomplish the work covered herein on **Company's** facilities in accordance with plans and specifications to include changes or additions to said plans and specifications which are approved by the **Company** and that the **Company** through their inspection of the **Contractor's** work will provide the **Contractor** with information covering any problem or concerns the **Company** may have with acceptance of said facilities upon completion of construction.

(6). **REIMBURSEMENT FOR FEDERALLY FUNDED WORK**

All design work performed by the **Company** on a Federally Funded **Project** shall be reimbursable by **UDOT** for actual costs incurred. The **Company** shall be retroactively reimbursed for all work performed on a State Funded **Project** that obtains Federal Funding at a later date. If the **Company**

is not by law a political subdivision or **Company's** facilities are not currently located on private easements, the **Company** shall not bill the **UDOT** for work performed on the **Project** until such time that Federal Funds are available.

UDOT shall reimburse the **Company** within sixty (60) days after receipt of acceptable, verified, and itemized billings in six (6) copies bearing the project number together with supporting sheets therefor, covering the actual costs incurred by the **Company** for performing the work required under the terms of this agreement. Reimbursement will be made only for items complying fully with the provisions of 23 CODE OF FEDERAL REGULATIONS, Part 645, Subpart A, Utility Relocations, Adjustments and Reimbursement. Said itemized bills covering said work along with one final and complete billing of all costs incurred shall be submitted by the **Company** within six (6) months following completion of the work on **UDOT's** project to the **Contractor**.

(7). **BETTERMENT**

If the **Company** desires to include a betterment of the utility work at any specific location, the difference in cost between the minimum construction required and the **Company's** desired construction shall be a matter negotiated between **UDOT** and the **Company** and shall be at the sole cost of the **Company**. The cost estimate for **Company's** betterment work shall be contained in the supplemental agreement written hereto to cover the specific Project location.

The **Company**, upon execution of the supplemental agreement, shall deposit the estimated amount of **Company's** desired betterment work with **UDOT's** Controller's Office, UDOT/DPS Complex, 4501 South 2700 West, Salt Lake City, Utah 84119. The final amount of **Company's** cost participation shall be determined upon completion of construction.

(8). **SALVAGE**

All materials from **Company's** existing facilities which are recovered by the **Contractor** while performing the work as herein described and not reused on this project shall become the property of the Contractor.

(9). **VESTED RIGHTS**

It is understood by the parties hereto that all vested rights which the **Company** currently enjoys with respect to their facilities on the **Project** shall continue and apply to the relocated facilities after completion of construction. It is further understood that **UDOT** grants to the **Company** the right for adjustments on highway right of way and agrees that the **Company** should be reimbursed for any future relocations as may be ordered by the local authority having jurisdiction over said right of way. The **Company** shall provide **UDOT** with documentation by way of copies of their executed right of way or easement instruments which shall accompany any Supplemental written hereto.

(10). **ACCEPTANCE OF WORK PERFORMED BY UDOT'S CONTRACTOR**

The **Company** agrees that, upon completion of the construction of the utility work performed by **UDOT's** contract, to accept said facilities as a part of **Company's** facilities and to maintain said facilities at no cost to **UDOT**. **UDOT** agrees that **Company** shall be the sole owner of said facilities upon completion of the project. To the extent it may lawfully do so, **Company** further agrees to relieve **UDOT** from any responsibility or liability that may result from the newly constructed facilities and continuing operation of said facilities.

(11). **MAINTENANCE**

It is understood that access for maintenance and servicing of the **Company's** property located on right of way of said project will be permitted only by permit issued by **UDOT** to the **Company**, and that the **Company** will obtain said permit and abide by conditions thereof for policing and other controls in conformance with **UDOT's** "MANUAL FOR THE ACCOMMODATION OF UTILITIES AND THE CONTROL AND PROTECTION OF STATE HIGHWAY RIGHTS OF WAY", a copy of which has been furnished to the **Company** and any supplements or amendments thereto.

(12). **SUPPLEMENTAL AGREEMENT**

The parties hereto shall enter into supplemental agreements to cover utility work at specific **Project** locations as necessary. Said supplementals shall be of abbreviated format and shall include the design details for **Company's** utility work any necessary right of way/easement documents. A copy of the proposed supplemental agreement is marked "Exhibit A", attached hereto and thereby made a part hereof.

978303

APPROVED AS TO LEGAL FORM: US West Law Dept - JTA
DATE: 10/25/96

***SP-15-7(135)296; Salt Lake County**
I-15 Corridor Reconstruction from
10800 South to 600 North
US West Communications, Inc.
Authority No. ______________ (19-3)

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers as of the day and year first above written.

ATTEST:

By: Linda Fuentes
Title: Colorado Notary Public
Date: 11.1.96

(IMPRESS SEAL)

NOTARY PUBLIC
LINDA FUENTES
STATE OF COLORADO

US West Communications, Inc. ,

By: Harvey A. Plummer
Title: Vice President - Capacity Provisioning
Date: 11-1-96

****

UTAH DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

By: [signature]
Title: Engineering Coordinator, Utilities and Railroads
Date: 12/9/96

APPROVED:

By: [signature]
Title: Project Development Engineer
Date: 12/13/96

APPROVED AS TO FORM:

JANET C. GRAHAM,
ATTORNEY GENERAL
By: [signature]
Title: Assistant Attorney General
Date: 26 Dec 1996

APPROVED:

CONTRACT RECEIVED AND PROCESSED BY DIVISION OF FINANCE

By: ______________
Title: Director of Finance
Date: 12/27/96

I do hereby certify that this is a true copy of the original document.
By Marianne McCue
Title Utilities
Date 1/6/97

Design and Construction of Utility Work on I-15

August 13, 1997

Utility Owner			Who Does the Work?	
Number	**Name**	**Type**	**Design**	**Construction**
1	Cahoon & Maxfield Irrigation Company	Irr	DB	DB
2	Insight Cable Television	CTV	DB	DB
3	Midvale City	SS, SD, WTR	DB	DB
4 (&5)	Mountain Fuel Supply Company	Gas	DB	DB
6	Murray City Sewer / Water	SS, SD, WTR	DB	DB
7	Murray City Power - Operations	EL	DB/Util	DB/Util
8	Salt Lake City - Dept. of Public Utilities	SS, SD, WTR	DB	DB
9	Salt Lake City Suburban Sanitary Dist. #1	SS	DB	DB
10	Salt Lake City Sub. San. Sewer Dist. #2	SS	Utility	DB
11	Salt Lake County	SD	DB	DB
12	SL County Sewer Imp Dist No. 1	SS	Utility	DB
13	SL County Water Conservancy District	WTR	DB	DB
14	Sandy City	SS, SD, WTR	DB	DB
15	Sandy Suburban Imp. District	SS	Utility	DB
16	City of South Jordan	SS, SD, WTR	DB	DB
17	South Salt Lake City	SS, SD, WTR	DB	DB
18	TCI Cablevision	CTV	Utility	Utility
19	US West Communications	Tel	DB	DB
20	Utah Power	EL	Utility	Utility
21	AT&T	No utility conflicts identified at this time.		
22	MCI	FO	DB	DB
23	US Sprint	FO	DB	DB
24	Bell Canyon Irrigation Company	No utility conflicts identified at this time.		
25	Big Ditch Irrigation Company	Irr	DB	DB
26	East Jordan Irrigation Company	Irr	DB	DB
27	Murray Irrigation Company	Irr	DB	DB
28	Union & East Jordan Irrigation Company	Irr	DB	DB
29	Qwest	FO	DB	DB
30	AMOCO OIL Company	Oil	DB	DB
31	Electric Lightwave	FO	DB	DB
32	Brooks Fiber Properties Inc. (Phoenix Fiber Link)	FO	DB	DB
33	Teleport Communications Group	No utility conflicts identified at this time.		
34	Greenstar Telecommunications	No utility conflicts identified at this time.		
35	Cottonwood Improvement Dist	SS	Utility	DB
36	Union Jordan Irrigation Company	Irr	DB	DB
40	Worldcom	FO	DB	DB
41	Nextlink	FO	DB	DB
42	Central Valley Water Reclamation	SS	DB	DB
100	UDOT	SD	DB	DB

Legend:

DB	= Design Build Contractor	Utility	= Utility Owner	FO	= Fiber Optic
Irr	= Irrigation	CTV	= Cable Television	SS	= Sanitary Sewer
SD	= Storm Drain	WTR	= Water	EL	= Power
Tel	= Telephone	Oil	= Oil		

Attachment 14

Off-Site Drainage Cost Estimates Table

(Constant 1995 Dollars)

Drainage Basin	UDOT Cost (Potential)	UDOT Cost (Proposed)	Agency Cost (Proposed)	Subtotal (Proposed)
10600 South	$122,000	$122,000	$0	$122,000
Dry Creek	$221,000	$204,000	$17,000	$221,000
10000 South	$677,000	$368,000	$125,000	$493,000
9000 South	$1,082,000	$791,000	$144,000	$935,000
7200 South	$2,248,000	$2,248,000	$0	$2,248,000
6400 South	$405,000	$194,000	$0	$194,000
5300 South	$1,682,000	$649,000	$0	$649,000
Little Cottonwood	$572,000	$546,000	$25,000	$571,000
4500 South	$268,000	$268,000	$0	$268,000
Big Cottonwood	$410,000	$385,000	$25,000	$410,000
3300 South	$604,000	$604,000	$0	$604,000
Mill Creek	$235,000	$211,000	$24,000	$235,000
2100 South	$6,323,000	$3,611,000	$1,826,000	$5,437,000
1700 South	$1,248,000	$0	$0	$0
1300 South	$7,773,000	$794,000	$0	$794,000
900 South	$585,000	$167,000	$0	$167,000
600 South	$1,710,000	$689,000	$0	$689,000
200 South	$326,000	$292,000	$0	$292,000
North Temple	$1,177,000	$0	$0	$0
TOTAL	**$27,700,000**	**$12,200,000**	**$2,200,000**	**$14,400,000**

Traditional	*Design/Build*
◆ DOT handles all ROW functions	➡ Set up I-15 ROW Organization responsive to D/B delivery ➡ Appraisers dedicated to I-15 ➡ Asst. AG dedicated to I-15 to expedite condemnations
◆ Acquisition started at 100% design	➡ Acquisition during RFP development ➡ Obtain rights of entries, negotiate agreements when funding becomes available

Traditional	*Design/Build*
◆ Advertise for construction only after ALL land is acquired (ROW certificate signed) ◆ A minimum of 3 yrs to complete acquisition of the 162 parcels ◆ Appraisal/Acquisition process begins only AFTER all funding available ◆ Relocation can take up to 18 months	➡ Will be acquiring property during 1st yr of construction ➡ Acquisition complete Dec 97 (approx. 18-20 months) ➡ FHWA approved beginning appraisals in anticipation of available funding ➡ Relocation begins early in the process; resources to assist in identifying replacement sites

I-15 RISK / RESPONSIBILITY ALLOCATION CHART

RISK/RESPONSIBILITY CATEGORY	UDOT/OWNER	TIME EXTENSION ONLY	PRICE INCREASE ONLY	DESIGN-BUILDER	INSURABLE	REMARKS
DESIGN PROCESS						
Final Alignment Geometry Resp.				X		D-B's ability to change the alignment will be subject to various constraints
Original Geotechnical Data	X					UDOT will not be responsible for conditions in areas not covered by geotech reports
Design Criteria	X					UDOT is setting the criteria
Design Review Process	Delays which UDOT causes			All other costs and delays		UDOT may generate owner-owned float by expediting the review process
Changes Resulting from Design Review Process required by specifications				X		D-B must comply with specifications
Changes Resulting from Design Review Process Not Required by Specifications (aka change in specifications)	X					UDOT must allow the D-B flexibility within the constraints set by the contract documents, and must pay for any changes in the requirements (other than changes under $10k)
Differences Between Design Proposal and 100% Design				X		
Design Defects				X		
Constructability of Design				X		
Efficacy of Design				X		Unless defect is inherent in the UDOT specifications
RIGHT-OF-WAY/RAILROADS/UTILITY RELOCATION PROCESS						
Establishing ROW Limits	X					Subject to change through VE process
Obtaining ROW	X					Contractor will assist in VE related acquisitions
Alignment Change Creating Need for More ROW	VE			VE		
Coordinating with Railroads				X		
Identifying Utilities; Entering into Utility Agreements	X					UDOT will pay additional costs for any additional facilities discovered unless they result from alignment changes

Attachment 17

I-15 RISK / RESPONSIBILITY ALLOCATION CHART

RISK/RESPONSIBILITY CATEGORY	100% OWNER	TIME EXTENSION ONLY	PRICE INCREASE ONLY	DESIGN-BUILDER	INSURABLE	REMARKS
Coordinating With Utility Owners				X		
Utilities Requiring Relocation Because of Alignment Changes				X		
Performance of Design and Construction Work				X		In some cases the facility owner will design and/or build; the D-B will do the work if the owner does not
CONSTRUCTION						
Quality Control and Quality Assurance	Oversight only			X		
Construction Survey				X		
Control Survey	X					
Supply of Equipment, Materials and labor				X		
UDOT provided items	X					
Coordination of Construction				X		
Coordination with other work				X		
Coordination with outside work	Execution			Planning		
Defects in Early Construction				X		UDOT can elect to require work to be redone or can assess a fine
ENVIRONMENTAL COMPLIANCE						
Obtain Environmental Approvals	(Major)			VE		
Performance of Mitigation Measures	As per Mitigation Monitoring Program			All other		
Known Hazardous Waste	X			Payment on a Unit Price Basis		UDOT will be listed as the generator on hazardous waste manifests
Unidentified Hazardous Materials	X			Payment on a Unit Price Basis		UDOT will be listed as the generator on hazardous waste manifests
PERMITTING						
Obtaining Permits				X		UDOT will provide a list of required permits
Performance of Permit/Local Agency Requirements				X		

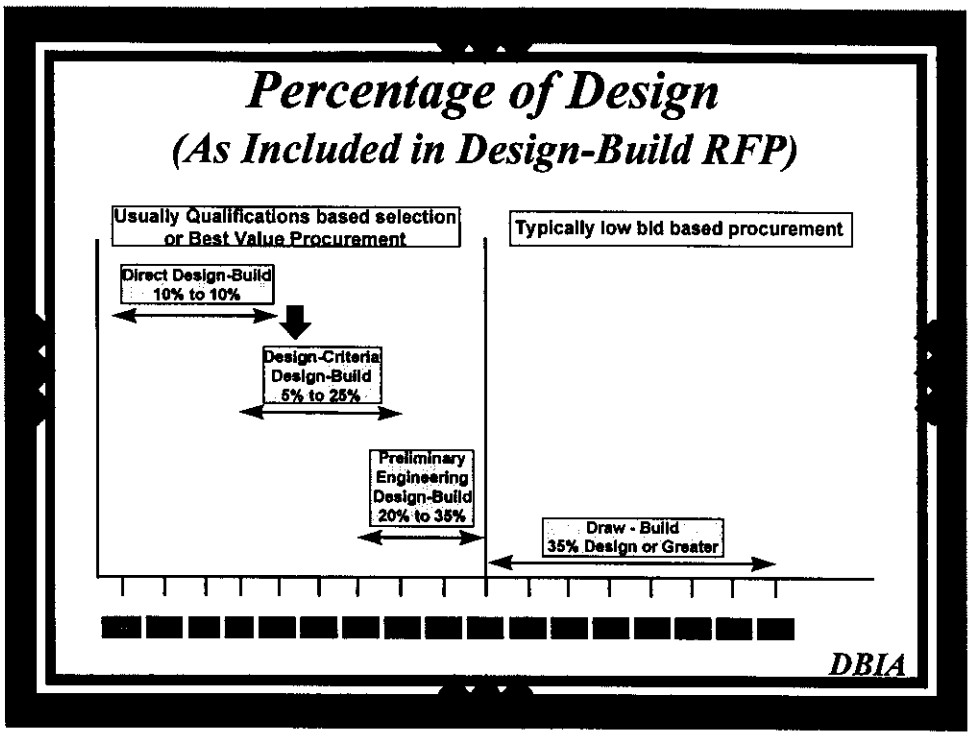
I-15 RISK / RESPONSIBILITY ALLOCATION CHART

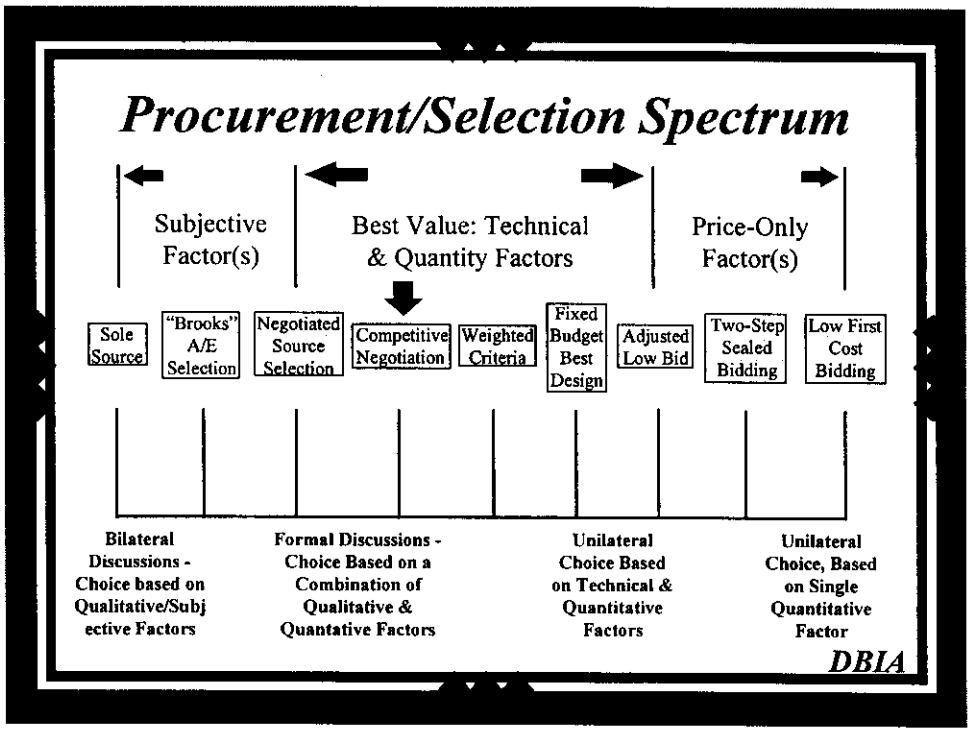
RISK/RESPONSIBILITY CATEGORY	100% OWNER	TIME EXTENSION ONLY	PRICE INCREASE ONLY	DESIGN-BUILDER	INSURABLE	REMARKS
ITEMS BEYOND ANY PARTY'S CONTROL (FORCE MAJEURE)						
Differing Subsurface Conditions			Allowance	Allowance		
Strikes/Labor Disputes				X		
Weather Conditions				X		
Catastrophes- Fire, Flood, Earthquake	Major Earth quake		No delay damages	Fire, Flood	X	
Third Party Litigation		X			Maybe	
Archaeological Resources/ Endangered Species/ Cultural/Biological Resources	UDOT will perform any mitigation work	X				
War, Sabotage, etc.		X				
Changes in Law	X		No delay damages			
Fuel Price Changes			X			UDOT standard clause (price can be adjusted up or down)
Other Force Majeure		X				
AGENCY COORDINATION, PUBLIC EDUCATION and PUBLIC INVOLVEMENT						
FHWA	X					
DAQ				X		
Other Agencies	some			some		
Community Relations	lead			Award Fee		
PROJECT COST						
Funding/Cash Flow	Payment Cap			Any additional funds needed		UDOT has option to require D-B to obtain financing or UDOT can pay-as-you-go
Interest Rate Risk				X		D-B will provide fixed option price for financing and will therefore bear interest rate risk
Inflation	Maintenance			D/B Work		
Bid Preparation Costs	Stipulated Fee					

Risk Chart

Risk/Responsibility Category	"Traditional" Design-Bid-Build		Typical Design-Build		I-15 Design-Build	
	Owner	Designer or Constructor	Owner	Design-Builder	Owner	Design-Builder
Final Alignment Geometry	X			X		X
Geotechnical Data	X			X	X	
Environmental Permits	X	X		X	X	
Design Criteria	X		X		X	
Design Defects	X			X		X
Constructibility of Design	X			X		X
Obtaining ROW	X			X	X	
Coordinating with Utilities & Railroads				X	Agreements	Coordination
Quality Control and Quality Assurance	Significant inspection and testing	Quality of Workmanship	Oversight only	X	Oversight Only	X
Coordination with other work	X			X		X

Attachment 18


Percentage of Design
(As Included in Design-Build RFP)
Usually Qualifications based selection or Best Value Procurement
Typically low bid based procurement
Direct Design-Build 10% to 10%
Design-Criteria Design-Build 5% to 25%
Preliminary Engineering Design-Build 20% to 35%
Draw - Build 35% Design or Greater
DBIA


Procurement/Selection Spectrum
Subjective Factor(s)
Best Value: Technical & Quantity Factors
Price-Only Factor(s)
Sole Source
"Brooks" A/E Selection
Negotiated Source Selection
Competitive Negotiation
Weighted Criteria
Fixed Budget Best Design
Adjusted Low Bid
Two-Step Sealed Bidding
Low First Cost Bidding
Bilateral Discussions - Choice based on Qualitative/Subjective Factors
Formal Discussions - Choice Based on a Combination of Qualitative & Quantative Factors
Unilateral Choice Based on Technical & Quantitative Factors
Unilateral Choice, Based on Single Quantitative Factor
DBIA

NOSSAMAN, GUTHNER, KNOX & ELLIOTT

MEMORANDUM

TO: Patrick W. Drennon

FROM: Nancy C. Smith NCS

DATE: April 6, 1996

RE: Procurement Process for I-15 Design-Build Contract 210125-001

This memorandum discusses the types of procurement processes that are consistent with a design-build approach, and makes recommendations regarding the methodologies which are appropriate for selection of a design-build contractor for the I-15 reconstruction project.

INTRODUCTION

1. Private Sector Approach to Design-Build Contracting. In general, private-sector design-build projects are negotiated contracts, often involving some sort of competitive proposal process. The primary reason for negotiating, instead of bidding, design-build deals is the belief that the quality and past history of the design-builder should be given a great deal of weight in the selection process. In addition, many engineers and contractors believe that the true benefits of design-build are found in the innovative ideas brought to the job by the design-builder. In order to maximize innovations, the private sector often brings in the design-builder at a very early stage of the project, when it would be impossible to obtain a fixed price for the job. The private sector also typically uses a performance-based specification for design-build contracts rather than prescriptive specifications, for the same reason. Consistent with this philosophy, the AIA and the AGC contract forms

provide for an initial, preliminary design phase, with the design-build contract price set by negotiations at the end of the initial phase.

The relative costs and benefits of negotiation and bidding are obvious, although difficult to quantify. The problems associated with competitive bidding include the inability to eliminate contractors who have less than stellar reputations, but who are able to pass the agency's basic qualifications criteria. Also, competitive bidding does not allow a bidder to obtain "extra credit" for above average qualifications, and does not give the bidder any incentive to offer the owner any brilliant ideas that would reduce costs or otherwise help the project but which would require deviations from the owner's specifications. There is also a significant potential for the low bidder to feel that too much money was left on the table, resulting in a reduction in the quality of the work and/or higher claims.

The benefits of a negotiation process include the fact that there is an opportunity for "give and take" between the owner and the contractor, giving the owner a better idea of the cost of different requirements associated with the project. It allows the contractor to bring its ideas for the project to the table as part of the negotiation process. It also gives the owner the opportunity to deal quickly with a price that is too high, by negotiating with one or more bidders to determine what adjustments to contract terms and project requirements will achieve a manageable price.

2. Public Sector Approach to Design-Build Contracting. Most public agencies are required by law to use competitive bids to procure public works construction contracts. Legislators originally implemented competitive bidding requirements as the result of corruption in selection of contractors. Competitive bidding is also commonly believed to promote administrative efficiency and certain socio-economic goals.1/ It also provides a competitive incentive for the bidders to provide a good price.

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1 / R. Netherton, "Competitive Bidding and Award of Highway Construction Contracts," *Selected Studies in Highway Law, vol. 3*, p. 1125.

Nevertheless, there is a growing trend to allow alternative procedures, based on the belief that "The lowest bidder concept has served the public well over the years, but it is not necessarily the best way for governments to obtain the best product for the dollar spent. . . . Price is important, but it has become an increasing burden on considering the other necessary product requirements such as timeliness, durability, and quality."[2/] The American Bar Association has recognized the benefits of allowing deviations from competitive bidding--its Model Procurement Code, already adopted by several states, allows use of competitive proposals under circumstances where a determination is made that bidding is either not practicable or advantageous.

In the design-build area in particular, government agencies throughout the nation have recognized that competitive bidding process is far from ideal. During the past few years, many state and local agencies have actively sought and obtained the right to use innovative contracting methods for design-build projects.[3/] Some agencies have been given authority to negotiate such contracts (the State of

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2 / D. Harp, "Historical Background - Low Bid Concept," Transportation Research Circular No. 386, Dec. 1991

3/ American Bar Association, *Model Procurement Code*, § 3-203. A number of states have enacted general legislation allowing a non-low bid selection process, and others have allowed specific agencies, or specific projects, such authority. Alaska's statute (Alaska Stat. § 36.30.200), applicable to all state agencies, allows selection of design-build contractors based on an evaluation of price and other factors. The Florida department of transportation has had a design-build program in place since 1987 (Fla. Stat. § 337.11(5)(a)), with the ability to select the contractor based on cost and other factors. Hawaii enacted legislation in 1995 (H.R.S § 103D-303) allowing all governmental bodies of the state to use a source selection process in situations where it is not advantageous to use competitive bids. The Kansas Turnpike Authority has design-build authority (Kan. Stat. Ann. §68-2001 et seq.). Maryland, in 1995, amended its procurement laws to allow use of design-build for capital projects (Md. State Fin. and Proc. Code § 3-602(g)(1)). The South Carolina DOT has authority to enter into design-build contracts based on a broad statute with very few restrictions. (S.C. Code Ann. §57-3-200.) Virginia has provided all state agencies with design-build authority, subject to certain fiscal restrictions) V.C.A. §§ 11-41 et seq. The State of Washington has enacted legislation establishing a design-build demonstration program, allowing competitive negotiation of such contracts (Wash. Rev. Code Ann. § 39.10.050). Although this legislation does not apply to the Department of Transportation, it has been given authority to negotiate contracts under its public-private partnership legislation, and is currently planning to negotiate a design-build contract for a series of park-and-ride facilities. Wisconsin has also given its state agencies general design-build authority (Wis. Stat. Ann. §§ 13.48(19) and 16.855).

Washington is one such example), but in most cases the legislatures have not been willing to grant broad negotiating authority, preferring to require use of a competitive process, and giving the agency the necessary flexibility by allowing factors other than price to be considered in awarding the contract. Earlier this year, the U.S. Congress, recognizing that design-build works best with a non-low bid approach, but unwilling to allow negotiation of such contracts, enacted legislation requiring federal agencies to select design-build contractors through a competitive proposal process.[4/]

POSSIBLE PROCUREMENT OPTIONS

There is a wide variety of procurement options for selecting a design-build contractor, ranging from competitive bidding based on inflexible (prescriptive) specifications to sole source negotiations based on flexible (performance) specifications. Examples include:

1. Competitive bids. This approach involves a "minimum" standard in determining whether a bidder is "responsible," requiring the owner to award the contract to the low bidder meeting the minimum standard. It entails use of prescriptive specifications so as to ensure that the low bidder will not be able to sacrifice the quality of the product in order to cut costs.

The disadvantages of competitive bidding in the context of design-build are (a) it discourages (or precludes) innovation in design and construction methods, (b) it does not allow the owner to consider any factors other than price in selecting the contractor, except at a fairly low level, (c) it increases the risk that the winning contractor will feel that it left too much money on the table, making it likely that the contractor will try to cut costs during design and construction, adversely affecting the quality of the product, and (d) it does not allow a meaningful dialog between the owner and the individual bidders to discuss problems that may arise during the procurement process and to work out the most appropriate solution.

4/ The Federal Acquisition Reform Act of 1996, § 4105(b), amending Title III of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.).

2. Competitive bids with high "responsibility" standards. This approach involves setting a high standard for technical, managerial and financial capabilities, as well as integrity, thus providing a certain level of assurance regarding the qualifications of the contractor. However, it does not permit the owner to consider any offer by the contractor to improve the product specified. This is often the only option available to public agencies wishing to use design-build but who are required by law to accept the low bid.

This process is the one used by the agency which is developing the Eastern toll road project. Its decision to use competitive bidding was based on a combination of legal and political reasons. The agency recently reconsidered that decision in connection with the upcoming Foothill-South project, and it is planning on using a competitive negotiation process for that procurement.

The Eastern procurement process started with bidder pre-qualification, including a review of the designer's qualifications, comparable projects, prior involvement in design-build projects and balance sheets. The agency then asked for bids. The bidders were required to provide management proposals with stringent "pass/fail" standards. Since award was based on price, and since a state agency would be operating and maintaining the road after completion, the toll agency felt compelled to use prescriptive specifications. The procurement process did not allow innovative ideas to be considered in awarding the contract, but the contractor has the ability to propose such ideas after contract execution through a value engineering process.

This approach, like the first option, is easy to defend in a protest, and it also allows the owner to cull out contractors who appear likely to produce a poor quality product. Although it does allow for innovative ideas through value engineering, it does not give the agency any opportunity to find out what ideas might have been proposed by the other bidders, and the agency's share of the cost savings is probably more limited than it would be if innovative ideas were factored into the contractor selection process. Other disadvantages to this approach are that

it does not allow the owner to award the contractor to a slightly higher bidder who would provide a significantly better product, and that it does not give the owner the ability to have a meaningful dialog with the bidders to deal with any problems that may arise.

3. Competitive bids with alternative proposals. This is a variation of option 2 allowing the contractors to provide alternative proposals--that is, proposals that deviate from the owner's prescriptive specifications. Under this scenario, if the owner decided to accept one or more of the proposed alternatives, the price reduction associated with that alternative would be considered in determining the low bidder.

The advantage to this approach is that it allows the owner to take advantage of innovations proposed by the contractor. The primary disadvantage is that this approach is difficult to defend if a protest is filed, because the decision to accept or reject alternatives is based on subjective criteria, making it easy to claim that the final selection was based on personal preference for one contractor over another rather than on the merits of the various proposals. Also, it does not allow the owner to have a meaningful dialog with the bidders.

4. Award based on price and other factors (without discussion or BAFO). This approach varies from option 2 by allowing the owner to consider other factors in addition to price in deciding which proposal to accept.

The advantage to this approach is that it lets the owner provide a performance specification, thereby giving the contractor the opportunity to bring its innovative ideas to the table. Also, although it allows some subjectivity in analyzing the proposals, it is still capable of review by the courts based on objective standards and (assuming that the owner followed its own evaluation requirements) is therefore likely to withstand a protest. However, like options 1 through 3, it has a significant disadvantage in that it does not give the owner the ability to have a meaningful dialog with the individual proposers. This means that the owner must set a mandatory technical level without knowing what types of ideas the proposers will

have, making it difficult to establish appropriate specifications. If the performance specification allows too much flexibility, it may give the contractor the contractual right to implement an innovative idea that is not acceptable to the owner. On the other hand, if the specification is too detailed it will discourage ingenuity on the part of the proposers, since they will not be given the opportunity to describe their ideas in advance to find out whether the owner will consider the proposal to be responsive. This approach also faces potential political and public relations issues if the contract is awarded to someone other than the proposer with the lowest price, particularly where the proposer with the low price has good political connections or where the "most advantageous" proposal is provided by a non-U.S. company.

5. Award based on price after discussions and BAFO. This approach allows the owner to discuss various issues with the proposers after reviewing the initial proposals, but ultimately requires the contract to be awarded to the proposer with the lowest price. In addition to allowing a high "responsibility" standard to be used, this approach also allows the owner to set a high technical standard, with all proposers being given a reasonable chance to meet that standard. This permits use of a performance specification without the same level of concern described in option 4, regarding the contractor's ability under the terms of the contract to implement ideas that the owner would prefer not to use.

The procurement process for this approach would be as follows. After receipt of the initial proposals, the owner would discuss with each proposer any deficiencies in its initial proposal, enabling the owner to give all proposers information to achieve the mandatory technical level. The owner would also have the opportunity to revise the contract documents to deal with problems that become apparent based on a review of the initial proposals. The owner then asks for best and final offers (BAFO's) and awards the contract to the lowest responsible proposer.

The advantage to this approach is that it offers the owner a certain amount of flexibility to deal with problems that arise during the course of the

procurement process. Since award is based on price, it is easy to defend against protests. However, it does not give the owner the right to award the contract to a slightly higher proposer offering a significantly better product as long as both of them exceed the mandatory qualification level. Also, if one proposer is slightly below the mandatory level, and the selected proposer is slightly above, it may be difficult, from a political standpoint, to defend against a protest by the lower proposer.

6. Award based on price and other factors after discussions and BAFO. This approach builds a discussion period and BAFO into the process described in option 4, but allows award to be made to the proposers with the most advantageous proposal.

This is the approach that is being used by federal agencies under recently enacted legislation. It is also the approach being used by New Jersey Transit for its Hudson-Bergen Light Rail Transit procurement.

The advantages to this approach are that it allows both the contractor and the owner a great deal of flexibility, it allows the contractor to propose innovative ideas based on a performance specification, it gives both parties the opportunity to have a dialog (allowing the owner to communicate to the proposers any problems raised by the proposals), and it would allow the owner to award a contract to a proposer offering a significantly better product for a slightly higher price. It potentially suffers from the same political/public relations issues as option 4, but as long as the owner advises the proposers how the contractor will be selected, and then complies with its own evaluation process, the final award should be defensible against protests.

7. Negotiation process similar to Brooks Act process. This variation would involve review of a conceptual design and preliminary design proposals based on performance-oriented design criteria, followed by negotiations with the highest scoring proposer. (Since the procurement would not actually be subject to the Brooks Act, price can be factored into the scoring process.) If negotiations fail, the owner would proceed to negotiate with the next highest scoring proposer, and so on.

This approach is commonly used in the private sector, it is the approach recently authorized by the Washington State legislature for its design-build program, and it is the approach that is to be used for the Foothill-South project.

The advantage to this process is that it allows quality to be given a significant amount of weight, and offers both sides the opportunity to reach a reasonable deal. The primary disadvantage is the political bias against negotiated contracts even where the contractor is selected based on competitive proposals. Another disadvantage is the potentially high cost to the losing proposers.

8. Sole source negotiations. This approach is frequently used in the private sector but only rarely in the public sector. It involves selection of a contractor for negotiations based on its reputation or prior relationships with the owner, without first going through a competitive selection process.

The advantages to this approach are that it can be very fast, and it reduces the overall cost to the contracting community since there are no losing proposers. The primary disadvantage is the perception that favoritism plays a large role in the process, as well as a fear that the contractor will not provide a competitive price since it is not bidding against its competitors.

UTAH DOT GOALS

The Utah DOT has stated that its goals with respect to the I-15 reconstruction project are as follows:

1. Time. The project must open on time.

2. Quality. The Utah DOT wants a well-designed, high quality product, so as to minimize future liability and maintenance expense.

3. Cost. The cost of the project must be reasonable and cannot exceed the budgeted amount.

4. State/Federal Law. The procurement must comply with applicable state and federal requirements.

APPLICATION TO UTAH DOT DESIGN-BUILD PROGRAM

Based on the importance of the I-15 reconstruction project to the State of Utah, the inflexibility of the Olympic schedule and the above-stated goals, it appears that the Utah DOT would benefit from selection of its contractor on a basis which encourages innovation, provides for a dialog with proposers, and allows consideration of other factors as well as price.

1. Alternatives. Option 6 appears to be the best alternative considering all circumstances, assuming that the legislature is willing to act quickly to modify the existing legislation.

The next best alternative is option 5. It may be possible to use this approach without modifying the existing legislation. This possibility should be explored with the Attorney General's office. If a legislative change is necessary, it should be relatively minor.

Option 2 is clearly permitted by the existing legislation, and is probably the next best alternative after option 5. If long-term maintenance and a long-term warranty are obtained (that is, a minimum of five years and preferably 10 or 15), the Department could justify use of a performance specification because the contractor would have an internal incentive to provide a quality product. However, if the Department decided not to include a long-term maintenance/warranty period, the contractor's incentives would change drastically, and in that case it would be advisable to use a prescriptive specification.

The other options were eliminated for the following reasons:

- Option 1 does not provide the necessary quality safeguards.
- Option 3 is very risky from a protest standpoint.
- Option 4 is excluded because option 6 is a better approach.
- Options 7 and 8 would require a greater deviation from the existing competitive bidding requirement and therefore are less desirable from a political standpoint.

2. Legislative Changes.

(a) Option 5. The legislative changes necessary in order to proceed with Option 5 are relatively simple. Section 63-56-36.1(5)(a) could be replaced with the following:

> evaluate the submissions received in response to the request for proposals from the prequalified bidders, and at the department's option discuss the proposals with the bidders, followed by best and final offers; and

(b) Option 6. If Option 6 is desired, all of the references to "bidder" in the existing legislation should be changed to refer to "proposer." Section 63-56-36.1(5)(a) could be revised as described above (changing "bidder" to "proposer"), and Section 63-56-36.1(5)(b) could be revised to read as follows:

> award the Contract to the responsible proposer whose proposal is most advantageous to the State, price and other factors considered.

Other legislative solutions which would achieve the desired result are also possible.

NCS

Award Fee

- **Philosophy/Benefits:**
  - **Motivates contractor to quality performance desired by owner**
    - **timely performance**
    - **quality of work**
    - **management**
    - **community relations/maintenance of traffic**
  - **Positive means of achieving desired results**
  - **Incentivize performance throughout project (not just at end)**
  - **Financial incentive to contractor**
  - **Consistent with partnering**
- **Proven and Successful**

Stipends

- **$950,000**
- **Recognition of Contractor Investment**
- **Facilitates quality in the proposal**
- **Ownership of concepts**
- **Encourages participation in next D/B project**

Steps in the Procurement Process

◆ Request for Letters of Interest	◆ Mar 96
◆ Informational Meeting	◆ 15 May 96
◆ Request for Qualifications (RFQ)	◆ 30 May 96
◆ Selection of Prequalified	◆ 18 Jul 96
◆ Develop Request for Proposals (RFP)	◆ Feb-Sep 96
◆ Review Draft RFP	◆ Aug-Sep 96
◆ Issue RFP	◆ 1 Oct 96
◆ Technical Concepts Review	◆ 23 Oct-1 Dec 96
◆ Receive Proposals	◆ 15 Jan 97
◆ Evaluation of Proposals (initial)	◆ Jan-Feb 97
◆ Discussion & BAFO (if required)	◆ Feb-Mar 97
◆ Best Value Selection	◆ Apr 97
◆ Award/Notice to Proceed (NTP)	◆ 15 Apr 97

I-15

UTAH DEPARTMENT OF TRANSPORTATION

Request for Letters of Interest for Design/Build Services

The Utah Department of Transportation (UDOT) is soliciting Letters of Interest (LOI) from companies interested in providing Design/Build Services for the reconstruction of 16 miles of the Interstate 15 Corridor in Salt Lake City, Utah.

This reconstruction effort begins at approximately 10800 South and continues north to approximately 500 North. The project includes widening and reconstruction of the mainline roadway, reconstruction of all interchange structures, complete reconstruction of the two major junctions with Interstate 80 and the junction with the State Route 201 freeway, and partial reconstruction of the south junction with Interstate 215. The total project includes replacement of approximately 150 bridge structures. The anticipated contract award is Spring 1997 with the entire project completion scheduled prior to October 15, 2001. Intermediate completion dates may be established for some segments.

One Design/Build team will be selected for the entire project. The selection process will evaluate the ability of the Design/Build team to plan, design, construct, and control this project to provide a quality product, on or ahead of schedule, for a fair lump sum price.

UDOT is seeking Design/Build teams that are committed to quality, have proven experience in the design and construction of large highway reconstruction projects, will bring innovative Design/Build approaches to ensure timely completion and maintenance of traffic, and are willing to partner with UDOT for the mutual success of the project.

Firms interested in providing Design/Build services should send an LOI to the UDOT by registered mail by April 29, 1996. Address all letters to:

Orlando Jerez
Utah Department of Transportation
Contracts Manager
4501 South 2700 West
Salt Lake City, Utah 84119

(801)965-4317

Your LOI must state whom the UDOT may contact at your firm to provide further information about the project.

I-15

UTAH DEPARTMENT OF TRANSPORTATION

I-15 CORRIDOR RECONSTRUCTION PROJECT

DESIGN/BUILD INFORMATION

May 1, 1996

Attachment 24

I-15 CORRIDOR RECONSTRUCTION PROJECT
DESIGN/BUILD INFORMATION

TABLE OF CONTENTS

Executive Summary

A. Introduction/Purpose of Information Package

B. Project Description

C. Project Status

1. Survey and Mapping
2. Phase I Design
3. Rights-of-Way and Easements
4. Geotechnical Investigation, Testing and Design
5. Environmental
6. Utilities & Railroads
7. Traffic Analysis for I-15

D. Payment, Financing, Incentives and Liquidated Damages

E. Summary of Design/Build Scope

1. Survey, Mapping and Geotechnical Investigation and Testing
2. Design and Construction
3. Rights-of-Way/Easements
4. Maintenance of Traffic
5. Utilities Coordination
6. Railroads
7. Coordination with Other Projects
8. Management
9. Community Relations
10. Maintenance During Construction
11. Maintenance After Construction

F. Air Quality

G. Quality Control/Quality Assurance

I-15 Corridor Reconstruction Project Design/Build Information

H. Project Schedule

I. List of Agency Supplied Documents (Tentative)

J. Legal and Financial Requirements

1. Licensing Requirements
2. Bonding
3. Insurance

K. Design/Build Organization

1. Design/Build General Contractor
2. Subcontracting
3. D.B.E. Requirements
4. Key Personnel

L. Other Issues Being Addressed

1. RFP/Contract Format and Type
2. Performance Criteria (Specifications)
3. Work Limitations
4. RFP Evaluation Criteria and Process
5. Dispute Resolution
6. Medium for Publication of RFP
7. Value Engineering
8. ISO 9000 Certification Requirements
9. Partnering
10. Stipends

Appendix:

A Preliminary List of Agency Supplied Documents
B Conceptual Plans

Request for Qualifications (RFQ)
Evaluation Criteria

- **Legal & Financial**
  - Legal Structure
  - Financial Profile
- **Organization & Experience**
  - Organizational Structure
  - Organization Charts
  - Proposer Experience
  - Key Staff Background & Exp.
- **Project Approach**
  - Project Risk
  - Project Management
  - Project Administration
  - Planning & Execution
- **Record of Performance**
  - Cost & Schedule Performance
  - Penalties & Termination's
  - Record of meeting regulatory requirements
  - Ratios of Change Orders & Claims to Total Project Costs
  - Experience with Award Fee Contracts

Request for Qualifications (RFQ)
Rating Guidelines

Very Highly Qualified

Highly Qualified

Qualified

Marginally Qualified

Not Qualified

I-15

UTAH DEPARTMENT OF TRANSPORTATION

I-15 Corridor Reconstruction Project

Prequalified Contractor List

Lake Bonneville Constructors

Construction Team Members
Flatiron Structures
Wayss & Freytag
Fluor Daniel Inc.
Lane Construction Corp.
Old Castle Inc.
Staker Paving & Const Co.
Jack B. Parsons Co.

Design Team Members
CH2M Hill
HDR Engineering
Horrocks Engineering
Dames and Moore
The Kleinfelder Group Inc.

Principal Point of Contact
Jim Maczko
140 West 2100 South
Suite 244
Salt Lake City, UT 84115

Phone: (801) 463-7900 X102
Fax: (801) 463-3725

Salt Lake Constructors

Construction Team Members
Brown & Root
W.W. Clyde & Co.
H.B. Zachry
Geneva Rock Products
Obayashi Corp.

Design Team Members
HNTB
O'Brien-Kreitzberg

Principal Point of Contact
E.R. (Bob) Ferguson
350 East 500 South
Suite 102
Salt Lake City, Utah 84111

Phone: (801) 328-0438
Fax: (801) 328-2361

Wasatch Constructors

Construction Team Members
Kiewit Pacific
Granite Construction
Washington Construction

Design Team Members
Sverdrup
DeLeuw Cather
MK Centennial
URS Consultants
Greiner Inc.
H.W. Lochner Inc

Principal Point of Contact
Conway Narby
Commerce Park
428 East Winchester, Suite 210
Murray, Utah 84107

Phone: (801) 262-7955
Fax: (801) 262-7480

November 27, 1996; P:\SHARE\RG2\PREQUAL.LST

TECHNICAL CONCEPT REVIEWS
SUMMARY REPORT

NO.	CONCEPT	STATUS	C
1	600 South Viaduct-Eliminate Loop Ramp & 300 W Crossing	Out of Box	B
7	Revise NB 15 Access to I-215	In the Box	B
8	Revise EB I-215 Access to SB I-15 Geometrics	In the Box	B
9	Delete SB C-D from Ramp EE to 1300 South	In the Box	B
10	Realign Ramp 80W15S and 15SC15S	In the Box	B
11	Correct Route Continuity Deficiency for I-80 EB to SB	In the Box	B
15	I-15/I-80EB Refinements (4)	2 - In 2 - Out	B
43	Ramp Profile Adjustment I-15 NB to I-215	In the Box	B
2	Unbonded Concrete Overlay	Out of Box	P
6	Temporary Asphalt Pavement	In the Box	P
13	Continuously Reinforced Concrete Pavement	Out of Box	P
22	Pavement Design	In the Box	P
12	Aesthetics #1	In the Box	A
16	Aesthetics #2	In the Box	A
3	Paint System & A325 Fastners	Paint - In A325 - Out	S
4	Seismic Strategy for Simple Span Bridges	In the Box	S
5	Spliced,Post Tensioned Conc Girders for SPUIs & Viaducts	In the Box	S
14	600 N Over I-15 Bridge Design Options	In the Box	S

18	Structures (5 Concepts)	5 - In	S
20	Retaining Walls - Two Stage Construction	In the Box	S
21	Retaining & Noise Walls - Two Stage Construction	In the Box	S
27	Retaining Walls	Out of Box RFP changed To Suggested	S
28+	Concrete Coating In Lieu Of Additive	Out of Box	S
29+	Calcium Nitrite In Lieu Of Silica Fume	Out of Box	S
30	Precast Catch Basins	In the Box	S
32	Seismic Design for Bridges	Out of Box	S
33	Slab Bridge versus High Fill	In the Box	S
34	Steel Painting System	In the Box	S
35	Weld Rings	In the Box	S
36	Pile Design	In the Box	S
37	Retaining & Noise Walls - Supported	In the Box	S
17	Maintenance Of Traffic Ideas #1	In the Box	M
19	Maintenance of Traffic Ideas #2	In the Box	M
23	High Mast Lighting	Out of Box	M
24*	Elimination of ATMS Equipment	Out of Box	M
25*	Elimination of SONET Equipment	Out of Box	M
26	Use REACT 350 Attentuators	Out of Box	M
31	Precast Barriers in Median	Out of Box	M
42	Lighting Ideas	In the Box	M
44*	Communication for Core Traffic Signals	Out of Box	M

45	Trenchless Construction Techniques	In the Box	M
46*	Conduit System Modifications	Out of Box	M
47*	Traffic Signal Communication Channels	Out of Box	M
48*	NEMA Communication Modules	Out of Box	M
49*	Alternate T-1 Multiplexers	Out of Box	M
50*	Wireless Communication Links	Out of Box	M
51*	RS232 Data Transceivers	Out of Box	M
52*	Camera Control Channels	Out of Box	M
53*	Video Multiplexers	Out of Box	M
38+	Allow a Contractor Controlled Insurance Program	Out of Box	W
39+	Deletion of ISO 9000 Requirement	Out of Box	W
40+	Deletion of Independent QA firm	Out of Box	W
41+	Deletion of Requirement for UT P.E.s for QA	Out of Box	W

* Refers to ATMS elements - the concepts requested changes to the RFP documents. More thorough study was required because of the interrelated structure of the system. Several seem like good ideas and the proposer was encouraged to submit a more thorough Value Engineering Proposal.

+ Technical Concepts were actually requests for exception or deviation from the RFP requirements.

TOTALS (Including ATMS elements [*] and those marked with [+])

'In the Box' - 34 (includes multiple answers) - 56%
'Out of Box' - 27 (includes multiple answers) - 44%

Status	Basic	Pavement	Structures	Aesthetics	MOT	WBS
'In the Box'	8	2	18	2	4	0
'Out of Box'	3	2	4	0	14	4

TOTALS (Not including ATMS elements [*] and those marked with [+])

'In the Box' - 34 (includes multiple answers) - 77%
'Out of Box' - 10 (includes multiple answers) - 23%

Contractor	Lake Bonneville	Salt Lake	Wasatch
'In the Box'	14(78%)	10(77%)	10(77%)
'Out of Box'	4(22%)	3(23%)	3(23%)

Status	Basic	Pavement	Structures	Aesthetics	MOT	WBS
'In the Box'	8	2	18	2	4	0
'Out of Box'	3	2	2	0	3	0

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT
REQUEST FOR PROPOSALS
PROJECT NO. *SP-15-7(135)296

1.0 GENERAL INSTRUCTIONS AND FILE INDEX

1.1 ORGANIZATION OF THE REQUEST FOR PROPOSALS

This Request for Proposals is organized in twenty-one (21) sections. The information is presented in electronic format on CD-ROMs, except for the I-15 Corridor FEIS which is provided in hard copy format.

1.2 RELATIONSHIP OF DOCUMENTS

The 21 sections represent the Request for Proposals (RFP). Included within the RFP are Section 3.0, the Instructions to Proposers, and Section 4.0, the Contract Provisions.

1.3 ELECTRONIC FILE INDEX AND DESIGNATION OF DOCUMENTS

Certain of the RFP documents contain Mandatory Requirements; certain documents are considered Reference Documents; others contain Sealed Documents; and others contain information establishing the Basic Configuration as well as reference information. The Phase I Designs in RFP Section 20.0 shall be considered Reference Documents, except to the extent that they set the Basic Configuration and except with regard to indicating the location of utilities affected on the Project. See Section 3.2 of the Contract Provisions (RFP Section 4.0) regarding Contractor's ability to rely on the Phase I Design as to Basic Configuration; see Section 6.6 of the Contract Provisions (RFP Section 4.0) regarding contractor's ability to rely on the indicated utility location.

Document Designation Key:

M =Mandatory Requirements
R = Reference Documents
S = Sealed Documents
B = Basic Configuration

File Number	Name/Title		Document Designation
1.0	**General Instructions & File Index**		R
1.1	Organization of the Request For Proposals		R
1.2	Relationship of Documents		R
1.3	Electronic File Index and Designation of Documents		R
2.0	**Scope of Work**		
2.1	Technical		M
	2.1.3 Attachment 1	Option J	
2.2	Project Management		M
2.3	Schedule		M
2.4	Department Role		M
2.5	Railroad		M
	2.5.3 Attachment 1	600 West Crossing of Andy Avenue Railroad Spur	
2.6	Utilities		M
	2.6 Attachment 1	Estimated Length of Review Period of Utility Plans by Utility Owners	
	2.6 Attachment 2	Design and Construction of Utility Work	
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11.6	Drainage Study for the I-15 Corridor 10800 South to 500 North	R
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11.8	Parallel Streets Study	R
11.9	Historical Air Quality Readings and Monitoring Station Location	R
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11.12	I-15 Corridor Wick Drain Spacing Report	R
11.13	Department Signing Policies and Procedures	R
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11.16	UDOT/DEQ Memorandum of Understanding	R
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11.21	Draft Materials Manual of Instruction, Part VIII-B, Pavement Management and Design, dated 10/31/96	R
11.22	Maintenance Handbook	R
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11.27	Health and Safety Plan	R
11.28	Traffic Report	R
11.29	Salt Lake Area I-15 ATMS Traffic Signal Requirements	R
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12.4	Final Environmental Document for Categorical Exclusion, Railroad Grade Separations at 10600 South, 9150 South & 9000 South, I-15 9000 South East Side Frontage Road Connections	M
12.5	600 North Street Bridge Replacement and Interchange Improvements Final Environmental Study	M
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12.7	600 North/I-15 Interchange Improvements Final Environmental Study	M
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13.2	404 Permits	M
13.3	Contractor Staging Areas	M
13.4	DWQ	M
14.0	**Contaminant Management**	
14.1	Scope	M
14.2	Applicable Standards and References	M
14.3	General Information	M
14.4	Requirements	M
14.5	Submittals	M
14.6	Evaluation	M
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Appendix C	600 North Interchange Improvements Right-of-Way Acquisition Schedule (Amended), dated December 16, 1996		
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17.3	Submittals	M
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18.0	**Contractor Design & As-Built Documents**	M
19.0	**Monitoring of Commitments**	
19.1	Environmental	M
19.2	Local Government	M
19.3	Utilities	M
19.4	Noise Walls	M
19.5	Railroads	M
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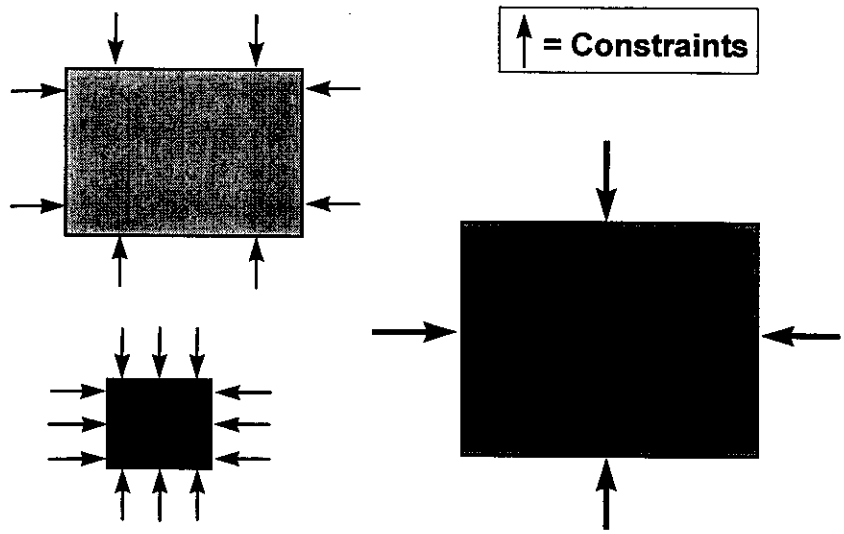
19.7	Drainage	M
20.0	**Phase I Design**	**R**
20.1	Basis of Design	
20.2	**Design Study Reports**	**R**
20.2.1	*Not Used*	
20.2.2	*Not Used*	
20.2.3	*Not Used*	
20.2.4	9000 South Section	
20.2.5	7200 South Section	
20.2.6	Railroad Grade Separation at 10600/9000 and 9150 South	
20.2.7	5300 South Section	
20.2.8	4500 South Section	
20.2.9	3300 South Section	
20.2.10	Overpasses	
20.2.11	2400 South Section	
20.2.12	State Street Section	
20.2.13	900 West Section	
20.2.14	1300 South Section	
20.2.15	600 South Section	
20.2.16	600 North Section	
20.2.16.1	600 North/I-15 Interchange Improvements	

File Number	Name/Title	Document Designation
20.2.16.2	600 North Railroad Viaduct and Southbound Ramp over I-15	
20.2.17	*Not Used*	
20.2.18	*Not Used*	
20.2.19	9000 South Frontage Road Connections	
20.3	**Master File Index**	**R**
20.3.1	*Not Used*	
20.3.2	*Not Used*	
20.3.3	*Not Used*	
20.3.4	9000 South Section	
20.3.5	7200 South Section	
20.3.6	Railroad Grade Separation at 10600/9000 and 9150 South	
	20.3.6 Attachment 1	
20.3.7	5300 South Section	
20.3.8	4500 South Section	
20.3.9	3300 South Section	
20.3.10	Overpasses	
20.3.11	2400 South Section	
20.3.12	State Street Section	
20.3.13	900 West Section	
20.3.14	1300 South Section	
20.3.15	600 South Section	
20.3.16	600 North Section	
20.3.17	Team Track	
20.3.18	ATMS	
20.3.19	9000 South Frontage Road Connections	
20.3.20	I-15 Corridor General	
20.4	9000 South Section, 90_96	B
	20.4 Attachment A 1000 South Design Option	
20.5	7200 South Section, 72_96	B
	20.5 Attachment 1 Noise Wall "L" Location	
20.6	Railroad Grade Separation at 10600/9000 and 9150 South	S
20.7	5300 South Section, 53_96	B
20.8	4500 South Section, 45_96	B
20.9	3300 South Section, 33_96	B
20.10	Overpasses, OP_96 S	

File Number	Name/Title	Document Designation
20.11	2400 South Section, 24_96	B
20.12	State Street Section, SS_96	B
20.13	900 West Section, 09_96	B
20.14	1300 South Section, 13_96	B
20.15	600 South Section, 06_96	B
20.16	600 North Section	S
20.16.1	600 North /I-15 Interchange Improvements	S
20.16.2	600 North Railroad Viaduct and Southbound Ramp over I-15	S
	20.16 Attachment 1 Cross Sections	
	20.16 Attachment 2 List of Corrections to Drawings	
20.17	Team Track, TT_96	S
20.18	ATMS	B
20.19	9000 South Frontage Road Connections	S
20.20	I-15 Corridor General	R
21.0	**Software, Electronic Files & Communications**	
21.1	Software Requirements	M
21.2	Formats	M
21.3	Communications	M
21.4	CADD Standards	M

Performance Box



Performance Specifications

- Drainage
- Roadway Geometrics
- Geotechnical
- Water Quality
- Lighting
- Pavements
- Signing
- Traffic Signals
- Structures
- Maintenance of Traffic
- Maintenance During Construction
- Maintenance After Construction
- ATMS
- Concrete Barriers
- Landscape & Aesthetics

6.5 LIGHTING

6.5.1 SCOPE

This specification covers the illumination of the Project. The Contractor shall design and construct a well lighted corridor that will provide a safe and comfortable environment for those that use and maintain the facility.

6.5.2 APPLICABLE STANDARDS AND REFERENCES

The design and construction of all lighting and related equipment shall be in accordance with this Section 6.5 Performance Specification and the relevant requirements of the following standards, unless otherwise stipulated in this specification. Standards and references specifically cited in the body of the specification establish requirements that shall have precedence over all others. Should the requirements in any reference conflict with those in another, the reference highest on the list shall govern. Listed under references are guidelines that the Contractor may use in addressing the requirements as the Contractor sees fit. It is the Contractor's responsibility to obtain clarification of any unresolved ambiguity prior to proceeding with design or construction.

6.5.2.1 Standards

1. I-15 Corridor Specifications (RFP Section 7.1, Sections 515, 736, 835, 840)
2. AASHTO Informational Guide to Roadway Lighting (1985)
3. AASHTO Roadside Design Guide (1996)
4. National Electric Code

6.5.2.2 References

1. The I-15 Lighting Report (for information only) (RFP Section 11.7).
2. UDOT Standard Drawings (RFP Section 7.2, Numbers 745-55E, 745-55M, 755-1, 755-2, 755-3, 755-4, 755-5, 755-6 and 755-7)

6.5.3 REQUIREMENTS

The Contractor shall design and construct a durable lighting system that provides appropriate illumination and avoids light pollution outside of the corridor, avoids disability and discomfort glare to users and provides for ease of maintenance and servicing.

The Contractor shall provide continuous freeway illumination for the entire length of the Project (10800 South to 600 North) including the improvements to the legs of I-80 East and West, and SR 201. The Contractor may use the following types of illumination to light the corridor: High Mast,

Offset, Mid-Height, Median Mount, Shoulder Mount, and other acceptable methods. If High Mast is utilized, no loads shall be placed on the maintenance cables, of the lowering device, after the luminaries have been raised to their functioning location. If High Mast is utilized, the High Mast poles shall be manufactured or recommended by the manufacturer of the lowering device. The Contractor shall coordinate and incorporate ATMS requirements (see RFP Section 9.0) and aesthetics (see RFP Section 6.11) with those of the illumination system.

The Contractor shall provide an average to minimum uniformity ratio of 3:1 with a minimum lux of 1.85 and an average lux of 6.5 to 8.6 on all traveled roadways to be illuminated. Traveled roadways include: general purpose lanes, HOV lanes, auxiliary lanes, ramps, collector/distributor roads and ramp terminal intersections with cross streets. The Contractor shall provide no more than three (3) different wattages of luminaries in the corridor for ease of maintenance. Independent power sources from public utilities shall be provided for the illumination system. The Department will continue to pay for power for lighting as long as the existing lighting is in use. The Contractor shall notify the Department seven days prior to disconnecting the existing lighting from existing power feeds. After the existing lighting in any Work Segment is disconnected from existing feeds, the lighting costs shall be borne by the Contractor until such time as a Work Segment is Substantially Complete and all permanent lighting is in place, operational and connected to the permanent feeds on that Work Segment, and accepted by the Department. The Contractor shall design and construct the illumination system so as to minimize lane closures during maintenance. The Contractor shall use high-pressure sodium lamps for roadway lighting and overhead metal halide lamps for external illumination of signs as outlined in the FEIS (see RFP Section 12.0).

The Contractor shall provide an average to minimum uniformity ratio of 3:1 for all understructure illumination. Understructure illumination includes all structures that are within the boundaries of the Project. For daytime understructure illumination, the Contractor shall provide a minimum lux of 30.3 with an average lux of 105.5 to 109.8. For nighttime understructure illumination, the contractor shall provide a minimum lux of 9.25 with an average lux of 31.2 to 33.4. The Contractor shall place all understructure lighting so as to eliminate the need for lane closures during post-construction maintenance. The Contractor shall use high-pressure sodium lamps for all understructure lighting as outlined in the FEIS (see RFP Section 12.0).

The Contractor shall use Sylvania, Phillips, or GE lamps for all lighting.

The Contractor shall provide reference markers for all junction box locations.

The Contractor shall maintain the illumination system after illumination system start-up, either by segment or entire project as the case may be, but not beyond the date of Final Owner Acceptance of the entire project. See General Provision 105.17.2, Appendix D to the Contract Provisions, RFP Section 4.0, regarding warranties and final acceptance of lighting work.

All lighting poles greater than 12.8 m (42 feet) in height shall have a lowering device.

6.5.4 SUBMITTALS AND REVIEWS

6.5.4.1 Proposal

The Proposer shall describe its proposed lighting system and discuss how it provides the required illumination while avoiding external light pollution and detrimental glare, and provides ease of maintenance and durability and maintaining power and lighting efficiency.

6.5.4.2 Design

The Contractor's design will be reviewed in accordance with RFP Section 8.2.5.3.

6.5.4.3 Construction

The Contractor shall submit as-built plans, product manuals and shop drawings for the illumination system after construction is complete (see also RFP Section 18).

6.5.5 PROPOSAL EVALUATION

The proposals will be evaluated on:

- Adequacy of illumination
- Power and lighting efficiency.
- Safety to travelers and maintenance personnel
- Maintainability
- Durability
- Innovation

Pat Brennan

Memorandum

U.S. Department of Transportation
Federal Highway Administration

Subject: INFORMATION: Request for Exemption - DBE Participation Notification Requirement

Date: SEP 24 1996

From: Director, Office of Civil Rights

Reply to Attn of: HCR-20

To: Mr. Vincent F. Schimmoller
Regional Administrator (HRA-08)
Denver, Colorado

This is in response to your August 2 memorandum submitting a request for waiver by the Utah Department of Transportation (UDOT) from the DBE program requirements, 49 CFR 23.45(h), that contract bidders must submit DBE participation information; i.e., names and addresses of the DBE firms, description of the work, and dollar amount before the recipient awards the contract. We forwarded the UDOT's request to the Department's Office of Small and Disadvantaged Business Utilization (OSDBU) with a request for a deviation from this requirement pursuant to the Department's DBE regulations under 23.41(f). The OSDBU has concurred with the waiver of this specific requirement as part of the special experimental project for the reconstruction of I-15 in Salt Lake County. It is, however, important to note that while this deviation waives the requirement to meet the DBE participation notification requirement of 23.45(h) at the time the prime contract is awarded, it does not relieve the contractor from furnishing DBE participation information at various times during the life of the contract nor prejudice DBE opportunities.

We are available to discuss this matter with you at your convenience, if necessary. If you have any questions, please contact Mr. George Duffy at 366-2925.

Edward W. Morris, Jr.

Attachment 31

UDOT GOING THE EXTRA MILE
DEPARTMENT OF TRANSPORTATION

Michael O. Leavitt
Governor

Thomas R. Warne
Executive Director

Clint Topham
Deputy Director

4501 South 2700 West
Salt Lake City, Utah 84119-5998
(801) 965-4000
Fax: (801) 965-4338

Commission
Glen E. Brown
Chairman
Todd G. Weston
James G. Larkin
Ted D. Lewis
Hal M. Clyde

July 25, 1996

MEMORANDUM

TO: Michael G. Ritchie, P.E.
(HDA-UT) FHWA Division Administrator

FROM: For Thomas R. Warne, P.E.
UDOT Executive Director

SUBJECT: I-15 Design/Build Project

The Utah Department of Transportation (UDOT) proposes to use design/build contracting for reconstruction of 16 miles of I-15 in Salt Lake County. The estimated cost of the project is approximately $1 billion. Construction is to take place over approximately five years. The major source of funds will be Utah State funds; however, Federal funds have been requested. It is expected that some Federal funds will be used on this project.

The implementation of UDOT's approved DBE program under the current regulations will be difficult in the context of this contract. 49 CFR 23.41, C, (f) allows for a deviation or an exemption from the DBE regulation if the particular situation is exceptional and if the modified program complies substantially with the DBE Program.

UDOT requests for the I-15 Design/Build Project a deviation from its approved DBE program and from 49 CFR 23.45, (h), for the following reasons:

1. SIZE

The estimated cost of the I-15 Design/Build Project is approximately $1 billion. The major source of funds will be Utah State funds; however, Federal funds have been requested. It is expected that some Federal funds will be used on this project.

UTAH CENTENNIAL

The construction will take place over approximately five years. The project will require approximately $200 million per year construction in addition to UDOT's continuing Federal Aid highway construction program of approximately $100 million annually.

An evaluation of the last three years' DBE participation in UDOT's DBE Program indicates that the normal level of DBE participation is approximately $10 million. If the entire amount of the project is subject to the DBE specification, approximately $30 million of DBE participation will be required annually. An increase to three times the normal level of DBE participation creates an exceptional situation that requires a modification of the DBE program for this project.

2. **DESIGN/BUILD**

Under the design/build concept, the contractor will design approximately 65 percent of the project after the award of the contract. The design/build concept is not compatible with UDOT's approved DBE Program and the current DBE Specifications which require submittal of DBE information with the contract proposal.

UDOT's current DBE Specifications require a bidder to submit with the bid proposal:

1. The names of the participating DBE subcontractors.

2. A description of the work to be performed.

3. The dollar amount of the DBE participation.

Some project elements, the work involved, and the associated costs will not be fully known at the time of the award. Small, developing contractors, including most DBE contractors, do not have the capacity to bid on undesigned work that will not be constructed until three to five years in the future. The design/build concept requires a deviation from the approved DBE program to allow for the incremental completion of design and the subsequent selection of subcontractors.

The size of the project and the design/build concept create situations that are peculiar to the situation and are exceptional. UDOT requests a deviation from 49 CFR 23.45, (h) as allowed by 49 CFR 23.41, (f).

UDOT proposes for the I-15 Design/Build Project a modified DBE Program which is based upon the following:

1. A set dollar amount of $20 million based on 10 percent of the anticipated maximum Federal funds to be expended on the project.

2. Depending upon the level of Federal funds ultimately committed to the project, the dollar amount may be adjusted up or down during the life of the contract.

3. UDOT will use contract provisions to insure that DBE performance toward fulfilling the goal will be uniformly distributed throughout the life of the contract. However, the DBE firms will not be identified prior to the award of the contract.

4. The contract provisions will allow the DBE firms to compete for work that generally will be performed during the same construction season.

The modified DBE Program will provide the maximum opportunity for DBE firms to participate in UDOT's largest ever and most significant contract. The modified program complies substantially with CFR 49 Part 23.

UDOT requests a deviation from its approved DBE program for the I-15 Design/Build Project. Early approval is needed because the Request for Proposals for the I-15 Design/Build Contract will go to print early in September.

Your consideration of this deviation and your assistance in acquiring approval of the proposal in a timely manner is appreciated.

TRW/NC/ckl

cc: Thomas A. Smith, P.E., Engineer for Construction
Kim Schvaneveldt, P.E., Project Development Engineer
David Downs, P.E., I-15 Project Manager
Pat Drennon, P.E., Project Manager, Parsons Brinkerhoff

CONTRACT PROVISIONS
APPENDIX F

SPECIAL PROVISION
DISADVANTAGED BUSINESS ENTERPRISE

I-15 RECONSTRUCTION PROJECT

"Policy Statement" — It is the policy of the Utah Department of Transportation (the Department) that Disadvantaged Business Enterprises as defined herein shall have the maximum opportunity to participate in the performance of design/build contracts financed in whole or in part with Federal funds.

"Obligations" — The Contractor agrees to ensure that Disadvantaged Business Enterprises as defined herein have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. In this regard the Contractor shall take all necessary and reasonable steps in accordance with this Special Provision to ensure that Disadvantaged Business Enterprises have the maximum opportunity to compete for and perform contracts. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts.

A. Contract Goal

The Department has determined that one or more Disadvantaged Business Enterprise (DBE) firms may reasonably be expected to compete for the design/build work described in the request for proposals for the I-15 Reconstruction Project (the RFP). It is, therefore, the goal of the Department that DBE firms shall subcontract for at least $20,000,000 of the design/build work under the contract awarded pursuant to said RFP.

B. Pre-Award Requirements

The Subcontracting and DBE Performance Plan provided with the proposal shall meet the requirements stated in Section 3.4.5.3.3 the Instructions to Proposers (*RFP Section 3.0*) and this Special Provision. The DBE Performance Plan will be considered in the evaluation of the proposal as specified in the Instructions to Proposers.

The proposal shall also include evidence of the Contractor's good faith efforts to identify potential DBE participants prior to the BAFO Due Date, as well as an affidavit signed by a responsible company official undertaking to perform all necessary and reasonable steps to follow the DBE Performance Plan and to allow DBE firms to compete and perform on the project.

If requested by the Department, the Contractor shall revise its proposed DBE Performance Plan prior to award of the contract to incorporate the Department's comments. The revised plan shall be delivered to the Department together with an updated affidavit, as a condition to award of the Contract. The approved DBE Performance Plan shall be considered a contract specification.

C. DBE Performance Plan Criteria

The DBE Performance Plan shall set goals for DBE participation and shall provide for an effective method of achieving those goals and reporting to the Department regarding DBE participation. The minimum requirements are set forth in this paragraph C. The Contractor may propose to deviate from the minimum requirements, and in such event the Department will evaluate the alternative process to determine whether it is likely to be at least as effective as the process described in this paragraph C. Acceptance of an alternative process will require the Department's prior written approval.

1. DBE Goal

The plan shall state the Contractor's goal for DBE participation throughout the design/build phase of the contract. It shall include:

a. The estimated dollar amount of DBE subcontracts to be awarded during each fiscal year

b. The areas of anticipated work to be subcontracted to DBE firms during each period.

The plan shall provide for a uniform distribution of DBE subcontracts throughout the design/build phase. DBE subcontracts shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of DBE firms in the various classifications.

The plan shall provide for appointment of a Civil Rights Designee who shall be responsible for developing, managing and implementing the plan on a day-to-day basis, for carrying out technical assistance activities for DBEs and for disseminating information on available business and subcontracting opportunities so that DBEs are provided an equitable opportunity to compete and perform contract work.

2. DBE Subcontracts

Whenever a DBE subcontract is signed the Contractor shall promptly provide the Department with the following information regarding the subcontract:

a. The name of the Subcontractors.

b. The total dollar amount of the subcontract.

c. The specific work items covered by the subcontract.

d. The estimated quantities of each work item.

e. Individual unit prices (if applicable).

3. Quarterly DBE Progress Reports

The Contractor shall keep records regarding the progress of DBE participation. The Contractor shall provide DBE progress reports to the Department on the 15th of January, April, July and September of each year, including the following information for each DBE subcontract:

a. The name of the DBE Subcontractor.

b. Dollar amount of the subcontract

c. Quantities (or other measure of performance) completed as of the quarter just ended.

d. Dollar amount paid under the subcontract as of the end of the quarter (separately stating the amount paid during the quarter in question with a cumulative total for the quarter and all prior periods).

e. Dollar amount retained as of the end of the quarter.

f. Dollar amount of outstanding invoices and of uncompleted work remaining on the subcontract.

g. Expected completion date of subcontract.

The report shall also include a narrative summary stating whether the Contractor is on target with respect to its DBE goal, whether it has exceeded its goal (and stating the amount of the excess), or whether it is behind (and stating the amount of the deficit).

4. Good Faith Efforts

If a quarterly report shows that the Contractor has not achieved the DBE goal stated in the DBE Performance Plan, the Contractor shall provide with the report a certification in the form of an affidavit, stating that it undertook good faith efforts to meet the goal and that it will continue to undertake good faith efforts to do so. Specific documentary evidence of the Contractor's good faith efforts must accompany such certificate.

Good faith efforts (as such term is used herein) will be determined on a case by case basis, will be evaluated by, and must be approved by the Department. Attached hereto and marked Exhibit A, and by this reference made a part hereof, is a listing of the kinds of efforts that the Contractor should consider in its attempts to demonstrate good faith efforts. Exhibit A is not intended to be a comprehensive listing of activities which would qualify as good faith efforts.

Failure to meet the goal or provide satisfactory evidence of good faith efforts to do so may result in a reduction of the award fee as described in Appendix A to the Contract Provisions to which this Special Provision is attached.

D. Definitions

For purposes hereof, the following terms shall be considered to have the following meanings:

1. Affirmative Action

"Affirmative Action" means taking specific steps to eliminate discrimination and its effects, to ensure nondiscriminatory results and practices in the future, and to involve DBE firms in Subcontracts.

2. Commercially Useful Function

A DBE is considered to perform a "commercially useful function" when he/she/it is responsible for the execution of a distinct element of the contract and carries out his/her/its responsibilities by actively performing, managing, and supervising the work involved. the Department shall consider industry practices, the amount of work or supplies subcontracted, and other relevant factors in determining whether DBE manufacturers and suppliers meet the spirit and intent of this Special Provision; that is, in light of industry practices and other relevant considerations, the DBE firm must have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the DBE program.

3. Disadvantaged Business Enterprise (DBE)

A Disadvantaged Business Enterprise is a small business concern, as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto, subject however to a limitation of $16,600,000 in average annual gross receipts over the previous three fiscal years in order to be considered eligible; that is owned and controlled by one or more socially and economically disadvantaged individuals who are citizens (or lawfully admitted permanent residents) of the United States.

4. Socially and Economically Disadvantaged Individuals

Means persons who are citizens or lawful permanent residents of the U.S. and who are:

a. Native Americans—persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians; or

b. Asian-Pacific Americans—persons having origins from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Territories of the Pacific, and the Northern Marianas; or

c. Hispanic Americans—persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish or Portuguese culture or origin, regardless of race; or

d. Black Americans—persons having origins in any of the black racial groups of Africa; or

e. Asian-Indian Americans—persons whose origins are from India, Pakistan, and Bangladesh; or

f. Individuals who are found to be disadvantaged by the Small Business Administration pursuant to Section 8(a) of the Small Business Act; or

g. Women within the qualifications set forth in STURAA 1987.

5. DBE Owned and Controlled

Means a small business concern that is at least 51 per centum owned by one or more socially and economically disadvantaged individuals or, in the case of a publicly owned business, at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and whose management and daily business operations are controlled by one or more such individuals. The

socially and economically disadvantaged owners shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their ownership interests, as demonstrated by an examination of the substance rather than form of arrangements.

6. DBE Joint Venture

Means an association of two or more businesses formed to carry out a single business enterprise for profit for which purposes they combine their property, capital, efforts, skills, and knowledge. At least one of the partners in a DBE joint venture must be certified to DBE status by the Department.

7. Subcontractor

A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the contract work and the following conditions are present:

a. The person or firm performing the work is particularly experienced and equipped for such work.

b. Compensation is related to the amount of work accomplished rather than being on an hourly basis.

c. Choice of work methods, except as restricted by the specifications, and the furnishing and controlling of labor and equipment are exercised by the Subcontractor with only general supervision being executed by the prime contractor.

d. Personnel involved in the operation are under the direct supervision of the Subcontractor and are included on the Subcontractor's payroll.

All conditions involved shall be considered and no one condition alone will normally determine whether a subcontract actually exists. In all cases, a DBE Subcontractor must be an independent organization, and the ownership and control by the socially and economically disadvantaged individual(s) must be real and continuing. The firm will not be considered independent if prime contractor or another Subcontractor or supplier provides significant operating and management support for the DBE firm.

E. Determination of DBE Contractor's Eligibility by the Department

1. Any entity may apply to the Department for status as a DBE. Applications shall be made on forms provided by the Department entitled "UTAH DEPARTMENT OF TRANSPORTATION, APPLICATION FOR DETERMINING DISADVANTAGED BUSINESS ENTERPRISE (DBE) ELIGIBILITY, SCHEDULE A - the Department FORM R-816" or "Information for Determining DBE Joint Venture Eligibility," Form No. R-817.

2. It shall be the DBE applicant's responsibility to submit a DBE application so that the Department has time to review it. The Department will review applications in a timely manner but is not committed to approve DBE status within any given period of time. The Department must have ample lead time to review, evaluate, and verify information provided with an application.

   An interview of the applicant may be necessary at the discretion of the Department prior to approval of the application. If an interview is deemed necessary it will be scheduled at the convenience of all parties

3. The Department shall maintain a listing of DBE contractors, vendors, and suppliers that is updated at least semi-annually for the purpose of providing a reference source to assist any proposer in meeting the requirements of this proposal condition. Proposers may rely upon the most current list as of the time the work is advertised as representing approved DBE Contractors. A current DBE directory is available through the Department.

4. The Contractor is not limited to the DBE Directory referred to in 3 above in seeking out and negotiating with the DBE contractors and determining which items of work shall be subcontracted to DBE contractors. The Contractor shall exercise its own judgment n selecting any Subcontractor to perform any portion of the work, provided, however, that DBE status must be granted to any DBE Contractor by the Department prior to commitment for DBE performance. In addition, a DBE joint venture must be approved by the Department prior to commitment for DBE performance. DBE credit will not be allowed to a Contractor for the use of a DBE or DBE Joint Venture that has not received approval (certified) by the Department.

F. Counting DBE Participation Toward Goals

1. The Department will recognize and grant DBE credit for work subcontracted and performed by DBE Subcontractors ONLY in the types of work for which DBE certification has been granted by the Department prior to execution of the subcontract. It is recommended that all proposers refer to the Department's Disadvantaged Business Directory for direction and guidance. A current copy of the directory is available through the Civil Rights Office.

2. The Contractor may count toward the DBE goals a portion of the total dollar value of the contract with a DBE joint venture equal to the percentage of the ownership and control of the DBE partner in the joint venture.

3. The Contractor may count toward the DBE goals only expenditures to a DBE that performs a commercially useful function in the work of a contract. If, in the Department's judgment, the firm does not perform a commercially useful function in the transaction, no credit toward goals shall be granted.

4. The Contractor may count toward the DBE goals only expenditures to first tier DBE Subcontracts. For purposes of this specification, a first tier Subcontract shall mean a Subcontract directly with the prime Contractor or with a Major Participant (as such term is defined in the RFP). Consistent with standard industry practice, a DBE Subcontractor may enter into second tier subcontracts. However, work performed by a DBE firm in a particular transaction can be counted toward the contract goal only if the Department determines that the work involves a commercially useful function. The second tier subcontract will not count toward the accomplishment of the DBE goal unless the following requirements are fulfilled.

   a. The second tier subcontract shall be approved by the Department.

   b. The second tier subcontract work will be performed by a certified DBE firm.

   Or

   The second tier subcontract is for the accomplishment of "Specialized" work within a proposal item as required by the contract (for example, pumping concrete) which is an incidental or small financial part of the total first tier subcontract value.

   c. The second tier subcontract shall meet the criteria of standard industry practice.

   d. The DBE Subcontractor shall retain control and responsibility and shall perform "a commercially useful function" in the performance of the work.

5. The Contractor may count toward the contract goal expenditures for materials and supplies obtained from DBE suppliers and manufacturers, provided that the DBE assumes the actual and contractual responsibility for the provision of the materials and supplies.

a. DBE Manufacturers. The Contractor may count the entire expenditure to a DBE manufacturer (i.e., a supplier that produces goods from raw materials or substantially alters them before resale).

b. Other Suppliers. The Contractor may count 60 percent of their expenditure to DBE suppliers who are not manufacturers, provided the DBE supplier is certified by the Department as a regular dealer in the product involved and performs a commercially useful function in the supply process.

A regular dealer is a firm that owns, operates or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business.. The firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question.

A supplier of bulk goods may qualify as a regular dealer if the supplier either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment (e.g., a fleet of trucks) the term "or operates" is intended to cover a situation in which the supplier leases the equipment on a regular bass for its entire business. It is not intended to cover trucks owned or leased by another party (e.g., a prime Contractor) or leases such a party's truck on an ad hoc basis for a specific job.

c. Service Providers. A business that simply transfers title of a product from manufacture to ultimate purchaser (e.g., a sales representative who involves a steel product from the steel company to the recipient or Contractor) or a firm that puts a product into a container for delivery would not be considered a regular dealer. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

However, fees received by a service provider may be counted toward goals. For example, use of a minority sales representative or distributor for a steel company, if performing a commercially useful function at all, will entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward their contract goal. No portion of the steel would count toward the goal.

If a DBE trucking company picks up a product from a manufacturer or regular dealer and delivers the product to the Contractor, the commercially useful function the trucking company is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is

itself the manufacturer of or a regular dealer in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service only.

6. The Contractor shall maintain records of payments to DBE Subcontractors. At the completion of the project, the Contractor shall submit a spread sheet listing all DBEs that engaged in this contract and reporting the following information:

   a. For each DBE Subcontractor:

      1. the quantity committed toward the DBE goal
      2. the total quantity performed on the project
      3. the quantity performed by the DBE
      4. the dollar amount paid to the DBE

   b. total dollar amount committed to toward the DBE goal

   c. total dollar amount earned by committed DBE Subcontractors

   d. total amount paid

   e. total amount of money retained.

   It is anticipated that within 60 days after completion of all work on the project and/or final inspection, whichever is later, the final estimate will be paid by the Department. . When delays are attributed to failure on the part of the Contractor to provided documentation required to support the final estimate, the committed DBE firms shall be paid in full within 60 days after completion of the work.

   Committed DBE firms shall be paid in full prior to the Department's processing the final payment to the Contractor. The Contractor shall submit with the final invoice an affidavit stating that all DBEs have been paid in full and certifying an attached updated spread sheet showing that such payments have been made. The affidavit must be submitted to the Department on Contractor's letterhead and must be dated and signed by a responsible official legally representing the Contractor.

G. Contractor's Responsibility

It is the Contractor's responsibility to determine the level of professional competence and financial responsibility of any proposed DBE Subcontractor. The Contractor shall ascertain that the proposed DBE Subcontractor is particularly experienced and equipped for such work.

H. Changes and Substitutions

Upon execution of a DBE Subcontract the dollar amount of that subcontract shall be considered a minimum goal for contract performance. Any change in previously identified DBE firms, or any change in the approved DBE Performance Plan, will require the Department's prior written approval.

The Contractor may propose a substitution of a DBE Subcontractor who is unable to perform successfully.

Substitutions of DBE Subcontractor(s), work item(s), or decreases of total dollar amount(s) committed to DBE Subcontracts will not be allowed without prior submission of written justification to the Department and approval of the Department.

The Contractor shall make good faith efforts to replace any DBE Subcontractor who fails to perform its obligations with another DBE.

Unauthorized substitutions and/or under-runs in total dollar amounts may result in a reduction of the award fee as described in Appendix A to the Contract Provisions.

Exhibit A to
Special Provision

Suggested Actions to Demonstrate
Good Faith Efforts to Comply
With DBE Requirements

1. Advertising or solicitation for proposals in general circulation, trade association, and disadvantaged-focus media concerning subcontracting opportunities.

2. Providing of written notices to a reasonable number of specific DBE firms soliciting interest in the contract in sufficient time to allow effective participation by DBE firms in a contract proposal.

3. Follow up to solicited DBE firms to determine what actual interest in proposing may exist in those firms.

4. Efforts to select portions of the work to be performed by DBE firms and possible breakdown of work units to make DBE participation more likely.

5. Demonstrate that the Contractor has provided interested DBE firms with adequate information about plans, specifications, and requirements of the contract.

6. Evidence of good faith negotiations with interested DBE firms, not rejecting DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.

7. Whether the Contractor made efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance required by the Department or the Contractor.

8. Whether the Contractor effectively used the services of available disadvantaged community organizations; disadvantaged contractor's groups; local, State, and Federal disadvantaged business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBEs.

U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: ACTION: I-15 Design-Build Project Alternate Contract Provisions

Date: November 13, 1996

From: Director, Office of Engineering

Reply to Attn. of: HNG-22

To: Mr. Vincent F. Schimmoller
Regional Administrator (HRA-08)
Lakewood, Colorado

The Utah Department of Transportation's (UDOT) September 24, 1996, request to modify the standardized changed conditions clause for the I-15 design-build project is approved. We concur with UDOT's use of the alternate contract provisions as permitted by 23 CFR 635.109(b)(2), subject to the approval of the Division Administrator. We agree with UDOT's opinion that some of the existing standardized changed conditions clauses are not applicable to design-build contracts. The UDOT's method of addressing these changes in the I-15 contract is satisfactory.

This approval is given with the understanding that none of the alternate contract provisions would waive the Division Administrator's authority to approve all major changes and extra work as defined in 23 CFR 635.120(a).

Should you need to discuss the contents of this memorandum, please contact Jim Daves at (202) 366-0355.

for Gerald L. Eller

UDOT GOING THE EXTRA MILE

Michael O. Leavitt
Governor
Thomas R. Warne
Executive Director
Clinton D. Topham
Deputy Director
David G. Downs
I-15 Corridor Project Director

State of Utah
DEPARTMENT OF TRANSPORTATION

I-15 Corridor Management Team
488 East Winchester Street, Suite 475
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TRANSPORTATION COMMISSION
Glen E. Brown
Chairman
Todd G. Weston
Vice Chairman
James G. Larkin
Ted D. Lewis
Hal M. Clyde
Dan R. Eastman
Sheri L. Griffith

September 24, 1996

Mr. Michael G. Ritchie
District Administrator
Federal Highway Administration
2520 West 4700 South
Salt Lake City, UT 84118

SUBJECT: Alternate Contract Provisions

Dear Mr. Ritchie:

This letter constitutes a request that FHWA approve the alternative contract provisions regarding differing site conditions, suspension of work, and material changes in the scope of work contained in the contract documents for the I-15 Reconstruction Project. The Department's authority to use alternative contract provisions is permitted by 23 CFR Section 635.109(b)(2), subject to approval of the alternative provisions by the Division Administrator. The statutory authority for use of the alternative contract provisions is contained in Utah Code Section 63-56-40.

The approach taken in the I-15 Contract Documents is to consolidate all provisions regarding the contractor's entitlement to change orders into a single contract section (Section 13 of the Contract Provisions). The changes to the concepts contained in the FHWA provisions arise from the fact that the contractor is afforded significant flexibility and ability to work around problems by use of a design-build, performance specification approach, combined with the size of the job. The approach is intended to require early identification of problems, to require the contractor to assess potential cost impacts, encouraging the parties to concentrate on finding solution to significant problems early in the design-build process. The approach is also intended to make Department personnel conscious at all times of the implications of making changes to the specifications after award of the contract--what might appear to be a small change could in fact cascade through the different levels of the project to create a high cost and/or delay. It also creates a schedule for moving decisions through the process quickly, giving higher level personnel the ability to reverse lower level decisions that have a significant cost or schedule impact.

The attached table describes the modifications made and explains the reasons for the modifications. Copies of the State law and relevant contract provisions (which remain subject to change) are enclosed for your review and approval.

an equal opportunity employer

UTAH CENTENNIAL

The RFP is scheduled for issuance on October 1. We would therefore appreciate your prompt attention to this matter.

Sincerely,

David Downs, P.E.
I-15 Corridor Project Director

Enclosures:

- Utah Code §63-56-40
- Table describing modifications
- Contract Provisions §§6.3.5, 6.6, 13, 19
- Definitions (entire document)
- General Provisions §§104.4, 105.1
- Scope of Work §2.2.15

REFERENCE	DESCRIPTION	MODIFICATIONS
635.109(a)(1)	Differing Site Conditions	The definition of Differing Site Conditions is found on Page 7 of the Definitions Appendix*. It includes differing surface conditions (based on the surveys provided by the Department) as well as the standard Type I and Type II conditions. Utility facilities are included in the definition only in limited circumstances. Section 6.3.5 incorporates the notification and investigation requirements in the federal provision. The provision also covers hazardous materials, threatened and endangered species and historic, archaeological or paleontological resources. Section 13 includes specific requirements applicable to Differing Site Conditions change orders. (See Section 13.9.1--note that Hazardous Materials are treated separately.) Section 13.3.1.1(a)(iii) permits a time extension for Differing Site Conditions, and Section 13.3.1.2(a) allows a price increase for Differing Site Conditions. The time periods for notice of claims are found in Section 13.3.2. Section 13.3.2.1.1 specifically states that no adjustment will be allowed if notice has not been given or if the Department was not given the opportunity to inspect the site before it was disturbed.
	Utilities	Section 6.6 of the Contract Provisions includes complex provisions to deal with the fact that utility relocations will proceed concurrently with the rest of the project. Section 13.3.1.1(a)(v) permits a time extension for certain utility-related matters, and Section 13.3.1.2(e) allows a price increase for certain utility-related matters.
	Hazardous Materials	Hazardous materials remediation will be paid based on unit prices, with an equitable adjustment of the price if the estimated quantities differ by more than 15%. (Refer to Section 13.9.4 of the Contract Provisions.) Section 13.3.1.1(a)(i) permits a time extension if the contractor encounters hazardous materials sites not indicated in the Contract Documents (see definition of Force Majeure on pages 9-10 of Appendix E to the Contract Provisions). Section 13.3.1.2(a) includes a cross-reference to Section 13.9.4, permitting price increases for Hazardous Materials.

* All references to Sections and Appendices are to the Contract Provisions, Section 4.0 of the RFP.

REFERENCE	DESCRIPTION	MODIFICATIONS
635.109(a)(2)	Suspension of Work	The concepts in the federal suspension provision are contained in different sections of the Contract Documents, in order to consolidate all of the change order-related provisions into a single section. Section 104.4 of the General Provisions gives the Department the right to order suspensions and states that suspensions (except for cause) will be considered Department-Caused Delays. The Department believes that if the contractor is in breach it should not be entitled to compensation and/or contract time. However, if a suspension is for the convenience of the Department and not related to a breach by the contractor, delays to the critical path will be considered a Department-Caused Delay. Section 13.3.1.1(b) allows a time extension for Department-Caused Delays. Section 13.3.1.2(c) allows the Contractor to recover additional costs caused by Department-Caused Delays. Section 13.5.4(d) precludes recovery of delay damages if the delay had a concurrent cause. The time periods for notice of claims are found in Section 13.3.2. It allows ten days for the initial notice (instead of seven). Since the engineer's role for this project differs significantly from a traditional project, the provisions for determinations and contract modifications to be made by the engineer do not fit into the contract. Any claim would be subject to the decision-making process set forth in Section 2.2.15 of the Scope of Work (RFP §2) and to review by a Disputes Review Board under Section 19 of the Contract Provisions, as a condition to filing any claim in court.
635.109(a)(3)	Significant changes in character of work	Section 13.1.1.1 permits the Department to issue Change Orders altering the work. The federal provision, with minor modifications, is included in Section 13.11. The paragraph in the federal provisions regarding alteration of quantities by the Department have been deleted since this is a lump sum contract (with the exception of hazardous materials which are being paid on a unit priced basis as described above).

Evaluation Factors

- Technical Solutions
  - Maintenance of Traffic
  - Geotechnical
  - Structures
  - Pavement
  - Maintainability
  - Other: Aesthetics, Drainage, Roadway Geometry, Lighting, Traffic Signals, Signing, Water Quality, Harmful/Hazardous Materials Remediation, Concrete Barriers, & ATMS
- Work Plan/Schedule
- Management
- Organizational Qualifications
- Price

3.5.4 EVALUATION FACTORS

The technical and price proposals are **approximately equal in weight.**

The Technical Proposal is composed of the following four technical factors listed in **descending order of importance:**

- Technical Solutions
- Work Plan/Schedule
- Management
- Organizational Qualifications

Technical Solutions are broken down further into the following six technical subfactors. **All six are of equal weight.**

- Maintenance of Traffic
- Geotechnical
- Structures
- Pavement
- Maintainability
- Others, in **three levels of significance:**

High:	ATMS
	Drainage and Water Quality
	Roadway Geometrics
Intermediate:	Aesthetics
	Lighting, Traffic Signals, Signing (evaluated together)
Low:	Concrete Barriers
	Harmful/Hazardous Materials Remediation

3.4.5 TECHNICAL PROPOSAL

The proposer shall submit with its Initial Proposal (and update with its BAFO) a Technical Proposal.

The Technical Proposal shall contain all the information called for in this RFP Section 3.4.5. The required information, for the most part, has been extracted directly from the appropriate specification sections throughout the RFP. In preparing the various pieces of the Technical Proposals, the proposers should be guided not only by this RFP Section 3.4.5, but also by the specific Technical Evaluation Criteria of RFP Section 3.4.5 in order that the proposals fully address all the issues that are of special concern and/or interest to the Department.

3.4.5.1 Technical Solutions

The Technical Solutions shall include the technical information requested in RFP Sections 5, 6, 14, and 19 as well as an executive summary of such information.

Regardless of the content of the Technical Solutions proposal, the successful proposer shall remain responsible for ensuring that the Project meets the performance requirements of the RFP Documents. Acceptance of a proposal will not constitute waiver of the Mandatory Requirements.

The Technical Solutions shall be organized into the following major sections and shall provide the information indicated herein:

3.4.5.1.1 Maintenance of Traffic

The Proposer shall describe its proposed maintenance of traffic plan for major phases of the project.

The Proposer shall describe the methods to be used for designing, implementing and monitoring construction zone traffic control. Include discussions of staffing requirements.

3.4.5.1.2 Geotechnical

The proposer shall submit:

a) Geotechnical design plan. The plan shall include information on the following issues to demonstrate understanding of the relevance of these geotechnical issues to the construction of the corridor:

- Earthwork
- Embankments (i.e. types, material source, quality and stability)
- Settlements (i.e. total, differential and secondary; monitoring of settlements and mitigation of settlements in both transverse and longitudinal directions)

- Walls (i.e. types, foundation systems, settlements, stability)
- Foundation types (i.e. piles, caissons) and installation techniques

b) Instrumentation plan (overall plan to monitor vibration, excess pore pressures, settlements and stability)

The proposer shall also submit its plan to establish baseline information on structures/properties adjacent to the corridor that can be used to monitor and mitigate distress (if any).

3.4.5.1.3 Structures

a) General

The proposal shall:

- Address every structure type proposed for the Project
- Identify the design codes and method(s) of analyses proposed for each structure type,
- Identify any manuals or guide specifications for the structural components and details
- Include summaries of 75-year life-cycle cost analysis
- List assumptions used in development of the structures technical proposal
- Include a maximum one-page description of structure type, materials, seismic strategy, and design life considerations for each proposed structure type
- Indicate how aesthetics will be incorporated into structural types

b) Life Cycle Cost Analysis

The proposer shall:

- Provide a 75-year life cycle cost analysis of the 400 South Viaduct structure and each proposed bridge type
- Clearly state and justify (using historical data) the assumptions used in determining life cycle costs
- Include construction cost and costs for scheduled maintenance and repair

Do not include routine maintenance (sweeping, cleaning, graffiti removal, etc.) or demolition and salvage at the end of the 75-years. Maintenance and repair costs shall include material and labor plus an additional 12% for traffic control if required for the work. Items of maintenance and repair should include but not be limited to steel painting, decks, overlays, joints, bearings and drainage systems. Use a 4% discount rate and user costs of $9.00 per vehicle-hour of delay at year one. Use the present worth method to develop a present total bridge cost.

c) Bridges

The proposal shall include:

- A maximum one-page description of each bridge type not traditionally used by the Department
- A list of the transportation authorities that have used the prosed bridge type (include actual projects and references)
- A description of the structure seismic strategy

d) Retaining Walls

The proposer shall:

- Include a maximum one-page description of each wall type not traditionally used by the Department
- List the transportation authorities that have used the prosed bridge type (include actual projects and references)
- Describe methods of accommodating settlement
- Describe the type of foundation for each type of wall

e) Noise Walls

The proposer shall submit:

- A maximum one-page description of each wall type not traditionally used by the Department.
- a list of transportation authorities that have used the proposed wall type (included actual projects and references).

f) Concept Plans

Provide concept plans that include the following:

- Plans, elevations, and appropriate typical sections for each bridge type
- Plan views of the project that identify each bridge location and their type.
- Description of conceptual solutions for complex structural problems identified by the proposer
- Description of creative or innovative ways the design, construction, and/or choice of structural types will benefit and/or enhance time, quality, and cost aspects of the Project

3.4.5.1.4 Pavement

The proposer shall submit its plans to accommodate (if necessary) anticipated settlements; proposed pavement type/s; basis for the selection; plans to address the performance parameters of ride quality, skid resistance, durability, structural capacity and material quality; plans to address

maintainability of pavements and construction sequence as it relates to the Project. The proposer shall identify its proposed engineer who will be responsible for the design of the pavements. The proposer shall submit information on proposed methods to handle surface and subsurface drainage.

The proposer shall submit pavement joint configurations, joint rehabilitation techniques and load transfer strategy. The proposer shall submit information on proposed method (other than noise walls) to mitigate noise due to the riding surface. The proposer shall submit information on proposed methods to mitigate corrosion of load transfer devices during the design life of the pavements.

3.4.5.1.5 Maintainability

Address the following:

- Design considerations for snow and ice removal
- The planned design life for the pavement and its relationship to long term surface deterioration or rutting
- The impact of materials and consolidation and compaction design and construction and their impact on differential settlement between existing and new embankments
- Snow storage capacity of the corridor pavements and retaining walls coupled with the capacity and placements of the drainage system to handle snow melt
- Structure decking and joint design and their long term maintenance requirements
- The design of the structures/approach slabs and the relationship to short term (first five years) and long term settlement
- The efficiency of maintenance of certain infrastructure elements, such as, mechanical glare screens and modified Jersey barriers; wall facings and their durability to graffiti removal; plowability of pavement markings verses marking life and reflectivity; the scope, kinds and types of landscaping and the ease of maintenance; and the serviceability of storm water detention/pumping systems
- Maintenance accessibility for equipment, mowing, litter control, chemical spraying, etc.
- Pavement markings and their serviceability

The proposer shall identify those aspects of its design and construction proposal that will enhance the maintainability of the I-15 Corridor. The Proposer shall discuss features that will increase durability, improve maintenance efficiency, and/or reduce maintenance costs. The Proposer shall indicate whether implementation of its proposal will require acquisition of special equipment or materials or require significant changes in maintenance operations or special personnel training.

Provide an outline of major maintenance and rehabilitation activities that may be reasonably anticipated for the first 20 years after construction. Indicate when such activities are anticipated and the extent of the work anticipated, based on the design features and construction methods and materials proposed. This discussion should <u>not</u> be limited to items included in the

Maintenance Work.

3.4.5.1.6 Aesthetics, Drainage, Roadway Geometrics, Lighting, Traffic Signals, Signing, Water Quality, and Harmful/Hazardous Material Remediation, Concrete Barriers, and ATMS

a) Aesthetics

Submit:

- Resumes of design team showing a summary of experience and highlighting related built work. Include resumes for the licensed landscape architect and the urban designer.
- Aesthetics and Landscape Concept Design Report that includes:
    - A minimum of two (2) alternate proposals for landscape, urban design and corridor infrastructure treatments developed according to the Landscape and Urban Design Guidelines that meet or exceed specified baseline criteria
    - Illustrative plans, sections, elevations, and sketches as required to communicate the proposal
    - The proposer's process for accommodating cities' aesthetic interests into design

FORM K - PRICING FORM
INITIAL PROPOSAL AND BAFO

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT
REQUEST FOR PROPOSALS
PROJECT NO. *SP-15-7(135)296

ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL
I		**BASE PRICE**		
A		**Engineering**		
	1	Design Services	Lump Sum	
	2	Surveys	Lump Sum	
	3	Geotechnical Investigation & Testing	Lump Sum	
	4	Harmful/Hazardous Material Program Plans and Lead-Based		
		Paint Survey of Bridges and Sign Structures and Asbestos Survey	Lump Sum	
	5	Harmful/Hazardous Material Remediation Design	Lump Sum	
	6	**Subtotal Engineering (Sum Lines 1 through 5)**		0
B		**Construction**		
	7	ATMS (Off-Corridor)	Lump Sum	
	8	Construction Items (Form K-4)	Lump Sum	0
	9	Maintenance During Construction (See Form K-5)	Lump Sum	0
	10	Maintenance of Traffic	Lump Sum	
	11	Mobilization (not to exceed $75 million)	Lump Sum	
	12	Payment and Performance Bonds (Design/Build Phase only)	Lump Sum	

ITEM	LINE NO.	DESCRIPTION	UNITS	STIMATE QUANTITY	UNIT COST	PRICE ELEMENT TOTAL
		Hazardous Materials Remediation				
		Petroleum Hydrocarbons				
	13	Soil	Cubic Meters	25000		0
	14	Groundwater	Liters	8000000		0
	15	In-situ Remediation	Square Meter	8500		0
		Heavy Metals				
	16	Soil	Cubic Meter	2000		0
	17	Groundwater	Liters	10000		0
	18	In-situ Remediation	Square Meter	700		0
		Solvents				
	19	Soil	Cubic Meter	1000		0
	20	Groundwater	Liters	100000		0
	21	In-situ Remediation	Square Meter	400		0
		Radionuclides				
	22	Soil	Cubic Meter	5000		0
	23	In-situ Remediation	Square Meter	1500		0
		Asbestos				
	24	Remediation	Square Meter	10000		0
		Lead-Based Paints				
		Remediation (Remove and Dispose)				
	25	Buildings	Square Meter	10000		0
	26	Bridges	Square Meter	5000		0
	27	Sign Structures	Square Meter	5000		0
	28	Total Hazardous Materials Remediation/Close-in-place				0
		(Sum Lines 13 through Line 27)				
	29	Subtotal Construction				0
		(Sum Line 7 through 12 +Line 28)				
	30	**BASE PRICE (Line 6 + Line 29) = D/B Price**				0
		(This total shall equal the total shown on Form K-6.				
		This total to be distributed over time on Form K-1.)				

Attachment 37

FORM K - PRICING FORM
INITIAL PROPOSAL AND BAFO

ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL
II		**OPTIONS**		
A		**Maintenance After Construction (See Form K-5)**		
	31	Initial Maintenance Term Option:	Lump Sum	$0.00
		Substantial Completion through June 30, 2006		
	32	Option Term 2: July 1, 2006 through June 30, 2007	Lump Sum	$0.00
	33	Option Term 3: July 1, 2007 through June 30, 2008	Lump Sum	$0.00
	34	Option Term 4: July 1, 2008 through June 30, 2009	Lump Sum	$0.00
	35	Option Term 5: July 1, 2009 through June 30, 2010	Lump Sum	$0.00
	36	Option Term 6: July 1, 2010 through June 30, 2011	Lump Sum	$0.00
	37	**Subtotal Maintenance After Construction**		$0.00
		(Line 31 through Line 36)		
B	38	Viaduct Shortening at 400 South, 500 South and 600 South (Deductio	Lump Sum	
C	39	Improved Diamond at 10600 South	Lump Sum	
D	40	SPUI at 10600 South	Lump Sum	
E	41	Midvale Noise Walls: Delete West Side (Deduction)	Lump Sum	
F	41a	Additional Box Culvert at Mill Creek	Lump Sum	
G	41b	Additional Box Culvert at Dry Creek	Lump Sum	
H	41c	Underpass at 10000 South	Lump Sum	
I	41d	Fiber Optic Utility Conduit	Lump Sum	
J	41e	Replace embankment with structures on Ramps 215 E 7200	Lump Sum	
		and 215 E 15S		
	42	**Subtotal Options B-J**	Lump Sum	0
		(Sum Line 38 through Line 41e)		
III		**ADDITION FOR PRICE EVALUATION**		
		Contract Modifications		
	43	Construction Base Amount	Lump Sum	0
		(0.10 X (Line 29))		
	44	Field Overhead Rate (Construction)	Decimal	
	45	Contractor's Overhead Rate for Subcontractor Administration	Decimal	
	46	Contractor's Overhead Rate for Materials Procurement	Decimal	
	47	Profit	Decimal	
	48	Extended Overhead Rate	Dollars/Day	
	49	Engineering Base Amount	Lump Sum	
		(0.10 X Line 6)		0
	50	Engineering Overhead Rate	Decimal	
	51	Engineering Fee Percentage	Decimal	
	52	**Contract Modification Amount**		$0.00
		[(Line 43)X(1+Line 44+Line 45+Line 46+ Line 47)] +		
		[(Line 49)X(1+ Line 50)X(1+Line 51)]+[(Line 48)X(30 days)]		
	53	**TOTAL PROPOSAL PRICE** (Line 30 + Line 37 + Line 42 + Line 52)		$0.00

Note 1: The formula used in Line 52 shall be used to calculate the Contract Modification for Price Evaluation purposes only and does not represent the manner in which price adjustments will actually be calculated

FORM K- 4 - CONSTRUCTION PRICE ELEMENTS
INITIAL PROPOSAL AND BAFO

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT
REQUEST FOR PROPOSALS
PROJECT NO. *SP-15-7(135)296

ELEMENT	UNIT	AMOUNT
ATMS (On-Corridor)	Lump Sum	
Barriers and Impact Attenuators	Lump Sum	
Base Courses	Lump Sum	
Drainage	Lump Sum	
Earthwork	Lump Sum	
Landscaping and Erosion Control	Lump Sum	
Lighting	Lump Sum	
Pavement (Mainline Collector/Distributors & Ramps)	Lump Sum	
Pavement (Other)	Lump Sum	
Railroads	Lump Sum	
Road and Weather Information Systems	Lump Sum	
Roadway Appurtenances and Miscellaneous	Lump Sum	
Signing & Sign Structures	Lump Sum	
Structures (Bridges)	Lump Sum	
Structures (All Other)	Lump Sum	
Traffic Signals	Lump Sum	
Utilities	Lump Sum	
Weigh-in-Motion Sites	Lump Sum	
Total, Line 8, Form K		**0**

3.5.5 TECHNICAL EVALUATION CRITERIA

The information submitted in accordance with RFP Section 3.4.5 will be evaluated against the following criteria:

3.5.5.1 Technical Solutions

3.5.5.1.1 Maintenance of Traffic

Evaluation of the proposal will be based on the thoroughness and clarity with which the scope, extent, methodology and tools are used to provide for the maintenance of traffic through the Project area during construction to maximize the movement of people, goods and services while minimizing negative impacts to residents, commuters and businesses.

Specifically the Department will evaluate the proposer's:

- Understanding of the traffic operations in the Salt Lake Valley
- Provisions for motorist, general public, department and contractor safety as part of the management of traffic plan
- Concepts to maximize capacity through the construction zones of the project above the minimums stated in the performance specifications
- Staffing for adequacy to manage traffic control in the construction zones
- Proposed methods for notifying the Department and motorists of closures, detours and route alterations
- Process to notify those involved with emergency response to reduce the period or effect on capacity of allowable closures and detours
- Plan for use of the ATMS system and its use in managing traffic
- Plan for a courtesy patrol
- Understanding of local jurisdictional concerns associated with management of traffic on the I-15 corridor

3.5.5.1.2 Geotechnical

The proposal will be evaluated by the Department for:

- Overall understanding of the various geotechnical issues listed in RFP Section 6.3.5.1
- Approach to addressing settlements (total, secondary and differential; settlements in both transverse and longitudinal directions)
- Innovations to address geotechnical issues
- Proposed foundation systems
- Approach to construction from a geotechnical perspective
- Proposed instrumentation plan
- Proposed load testing plan
- Approach to addressing distress to structures/properties adjacent to the corridor .

3.5.5.1.3 Structures

Evaluations of technical proposals will be based on:

- soundness in the selection of structure type
- durability of structural type and components in resisting corrosion
- ease and cost of maintainability for extended structure life
- quality of materials proposed for structural components
- seismic strategy used for maintaining safety, function and serviceability of structures
- ease of structure inspection in identifying defects and deterioration
- life-cycle cost analysis
- how well the structures compliment and contribute to the overall Project goals of time, quality and cost

3.5.5.1.4 Pavement

The Department is particularly interested in a pavement section that deals with surface and subsurface drainage, frost and trapped water that would perform for the design life with minimal maintenance. Therefore, the proposal will be evaluated by the Department for:

- Technical approach to addressing anticipated settlements
- Pavement Design as it relates to other geotechnical issues
- Pavement Design as it relates to construction issues (i.e. load transfer, joints, corrosion resistance)
- Durability
- Maintainability and anticipated maintenance
- Proposed design personnel
- Technical approach to handling surface and subsurface drainage"

3.5.5.1.5 Maintainability

This subfactor will be evaluated on:

- Integration of maintenance concerns into the design and construction processes, especially for pavement, embankment, structures, drainage, snow/ice removal and other items of concern noted in the RFP Section 3.4.5.1.5, namely
    - Design considerations for snow and ice removal
    - The planned design life for the pavement and its relationship to long term surface deterioration or rutting
    - The impact of materials and consolidation and compaction design and construction and their impact on differential settlement between existing and new embankments
    - Snow storage capacity of the corridor pavements and retaining walls coupled with the capacity and placements of the drainage system to handle snow melt

- Structure decking and joint design and their long term maintenance requirements
- The design of the structures/approach slabs and the relationship to short term (first five years) and long term settlement
- The efficiency of maintenance of certain infrastructure elements, such as, mechanical glare screens and modified Jersey barriers; wall facings and their durability to graffiti removal; plowability of pavement markings verses marking life and reflectivity; the scope, kinds and types of landscaping and the ease of maintenance; and the serviceability of storm water detention/pumping systems
- Maintenance accessibility for equipment, mowing, litter control, chemical spraying, etc.

- Nature and extent of maintenance activities anticipated over the first 20 years after construction (see RFP Section 3.4.5.1.5)

3.5.5.1.6 Aesthetics, Drainage, Roadway Geometrics, Lighting, Traffic Signals, Signing, Water Quality, Harmful/Hazardous Material Remediation, Concrete Barriers, and ATMS

a) Aesthetics

The Contractor's Proposal will be evaluated on how well the proposed concepts incorporate the Intent (RFP Section 6.11.3.1) and Philosophy (RFP Section 6.11.3.2) and meet or exceed the Baseline set forth in the Guidelines. Proposals will also be evaluated according to the criteria established in RFP Section 6.11, and evidenced design excellence in the generation of design concepts. The primary areas of evaluation will be:

- Excellence, creativity, clarity, and innovation, as expressed in the Aesthetic and Landscape Concept Design Report.
- Cost effectiveness of design concept.
- Compliance with the criteria set forth in the Guidelines.
- The plan for accommodating cities' aesthetic interests within the design process.
- Qualifications of design team.
- Provision of a unified and consistent visual experience that integrates engineering, landscape, and urban design components of the Project.
- Provision of landscape treatments that are sustainable, while responding to aesthetic, maintenance, and safety considerations.
- Provision of supplemental elements.

3.5.6.2 Technical Evaluation

Using the Technical Evaluation Criteria of RFP Section 3.5.5, the Technical Proposal submitted in accordance with RFP Section 3.4.5 will be evaluated in accordance with the guidelines provided in this RFP Section 3.5.6.2.

The following technical rating guidelines will be used in evaluation of each technical factor, subfactor, and the over all Technical Proposal:

EXCEPTIONAL - The proposer has demonstrated an approach which is considered to significantly exceed stated requirements/objectives in a beneficial way an provides a consistently outstanding level of quality. There is very little or no risk that this proposer would fail to meet the requirements of the solicitation. There are essentially no weaknesses.

GOOD: The proposer has demonstrated an approach which is considered to exceed stated requirements/objectives and offers a generally better than acceptable quality. There is little risk that this proposer would fail to meet the requirements of the solicitation. Weaknesses, if any, are very minor.

ACCEPTABLE: The proposer has demonstrated an approach which is considered to meet the stated requirements/objectives and has an acceptable level of quality. The proposal demonstrates a reasonable probability of success. Weaknesses are minor and can be readily corrected.

SUSCEPTIBLE TO BECOMING ACCEPTABLE: The proposer has demonstrated an approach which fails to meet stated requirements/objectives as there are weaknesses and/or deficiencies, but they are susceptible to correction through discussion. The response is considered marginal in terms of the basic content and/or amount of information provided for evaluation but overall the proposer is capable of providing an acceptable or better proposal.

UNACCEPTABLE: The proposer has demonstrated an approach which contains significant weaknesses/deficiencies and/or unacceptable quality. The proposal fails to meet the stated requirements/objectives and/or lacks essential information and is conflicting and/or unproductive. There is no reasonable likelihood of success; weaknesses/deficiencies are so major and/or extensive that a major revision to the proposal would be necessary.

3.5.6.4 Best Value Determination

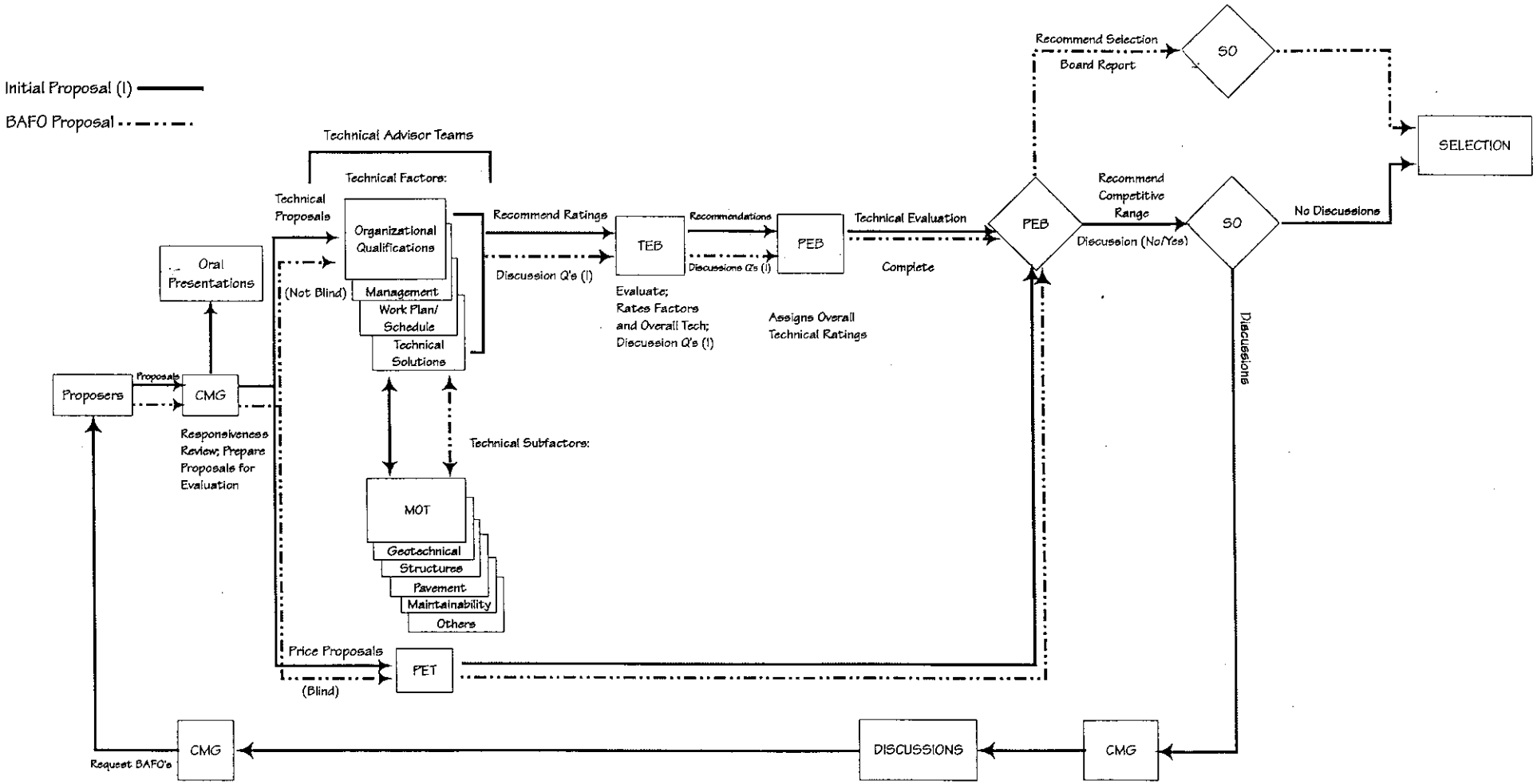
The Department has determined that award of the I-15 Reconstruction Project based on a **best value determination provides the best opportunity to obtain the right contractor to assure a successful project.** The limited time frame to complete the project and the importance of quality in the completed project resulted in the necessity to place the **maximum possible flexibility in the hands of the contractor** to plan, design, construct and control the project. This is accomplished mainly through the use of **performance specifications**. When broad performance specifications are used, **technical proposals and the evaluation of those proposals on a quality basis, is the best method to determine the quality** of the contractor and its proposal. Although price is an important factor, time and quality are also major factors in determining the project's success. The Department's RFP evaluation and selection procedures were designed to provide a comprehensive evaluation of quality, that when combined with price, **will result in the selection of the appropriate contractor.**

The Department will rate the technical proposals for the initial proposals and, in the case where discussions are conducted, BAFO proposals. The Department will perform an **integrated assessment of price and the technical evaluation factors** and recommend to the selection official the proposer representing the best value to the Department.

3.5.6.5 Award

The selection official will select for award the proposal which offers **the best value to the State considering price and the technical factors.**

FLOW DIAGRAM FOR EVALUATION AND SELECTION PROCESS



CMG - Contracts Management Group
PET - Price Evaluation Team
TEB - Technical Evaluation Board
PEB - Proposal Evaluation Board
SO - Selection Official

Attachment 41

ATTACHMENT F

EVALUATION SCHEDULE

REVISED 2/28/97
(Revisions Bolded)

ACTIVITY	12/19/96 RFP SCHEDULE	2/28/97 REVISED SCHEDULE
Prepare evaluation worksheets	12/1-31	
Make physical arrangements for evaluations and oral presentations	12/1-1/15	
Brief evaluators	1/2-1/14	
Receive Initial Proposals	1/15	
Prepare Proposals for evaluation	1/16-18	
Oral presentations	1/20-21	
Tech Advisor evaluations	1/20-25	
Tech advisor reports	1/27	
Tech Evaluation Board	1/28-30	
TEB Report	1/31	
Proposal Evaluation Board	2/3-6	
PEB Report	2/7	**2/6**
Selection Official Review & Decision wrt BAFO	2/8-10	**2/6**
Prepare for discussions	2/10-13	**deleted**
Discussions **(oral)**	2/13-19	**deleted**
Discussion Letters to DBs		**2/10**
Prepare Addendum #6		**2/6-13**
Issue Addendum #6		**2/14**
Prepare Request for BAFO **and Addendum #7**	2/12-3/2	**2/10-20**
Issue Request for BAFO **and Addendum #7**	3/3	**2/21**
Make arrangements to review BAFO	2/12-3/14	**2/21-3/6**
Receive BAFOs	3/17	**3/7**
Prepare BAFOs for review	3/18	**3/7**
Tech Advisor Review & Report	3/19-21	**3/8-11**
PET Review		**3/8-17**
TEB Review & Report **Preparation (for PEB & SO)**	3/22-23	**3/12-17**
TEB & PET Report to PEB		**3/18**
PEB Review & Report **Preparation**	3/24-26	**3/18-21**
PEB Report to SO		**3/24-25**
Selection Official Review	3/27-28	**3/24-28**
Selection Official Decision	3/28-31	**3/25-28**
Selection Official Announcement	3/31	**3/26-28**

ATTACHMENT E
PERSONNEL CERTIFICATION FORM

I-15 CORRIDOR RECONSTRUCTION PROJECT
CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT
NO CONFLICT OF INTEREST STATEMENT

PROPOSER'S TECHNICAL CONCEPT REVIEW AND PROPOSAL EVALUATIONS
REQUEST FOR PROPOSALS (RFP)

I, _____, as a participant in the evaluation of the Proposer's proposals for the I-15 Corridor Reconstruction Project hereby agree that, except as otherwise provided by law:

I will maintain the confidentiality of all Confidential Information that I gain access to as a result of my participation in the RFP process. This includes proprietary information and information designated confidential from the Department, such information from any of the firms submitting a technical concept for review or proposals for the contract, supporting firms (such as sureties, banks, etc.) and all evaluation process materials.

I will maintain security and control over all documents containing such Confidential Information in my custody during the RFP process. I will not make copies of any documents, and will return all documents to the I-15 Corridor Project Management Engineer, John Higgins, when my work with the documents is completed.

I will not divulge any Confidential Information regarding the RFP process to any representative of the firms under consideration for the contract. I will not divulge any Confidential Information regarding the RFP process to the media, any member of the public, or any employee of the Department not involved in the evaluation and selection process. Internal Confidential Information exchange shall be conducted only as necessary to conduct the RFP process. If contacted by any representative of the firms under consideration for the contract, or the media, or any member of the public, or any employee of the Department not involved in the evaluation or selection process, regarding the RFP process, I will not discuss the RFP Process, and will promptly report every such case of such attempted communication to the I-15 Corridor Project Management Engineer.

Furthermore, I hereby certify that, to the best of my knowledge, I do not have a conflict of interest, either real or apparent, as a result of my financial or other interest on my part or that of any member of my immediate family, nor of my partner(s), in any firm under consideration for a contract as a part of this solicitation. I further certify that I am not employed and I have no arrangement for future employment with any of the firms under consideration for the contract. I agree not to solicit or accept gratuities, favors, or anything of monetary value from any of the firms under consideration for the contract or any additional firms which come into consideration as a part of this process.

Signed:_____

Date:_____

Name and Title:_____

EVALUATION MATRIX

Technical Factors

Descending order of importance

Proposer	TEB	Org. Quals.	Mgmt	Work Plan/ Sched.	Tech. Sol.
Lake Bonneville	A+	A+ (S)*	G+ (G)*	A-	A+ (A)*
Salt Lake	G-	G+	G+	A+	G-
Wasatch	E-	E	E-	G+	E-

Technical Subfactors

Equal weight

Proposer	Tech. Sol.	MOT	Geo-tech	Pave-ment	Struc-tures	Main-tain-ability	Other
Lake Bonneville	A+ (A)*	A	A	A (A-)*	G+	A- (S+)*	G
Salt Lake	G-	A-	G	G	E-	A+	A+
Wasatch	E-	E (E-)*	G+	E-	G (G-)*	E	E-

Other Technical Subfactors

High significance — Med. significance — Low significance

Proposer	Other	ATMS	Drain-age/ W. Q.	Road-way Geom.	Aesth-etics	Light./ Sig./ Sign.	H/H Mat. Rem.	Conc. Bar.
Lake Bonneville	G	E-	A+	A	G	G	E-	G (A+)*
Salt Lake	A+	A- (S-)*	A	G	A	A+	E-	G
Wasatch	E-	E-	G+ (G)*	E (E-)*	E	A	A	G+

* Initial rating shown in parenthesis if rating was adjusted during BAFO evaluation

Attachment 44

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT

PRICE EVALUATION COST SUMMARY

ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL						
				UDOT	LAKE BONNEVILLE		WASATCH		SALT LAKE	
					INITIAL	BAFO	INITIAL	BAFO	INITIAL	BAFO
I										
A										
	1	Design Services	LS	$93,000,000	$140,000,000	$80,000,000	$90,000,000	$95,000,000	$111,311,715	$119,539,274
	2	Surveys	LS	$1,500,000	$1,000,000	$1,000,000	$2,300,000	$1,500,000	$651,987	$528,593
	3	Geotechnical Investigation & Testing	LS	$4,000,000	$8,200,000	$8,200,000	$6,300,000	$6,300,000	$4,678,789	$3,283,008
	4	Harmful/Hazardous Material Program Plans and Lead-Based Paint Survey of Bridges and Sign Structures and Asbestos Survey	LS	$1,000,000	$200,000	$200,000	$500,000	$500,000	$828,627	$1,737,197
	5	Harmful/Hazardous Material Remediation Design	LS	$1,000,000	$600,000	$600,000	$1,800,000	$800,000	$6,488,089	$4,299,238
	6	**Subtotal Engineering (Sum Lines 1 thru 5)**		**$100,500,000**	**$150,000,000**	**$90,000,000**	**$100,900,000**	**$104,100,000**	**$123,959,207**	**$129,387,310**
B	7	ATMS (Off-Corridor)	LS	$61,599,200	$72,000,000	$70,000,000	$56,200,000	$60,000,000	$96,335,587	$73,115,277
	8	Construction Items (Form K-4)	LS	$1,070,775,480	$1,107,000,000	$1,111,500,000	$1,039,410,236	$1,018,086,699	$1,126,914,168	$957,609,154
	9	Maintenance During Construction (See Form K-5)	LS	$10,000,000	$2,328,000	$2,328,000	$10,812,764	$10,812,764	$7,650,000	$6,680,129
	10	Maintenance of Traffic	LS	$24,234,814	$25,000,000	$35,000,000	$32,300,000	$32,300,000	$46,275,153	$31,650,736
	11	Mobilization (Not to exceed $75 million)	LS	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000	$75,000,000
	12	Payment and Performance Bonds (Design/Build Phase Only	LS	$10,000,000	$6,500,000	$6,400,000	$11,300,000	$11,300,000	$7,817,200	$6,910,500

See last page of this Attachment.

Attachment 45

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT

PRICE EVALUATION COST SUMMARY

ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL						
				UDOT	LAKE BONNEVILLE		WASATCH		SALT LAKE	
					INITIAL	BAFO	INITIAL	BAFO	INITIAL	BAFO
		Hazardous Materials Remediation								
		Petroleum Hydrocarbons								
	13	Soil	m3	$1,508,750	$2,500,000	$1,250,000	$2,750,000	$2,031,000	$3,067,250	$3,428,000
	14	Groundwater	liters	$568,000	$960,000	$480,000	$320,000	$528,000	$1,200,000	$1,360,000
	15	In-situ Remediation	m2	$19,340,050	$136,000	$136,000	$340,000	$369,495	$359,635	$401,965
		Heavy Metals								
	16	Soil	m3	$120,700	$900,000	$400,000	$830,000	$560,000	$841,300	$940,240
	17	Groundwater	liters	$710	$2,000	$3,600	$10,000	$44,400	$9,500	$10,600
	18	In-situ Remediation	m2	$1,657,985	$14,000	$9,800	$28,000	$30,429	$40,453	$45,213
		Solvents								
	19	Soil	m3	$0	$250,000	$125,000	$270,000	$255,620	$275,200	$307,560
	20	Groundwater	liters	$7,100	$20,000	$36,000	$50,000	$69,000	$108,000	$120,000
	21	In-situ Remediation	m2	$947,420	$60,000	$20,000	$16,000	$17,388	$23,484	$26,244
		Radionuclides								
	22	Soil	m3	$340,850	$3,250,000	$3,250,000	$1,060,000	$1,060,000	$4,170,350	$4,660,800
	23	In-situ Remediation	m2	$3,972,450	$60,000	$37,500	$33,000	$65,205	$95,460	$106,680
		Asbestos								
	24	Remediation	m2	$3,175,000	$300,000	$300,000	$170,000	$170,000	$1,374,800	$1,536,500
		Lead-Based Paints								
		Remediation (Remove & Dispose)								
	25	Buildings	m2	$184,800	$1,300,000	$1,250,000	$250,000	$250,000	$1,048,000	$1,171,300
	26	Bridges	m2	$99,400	$300,000	$300,000	$475,000	$475,000	$801,500	$895,750
	27	Sign Structures	m2	$92,400	$650,000	$625,000	$475,000	$475,000	$522,000	$583,400
	28	Total Hazardous Materials Remediation/Close-in-place (Sum Lines 13 through Line 27)		$32,015,615	$10,702,000	$8,222,900	$7,077,000	$6,400,537	$13,936,932	$15,594,252
	29	Subtotal Construction (Sum Lines 7 through Line 12 + Line 28)		$1,283,625,109	$1,298,530,000	$1,308,450,900	$1,232,100,000	$1,213,900,000	$1,373,929,040	$1,166,560,049
	30	**BASE PRICE (Line 6 + Line 29) = D/B Price (This total shall equal the total shown on Form K-6. This total to be distributed over time on Form K-1.)**		$1,384,125,109	$1,448,530,000	$1,398,450,900	$1,333,000,000	$1,318,000,000	$1,497,888,247	$1,295,947,358
		(NET PRESENT VALUE)				$1,292,305,027		$1,231,673,502		$1,211,518,178

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT

PRICE EVALUATION COST SUMMARY

ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL						
				UDOT	LAKE BONNEVILLE		WASATCH		SALT LAKE	
					INITIAL	BAFO	INITIAL	BAFO	INITIAL	BAFO
II		OPTIONS								
A		**Maintenance After Construction (See Form K-5)**								
	31	Initial Maintenance Term Option: Substantial Completion through June 30, 2006	LS	$4,319,000	$9,905,000	$9,905,000	$10,985,434	$12,580,803	$47,823,561	$19,817,000
	32	Option Term 2: July 1, 2006 through June 30, 2007	LS	$1,011,000	$1,868,000	$1,868,000	$1,276,046	$1,582,664	$5,525,798	$2,284,913
	33	Option Term 3: July 1, 2007 through June 30, 2008	LS	$1,057,000	$1,886,000	$1,886,000	$1,237,353	$1,543,971	$7,046,546	$2,913,741
	34	Option Term 4: July 1, 2008 through June 30, 2009	LS	$1,092,000	$2,004,000	$2,004,000	$1,957,490	$2,108,471	$7,046,546	$2,913,741
	35	Option Term 5: July 1, 2009 through June 30, 2010	LS	$1,135,000	$2,137,000	$2,137,000	$7,021,780	$6,877,064	$7,108,380	$2,939,309
	36	Option Term 6: July 1, 2010 through June 30, 2011	LS	$1,180,000	$2,155,000	$2,155,000	$2,316,924	$2,390,100	$13,598,622	$5,659,551
	37	**Subtotal Maintenance After Construction** (Line 31 through Line 36)		$9,794,000	$19,955,000	$19,955,000	$24,795,027	$27,083,073	$88,149,453	$36,628,255
B	38	Viaduct Shortening at 400 South, 500 South and 600 South (Deduction)	LS	$0	-$9,656,000	-$16,000,000	-$18,100,000	-$18,127,000	-$7,551,110	-$7,551,110
C	39	Impoved Diamond at 10600 South	LS	$0	$6,311,000	$1,000,000	$5,900,000	$5,900,000	$7,154,910	$7,154,910
D	40	SPUI at 10600 South	LS	$0	$14,956,000	$8,000,000	$7,935,000	$6,004,000	$33,600,000	$33,600,000
E	41	Midvale Noise Walls Delete West Side (Dedution)	LS	$0	-$349,000	-$349,000	-$255,000	-$255,000	-$300,000	-$300,000
F	41a	Additional Box Culvert at Mill Creek	LS	$0	$133,000	$133,000	$201,000	$201,000	$165,830	$165,830
G	41b	Additional Box Culvert at DryCreek	LS	$0	$179,000	$179,000	$205,000	$205,000	$240,000	$240,000
H	41c	Underpass at 10000 South	LS	$0	$5,023,000	$4,500,000	$5,655,000	$5,655,000	$4,500,000	$4,500,000
I	41d	Fiberoptic Utility Conduit	LS	$0	$6,245,000	$7,122,000	$4,900,000	$4,900,000	$16,100,000	$5,087,561
J	41e	Replace Embankment with Structures on Ramps 215 E 7200 and 215 E 15S	LS			-$700,000		$2,560,000		$3,599,000
	42	**Subtotal Options B-H** (Sum Line 38 through Line 41c)	LS	$0	$22,842,000	$3,885,000	$6,441,000	$7,043,000	$53,909,630	$46,496,191

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT

PRICE EVALUATION COST SUMMARY

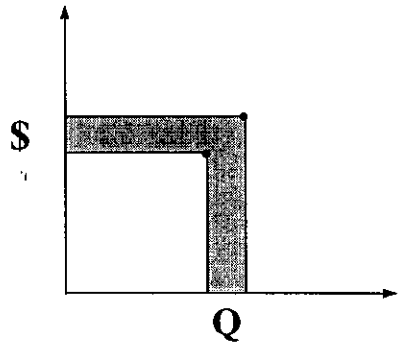
ITEM	LINE NO.	DESCRIPTION	UNITS	PRICE ELEMENT TOTAL						
				UDOT	LAKE BONNEVILLE		WASATCH		SALT LAKE	
					INITIAL	BAFO	INITIAL	BAFO	INITIAL	BAFO
IV		**ADDITION FOR PRICE EVALUATION** **Contract Modifications**								
	43	Construction Base Amount (0.10 X (Line 29))	LS	$128,362,511	$129,853,000	$130,845,090	$123,210,000	$121,390,000	$137,392,904	$116,656,005
	44	Field Overhead Rate (Construction)	Decimal	0.50	0.08	0.08	0.37	0.37	0.05	0.10
	45	Contractor's Overhead Rate for Sucontractor Administration	Decimal	0.03	0.02	0.02	0.05	0.05	0.00	0.01
	46	Contractor's Overhead Rate for Materials Procurement	Decimal	0.05	0.02	0.02	0.05	0.05	0.00	0.01
	47	Profit	Decimal	0.10	0.15	0.10	0.10	0.10	0.05	0.05
	48	Extended Overhead Rate	$$/Day	$100,000	$75,000	$100,000	$43,000	$43,000	$250,000	$150,000
	49	Engineering Base Amount (0.10 X Line 6)	LS	$10,050,000	$15,000,000	$9,000,000	$10,090,000	$10,410,000	$12,395,921	$12,938,731
	50	Engineering Overhead Rate	Decimal	1.00	1.68	1.679	0.65	1.50	0.05	0.50
	51	Engineering Fee Percentage	Decimal	0.10	0.00	0.00	0.10	0.168	0.05	0.05
	52	**Contract Modification Amount** [(Line 43) X (1+ Line 44 + Line 45 + Line 46 + Line 47)]+ [(Line 49) X (1 + Line 50) X (1+ Line 51)] + [(Line 48) X (30 Days)]		$240,759,018	$207,348,310	$186,742,010	$213,043,050	$222,269,500	$172,298,697	$161,366,027
	53	TOTAL PROPOSAL PRICE (Line 30 + Line 37 + Line 42 + Line 52)		$1,634,678,127	$1,698,675,310	$1,609,032,910	$1,577,279,077	$1,574,395,573	$1,812,246,027	$1,540,337,832
		(NET PRESENT VALUE)				$1,487,060,282		$1,469,043,035		$1,438,657,037

UTAH DEPARTMENT OF TRANSPORTATION
I-15 CORRIDOR RECONSTRUCTION PROJECT

PROPOSAL EVALUATION CONSTRUCTION COST SUMMARY

ELEMENT	UNIT	UDOT	LAKE BONNEVILLE		WASATCH		SALT LAKE	
			INITIAL	BAFO	INITIAL	BAFO	INITIAL	BAFO
ATMS (On Corridor)	LS	$12,505,455	$11,000,000	$10,000,000	$10,800,000	$7,100,000	$14,887,526	$10,165,501
Barriers and Impact Attenuators	LS	$22,836,762	$20,000,000	$20,000,000	$23,100,000	$23,100,000	$28,032,840	$22,815,857
Base Courses	LS	$33,891,621	$18,000,000	$18,000,000	$31,000,000	$31,000,000	$89,623,998	$80,460,175
Drainage	LS	$30,944,071	$85,000,000	$90,000,000	$26,700,000	$26,700,000	$37,656,224	$33,005,024
Earthwork	LS	$89,927,501	$178,000,000	$190,000,000	$199,323,000	$196,699,463	$139,565,315	$118,669,779
Landscaping and Erosion Control	LS	$11,427,463	$21,000,000	$20,000,000	$19,300,000	$19,300,000	$22,818,033	$18,960,482
Lighting	LS	$13,511,338	$15,000,000	$16,000,000	$22,000,000	$22,000,000	$26,614,734	$20,120,550
Pavement (Mainline Collector/Distributor & Ramps)	LS	$56,667,550	$85,000,000	$100,000,000	$70,400,000	$70,400,000	$86,374,130	$71,694,285
Pavement (Other)	LS	$14,676,437	$25,000,000	$30,000,000	$8,300,000	$8,300,000	$11,820,817	$9,413,960
Railroads	LS	$3,033,080	$5,000,000	$6,000,000	$2,400,000	$2,400,000	$2,672,270	$2,986,526
Road and Weather Information Systems	LS	$500,000	$500,000	$500,000	$300,000	$300,000	$1,615,324	$1,181,378
Roadway Appurtenaces and Miscellaneous	LS	$12,459,646	$15,000,000	$18,000,000	$9,500,000	$9,500,000	$12,372,687	$13,827,705
Signing & Sign Structures	LS	$11,420,000	$8,000,000	$8,000,000	$8,000,000	$8,000,000	$7,675,311	$8,577,922
Structures (Bridges)	LS	$396,376,164	$519,000,000	$479,000,000	$530,187,236	$515,187,236	$577,403,565	$479,258,786
Structures (All Other)	LS	$345,115,499	$88,000,000	$88,000,000	$50,400,000	$50,400,000	$57,292,693	$58,173,658
Traffic Signals	LS	$3,337,000	$2,000,000	$3,000,000	$6,200,000	$6,200,000	$5,361,750	$3,795,550
Utilities	LS	$11,145,893	$10,000,000	$14,000,000	$20,700,000	$20,700,000	$3,914,775	$3,521,846
Weigh-in-Motion Sites	LS	$1,000,000	$1,500,000	$1,000,000	$800,000	$800,000	$1,212,177	$980,170
Total, Line 8, Form K		**$1,070,775,480**	**$1,107,000,000**	**$1,111,500,000**	**$1,039,410,236**	**$1,018,086,699**	**$1,126,914,168**	**$957,609,154**

Base+Earthwork+Pavement+Structures		***$936,654,772***	***$913,000,000***	***$905,000,000***	***$889,610,236***	***$871,986,699***	***$962,080,517***	***$817,670,643***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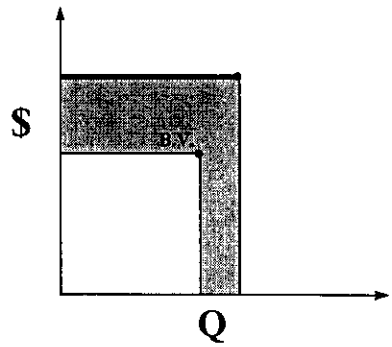
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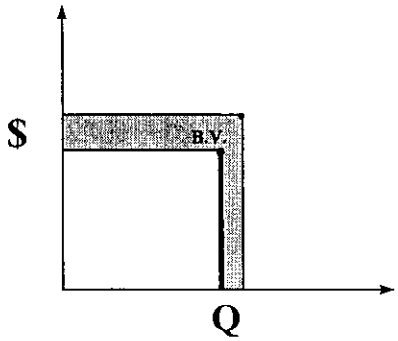
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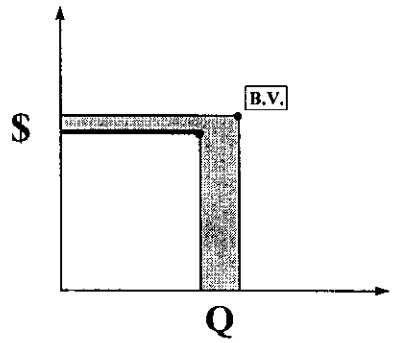
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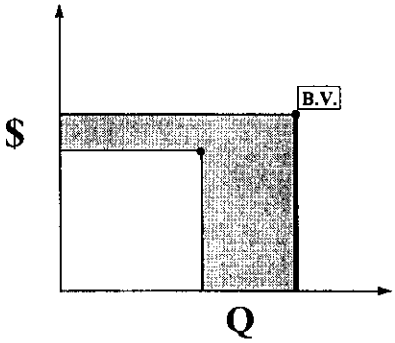
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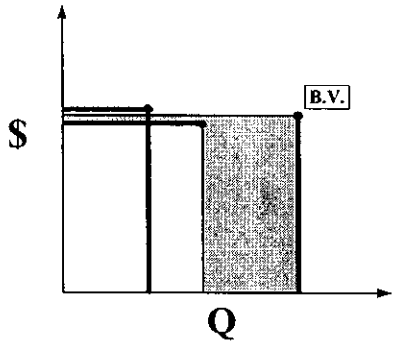
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