GUIDEBOOK FOR DESIGN-BUILD HIGHWAY PROJECT DEVELOPMENT

June 20, 2004

Washington State
Department of Transportation

Preface

How Is This Guidebook Being Developed?

The development of this guidebook follows on the efforts of developing the original design-build team. As the current design-build pilot project progresses issues and lessons learned are being identified.

A technical team has been assembled to analyze the various issues brought to light and make recommendations to changes in the WSDOT design-build Guidebook. Due to timeline constraints it is likely that WSDOT will embark on additional design-build projects prior to a final report being prepared from the original pilot project. Issues and resolutions are being continuously incorporated into the web-based design-build guidebook.

Who Will Use This Guidebook?

This guidebook is written comprehensively to provide anyone interested in design-build contracting in WSDOT with an understanding of the policies and recommended procedures of its use. However, the recommendations are tailored to project decision-makers. The identified decision makers are ***Program Managers and Project Engineers,*** who must correctly identify, assess, fund, and develop projects, balancing the benefits and risks of design-build contracting. The decision to use design-build is not made instantaneously but rather through a series of difficult decisions weighing risk and benefits. This guidebook provides insight to those risks and the decisions that must be made to be successful in developing a project scope and contract documents using design-build contracting.

This guidebook is written where appropriate in a directive style (imperative mood) for the Program Manager and Project Engineer. Specific actions that should be taken and need emphasis appear in **bold face** and *italic* type. Section 1.0 of this Guidebook is an Executive Summary, which will be a good introduction to the elements, issues, and processes of design-build contracting for all staff. Section 2.0 is primarily directed to the Program Manager, while the remaining sections are directed to the Project Engineer.

Table of Contents

PREFACE ..... **III**

HOW IS THIS GUIDEBOOK BEING DEVELOPED? III
WHO WILL USE THIS GUIDEBOOK? III

TABLE OF CONTENTS ..... **V**

1.0 EXECUTIVE SUMMARY **10**

1.1 WHAT IS DESIGN-BUILD CONTRACTING? 10
1.2 DOES WSDOT'S DESIGN-BUILD PROCESS WORK? 11
1.3 WHAT IS WSDOT'S POSITION ON BASIC DESIGN-BUILD ELEMENTS? 11
1.4 WHAT IS THE DESIGN-BUILD PROJECT DELIVERY PROCESS? 13

DESIGN BUILD PROJECT SELECTION **16**

2.0 DESIGN BUILD PROJECT SELECTION **18**

2.1 FOLLOW A DECISION-MAKING PROCESS 18
2.2 ASSESS PROJECT BENEFITS 18
2.2.1 Completion Schedule *19*
2.2.2 Project Complexity *19*
2.2.3 Traffic Management *19*
2.2.4 Project Size *20*
2.2.5 Workload Leveling *20*
2.2.6 Benchmark Projects *20*
2.3 ASSESS PROJECT RISKS 21
2.4 FHWA INVOLVEMENT 22

DESIGN BUILD PROJECT DEVELOPMENT **24**

3.0 PROJECT DEVELOPMENT **25**

3.1 IDENTIFY THE GOAL 25
3.2 ASSEMBLE THE PROJECT TEAM 25
3.2.1 ASSIGN THE PROJECT ENGINEER 25
3.3 DEVELOP PROJECT SCOPE 26
3.4 PROJECT RISK ALLOCATION MATRIX 26
3.5 PLAN THE PROJECT 32
3.6 COLLECT BASE DATA 33
3.6.1 Preliminary Survey and Mapping *34*
3.6.2 Geotechnical Conditions *35*
3.6.3 Hydraulic *36*
3.6.4 Right-of-Way and Access Determination *36*
3.6.5 Traffic *37*
3.6.6 Noise *37*
3.7 PROJECT DESIGN ELEMENTS 39
3.8 ENVIRONMENTAL 40
3.8.9 CONDUCT NEPA AND/OR SEPA PROCESSES 40
3.9 SCHEDULE ANALYSIS 41
3.10 FUNDING ANALYSIS 41
3.11 CONDUCT PUBLIC INVOLVEMENT PROCESS 41

3.11.1 Public Information *41*
3.12 MATERIALS (PRODUCT WARRANTY) 42
3.13 AGREEMENTS 42
3.14 THE FINAL DECISION TO USE DESIGN-BUILD 42

4.0 DEVELOPING A DESIGN-BUILD CONTRACT DOCUMENT 45

4.2 SPECIAL STAFF NEEDS 45
4.2.1 Advisory and Review Staff *45*
4.2.2 Evaluation Team Description *46*
4.2.2.1 Evaluation Process Manager 46
4.2.2.2 Selection Official (SO) 46
4.2.2.3 Proposal Evaluation Board (PEB) 47
4.2.2.4 Technical Evaluation Board (TEB) 47
4.2.2.5 Technical Expertise Advisors or Teams 47
4.2.2.6 Preparation and Training 48
4.2.2.5 Commitment to timelines 48
4.3 PREPARE RFQ 48
4.4 - FORMULATION OF RFP PACKAGE 51
4.4.1 Proposal General Requirements 53
4.4.2 Technical Proposal Contents and Evaluations Criteria *55*
4.4.3 Prepare Project Description *57*
4.4.3 Prepare Scope of Work *59*
4.4.4 Prepare Revisions to the Standard Specification and Special Provisions *61*
4.4.5 Prepare Bid Tab *61*
4.5 PUBLISH AND REVIEW DOCUMENTS 63
4.6 RESPONSE TO RFIS 63

5.0 DESIGN-BUILDER SELECTION 67

Confidentiality and Security 67
Location and Logistics 68
5.1 LETTER OF INTEREST 68
5.2 REQUEST FOR QUALIFICATIONS 68
5.2.1 Prequalification *68*
5.2.2 Project Advertisement *68*
5.2.3. Pre-SOQ Submittal Meeting *69*
5.2.4 Evaluate SOQ and Shortlist *69*
5.3 EVALUATE TECHNICAL PROPOSALS 71
5.4 PRE SUBMITTAL MEETINGS 72
5.5 ORAL PRESENTATIONS 72
5.6OPEN PRICE PROPOSAL 72
5.7 CALCULATE HIGHEST SCORE 73
5.8 AWARD CONTRACT 73
5.9 QC/QA PLAN REVIEW 74

6.0 DESIGN BUILD CONTRACT ADMINISTRATION 76

6.1 PROJECT TEAM COMPOSITION 76
6.2 ROLES OF THE PROJECT TEAM MEMBERS 77
6.3 CONTRACT ADMINISTRATION 77
6.4 PROJECT PRE-CONTRACT MEETING AND SITE VISIT 77
6.5 DESIGN AND CONSTRUCTION DOCUMENT PREPARATION 78
6.5.1 Design Documents Preparation *78*
6.5.2 Prepare Construction Documents *78*

6.5.3 Plan Review and Oversight *78*
6.6 PRECONSTRUCTION CONFERENCE/MEETING 79
6.7 RE-ESTABLISH SURVEY CONTROL/CONSTRUCTION SURVEYING 79
6.8 MATERIALS TESTING 80
6.9 CONSTRUCTION INSPECTION 80
6.10 CONTRACT CHANGES 80
6.11 CONSTRUCTION DOCUMENTATION 81
6.12 PARTIAL PAYMENT APPLICATION 81

7.0 CONTRACT CLOSURE 84

1.0 PROPOSAL OF QUALIFICATION REQUIREMENTS 3
1.1 Introduction *3*
1.2 Submitting Proposals *3*
1.3 Pre-Proposal Conference *4*
1.4 Inquiries and Comments *4*
1.5 Obtaining Requests for Qualifications 4
1.6 Addenda 5
2.0 BACKGROUND AND PROJECT DESCRIPTION 5
3.0 REQUIRED CONTENTS FOR PROPOSALS OF QUALIFICATION 5
3.1 Pass/Fail Criteria *5*
3.1.1 SOQ Format, Style and Length 5
3.1.2 Introductory Letter 6
3.1.3 Proposer General Information 6
3.1.4 Financial Information 7
3.2 Scored Evaluation Criteria *7*
3.2.1 Project Understanding (*300* points) 7
3.2.2 Proposer Project Team, Key Personnel and Processes (*300* points) 7
3.2.3 Proposer's Past Performance (*200* points) 9
3.2.4 Quality Control Program (*100* points) 9
3.2.5 Safety Program (*100* points) 10
3.3 Supportive Material *10*
4.0 PROPOSAL EVALUATION AND SHORTLISTING 10
4.1 Confidentiality and Security *10*
4.2 SOQ Evaluation and Shortlist *10*
5.0 GENERAL SOLICITATION INFORMATION 11
5.1 Disadvantaged Businesses *11*
5.2 Changes in Key Persons *11*
5.3 Clarifications *11*
5.4 Proposal Rejection and Cancellation *11*
5.5 Design-Builder Responsibility *11*
5.6 Public Records *11*
5.7 Selection Protest *12*
5.8 Foreign Corporations *12*
5.10 WSDOT's Right to Use Ideas *12*
EXHIBIT A - PROPOSER INFORMATION 13
EXHIBIT B - FINANCIAL STATEMENT 15
EXHIBIT C - WORK HISTORY 15
EXHIBIT D - RELATED WORK EXPERIENCE INFORMATION 17
SECTION 100 - GENERAL INFORMATION 3
SECTION 200 - DESIGN REFERENCES 3
205 Design Reports and Studies *3*
210 WSDOT Design Manuals and Guidelines *3*
220 General References and Publications *3*
SECTION 400 – PROFESSIONAL SERVICES 4
405 Design Deviations *4*

410 Surveys and Mapping *5*
415 Geotechnical Design *5*
416 Pavement Design *5*
420 Environmental *5*
425 Public Information and Public Involvement Plan *6*
430 Utilities *6*
475 Right-of-Way *7*
480 Construction (Special) Provisions *7*
SECTION 1000 CONTRACT ADMINISTRATION 7
Section 1022 Responsibility Chart *7*
Section 1026 Design-Builder Personnel *7*
Section 1065 Design Reviews and Oversight Visits *8*
SECTION 1100 DESIGN-BUILD QC/QA PLAN REQUIREMENTS 8
SECTION 1300 PRODUCT WARRANTY PROVISIONS 8
Pilot Project Warranty Development Efforts *9*
1-01 DEFINITIONS AND TERMS 3
1-02 BID PROCEDURES AND CONDITIONS 3
1-03 AWARD AND EXECUTION OF CONTRACT 3
Section 1-03.2 Award of Contract *3*
Section 1-03.4 Contract Bonding *4*
1-04 SCOPE OF THE WORK 5
Section 1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda 5
1-06 CONTROL OF MATERIAL 5
Section 1-06.1 Qualified Products List (QPL) *5*
1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC 5
Section 1-07.24 ..... *5*
1-08 PROSECUTION AND PROGRESS 5
Section 1-08.3 Progress Schedules *5*
Section 1-08.5 Time for Completion *5*
Section 1-08.8 Extensions of Time *6*
1-02 BID PROCEDURES AND CONDITIONS 3
Section 1-02.4 Examination of Plans, Specifications, and Site of Work *3*
1-03 AWARD AND EXECUTION OF CONTRACT 4
Section 1-03.3 Execution of Contract *4*
1-04 SCOPE OF THE WORK 4
Section 1-04.4 Changes *4*
Section 1-04.5 Procedure and Protest by the Design-Builder *4*
Section 1-04.7 Differing Site Conditions (Changed Conditions) *4*
1-06 CONTROL OF MATERIAL 5
1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC 5
Section 1-07.11 Equal Employment Opportunity Responsibilities *5*
Section 1-07.17 Utilities and Similar Facilities *5*
Section 1-07.18 Public Liability and Property Damage Insurance *5*
Pilot Project Insurance/Bonding Efforts 6
Section 1-07.23 Public Convenience and Safety *8*
1-08 PROSECUTION AND PROGRESS 9
Section 1-08.9 Liquidated Damages *9*
1-09 MEASUREMENT OF QUANTITIES 9
F. RIGHT-OF-WAY 4
STAKEHOLDER COMMENTS, QUESTIONS, AND CONCERNS 3

1.0 Executive Summary

The design-build process is one of the tools the Department is authorized to use to in delivering the transportation program. The method is not appropriate for all projects, but when the right projects are selected, design-build may offer significant benefits for the Department and the public.

The information presented in this guidebook provides a framework for using the design-build contracting technique. Commonly asked questions are presented and answered in the context of WSDOT's traditional design-bid-build process versus design-build contracting procedures. This guidebook has been prepared primarily for the Program Manager and Project Engineer who are in responsible roles to appropriately select, develop, and administer a project using design-build contracting. It also may be useful to Project Team members who will also be involved in the process.

WSDOT's process for design-build contracting is based on two primary principles:

1. Use the Department's existing systems to the extent possible, changing or adding only as necessary to facilitate the design-build method of contracting; and
2. Make it work satisfactorily for all parties involved, including WSDOT, design firms, construction contractors, bonding and insurance companies, local jurisdictions, and other affected state and federal agencies.

This Guidebook is the accumulation of WSDOT's experience and understanding of public contracting using the design-build method, and of the multitude of issues surrounding its use. The process described in this document substantially accomplishes the principals listed above, but continuous improvements are expected.

1.1 What Is Design-Build Contracting?

Design-build is a method of project delivery in which WSDOT executes a single contract with one entity (the Design-Builder) for design and construction services to provide a finished product. In general, this means the Department's role in the project will focus much more describing performance than on how to get that performance. *It is particularly important that WSDOT staff be able to define the basic objectives of the design-build project very early in the process.* This includes physical components, operational requirements, performance expectations, and public service. It is necessary to describe the project in such a way that the Design-Builder has enough information to deliver the intended project.

WSDOT's current design-bid-build project delivery system has evolved into a process that conforms well with statutory, regulatory, and administrative requirements. It is effective in advancing projects through the developmental stages of project scoping, concept design, environmental compliance efforts, and preliminary and advanced design, while ensuring conformance with design criteria and quality standards. The resulting design is packaged in a formal contract document that is used in a bidding process, where the construction contract is awarded to the lowest responsive bidder.

The Design-Builder will be starting the project with conceptual plans and will complete the design including the details, with limited WSDOT involvement in the design process. Correspondingly, the Design-Builder will propose the total project price based on only the conceptual plans, defined objectives and performance specifications. The proposal will reflect the product that the Design-Builder intends to deliver to meet the Department's objectives.

1.2 Does WSDOT's Design-Build Process Work?

The guidelines for design-build contracting are based on the conclusions of an ongoing development process, lessons learned from developing pilot projects, and the experience of other agencies using the design-build method on transportation projects. These guidelines describe WSDOT's current design-build process, but it is intended that the process continually evolve, based on feedback from completed projects.

WSDOT's Design-Build Process encourages Program Management, Project Engineers, and Project Teams to make careful selections: first, with projects suitable for design-build; second, with language to define the project; and third, with criteria to evaluate Design-Builders, their proposals, and their performance. An explanation of how these and other tasks are accomplished is contained in the following sections of this guidebook. Upon completion of the pilot projects, a comprehensive evaluation will be completed. Results from the evaluation are expected to complement this guidebook and provide a comprehensive reference for choosing and successfully completing appropriate projects. .

1.3 What is WSDOT's Position on Basic Design-Build Elements?

WSDOT 's position statements are as follows:

- **Decisions.** The decision to use design-build contracting should be made in two steps with the final determination to issue a design-build contract occurring after the project scope is adequately developed and a risk analysis completed. Program Management will select candidate projects from the general STIP followed by a preliminary investigation by the Project Engineer and Project Team, the project team will develop the initial risk assessment and probable allocation matrix to be used in making the initial concept recommendation. The final decision to use design-build on the candidate project is made by The Secretary of Transportation.

- **Funding.** Funding must be committed to allow detailed scoping and development of the project and to make payments to the Design-Builder for both design and construction. The project schedule is typically accelerated by design-build delivery, with design and construction occurring at the same time. Further, funding commitments to design-build become fully committed very early on in the project schedule. *Biennial funding constraint impacts must be carefully considered*.

- **Environmental.** Environmental clearances required for permanent project features, or for known temporary construction impacts will be obtained by WSDOT. WSDOT is responsible for complying with State and Federal requirements and must be signatory on many documents, such as records of decision and permit applications, . Although a Design-Builder must provide information to support a permit application, they cannot control the actions or timing of third party regulatory agencies. For most projects, WSDOT should provide allowances for the required application time as the resulting risks to the Design-Builder could be significant and could result in higher proposal prices. However, permits

required for construction trades or for temporary construction impacts of convenience will be assigned to the Design-Builder.

- **Public.** The risk of project public endorsement should be borne by the Department, because the Department has the most expertise in this area. Once the public has accepted a project, the Design-Builder will be tasked with participation in a public involvement program that requires ongoing information and communications.

- **Detail.** In general, a project should be developed by WSDOT to the minimum possible level. Environmental requirements and risk definition may require WSDOT to carry portions of the design further than others. If the project is developed too far then the opportunity to innovate and/or save time and possibly money may be reduced significantly or lost entirely.

- **Geotechnical.** Preliminary geotechnical investigations will be conducted by WSDOT with data provided to Proposers. The requirements for geotechnical investigation will be defined by WSDOT and included in the Scope of Work. The Proposers may have an opportunity to request supplemental information during preparation of their proposal if deemed appropriate by the Project Team. If no supplemental program is offered by the Department, each Proposer will need to obtain any additional data required. Ultimately, WSDOT will own responsibility for Changed and Differing Site conditions. As such, it is necessary for WSDOT to establish a baseline for design-builders to develop their technical and price proposals

- **Right-of-way.** For small to mid-sized projects, right-of-way acquisitions required for the project will be complete, or imminent, prior to award of a design-build contract. The Design-Builder may identify additional beneficial or necessary right-of-way needs and provide the supporting plans. The Department will assess the value or need of obtaining additional right-of-way prior to proceeding with the acquisition process. Adjustments to the contract will be made if the additional right-of-way is necessary or beneficial to complete the project. On larger contracts it is possible that right of way may not be purchased until the best value design-build submittal is selected.

- **Inter-agency.** Inter-governmental agency agreements necessary for the completion of a design-build project will in most cases be obtained by WSDOT, prior to award of the contract to ensure that all commitments and requirements of the parties are known when the Proposers prepare their proposals. However, there may be some instances in which it is advantageous to make such agreements part of the Design-Builder's scope of work.

- **Utilities/Railroads.** For most projects agreements with utility companies, either formal or informal, for relocation of their facilities will be obtained by WSDOT prior to advertisement. However, there may be some instances in which it is advantageous to make such agreements part of the Design-Builder's scope of work. The arrangements for the actual construction work associated with the relocations will be coordinated by the Design-Builder to match their intended work program. When the construction work/coordination is allocated to the design-builder then it is imperative that the control of the work also lie with the design-builder.

- **Unforeseen Conditions.** Unexpected conditions arising during contract execution will remain WSDOT's responsibility and as such should be treated as changed conditions.

Examples include differing site conditions, hazardous materials, cultural resource sites, endangered species, or other issues of an environmental nature. The Department will develop, direct, manage, and monitor the performance of any mitigation plans required of the discovery.

- **Warranties.** Product warranties may be used to ensure project quality. Because many of the quality assurance/quality control processes traditionally done by WSDOT are being transferred to the design-builder, warranties can act as a means to ensure that high quality standards are being met. It is important to ensure that a very measurable performance measurement for all warranty items be defined in the RFP.
- **QC/QA .** WSDOT will maintain an oversight role during design and construction in a manner that satisfies federal quality assurance requirements.

1.4 What is the Design-Build Project Delivery Process?

Delivering a project using design-build contracting eliminates very few steps when compared to the typical WSDOT design-bid-build process. The same project work tasks and products are required whether performed by WSDOT or the Design-Builder. The timing, order, and level of task detail performed are what make design-build contracting different from design-bid-build. The design-build process shifts some tasks and responsibility from WSDOT to the Design-Builder. The shift changes the order and development detail of the tasks and thus must be reflected in the process.

The process shown graphically in Appendix 1(Design Build Process Chart) delineates generic steps to selecting appropriate projects, developing the project and necessary documents, conducting the selection process, and performing contract execution oversight. However, each design-build project will be unique so evaluate the appropriateness of the detailed steps. The chart addresses three basic premises:

1. The generic definition of the existing design-build process and its major tasks
2. The delineation of major work tasks and products
3. The expected responsibility for their completion (WSDOT vs. Design-Builder).

WSDOT has identified two processes for selecting candidate projects for design-build contracting; a programmatic approach and an in-process approach. The primary process (programmatic) focuses on selecting candidate projects from an initial screening of the Transportation Improvement Program. **Nominate projects with attributes that provide significant benefit from using an alternative form of contracting such as design-build. Once identified, develop and evaluate the project scope to confirm that the benefits are real and risks are manageable.**

The secondary approach (in-process) selects a project already under development in the conventional design-bid-build development process that yields some benefit that makes converting to design-build attractive.

The overall project development and Design-Builder selection process varies little from project to project, but the individual tasks can vary markedly for each project. The most significant difference in the development of a project using design-build versus using design-bid-build is in the documents developed by the Project Team. Instead of final plans and specifications, the

Project Team is, for the most part, delivering a scope of work; which is the description of the final constructed project. This complete description must be established near the beginning of the process.

The general design-build process includes:

- Project identification as design-build candidate
- Project attribute assessment
- Team formulation
- Project scope definition
- Data gathering
- Final decision to use design-build contracting
- Request for Proposal preparation
- Selection of Design-Builder
- Administration of contract

Center the Project Team's focus on the project development objectives of identifying, assessing, and allocating the project risk to the party best able to manage it.

As shown on the process chart, WSDOT will usually retain such high-risk areas as environmental studies, public involvement, right-of-way acquisition, and inter-agency agreements. By allocating these risks to the Department, all tasks associated with the preparation of the basic project design (Design Decisions) still belong to the Department. Thus, Design-Builder creativity options are normally limited to final design and construction.

At the initiation of the project analysis, the Regional Project Teams will perform an analysis of the candidate design-build project. **Gather enough information and perform analysis sufficient to determine if the project risks are manageable and to what extent they should be allocated to the Design-Builder.** After all risk decisions are made and documented, **submit the project documentation for approval** to continue design-build development. Once approval is granted, document the risk allocation in the Contract Provisions, complete the project definition, advertise the project, and begin the selection process.

The selection process used by WSDOT consists of two steps and is intended to result in a proposal that represents the best value to the public. The first step is a qualification process based on Proposer experience and project understanding and results in a short list selection of the top Proposers. Final Proposals are then solicited from the short-listed Proposers. The proposal with the highest final score, (a combination of the technical score and price), is awarded the contract.

The final phase of the process involves executing the contract. WSDOT will perform administrative functions as described by the Contract Provisions. The Design-Builder will perform design, construction, and QC functions. WSDOT's QA role during contract execution assures that the products being developed by the Design-Builder are in conformance with the contract requirements.

The following sections summarize the issues related to each major task and recommends a means to address them. The sections attempt to answer the detailed questions related to selecting a project, developing the scope, assembling the RFP Package (see definition in Guidebook Section 3.1), selecting a Design-Builder, and executing a design-build project contract.

Design Build Project Selection

2.0 Design Build Project Selection

2.1 Follow a Decision-making Process

To fully determine if design-build contracting is appropriate, the scope of the project has to be fully known and the expected outcomes adequately defined. **Use the preliminary project scope to screen the potential candidate projects with the assistance of Regional staff.** Benefit-oriented criteria are first used to determine which projects appear to be likely candidates for design-build contracting. *An identified design-build candidate will require special funding considerations to ensure both design and construction is programmed according to the preliminary project schedule.*

The benefit oriented screening process is the first step in project evaluation. The second step involves performing a detailed project scope evaluation for fatal flaws that make design-build contracting too risky for either WSDOT or the Design-Builder.

Funding must be available for the entire project from the outset. The project becomes a binding contract very early on and cannot be easily delayed by WSDOT. This commitment limits WSDOT's flexibility within the overall program.

Public endorsement of the project should also be considered early on. A controversial project may require that WSDOT maintain more direct project control than is likely to be available on a design-build contract.

After completion of the benefit screening, the Project Engineer completes the next phase. The second step in assessing a candidate project is described in detail in Section 4.0 of this guidebook. **Maintain contact with Project Development staff through the initial development to assist in weighing the identified benefit against the risks assessed by the Project Team.**

The alternative process for identifying candidate design-build projects is initiated by the Project Engineer or Program Manager during the initial stages of design for a conventional design-bid-build project. Unexpected findings or circumstances may make a project not previously identified as a design-build candidate more attractive. The project team must carefully weigh the cost and benefits of the partially developed project. A developed project may provide WSDOT more control at the expense of potential innovation and project flexibility.

2.2 Assess Project Benefits

The objective of design-build contracting is to deliver projects better, faster, with fewer Department resources than the conventional design-bid-build method. This objective is likely to be achieved, however, only if certain characteristics are used in the selection process, as described below. **Use these benefit-oriented project evaluation guidelines** to assess if design-build is appropriate. The primary questions to ask are:

- Can significant time savings be realized through concurrent activities?
- Will higher quality products be realized from designs tailored to contractor capability?
- Do WSDOT staff resource constraints impact project schedule?
- Will there be less impact on the public with the use of expedited construction processes?

Weigh the project goals, potential benefits, and probable risks carefully and determine if design-build contracting is the appropriate method. Candidate projects must be examined for unusual or unique requirements that could be effectively addressed by a Design-Builder. Examples of this may include, severe right-of-way limitations, extensive traffic handling, narrow construction windows, time sensitive staging, and so on. The following subsections further define the benefit criteria to use in screening for candidate projects.

2.2.1 Completion Schedule

The overall project delivery schedule is generally the overriding reason for using design-build contracting. By combining design and construction under one contract, the work can be executed concurrently, thus saving calendar time in the delivery of the project.. Remember, when selecting a shorter project time the overall project duration may decrease but the actual construction time may be relatively similar. A secondary advantage is that the designer and builder work together, with each working to suit the other's capabilities and methods, which could shorten the actual construction window. This can result in less impact to the public and may even reduce total costs.

If there are outside constraints which could impact project delivery (environmental permits, extensive right of way acquisition, complex third party agreements) then it is possible that delays in addressing these constraints could eliminate any potential schedule advantage from design-build.

Questions to ask include:

- Must the work begin or end by a specific time?
- Is the available time unusually short?
- Are work windows a significant issue?
- Are certain seasons or dates critical?
- Are traffic detour and/or closure periods limited?

2.2.2 Project Complexity

Projects that are complicated present more challenges and therefore more potential benefits from a design-build approach. A best-value solution is often a direct function of the compatibility between the contractor's capabilities and the features of the design. Projects that have the following issues may be best addressed through design-build contracting, where unique solutions, based on the specific characteristics, can be proposed.

- Does the project include a number of primary features (road, bridge, traffic control system)?
- Are the features tightly interrelated and/or closely located?
- Will construction staging be a major issue?
- Does the site present unique or unusual conditions?
- Are specialty skills needed for design or construction?
- Does the project include emerging technology (IT projects)
- Will extensive temporary facilities be required?

2.2.3 Traffic Management

Construction staging that minimizes impacts to the traveling public is one of the most significant issues for any transportation project. In design-bid-build, the owner typically

assesses this work and the method to be used is prescribed in the Contract Provisions. The contractor's capabilities may or may not match the method dictated by the contract, resulting in an unnecessary reduction in the level of service and penalties, if the contractor can't deliver.

Alternatively, the contractor may submit a "value engineering" or "cost reduction" proposal, which would allow for a change in the contract requirements. This proposal requires preparation by the contractor and review and acceptance by the Department, subtracting from the total benefit of a customized approach. Using the design-build contract to set the performance standard, and allowing the contractor to combine his expertise with the designer, maximizes the potential benefits.

2.2.4 Project Size

Project size has both positive and negative connotations for design-build contracting. Larger projects, measured in dollar value, usually offer the greatest overall potential benefits (and greatest risks). They may also limit the number of potential Proposers.

Design build may be the only project delivery method available on very large projects due to workforce constraints.

Smaller projects may present opportunities for specific benefits, such as specialty work. The use of design-build contracting on smaller projects with lower risks may still achieve the benefits of reduced schedule, lower contracting costs, and so on. Another benefit is that smaller firms can compete and gain experience in the method.

Current Washington State Law requires a minimum project size of $10 million. There is no maximum project size limit.

2.2.5 Workload Leveling

At times, the projects in the program may exceed the capacity of WSDOT staff to deliver using the traditional design-bid-build process. Design-build contracting may be useful to shift workload to Design-Builders. A WSDOT project development core team will needed to assess the project, assemble the RFP Package, and evaluate the submittals. **Be aware that scope definition and proposer selection requires a greater effort and impact project success more in design-build delivery than in design-bid-build delivery.** While it is true that WSDOT's overall manpower efforts are less with design-build, the effort expended and expertise required during project development is significantly more intensive than the equivalent phase in design-bid-build. A bridging contract with a consultant to provide general engineering services, could be used to supplement WSDOT staff throughout the delivery of the contract. Except in extreme cases, the decision to utilize design-build should not rest solely upon Workload Leveling

2.2.6 Benchmark Projects

The availability of benchmark projects was especially important in the selection of the pilot projects. Continued tracking of the realized benefits is a long-term goal of the Department. When a candidate project is identified, **screen the current projects to determine if another similar project is also in development.** Direct comparisons can then be made between the projects using criteria identified in the evaluation program. While benchmarking is important, be sure to choose projects that will yield the greatest benefit from design-build (i.e. schedule compression, innovation, etc.). Benchmarking is NOT a selection criteria.

2.3 Assess Project Risks

The WSDOT design-build process is formulated upon a risk assessment and allocation principle described in the next section. Understanding the Department's position on risk allocation is necessary in determining responsibility for individual tasks. The positions described in Guidebook Section 1.3 are not intended to be rigid requirements; on the contrary, the positions are flexible guidelines to be modified to meet the specific needs associated with each project.

Allocation of the risks inherent in highway projects will also define ownership and responsibility for each task of the project delivery process. On a standard design-bid-build project the Department acts as both the owner and engineer. This owner/engineer role requires that WSDOT owns most of the risk for the success of the design. In design-build, the guiding principle should be one of assigning risk to the party (owner or Design-Builder) that can most economically handle the risk. One key question to be asked in risk allocation is, "*How much is the Department willing to pay a Design-Builder to assume risk that WSDOT typically owns?*" This question may be asked for each individual task to tailor the design-build contracting approach to each specific project. Project risk is the defining issue that permeates all decisions related to developing the contract provisions. High-risk items that will usually remain the responsibility of WSDOT and must be addressed prior to awarding a design-build contract include:

- Environmental studies
- Public endorsement
- Interagency agreements
- Utility agreements
- Right-of-way acquisition
- Funding

Funding for WSDOT projects is typically provided in phases. The funding for each phase (design, right-of-way, and construction) is available only for the biennium when that phase will occur, as defined by the program. Design-build contracting combines the phases of the project into a single contract. This combining of phases requires that funding for the entire project be committed and available as the project progresses. Because of this, special funding considerations will be required when using design-build contracting. **Carefully assess program-funding impacts when the candidate projects are identified.** Lack of complete funding may be a fatal flaw for projects attempting to be switched from design-bid-build delivery to design-build. This commitment to all phases of a contract will also adversely impact WSDOT's overall program flexibility.

Consider the effect of the project schedule on biennial funding of the project phases when a project is identified as a design-build candidate.

WSDOT will also normally maintain responsibility in high-risk areas during execution of the contract. If unexpected conditions arise in areas such as changed conditions (differing site conditions), hazardous materials, cultural resource sites, endangered species, or other issues of an environmental nature, the Department will, unless specified otherwise in the contract, develop, direct, manage, and monitor the performance of any mitigation plans required. The Design-Builder may or may not be asked to perform the associated work under a change order. Deviations from this position on unknown and unexpected conditions should be based on an assessment of the cost to the Department and the benefit derived from allocating them to another party.

Other issues related to design-build contracting that should be reviewed and considered in the decision to use design-build contracting include:

- Construction administration
- Permit requirements
- Utility relocations
- Funding
- QC/QA responsibilities
- Labor disputes
- Weather conditions
- Inflation
- Hazardous materials
- Third party involvement
- Third party claims
- Schedule
- Incremental acceptance of work
- Performance guarantees/warranties
- Force majeure
- Design reviews/approvals
- Liability for design
- Site conditions/Differing site conditions
- Contract changes
- Liquidated damages
- Performance schedule
- Ability to compete
- Ownership of ideas
- Cost of proposing
- Contract terms
- Payment methodology
- Incentives/disincentives
- Assignment of risk
- Bonding requirements
- Errors and Omissions Insurance requirements

2.4 FHWA Involvement

Federal regulations set forth specific federal-aid program requirements based on conventional competitive bid practices; however, some degree of administrative flexibility does exist. In 1988, FHWA established a task force to evaluate innovative contracting practices. A Special Experimental Project No. 14 (SEP-14 – Innovative Contracting) was initiated to allow the use, and evaluate the results, of innovative contracting methods. Design-build contracting is one of the methods allowed under the SEP-14 program. Currently, WSDOT has FHWA SEP-14 approval for the use of design-build when utilizing this manual.

FHWA will also look closely at the selection process and the qualification criteria used to select the Design-Builder. Ideally, apply for SEP-14 approval when the final decision to use design-build contracting has been made. Formulate the application using the RFP Package and generic documents. The documentation used to support the final decision should also define the specific changes to the generic documents contemplated by the Department.

WSDOT, through FHWA stewardship, is responsible for projects. NEPA processes are required to be finalized and approved by FHWA prior to project advertisement. However, under certain circumstances, FHWA will authorize design and construction for the project, and obligate the funds, before advertisement as long as these federal activities are conditioned on getting final NEPA action before awarding the contract and acquiring any right-of-way. The amount of funding obligated will be based on WSDOT's best estimate. WSDOT has determined that federal funding obligations are not required to advertise the project; however, it will be required to prior to requesting Final Proposals.

Design Build Project Development

3.0 Project Development

The recent completion of WSDOT's design-build pilot project (SR 500 Thurston Way Grade Separation), the advent of the Tacoma Narrows Bridge project, and the re-emergence of the Urban Corridors projects have generated a large amount of interest and speculation in the use of design-build as a project delivery tool.

Initial Screen for Use of Design-build

According to state law, to be considered for design-build in Washington State, a project must be greater than $10 million and provide the opportunity for one of the following:

- Highly specialized construction activities requiring significant input into the design;
- Greater innovation and efficiencies between the designer and the builder; or
- Significant savings in project delivery time.

When considering a project for design-build, make a careful analysis of the risks associated with the project. Base the final decision to utilize design-build on a balance of the anticipated benefits and allocated risks associated with the project. If a particular risk element will require a very high level of design (environmental permitting), or is so variable that the design-builder must provide a large monetary bid, design-build may not be suitable.

3.1 Identify the Goal

Preparing a project for design-build contracting is a unique experience in that the effort involves creating documents much different than those employed in a traditional design-bid-build project. It is important to have a clear understanding of the desired outcomes throughout the design-build project development stage. Clearly identify and track the desired outcomes (improve traffic flow, minimize traffic impacts during construction, minimize impacts to wetlands, short construction timeline, etc.) throughout development of the project. If a fast-track project is the driving force, the level of development may be different than if a large amount of innovation is desired.

3.2 Assemble the Project Team

3.2.1 Assign the Project Engineer

The Project Engineer's qualifications must include sufficient experience to have a complete understanding and command of the entire project delivery process. It has been demonstrated that, above all else, a thorough understanding of construction engineering and contract administration is required for a successful contract.

Assign a small team to assist the Project Engineer to advance the technical aspects of the project. The Project Engineer will initially focus on development of the complete RFP package; while

members of the project team may focus on specific technical requirements. The ultimate size and makeup of the project team will depend on project requirements (conceptual design level, technical design elements required, etc.).

While individual members of the assigned project team may transfer or promote, the core project team should be fully committed to a design-build project from initial development through final construction. The Project Engineer may need to employ non-traditional hiring, promotion, and retention practices to ensure the core team remains intact for up to several years.

3.3 Develop Project Scope

A design-build project differs from a traditional project in that the project team must establish the final project expectations, goals, and desired quality at the outset. Early in the project, all team members, stakeholders, and leadership should agree on project goals, quality, and the desired outcome of the project.

3.4 Project Risk Allocation Matrix

On each design-build project, the team must determine how far to carry the preliminary design. From extensive discussions between WSDOT and the design-build industry, contractors, and design consultants, it is apparent that development of a risk allocation matrix is the key to making this determination.

Early in the project, the design team needs to begin to identify potential risks associated with the project. Assign responsibility for each of these risks either to WSDOT or to the design-builder. This is not a one-time task. The project team should continually revisit it as more information becomes available about the project.

Utilize the risk allocation matrix throughout development and implementation of the project. This matrix will not only govern which party is responsible for a given risk, but it will also help the project team determine how far to advance each technical element within the preliminary design during development of the RFP.

For reference, an example risk allocation matrix is shown below. This allocation matrix will need to be tailored to each individual project. The allocation of risk on this matrix was determined through discussions within WSDOT, as well as with the construction and consulting industry. This risk allocation matrix is not intended to be all-inclusive. The project team will have to carefully review all elements that could impact the specific project and tailor the matrix to fit the project. The matrix should be open for review throughout the entire RFP development process.

RISK	Design-Bid-Build			Change	Design-Build Process	
	Owner	Shared	Contractor		Owner	Design Builder
Design Issues						
Definition of Scope	X				X	
Project Definition	X				X	
Establishing Performance Requirement	X				X	
Preliminary survey/base map	X				X	
Geotech Investigation - Initial Borings based on prel des.	X				X	
Geotech Investigation - Initial Borings based on proposal	X			→		X
Establish/Define initial subsurface conditions	X				X	
Init proj Geotechnical Anal/Report based on prel. Des.	X				X	
Proposal specific Geotechnical Analysis/Report	X			→		X
Plan conformance with regulations/guidelines/RFP	X			→		X
Plan accuracy	X			→		X
Design Criteria	X				X	
Conformance to Design Criteria	X			→		X
Design Review Process	X			→		X
Design QC	X			→		X
Design QA	X			→		X
Owner Review Time	X				X	
Changes in Scope	X				X	
Constructability of Design	X			→		X
Contaminated Materials	X				X	

RISK	Design-Bid-Build			Change	Design-Build Process	
	Owner	Shared	Contractor		Owner	Design Builder
Local Agency, Utility, Railroad Issues				→		
Identification of initial local agency impacts	X				X	
Obtaining Initial local agency permits	X				X	
Establishing initial local agency requirements	X				X	
Establishing final/actual local agency impacts	X			→		X
Modifications to existing local agency permits	X			→		X
Identification of initial utility impacts from preliminary des	X				X	
Establish initial Utility Locations / Conditions	X				X	
Defining required utility relocations from preliminary des	X				X	
Relocation of utilities prior to contract	X				X	
Relocation of utilities under agreement during contract			X			X
Modified agreement with private utility based on final des	X			→		X
Modified agreement with public utility based on final des	X			→		X
Damage to Utilities under Construction			X			X
Verification of Utility Locations/Conditions	X			→		X
Coordination with Utility Relocation Efforts during contract		X		→		X
Unforeseen delays - Utility/thirdparty	X				X	
Utility/Third Party Delays resulting from proposal/modified design	X					X
Identification of RR impacts based on preliminary design	X				X	
Obtaining initial RR agreement based on preliminary des	X				X	
Coordinating with RR under agreement	X			→		X
Other work/Coordination		X		→		X
Third Party Agreements (Fed, Local, Private, etc.)	X				X	
Coordinating with Third Parties under agreement		X		→		X
Coordination/collection for third party betterments		X		→		X
Coordination with Other Projects		X		→		X
Coordination with Adjacent Property Owners		X		→		X

RISK	Design-Bid-Build			Change	Design-Build Process	
	Owner	Shared	Contractor		Owner	Design Builder
Construction						
DBE compliance			X			X
Safety / Safety QA			X			X
Construction Quality/Workmanship			X			X
Schedule			X			X
Materials Quality			X			X
Materials documentation			X			X
Material availability			X			X
Initial performance requirements of QA Plan	X				X	
Final Construction/Materials QC/QA Plan	X			→		X
Construction/Materials QA	X			→		X
Construction QC			X			X
Construction QA Procedural compliance auditing	X			→	X	
Construction IA testing/inspection	X				X	
Construction Staking		X		→		X
Erosion Control		X		→		X
Spill Prevention		X		→		X
Accidents within work zone / liability			X			X
Third Party Damages			X			X
Operations and Maintenance During Construction			X			X
Maintenance under Construction - new features			X			X
Maintenance under Construction - exist. features			X			X
Maintenance of Traffic		X		→		X
Quantity/Cost of WSP Callbacks	X			→		X
Availability of WSP Callbacks	X				X	
Damage to Utilities under Construction			X			X
Falsework			X			X

RISK		Design-Bid-Build			Change	Design-Build Process	
		Owner	Shared	Contractor		Owner	Design Builder
Construction							
Shop Drawings				X			X
Equipment failure/breakdown				X			X
Work Methods				X			X
Early Construction / At Risk Construction			X		→		X
Community Relations		X				X	
Performance of defined mitigation measures		X			→		X
Warranty		X			→		X
Force Majeure / Acts of God							
Strikes/Labor Disputes - on site labor		X			→		X
Tornado/Earthquake		X				X	
Epidemic, terrorism, rebellion, war, riot, sabotage		X				X	
Archaeological, paleontological discovery	*	X				X	
Suspension of any environmental approval	*	X				X	
Changes in Law		X				X	
Lawsuit against project		X				X	
Storm/Flooding		X				X	
Fire or other physical damage		X				X	
Differing Site Conditions/Changed Conditions							
Changed Conditions		X				X	
Differing Site Conditions		X				X	
Completion and Warranty							
Establishment/definition of any risk pool		X				X	
Long term ownership / Final Responsibility		X				X	
Insurance				X			X

* Will ultimately roll over to Environmental

3.4.1.1 Design Issues

In the traditional design-bid-build format, WSDOT bears the entire responsibility and risk for any design-related issues. All responsibility for design decisions and conformance to standards rests with the owner.

In design-build, several of these responsibilities shift to the design-builder. WSDOT is still responsible for establishing the scope, project definition, design criteria, performance measurements, and existing conditions of the site (initial geotechnical investigation, subsurface conditions).

The design-builder usually has the responsibility for any project specific geotechnical or subsurface investigations beyond what WSDOT provides. As the designer of record, plan accuracy, conformance with established standards, and constructibility rest with the design-builder.

As the design-builder is ultimately responsible for the design, wherever possible WSDOT project personnel should resist the temptation to insert their preferences or solutions into the RFP.

3.4.2 Local Agency, Utility, Railroad Issues

As the design-builder is responsible for the actual design and construction, WSDOT prefers that the design-builder communicate and coordinate directly with local agencies, utility companies, and railroads.

However, the design-builder is in a contractual relationship with WSDOT on a WSDOT-owned facility. The local agencies, utilities, and railroads will have a traditional relationship with WSDOT and WSDOT will likely have more influence in obtaining the required cooperation. For a successful project, WSDOT needs to have extensive preliminary and on-going communication with outside entities, as well as a strong ownership role throughout the contract.

3.4.3 Construction

The contractor has always had responsibility for the actual construction. However, in a design-build environment, the owner (WSDOT) no longer represents the designer (formerly WSDOT, now the design-builder).

Many of the traditional materials testing and inspection responsibilities transfer to the design-builder. Items such as surveying, spill prevention, and maintenance of traffic shift entirely to the design-builder's responsibility.

WSDOT project personnel are still responsible for procuring the services of law enforcement and ensuring that local agency and other agreements are in place prior to execution of the contract.

3.4.4 Force Majeure / Acts of God

In past design-bid-build projects , WSDOT has self insured against Force Majeure and Acts of God.

Initially, it may be tempting to place this risk onto the design-builder. While the risk of an occurrence may be small, the potential cost could be devastating to a design-builder. It is extremely unlikely that any design-builder would be able to provide a reasonable price for the project given this high-risk exposure.

If a project is so large that WSDOT does not feel that self insuring is appropriate, obtaining catastrophic insurance through a third party may be WSDOT's most economical option.

5.2.3. **Differing Site Conditions/Changed Conditions**

WSDOT owns the site of the project and performs the initial site investigation. Responsibility for differing or changed site conditions remains with WSDOT.

5.2.3. **Completion and Warranty**

Ultimately, the final responsibility and ownership of a project will transfer to WSDOT. This final responsibility and ownership may occur at the completion of the project or at the completion of any project-specific warranty.

If a warranty is included in the contract, WSDOT must indemnify the design-builder for all work included within the warranty at the completion of the warranty period.

3.5 Plan the Project

Defining an appropriately detailed project scope requires a preliminary risk assessment. The project team must weigh the project risks associated with the technical areas and determine the appropriate level of development to define and allocate them to the appropriate party (WSDOT or the design-builder). The level of effort required to investigate and describe the risk constitutes the project team's scope of work.

Accurate determination of the project schedule requires an understanding of the effects of the data collection and conceptual development interdependency. **Research and confirm the availability of WSDOT specialty groups**, such as geotechnical exploration, environmental, and right of way acquisition, as these areas are important and may be critical to the execution of the project.

An initial project schedule and scope provide the foundation for ongoing discussions of specific project issues during the development stage. Investigation and conceptual development will uncover changes to the base assumptions that were made when the project was nominated as a candidate design-build project, as well as potential changes to the project risk allocation matrix. Managing the resulting changes and impacts to the project is much easier when the project team works from a charter. Team members should be continuously aware of who holds the ultimate responsibility for risk in a given element. As more information becomes available, there will be a strong temptation to continue design efforts beyond what is required to assign a risk element.

Some of the required project technical areas may not be easily expedited or reduced in scope (for example, environmental processes and right of way procurement) as they involve outside parties. Because actual time requirements can only be estimated, they can have significant impacts on the project development schedule. Isolating the specific issues that are

indeterminate will help define the Department's risk exposure to schedule impacts from these elements.

When considering the time to prepare a project for advertisement using design-build contracting, start with a typical duration of four to six months. The technical and administrative functions of creating the RFP package should be manageable within this timeframe using the generic documents and the processes defined in this guidebook. However, environmental processes and acquisition of right of way must be considered separately.

3.6 Collect Base Data

Preliminary investigations typically undertaken during WSDOT's traditional project delivery process are generally still necessary for developing a design-build contract. Mapping and preliminary surveys, environmental studies, hydraulic analysis, and geotechnical investigations, among others, will address significant unknown issues of a project. Defining these unknowns, even at a conceptual level, will provide a basis for describing the Department's expectations of the project. Contract provisions will be written to reflect the findings of these studies and formally designate the allocation of project risks.

It should be noted that WSDOT takes full ownership of any preliminary data provided to design-builders. Design decisions will be made from information provided to the design-builders during the RFP process. In general, any information generated beyond the original site investigation will not be fully utilized by a design-builder and will likely be redone or reverified during the RFP process. Roadway templates and drainage plans are two areas that may change due to a design-builder's final configuration.

In the design-build process, the amount of data gathered will vary depending on the project's needs, but usually will require less effort than for a traditional design-bid-build process. Consider the following questions and objectives when defining the need for data and developing task work scopes (geotechnical investigation, preliminary geometric design, hydraulic design, etc.):

- Is there a clear and complete definition of the desired outcome for the task?
- Does the task support project risk assessment and allocation?
- Does the task assist development of the conceptual level design by the design-build project team or is it likely it will be recalculated or redone by the design-builder?
- Will the task have the potential to funnel all proposals towards a single solution?
- Does the task provide all design-builders with an equal platform of information to prepare their proposals?

In an ideal scenario, the amount of base data provided by WSDOT carries the project up to the point at which solutions begin to separate (bridge types, walls vs. fills, alignments, etc.). Base maps, project geologic boring investigations, and generalized hydraulic basin analyses can be completed without significantly impacting a specific solution.

While developing concepts, design-builders evaluate the information provided. Inadequate information requires either estimation by the design-builders or additional data gathering. The level of risk associated with the level of data provided will be a factor in setting the proposal

price. WSDOT may gain a two-fold benefit from providing and requiring all design-builders to use the same base data. First, the proposed concepts will be based on the same assumptions and will be comparable at that level. Raw or derived data gathered by the design-builder, although technically or contractually correct, may lead to a proposal that is not directly comparable. Second, leaving such investigations to the design-builders may translate into higher prices, because risk dollars may be added to the price in lieu of performing a full investigation during proposal preparation.

A number of typical risk areas are described below with a preliminary assessment of the responsibility and allocation. Each project may have additional technical areas that are not described in this guidebook. These areas will require investigation; however, the recommendations contained herein are expected to provide universal guidance for addressing other areas.

3.6.1 Preliminary Survey and Mapping

Preliminary mapping provides survey control for the project and a base map for initial project development by the project team and design-builders. Obtain a minimum level of mapping information to define a basis for communication of the project. The necessary level of site mapping should be adequate to provide support for a complete definition of the project, development of the necessary conceptual design, a basis for estimating the project cost, and a basis for design-builders to develop concepts. The recommended survey and mapping tasks include:

- Establishing control throughout the project.
- Stationing along the control lines to establish feature and design criteria locations.
- Existing cadastral information describing existing and future right of way.
- Construction easements associated with WSDOT's conceptual design.
- Topographic information, such as contour lines and major site features to define the footprint of the project as expected by the Department or as intended by the design-builders. This level of mapping also supports other data gathering investigations and provides the base map for delineating feature locations.

The effort of gathering survey and mapping information is less than is typically needed in the design-bid-build process. How much less is dependent on the project type and site. Linear rehabilitation projects may require less than geographically isolated mobility projects such as interchanges. If the type, size, and/or location of project concepts are highly dependent on precise information, more detailed information is necessary. Supplement the available data in critical areas with specific information identified during conceptual design. Examples of supplemental information include:

- Existing alignment geometry
- As-built data corrections
- Wetland delineation locations

In defining the limits of the surveying effort, it should be noted that the exact limits of the project are not known during the project development phases. Whenever possible, strive to obtain data beyond the limits identified in the project development package.

3.6.2 Geotechnical Conditions

Unknown geotechnical conditions can make it challenging to competitively price a design-build transportation project. WSDOT develops and provides geotechnical information to the design-bid-build contractor. This becomes the basis for determining differing site conditions (changed conditions).

It may be attractive initially to allocate this area of risk to the design-builder, because it transfers the liability for a significant changed condition; however, doing so may not be the best choice in all cases.

WSDOT will ultimately own the responsibility for a differing site condition should the site prove to be significantly different than what was anticipated in the proposal. By failing to provide a common baseline for all proposals, WSDOT may award the contract to the lowest priced proposal (which failed to anticipate any subsurface challenges), only to lose any projected savings due to claims for differing site conditions.

The amount of time the design-builder has to formally develop the RFP is very short. WSDOT should do the time consuming base data collection whenever possible. After the initial project scope, WSDOT should perform a preliminary geotechnical investigation.

After the geotechnical investigation is completed, obtain field data in the approximate location of the project's major features. Perform preliminary geotechnical engineering analyses, as necessary, to address feasibility issues and to define project design criteria such as foundation type constraints. This information will be used to:

- Establish design parameters in the various supporting areas of typical highway projects (for example, bridge foundation type, seismic design criteria, pavement design, excavation limits, and embankment design).
- Set the basis for determination of changed conditions.
- Establish a preliminary project cost estimate.

The geotechnical data should provide enough information to permit the design-builder to perform a preliminary assessment of geologic features and to address key engineering issues such as foundation type. Providing inadequate data to design-builders may require them to gather additional data. The Department intends to minimize proposal development costs by gathering enough data to allow competitive price estimates by the design-builders.

To equalize risk tolerance for competing design-builders, it may be prudent to require all prospective design-builders to design from a baseline geotechnical evaluation provided by WSDOT. In a design-build contract, the design responsibility and flexibility rests with the design-builder unless WSDOT specifies more stringent or site-specific criteria.

If the Department performs preliminary geotechnical engineering evaluations or analyses, reference these as conclusions in the design criteria, not as recommendations to the design-builder.

3.6.3 Hydraulic

Perform hydrology (investigation/analysis) and/or hydraulic (design) investigations only if it is likely that proposal concepts will require the information. The focus should be on establishing the design criteria for the project. The criteria should define how hydrologic conditions (such as water surface levels, flow characteristics, scour potential, and allowable sediment deposition during construction) will be determined by the design-builder.

Define the hydrologic constraints in a manner that provides the Department adequate control over the results. If the criteria are ambiguous or can lead to significantly different hydraulic results, the initial hydrologic calculations may best be performed by the Department to set the basis for design for all design-builders. The results may be included in the RFP as minimum acceptable parameters.

Some project areas may require a preliminary hydrologic analysis to provide base data to establish design criteria or to fulfill regulatory requirements. For example:

- Back water analysis for EA/EIS on projects with water-crossing structures.
- Drainage data for site drainage design criteria.
- Existing drainage feature evaluation to determine existing conditions and necessary changes.
- Local agencies' requirements, such as ordinances, requirements, and design criteria. If there are differences between local agency and WSDOT design requirements, the design criteria need to indicate that the more restrictive requirements apply.

In summary, do the minimum required to meet the regulatory requirements, define the scope of work design criteria, and reduce the efforts to prepare proposals.

3.6.4 Right-of-Way and Access Determination

The Department must delineate existing right of way and access as part of base data collection. Right of way and access are potential high-risk areas that can significantly impact the project schedule both in project development by the Department and contract execution by the design-builder. To determine if adequate right of way is available to build the project, it is necessary to accurately determine the physical boundaries of existing right of way along the route. Whenever possible, establish the right of way limits within which the design-builder must work on a project.

In some cases it may be advantageous for WSDOT to delay purchasing a portion of the required right of way until the final footprint is created by the selected design-builder. This is important in areas with very high real estate costs where WSDOT wishes to minimize the amount of real estate purchased. It is important to relay WSDOT's desire to minimize right of way within the RFP scoring system. When making this decision, factor the potential cost of delays associated with right of way acquisition into WSDOT's risk cost.

Under federal and Washington State statutes, WSDOT's ability to acquire property in a timely manner is limited. Because WSDOT is in the best position to appraise, negotiate, and purchase right of way or relocate impacted facilities associated with a design-build project, these risks will normally remain with the Department. A preliminary assessment of the right of way personnel required to meet a project's schedule is necessary in order to determine whether the project should even be considered for design-build.

3.6.5 Traffic

Traffic study data is used to support a number of technical areas when developing the project scope and definition. Accurate traffic data is necessary for:

- Forecasting demand
- Noise studies
- Air quality studies
- Intersection channelization
- Lane configuration determination
- Pavement designs
- Design guidelines based on tabulated traffic data values
- Effectiveness of operational elements of the project (such as loop detection systems, video cameras, location and size of variable message signs, etc.)

WSDOT will perform some of the tasks described as part of the environmental process or allocate them to the design-builder. In either case, a baseline of data is necessary to set project parameters as described by the conceptual design or in the design criteria.

In addition to the environmental and design processes, the construction phase of the project relies on traffic data to determine appropriate means of traffic staging and control. This is typically an important concept to describe in the proposals. Define the necessary parameters to establish the appropriate and/or acceptable means of maintaining traffic in the design criteria of the Scope of Work or the Special Provisions.

3.6.6 Noise

The NEPA/SEPA process may require a noise study to describe project impacts and required mitigation measures. Acquiring environmental approvals is the Department's responsibility and determining the noise impacts of the project may be part of that process. Maintaining a balance between fulfilling regulatory requirements, allocating risk, and losing innovation benefits requires modification to the typical WSDOT environmental process.

One means of accomplishing this balance involves using an assumed alignment, rather than a final alignment configuration, for the noise study and environmental applications. **Calculate the impact to receivers based on an assumed alignment and document the required mitigation based on the assumed parameters.** Prepare the Noise Technical Report, which documents the allowable impact to receivers, the analysis assumptions (including profiles and alignments), and the required mitigation measures to gain NEPA/SEPA approval.

Development of the project concept should balance variations in the alignment, set by the roadway geometric design criteria, with effects on required mitigation measures. In the RFP, clearly define changes in the alignment that will require an adjustment to the prescribed mitigation measures. If significant variability is allowed in the design criteria, define the reapplication process and how the schedule and cost risk will be allocated.

Make the Department's noise analysis model available to design-builders in order to maintain consistency of design-builders' conceptual designs. In situations where the design-builders are allowed to deviate from WSDOT's conceptual design, include the noise study as an attachment and provide scoring criteria during the RFP process to assist them in making design decisions.

3.6.7 Utility Relocations

It is important to provide utility locations to the design-builder. Due to time constraints placed on the design-builder, it is likely that the design-builder will assume that all existing utilities are in good condition unless noted otherwise.

Utilities will already have an existing agreement with WSDOT or a local agency. During the preliminary site investigation, determine the location and condition of all utilities. In preliminary design, identify any utilities that will be impacted and, whenever possible, relocate them prior to the design-builder beginning work.

If relocation must be done in conjunction with the design-build contract, give the design-builder responsibility for and control of the relocation itself. Establishing a cost for potential coordination delays can impact the overall price of a contract.

If the preliminary agreement with a utility (public or private) requires modification as a result of the design-builder's final design, the risk and responsibility for this delay should rest with the design-builder.

In urban environments, consider a full subsurface utility investigation if the conditions of the existing facilities could potentially impact the project schedule.

3.6.8 Pavement Conditions

It is important to provide the design-builder with pavement condition reports and the structural composition of the existing pavements. Due to time constraints placed on the project, the design-builder will be inclined to assume that all existing pavements are in good condition unless noted otherwise.

Provide a full pavement report to the design-builder for all roadways within the project limits, including all shoulders.

3.6.9 Local Agencies

WSDOT is responsible to identify initial impacts to a community and to develop preliminary agreements regarding site access and mitigation requirements. If a design-builder's specific solution goes beyond the predicted impacts, the resulting communication and coordination rests with the design-builder.

When an improvement project has a direct impact on a local agency, establish all mitigation requirements and limitations between WSDOT and the local agency prior to sending out the final RFP.

It is WSDOT's responsibility to ensure that all local agency requirements and local standards are provided in the RFP.

3.6.10 Railroad

Initial identification of any railroad impacts should be done during preliminary design. Since WSDOT has a history with the railroads, WSDOT should obtain all agreements with them. Generally, railroads will be under no obligation to coordinate with the design-builder directly.

The design-builder is responsible for coordinating with the railroads during construction of the project.

3.6.11 Third Party / Adjacent Property Owners

While WSDOT is in a contractual relationship with the design-builder, third parties and adjacent property owners will expect direct communication with WSDOT. If a third party benefit is requested (local developer, local agency), set up the agreement and establish the performance criteria prior to the RFP.

3.6.12 Community Relations

Initially, community relations may appear to be a design-builder responsibility. However, the public will hold WSDOT accountable for the success or failure of all portions of the project. The design-builder may be required to provide information, support, and personnel toward the community relations effort, and may take the lead in these communications, but WSDOT must ultimately be accountable to the public for the success of a project.

3.7 Project Design Elements

Project design elements are defined by the Scope of Work and project-specific technical components. The level of development of a design element depends on where the element falls within the project risk matrix. Challenge each decision to perform analysis and design prior to authorizing the project team to do it.

Design elements that need to be addressed include, by are not limited to:

- Determine the Design Matrix requirements and define them for the design-builder.
- Complete the initial Design File documents based on specific project needs.
- Set Level of Service (LOS) requirements and determine how they will be measured.
- List roadside elements to be brought up to current standards in accordance with the Design Matrices.
- Describe channelization requirements or perform analyses and provide results to the design-builder.

- Establish criteria for signalization.
- Establish criteria for weaving analysis.
- Determine design speed on a rehabilitation project, including corresponding required deviations.
- Set rehabilitation criteria. For example, on pavement rehabilitation provide clear, measurable performance criteria against which the final project will be measured. Whenever possible, avoid subjective criteria.

3.8 Environmental

Project permits present another project delivery hurdle. Even after receiving official approval of the environmental document, it is necessary to obtain a variety of permits for project impacts and construction activities. Some statutes, such as the Shoreline Management Act and the Clean Water Act, specifically define the party responsible for obtaining permits. Some refer to the "operator" as being responsible. For example, regional air quality regulations refer to the operator as the responsible party, and under the design-bid-build process, the contractor has been interpreted to be the operator. In design-build the contractor can also be characterized as the operator. However, some statutes refer to the "owner" as the responsible party. The owner is WSDOT. In these cases, WSDOT is responsible for a violation even if the design-builder or its employees actually caused a violation. The WSDOT *Standard Specifications* require the contractor to indemnify WSDOT for any fines imposed on WSDOT for violations caused by the design-builder. These provisions require that the design-builder be responsible for compliance with all permits and environmental regulations.

When WSDOT is required to be a permit applicant for elements of work controlled by the design-builder, require the design-builder to generate the required permit applications for WSDOT's review and processing. However, the overall responsibility for these impacts and timeline should rest with the design-builder whenever possible, as the mitigation and timing requirements will be directly related to the design-builder's design. When it is not reasonable to assign the schedule risk to a design-builder, WSDOT should provide a guaranteed schedule to obtain a given permit.

In addition to data collection for specific design elements, a minimum level of development is required in support of the environmental process to provide a complete description of the final project, using conceptual designs if needed. Some of these elements are not available until the design is at or near completion and, therefore, will not be available prior to advertising the RFP. In place of submitting a completed design or study to obtain the environmental approvals, provide a description of the design criteria that define the contract requirements in the Scope Of Work of the RFP that the design-builder has to meet. For example, to meet NOAA Fisheries requirements for mitigation, describe the drainage criteria required for mitigation in the Biological Assessment in lieu of developing a full Storm Water Site Plan.

3.8.9 Conduct NEPA and/or SEPA Processes

The NEPA/SEPA process requires definition of major project features. In the design-bid-build process, the Department conducts the studies, prepares the documents, and applies for the appropriate clearances. This ensures that the clearances are received and general mitigation requirements are known before the project proceeds. **The role of the Department does not**

change when using the design-build delivery method. FHWA has defined the approval of the environmental document (EA/EIS) to be the formal approval for design-build.

3.7.2 Hydraulic Project Approvals

3.7.3 Corps of Engineers 404 permit

3.7.4 Department of Ecology Water Quality 401 permit

3.7.5 Shoreline Permits

3.9 Schedule Analysis

In order to manage the project development process, develop a preliminary schedule and update it continuously. An accurate schedule will help provide a clear understanding of how various components of the project are likely to interact with each other.

3.10 Funding Analysis

As the project progresses, a full funding analysis is required. This funding analysis utilizes information developed in the schedule analysis, as well as preliminary design elements, to estimate probable funding expenditures. Program Management needs this projected aging to ensure that adequate funding resources are available for the life of the project.

3.11 Conduct Public Involvement Process

Design-build does not reduce the need for a comprehensive public involvement process. All public involvement and public notification currently required by the Department and existing statutes are still required under design-build. The required involvement, timing, and supportive design detail is dependent upon the project type and location rather than the process.

The project team should undertake an aggressive public outreach program to establish performance criteria for a project. The Department owns the risk of public acceptance and cannot reasonably pass this on to the design-builder.

3.11.1 Public Information

Maintain public communication for the duration of the project in order to maintain WSDOT's role as a good neighbor. The public will recognize that all work on the project is controlled by WSDOT and as such WSDOT needs to provide accurate and timely public information.

The design-builder knows the scheduling of traffic staging impacts and day-to-day changes in the project and has direct control over them. The WSDOT project team can tap into this expertise by requiring information, support, personnel, etc. However, the ultimate responsibility for public information rests with WSDOT.

3.12 Materials (Product Warranty)

The WSDOT Materials Lab will provide the quality requirements for project materials to the project team. Material quality can be defined through prescriptive specifications, performance-based design criteria, QC/QA requirements, use of the Qualified Products List (QPL), and/or product warranties. Use of warranties on constructed products, such as pavements, requires significantly more consideration.

3.13 Agreements

Third party impacts to a project are unpredictable and thus pose a risk to whoever is responsible. Identify all third parties associated with project issues and contact them early to determine what effect they may have on the execution of the contract and the final project.

WSDOT is in a better position to negotiate interagency and utility agreements than the design-builder. Have agreements in place to clarify any significant involvement that is influential to contract execution. The design-builder will use the performance requirements and schedules outlined in these agreements to develop design and cost proposals.

Have agreements with railroads in place prior to release of the RFP.

Utility impacts are a part of almost every project. Identify all utilities with potential impacts and list them in the contract provisions. Initiate discussions with utility companies that have significant impacts to determine specific utility constraints.

3.14 The Final Decision to Use Design-Build

The final decision to use design-build contracting on a project occurs after the following areas have been investigated and documented:

- Perform a thorough analysis of the Risk Matrix to determine whether risk elements assigned to the design-builder can be properly developed prior to issuance of the RFP. This will be used to determine how far the preliminary design has to be carried (to address owner-held risk elements) before the RFP is released.
- Identify the desired outcomes for using design build (innovation, traffic control challenges, project time, etc.).
- Identify potential benefits to be gained from design-build contracting. List the most important benefits first and provide further detail.

This information will be presented to the Secretary of Transportation who will make the final decision to proceed with a design-build contract for the selected project. If the project has federal funding and is less than $50 million, FHWA must grant approval through the SEP-14 process. This is generally granted along with environmental approval.

Base the final decision to utilize design-build on a balance of the anticipated benefits and the allocated risks. If a particular risk element requires either a very high level of design or is so variable that the design-builder must provide a large monetary bid, design-build may not be suitable. An inadequately defined risk element is unacceptable.

After the final decision to proceed with a design-build project, continue with risk evaluation and fatal flaw analyses throughout project development.

4.0 Developing a Design-Build Contract Document

4.0 Developing a Design-Build Contract Document

The Request for Qualifications (RFQ) and Request for Proposals (RFP) Packages are two separate documents created to conduct the solicitation process and then make the final selection of the Design-Builder.

The components of the RFQ and the RFP Package are based on the Department's standard bid proposal documents, with some significant differences. The RFQ see Appendix 3: RFQ) will focus exclusively on the design-builder's understanding of the project and qualifications. The RFP Package is comprised of the defined Contract Provision components (see Appendix 7: Revisions to the Standard Specifications Section 1-01, Definitions and Terms) as well as the selection process requirements and criteria. The RFP Package describes the project, the requirements for submitting Final Proposals , the selection process, the technical requirements for designing and constructing the project, and the contract terms.

The Contract Provisions form the basis for delivery of the project by the Design-Builder. The RFP Package is used throughout the solicitation process. At the time of contract award, the relevant components of the RFP Package and the winning Final Proposals are combined to form the Contract Provisions. The Project Team efforts in developing a design-build project are specifically related to developing adequate performance criteria. Establish, through narrative descriptions, conceptual drawings, design criteria, and performance based specifications, exactly what it is the Department wants the project to accomplish. The ideal design-build project would define end result criteria which, when met, would meet all of the owner's desired criteria while refraining from providing prescriptive measures on how to obtain this end.

The RFQ and RFP Packages contain a number of inter-related documents that completely describe the project, the technical requirements for designing and constructing the project, the methods for selecting the Design-Builder, and the means to administer the contract. The various components are combined into a document resembling WSDOT's current bid proposal package.

4.2 Special Staff Needs

4.2.1 Advisory and Review Staff

The specialized Project Team and technical staff described in Guidebook Section 3.3 will be supplemented during the development of the RFP Package with additional advisory, review, and Evaluation Team staff. **Solicit the involvement of the additional staff to address specialized technical, administrative, and legal issues** related to assembling a cohesive and non-conflicting RFQ and RFP package. Use Regional, Headquarters, and Attorney General staff, among others, to provide the required expertise in legal issues, contracts, QC/QA, construction administration, and document production.

Meet with these additional staff during the selection process review task described in Guidebook Section 3.10 to initiate their involvement and introduce them to their expected role. Charter the new staff's expectations and gain endorsement for the project development schedule and their role in the process.

The Evaluation Team, described below, will also perform reviews of the developing RFP Package. The Evaluation Team is responsible to use the selection and evaluation criteria and score the SOQs and Final Proposals. Their review and interpretation of the criteria are important to gain an understanding of how the criteria will be used in the selection process.

4.2.2 Evaluation Team Description

This section describes a generic evaluation team that is intended to be comprehensive for any design-build project. Use the descriptions as a framework to tailor the appropriate components to each specific project. The team size and make-up are flexible and dependent on project size, type and complexity. A schematic diagram of the Evaluation Team organization can be found in Appendix 2, (Evaluation Team Chart).

The Evaluation Team includes all individuals who will be involved in the evaluation of either the SOQ or the Final Proposal. Specifically tailor the structure and composition of the Evaluation Team to fit the evaluation criteria in each RFQ and RFP. Different team members will participate at different times and to different degrees, but the Proposal Evaluation Board will be involved in all decisions. **Consult with the Design-Build Program Manager on the organization of the Evaluation Team.** All team appointments should be made well in advance of RFP completion, so team members may contribute to and understand the selection criteria.

The Evaluation Team consists primarily of WSDOT staff. However, participants from other stakeholders or agencies (contractors, consultants, FHWA, MPOs, local and permitting agencies) may be appropriate and beneficial and should be considered on a project-specific basis.

The SOQ evaluation is accomplished primarily by the Proposal Evaluation Board (PEB), and additional individuals the PEB determines necessary to evaluate the SOQs.

Following is a description of the Evaluation Team constituents and a recommendation for their participation. Actual appointments should be based on the RFP criteria to determine necessary coverage for the areas to be evaluated.

4.2.2.1 Evaluation Process Manager

The Evaluation Process Manager is responsible for logistics and flow of the evaluation process for both the SOQ and the Final Proposal. This includes participating in training of all other evaluation team members, getting appropriate copies of information to all who need to see it, gathering information and assembling it for forwarding to the next phase, keeping all parties apprised of progress, changes, etc. The Evaluation Process Manager is key to the success of the evaluation process, and should be appointed early and be involved in discussions of process and criteria.

4.2.2.2 Selection Official (SO)

The SO, or his delegate, should have WSDOT authority over both project development and construction where the proposed project is located. In most Regions, this is likely the Regional Administrator. As both design and construction are present in the submittals, this official must oversee and have authority over both areas.

The role of the SO is to oversee formulation of the team, appoint responsible and qualified personnel to manage the process, officiate over any evaluation team disputes, and make the

final selection. The Selection Official's decisions are based on the recommendations of the Proposal Evaluation Board (PEB).

4.2.2.3 Proposal Evaluation Board (PEB)

The PEB is comprised of upper-level management in Design and Construction in the Region and the WSDOT Design-Build Program Manager and the Project Engineer. The responsibilities of the PEB include evaluating and scoring the SOQs for initial shortlisting.

As the last stage of Final Proposal evaluation, the PEB will review the recommendation of the Technical Evaluation Board (TEB). They will have the authority to concur with the recommendation or change it. The determination of the highest scored Design-Builder is then passed to the Selection Official with a written report on the selection process and results.

4.2.2.4 Technical Evaluation Board (TEB)

The TEB is nominated by the Project Engineer, and appointed by the Regional Administrator or other appropriate individual. The first major TEB role is to assess (and change if deemed appropriate) the raw score recommendations of each of the Technical Experts. Reasons for any changes in recommended scores are to be discussed with Technical Experts, and documented in writing.

The second major role of the TEB is to evaluate the Technical Proposals in the following major factor areas:

- Management and Organizational Qualifications
- Project work Plan and Schedule
- Technical Solutions (overall)

The entire TEB should debate and agree by consensus on a score for each of the three major subfactor areas above.

The membership of the TEB should consist of the following positions or their equivalent:

- Assistant Project Development Engineer, Engineering Manager, or Plans Engineer, as appropriate
- (Region) Operations Engineer, Engineering Manager, or other as appropriate
- The Design-Build Program Manager or other representative from headquarters construction
- The Assistant Project Engineer or representative from the Project Office
- Federal Highway Administration Transportation and Environmental Engineer
- Representatives from contractors, consulting firms, local governments or interest groups as deemed desirable and necessary

4.2.2.5 Technical Expertise Advisors or Teams

The role of these advisors or teams will be to provide recommended raw scores for relevant technical areas, and to provide expert technical advice as requested by the Technical Evaluation Board. Each design-build project will have unique subfactors that will influence final technical scores (e.g. bridge construction); in addition, there are some subfactors that are common to most

projects (traffic, staging). These advisors can provide input into the technical merits of each Final Proposal.

4.2.2.6 Preparation and Training

Require each person assigned a role in the evaluation process to attend a training session. It is important for everyone involved to understand how a design-build contract works.

Many of the participants will not be familiar with a Design-Build scenario. It should be stressed to all that a design-build project is a binding contract. Headquarters Construction has developed a design-build training curriculum that should be provided to all participants prior to beginning the selection process.

The training will educate participants on their roles and responsibilities as evaluators. Develop specific instructions for each phase of the evaluation, and provide them to Evaluation Team members. Present and discuss the selection criteria developed by the Project Team so that the interpretation of the criteria is clear and consistent among all evaluators. Hold separate training sessions for SOQ and Final Proposal evaluations. Training should be conducted no later than 1 week before evaluation. Evaluation criteria for the projects should be reviewed and agreed upon by the evaluators before the criteria is sent out with the RFQ and Draft RFP. During the training the primary risk elements should be discussed as well as how the project team has allocated and attempted to mitigate the risk. This information will be important to fully understand during the review of the Final Proposals.

4.2.2.5 Commitment to timelines

One of the primary reasons for committing to a design-build project is an accelerated delivery of the final product. WSDOT teammembers should be aware that time is of the essence and strive to expedite all WSDOT activities which are on the critical path. Design-Build Teams will be created during WSDOT's preparation of the RFQ and RFP. One of the ways the Design-Build Teams can gauge how sophisticated the ownership team is will be on how closely the deadlines are tracked and set. If WSDOT requires Herculean effort on the design-builder's part to develop and submit RFQs and RFPs but takes excessive time to prepare and evaluate then the wrong message could be set. Aggressive, but realistic timelines should be set for the entire selection process.

4.3 Prepare RFQ

The Request for Qualifications (RFQ) is used in the qualification step of the two-step selection process. The RFQ asks interested proposing teams (Proposers) to submit a well defined package outlining historical information related to capabilities, experience and past performances on specific issues pertinent to the design-build project, project team organization, key project team members, QC/QA approach, individual and team history and current safety record. A generic RFQ can be found in Appendix 3 (RFQ). The goal of the RFQ is to select the three to five top-ranked Proposers based on their experience in specific areas that are important for the project and their understanding of the project. These short-listed Proposers will be requested to compete in the second step of the selection process by preparing a Final Proposal. It should be noted that increasing the number of short listed firms above three might not be in the best interest of the public. The cost to a design-builder of preparing a Final Proposal is extremely

high and increasing the number of short listed firms beyond the minimum might cause some teams to back out of the final selection process. Unless the submitted RFQ's are likely to produce significantly different final results the number of firms short listed should be minimized.

Evaluators will use the understanding section to determine if the Proposer knows enough about the project to address the significant concerns and issues. Formulating a response to the requirements of the understanding section will require research by the Proposer. Depending on the requirements, this could be a significant effort. Consider the cost of preparing the Proposer's Statement of Qualifications (SOQ) when drafting the requirements. **Evaluate the questions to ensure responses will be useful in selecting a short list of proposers, and not just interesting to the evaluators.** Weigh the cost of responding in the evaluation. An "approach" section should not be included in the RFQ. Any solutions offered in the RFQ will not likely be fully investigated and will not be guaranteed due to the amount of design related work that would be required to adequately address this topic. The approach to the project is addressed in the Final Proposal and is supported by the specific required submittals.

To keep a level playing field a uniform RFQ should be rigidly defined by WSDOT. The maximum number of pages, font size, submittal layout should all be tightly defined. To prevent the potential teams from having to guess at WSDOT priorities the scoring criteria should also be available to the public. Structure the RFQ to request information about a Proposer's experience that can be evaluated in an objective manner. Request information about Proposer key team members and for individuals filling specific roles. This allows the Proposers to demonstrate their teams' strengths and permits WSDOT to determine which of the teams are qualified for the project. However, in defining the required experience of key members avoid requiring more experience than is absolutely necessary. Requiring more experience than is necessary will not necessarily give you a better product but could greatly reduce the number of individuals available for a project. This type of request breakdown also allows Proposers to indicate the personnel who will be assigned to the project, some of whom may be very experienced in the industry but new to a firm. The Proposer's key individuals named in the SOQ cannot be substituted without written consent by WSDOT.

To help ensure that all necessary information is included in the SOQ it is necessary that WSDOT include the evaluation criteria in the RFQ. This criteria should be specific enough to ensure that it is clear to all involved what the design-builder's required technical expertise/values are for a given project. A clear, well defined RFQ will help to ensure that the most qualified design/builders to prepare the Final Proposals.

The selection criteria used to evaluate the SOQ must be related to the important aspects of the project, be clearly stated, and be measurable. It is best to request information that is a matter of record and available to the public. Usually this means that the experience is associated with projects that have already been completed by members of the Proposer's team. Proposal Team experience should be tied to the key individuals, rather than corporate history. Any requirement for experience should include a performance element. Many of the Proposer's will list out of state work history. By providing a standardized reference form the Proposer's can be required to have owners of completed projects fill out the reference forms. This places the responsibility of delivering a timely response onto the Proposer and also helps to ensure timely, accurate reference information. *The RFQ should define the ideal type of experience needed to obtain the maximum score, with a step-wise lowering of points for lesser experience.* If a financial statement is

desired by WSDOT then it should be clearly defined what would be acceptable. Many contractors will already have prequalification approval through WSDOT's contract ad and award. In cases where it would be appropriate to use the existing WSDOT contract prequalification then this should be clearly stated.

- The selection criteria contained in the generic RFQ focuses on specialized capabilities required by the project. The individual criteria are weighted according to their relative importance to the successful completion of the project. Some of the criteria used, among others, are listed below. The actual criteria selected for use on a particular project should be applicable to the project and the Proposer's ability to perform the work. With this in mind, it is also important to avoid criteria that are so restrictive that few, if any Proposers can meet the minimum requirements. Consider the following type of qualifiers when reviewing the RFQ requirements:Experience in the execution of fast-track projects
- Individual experience of team members with Design-Build contracting
- Corporate experience with Design-Build contracting
- History of the proposed team working together
- Specialized design capability for the key project elements
- Specialized construction capability for the key project elements
- Experience with complex construction staging, traffic control, site conditions
- Safety record (tie to Northwest L&I index)
- Staff available (Project Manager, Design Manager, Construction Superintendent, etc.)
- Quality performance
- QA/QC organization
- Bonding record or proof of bonding ability
- Past performance on awarded contracts (completion, liquidated damages, quality, claims, fines, schedule
- Financial capacity
- Experience with formal partnering activities
- Experience in similar types of work.
- History of performance (unsubstantiated claims, fines, suits, quality, accuracy, schedule)
- Understanding local environment
- Resource capacity and availability
- Scheduling and control systems to track and manage project
- Specialized expertise that reduces risk and assures quality of work

The design-build selection process complements the design-bid-build process in that prequalification is required of an entity of the Proposer's team such as a "Contractor" for the type of work and size of project. See Guidebook Section 6.2 for a discussion of this topic
The scoring of the SOQ is done by the Proposal Evaluation Board (PEB). This team should contain individuals experienced in a broad array of areas of project delivery. A prepared scoring criteria, with the ideal design-build team should be provided to the team. As the team will be from various areas within the Department scoring the submittals together will provide the best opportunity for sharing of expertise. This team approach can also help reduce the required time for outside research.

To help ensure that all elements are consistently scored it may be appropriate to have assigned areas for scoring. If an individual on the PEB has no past experience with QA/QC then they

may not be the appropriate one to score the section. By allocating the areas of responsibility, and working as a team in scoring, the PEB can ensure that all SOQs are scored consistently.

4.4 - Formulation of RFP Package

Formulation of the RFP Package is a significant effort that should not be overlooked in project scheduling, or underestimated. **This is the portion of the contract in which WSDOT has the opportunity to properly define the desired outcome.** Team members need to ensure that the required information is incorporated. This Guidebook section describes special staff needs, necessary document reviews, and recommendations on developing the major components. Commentaries for developing the individual sections of the Scope of Work, Revisions to the Standard Specifications, and Special Provisions from the generic documents are contained in the appendices.

The components of the package, in the order they are assembled, include:

- The **Proposal General Requirements** detail how the Proposers will respond to the RFP and formulate the Final Proposal. A generic version of this component is shown in Appendix 4 and will require modification for use in a specific project. The symbol "$$$?$$$" is used to delineate where project data must be entered.
- The **Technical Proposal Contents and Evaluation Criteria** describes the specific contents of the Final Proposal and how each of the requested details will be evaluated. A generic version of this component is shown in Appendix 5. The criteria is presented as an example and is considered the type of information that will be required in on all design-build projects. Some minor project specific modification is expected for special technical areas. The symbol "$$$?$$$" is used to delineate where project data must be entered.
- The **Scope of Work** contains the **Project Description** and other technical criteria for doing the design and some construction related work. The technical criteria provides definition of required design criteria, references and methodologies, contract administration, QC/QA, construction maintenance, and product warranties. A Commentary and generic Scope of Work are contained in Appendix 6.
- The **Revisions to the Standard Specifications (Revisions)** are similar to the Standard Specification Amendments but written specifically for design-build contracting. Combined with the Special Provisions they describe the necessary changes to the Standard Specifications for Division 1. The Revisions are expected to be relevant to all design-build projects. A generic version is contained in Appendix 7. The symbol "$$$?$$$" is used to delineate where project data must be entered. Modifications to this section require the approval of either headquarters construction administration of the HQ Design/Build Program Manager.
- The **Special Provisions** are modifications to the Standard Specifications Division 1 that are project specific. Place any modifications to Divisions 2 through 9, if any, in this component. Any specific provision of the Standard Specification may be modified by either the Revisions or the Special Provisions, but not both. A version is contained in Appendix 8. The symbol "$$$?$$$" is used to delineate where project data must be entered. Modifications to these sections require the approval of either headquarters roadway or bridge construction.

- The Risk/**Responsibility Allocation Chart** is a summary document that graphically delineates the allocation of risk and responsibility between the Department and the Design-Builder for many of project issues. The Risk/Responsibility Chart is intended to be a tool used to simplify the description of who is responsible for each portion of the work/risk. A generic version is contained in Appendix 9. The symbol "$$$?$$$" is used to delineate where project data must be entered.
- **Project Specific Reference Materials** defined in the Scope of Work and included in the RFP Package to define project requirements or provide gathered data. Types of references materials may include: maps, traffic forecasts, technical reports, design details, and environmental documentation.
- **Typical Bid Proposal Documents** (Bid Documents, Bonding Requirements, Contract Form, Prevailing Wage Information, and Federal Aid Provisions) are also attached to demonstrate what the final contract provisions will entail.

The RFP Package is a document made up of several components created to conduct the solicitation process and then final selection of the Design-Builder. The documents and their components are described in Guidebook Section 3.1. This section describes the development of each component.

The **RFP Package** components, in the order they are assembled, include:

- **Proposal General Requirements**
- **Technical Proposal Contents and Evaluation Criteria**
- **Scope of Work** containing the **Project Description**
- **Revisions to the Standard Specifications (Revisions)**
- **Special Provisions**
- **Risk/Responsibility Allocation Chart**
- **Project Specific Reference Materials**
- **Typical Bid Proposal Documents**

The remainder of this section provides descriptions and recommendations to the development of those components that require a significant effort. The discussions are also complemented by commentaries contained in the related appendix. The components listed above that do not have a corresponding section only require editing for minor project information that does not require explanation.

The RFP Package provides a significant amount of detail about the project and the Department's expected outcomes. Its primary purpose is to outline the desired outcomes and specific requirements for the project as well as specific information requirements for the Design/Builder's Final Proposal regarding their technical approach to executing the project and their proposed cost to do so. **Request information regarding specific design and construction actions, intended final products, construction staging, traffic control, and project**

management. In addition, **consider requesting descriptions or design development of specific project elements to a specified level,** to demonstrate the intent of the Design-Builder. Other items, such as safety plans, and public information plans, may be outlined in the proposal and submitted after contract award.

4.4.1 Proposal General Requirements

The Proposal General Requirements section of the RFP Package contains process and procedure information related specifically to the selection process. This section is complementary to Standard Specifications Section 1-02, Bid Procedures and Conditions, Revisions to the Standard Specifications, and Special Provisions. Instead of burying information specifically related to submitting a proposal deep inside the Contract Provisions, this supplemental information has been placed at the front of the document. Proposers must meet the requirements as stipulated in all four locations. Although this may seem confusing, it is consistent with the typical process of specifying proposal conditions in the design-bid-build process. A generic Proposal General Requirements is contained in Appendix 4 (Proposal General Requirements)

A brief project description, summary selection process, and detailed instructions of what must be submitted are included in this section. The supplementary submittal requirements of Disadvantaged Business Enterprise Participation, Cash Flow Schedule, Escrow of Proposal Documents are also described.

WSDOT will pay a stipend to all design/build teams submitting a responsive, non-successful Final Proposal. The cost of preparing a responsive Final Proposal can be prohibitive and an incentive is considered an appropriate way the owner pay for a portion of the development cost. The value of the stipend is typically in the range of 0.01 percent of the project's construction cost for very large projects to 0.2 percent of the project's construction for for smaller projects. In no case is this amount large enough to compensate the competing teams for the cost of participating in the overall selection process and preparing a technical and cost proposal. In determining the actual stipend amount for a project consider the following.

The operating structures and overhead systems for most contractors and design firms have evolved in response to the requirements of the typical design-bid-build process. What these companies do, how they do it, and how they account will be well established. The design-build selection process brings a new set of rules that guide the selection and contracting processes. Since design-build has been used on only a small percentage of transportation projects, the contractors and designers have not evolved new structures and systems unique to this delivery method. Instead, they use their existing systems in new ways that result in costs that are outside their normal metrics.

In design-bid-build, design firms typically receive a fee of 6 to 10 percent of construction costs for design services. The cost of proposing, interviewing and contracting design projects typically average 3 to 7 percent of the value of the design contract.

The amount contractors spend on business development efforts varies with the complexity of the project and the emphasis they place on innovative ways of accomplishing the work. The cost of preparing a bid could range from 0.1 percent to 1.0 percent of construction cost.

However, a design-build selection process usually requires a more complex statement of qualifications document and a more complex proposal document. While the contractor is

usually the prime, the design firm usually is better equipped to prepare the documents. This can easily add 20-50 percent to the cost of a typical process.

A design-build proposal usually requires that some minimum amount of engineering work be performed to demonstrate the approach to the project and to develop enough information to prepare a construction price. Typical owner development may average in the range of a 10-30 percent design, however, it is not unusual for the Proposers to advance the design at least 5 percent to get sufficient information on which to base a good price. In this case, that cost would be 5 percent of $1.2 million, or about $60,000.

In addition, because it is a competitive selection process, the contractor may want to develop other aspects of a design to evaluate ways to deliver the project more efficiently using different means, methods or materials. The designer would provide designs and analyses to support the contractor's alternative ideas. This can easily result in the equivalence of a 5-10 percent design effort.

The additional costs fall into two categories:

1. Additional efforts required by the design-build selection process
2. Efforts related to Proposer innovation efforts attempting to produce a higher technical score and/or a lower proposal price

The second category is part of the business deal between the contractor entity and the designer entity and is often a basis for agreement regarding cost and profit sharing.

The first category is the focus of the stipend. These additional costs created for the design-build team are a direct result of the requirements associated with the selection process and documents. In this case, these costs would total $80,000. This is about 0.5 percent of the construction cost of the project. Other projects, with different size and complexity, could require more or less effort. The historical ranges of stipends have a wide variance in the range, but typically fall between 0.02 percent to 0.2 percent. The following table summarizes a sampling of stipend amounts used in other DOT's:

State	Project	Estimated Project Cost	Stipend	Percent
Arizona	I-17 Cordes Junction			0.20 percent
Colorado	I-70, Airpark Road East (Low Bid only)	$26,600,000	Not allowed	
Florida	St. Georges Bridge	$81,116,000	$50,000	0.06 percent
Maine	Bath-Woolwich Bridge	$74,000,000	$60,000	0.08 percent
Utah	I-15	$1,500,000,000	$950,000	0.06 percent
Washington	I-5, 36th St	$14,000,000	$30,000	0.21 percent
	SR 500/Thurston Way	$21,000,000	$50,000	0.24 percent

WSDOT's Design-Build process recognizes that offering a stipend is useful in attracting comprehensive proposals. When establishing a project specific stipend, review the generic Proposal General Requirements and correct any project specific details as required. The generic document is expected to be substantially complete and require little revision on future projects.

4.4.2 Technical Proposal Contents and Evaluations Criteria

The purpose of the RFP is to provide directions for Proposers to prepare a Final Proposal that describes their proposed approach to the technical aspects of the project and to present the associated price. A generic Technical Proposal Contents and Evaluations Criteria is contained in Appendix 5 (Technical Proposal Contents and Evaluation Criteria). The generic document is expected to be substantially complete and should require little revision on future projects. Review the generic document and make any project specific modifications required. The evaluators must review the evaluation criteria of the RFP to determine if they can effectively score the proposals.

The evaluation process is intended to provide the Evaluation Team with a thorough understanding of the Proposer's approach to the project and to assess its value relative to the proposed price. The goal of this process is to determine which proposal provides the "best value" to WSDOT. The technical component of the RFP should address specific project concerns the Department has about the project. The Technical Proposal will be evaluated and scored on how well it meets the Department's expectations for the project. Require the Proposers to prepare specific design concepts demonstrating their approach to the project. Depending on the requirements, Proposers may include narratives, sketches, drawings, charts, and graphs to support the description of their concepts. The level of detail required for any given component should be directly related to the importance (technical scoring) that WSDOT is placing on the component. For example, if a bridge is required, but WSDOT has little desire for anything beyond a standard approach, little detail should be required in the Final Proposal other than the type location. If the same bridge had a high importance to WSDOT due to outside agreements with a local agency, WSDOT would be justified in asking for considerably more detail regarding the type of structure and the appearance. This interest should directly tie into the technical score.

The generic documents request specific management plans, schedules, concept drawings, approaches, and a draft QC/QA program. Since the proposal becomes part of the contract documents, assurance of the requested document's validity is gained by requesting a submittal of critical information.

The Price Proposal represents the total project cost to the Department, as defined by the criteria specified in the RFP. The price includes design, construction, management, insurance, bonding, warranties, and maintenance agreements, all as specified in the Contract Provisions. Proposers may need to perform design and other project tasks to support the development of the price proposal. Depending on the project, this effort could be considerable.

The Department's goal in the defined selection process is to select a proposal that represents a "best value" to the Department. The highest scoring proposal may not be the lowest priced proposal. When preparing an RFP, the Department should have a clear vision of the desired outcome of the project. Allowing a design/builder to focus on the areas of greatest importance to WSDOT will ultimately result in the best value project.

The best value approach to contract award selects the Final Proposal in which the combination of technical, quality, operating, and pricing factors most closely meet or exceeds the owner's requirements. This could result in a simple, straightforward solution with a relatively low cost, or a more complex solution with greater benefits but a higher cost, being selected. The lowest price proposal may not be the lowest cost solution to the owner when maintenance, operating,

and replacement costs are considered. The highest price proposal, or intermediate proposals, may include technical innovations that the owner values very highly. *One of the most difficult parts of pricing and awarding a contract relates to establishing a method of evaluating the technical content and price of proposals in a way that accurately determines the "best value".* A clear definition of quality, which could be based on more quantity, type of materials, higher strength, inconvenience to the public, component life, serviceability of the final product, etc. must be specified in advance.

It is not WSDOT's desire to have design-builder's "guess" at how much value is being placed on an individual component. If a design-builder guesses incorrectly in preparing the Final Proposal, it is possible that the project selected would not be the overall best value to the public but instead is the one that guessed the best.

Project staff should focus on the specific areas in which innovation or cost cutting is most desired when allocating the technical points. When specific information is required to score a Final Proposal WSDOT is placing a heavy initial design burden on the design/build teams. This excessive effort and cost may not be appropriate at the level of design which the Final Proposal is at. It is very acceptable to require all certain technical components to simply meet the established contractual standards (pass/fail) rather than allocating points to each technical component. The end-product will still have to meet the requirements outlined within the RFP but the design-builders can avoid having to place inordinate number of hours advancing portions of the design to meet this effort.

Areas which will receive technical points will vary with each project. If a project's goal is to have minimum public impact due to construction traffic, then requiring clear, well defined work zone traffic control strategies/commitments is very appropriate. If a project is very rigidly defined due to outside commitments for geometrics, then requiring PS&E level details for geometrics would not be appropriate.

Theoretically, the means of achieving best value is to describe the acceptable or ideal qualification or quality of a product and the "value" of the ideal through an allocation of points. To allow variation in the proposed product the acceptable quality criteria must be stepped up and/or down a scale to acceptable extreme values. The approach presumes that the technical quality is directly proportional to the price. Scrutiny must be given to the breakdown of the technical scoring so that an equitable value is obtained from more or less quality. A disproportionate scoring system would skew the weight of the technical or the price components, resulting in false assessment of value. *Objective measurable means of determining quality are required that force the process to be repeatable.* Proposers as well as evaluators must be able to discern acceptable variations in price related to acceptable changes in quality. On projects with conceptual preliminary development and flexibility in the product performance criteria, completely objective evaluation criteria require significant efforts to derive. Performance based design criteria, requiring a demonstration of success (capacity, smoothness, durability, etc.), is difficult to quantify in a proposal. It is very difficult to be specific in the evaluation criteria without having specific concepts in mind.

Using the definition of value as quality/price, the quality of each project component can be defined by the Contract Provisions while the price of each component is defined by the component-estimated cost. The Contract Provisions represent the minimum acceptable quality, the dividing line below which proposals are non-responsive. The evaluators provided the definition of best value with a defined range of points in determining if a specific product meets

or exceeds the Contract Provision requirements. The criteria were not intended to be so prescriptive as to give explicit points for specific designs.

The breakdown of the points between the major and minor divisions of the Final Proposal will be based on a combination between the estimated cost to perform that portion of the work, the relative importance of that portion of the work, the potential of varying levels of performance regarding the element of work. For example, if all WSDOT requires/wants at a given location is a widened bridge to accommodate an additional lane then the design will be very rigidly defined and WSDOT would not desire any variation. In this instance, a relatively high cost element would have little variation in the Final Proposals and WSDOT would potentially be better off making this performance element a "pass/fail" criteria. Another example may be the management structure for the project. This element has a relatively low cost to the project but WSDOT would have a large interest in an experienced, well-organized management structure and would potentially have large differences in the Final Proposal. For this reason the management structure may have more technical points assigned to it to reflect the potential varying proposals and its relative importance to WSDOT.

Assigning technical points to reflect what it important to WSDOT and what areas WSDOT desires innovation/attention can be a very effective way of conveying the owner's values to the design/builders. However, care should be taken not to disproportionately overvalue an area of the proposal that could skew the results.

Grasping the concept of best value and developing a methodology to utilize it effectively is difficult. Be prepared to spend a significant effort with Project Team members defining the scoring distribution into each category, defining individual technical evaluation criteria, and establishing how the evaluators will select an appropriate "score" for each criterion. Produce the point breakdown for the overall distribution using the resources of a very small select group. The individual breakdown within each component, on a percentage basis, should be left to the technical Project Team member.

4.4.3 Prepare Project Description

The Project Description is a written summary of the Project Team's definition of the project scope. It is placed at the beginning of the Scope of Work and in the RFQ as an overview of the project. Interested Proposers can read about the project details and determine if they are interested in proposing.

The Project Description is like an executive summary, and it functions as an index of the key requirements of the project. The description provides the who, what, when, where, and "how much" of the project. The actual "how" is determined by the Proposers in their proposals. Significant issues related to the project work will be mentioned here, but the actual requirements are described in the design criteria or specifications. The Project Description may be revised during the project development process to reflect changes in the project scope, arising from clarifications as the Department completes preliminary investigations.

Write the Project Description early in the development of the project, after the project scope has been set but prior to preliminary work by the Project Team. It represents the mission statement for the Project Team. The most important aspect of the Project Description is that it provides the vehicle to ensure that the Project Team understands the complete project and concurs with the expected products and intended outcomes. It provides a common basis for

distribution of Project Team work tasks. It will continue to function as a focus point for the Project Team, evolving as the project evolves.

The Project Description should define the purpose of the project, its limits, unique conditions, design elements, physical components, schedule issues, and other items as necessary to fully describe the project. Describe third party issues such as right-of-way acquisition, utility relocations, environmental mitigation, railroad facilities, and public information to provide the Proposers with a complete view of the Department's expectations. Information contained in the Project Description is repeated in various places in the contract documents and other portions of the solicitation package. **Because of this, be sure to check the information regularly throughout the development of the solicitation documents to ensure continued accuracy and consistency.** Continuously updating the information contained in the Project Description during project development serves as a quality assurance mechanism for the Project Team. It also functions as a stand-alone administrative aid for communicating the progress of the project with the Project Team, Department administration, stakeholders and other interested parties.

The Project Description is a redundant source of information, providing a description of Department intent. It should not be used as the mechanism to communicate contract requirements to the Design-Builders. The requirements of the project are to be located in the Scope of Work, Revisions to the Standard Specifications, and Special Provisions. Even though the Project Description, in some form, may be attached to the RFQ and RFP Package, it is a weaker link than the Revisions to the Standard Specifications and would be more difficult to enforce as a contract requirement.

Another goal of the Project Description is to highlight important project issues that are critical to the success of the project because the intent of the project may not be totally apparent through the description by the technical requirements. By communicating the key issues, along with the Department's expectations in narrative form, the Proposers can tailor their proposals to best meet the needs of the public and the Department.

In generating the Project Description, highlight those project elements that have generated the most discussion among the Project Team. These elements are most likely the key elements of the project and will also become the basis for establishing selection criteria for the RFQ and the RFP.

The Project Description typically contains the following subsections:

- General Overview and Funding Limit
- Project Purpose and Expectations
- Project Components and Limits
- Project Requirements and Constraints
- Expected Design Work
- Expected Construction Work
- Warranty or Maintenance Considerations

The General Overview subsection discusses the project location and pertinent existing site information. This section also describes the intent of the project, specifically the project's main features. Any work already completed by WSDOT should be described in general terms in the text. The sections are self-explanatory and should be modified as needed to fully describe a particular project.

4.4.3 Prepare Scope of Work

The primary goal in the development of the Scope of Work is to define, obtain, or develop all pertinent information required to describe performance-based criteria for the Design-Builder to use in designing and constructing the project features. Examples of items to consider include operational requirements, performance expectations, design standards, project limits, available budget, regulatory requirements, and schedule restrictions. Developing language that describes the requirements of a project feature is a different approach than creating design drawings and technical specifications.

The Scope of Work and Commentary are contained in Appendix 6. The documents are a good starting point for preparing a project specific document. However, developing a new technical area will require introducing the specific Project Team members to the concept of a Scope of Work and maintaining significant interaction. The level of effort to develop the Scope of Work is estimated to be equivalent to developing the Design File.

The Scope of Work provisions for design-build are significantly more detailed than a professional services contract provision for the same work. The design-build Scope of Work provisions lead directly to construction of the feature with no opportunity for Department refinement. **Emphasize the Department's role during design review and construction to the Project Team prior to their review of the document.** Reviewing Section 1000 and 1100 of the generic Scope of Work (Appendix 6) is highly recommended. Significant changes in the design described in the Scope of Work, will likely lead to a contract change order.

The Scope of Work is tied by direct reference to existing WSDOT manuals and other guidelines. A Scope of Work provision is supplemental to cited references, providing the specific criterion that is not present in them, or delineating specific choices that exist with the manuals. Project specific information typically contained in documents such as the Design File can be attached to the RFP Package or transferred directly into the relevant Scope of Work section. The scope of work language should convey the envisioned design sequences and the intended result. The goal is to ensure the design intent is covered without redundancy, conflict, or discrepancy. Using too many restrictions in specifying the design procedure may impact innovation or design flexibility. Project requirements from third-party partners also should be included.

Each project component to be designed and constructed by the Design-Builder must a have a provision defining the requirements to do so. For a design-build contract, the project scope will involve all of the technical considerations required for any typical project. Development of a design-build Scope of Work varies from the design-bid-build process primarily in the timing of decisions and the attention given to details. Using resources such as the WSDOT Standard Specifications, General Special Provisions, and Bid Lists from similar projects may help in identifying all of the scope items.

Prescriptively specified material or construction processes, where required, are outlined either by Scope of Work provisions or Special Provisions. However, in most cases, performance specifications will be more appropriate, as they tell the Design-Builder what is expected as an outcome, and not how to do the work. The performance specifications may address capacity, life span, toughness, ride quality, durability, appearance, conformance with standards, and other measurable features. Project requirements should be described completely and in a manner that will be easily interpreted and understood. The project requirements should also include how WSDOT will measure whether they are met. *The Project Team should conduct*

adequate research and investigations to determine the project requirements and to document them in a clear and concise manner.

The Project Team decisions to be addressed in the Scope of Work development should be based off of the risk matrix and primarily consist of:

1. What are the relevant items/products applicable to this project?
2. If the item/product is irrelevant, based on the Project Team's concept, are there factors or project concepts that could make it relevant? For example, certain permits are not applicable unless the Design-Builder's proposed delivery method requires work in the water.
3. If the item/product is allocated to the Design-Builder, what are the limits constraining the Design-Builder's decisions?

In addition to the engineered components of the project, there are also administrative and operational components of the design-build contract that are required of the Design-Builder to demonstrate project progress. Scope of Work Sections 1000, 1100, and 1200 (Appendix 6) address administrative, QC/QA Program, and construction maintenance requirements of the project.

WSDOT's involvement in the project as defined in Scope of Work Section 1000 and 1100 relate to design reviews and QC/QA. WSDOT's primary role is to provide project oversight ensuring the proposed project is being designed and constructed according to the Contract Provisions. The Design-Builder creates a Quality Control Plan based on the Scope of Work provisions. WSDOT will provide quality assurance and independent testing. Many actions by WSDOT personnel during execution of the project do not change significantly with design-build contracting; however, their authority and responsibility may be quite different.

Design-Builder personnel qualifications and minimum staff requirements are best placed in the RFQ. Contract Provisions specify that the identified key personnel on the Proposers cannot be arbitrarily substituted. Requesting and evaluating the qualification requirements during the selection process draws the Department's attention to those types of issues at the time of Proposer selection. Inserting Design-Builder qualifications into the Scope of Work provisions will require field or design staff to discern whether qualified staff are used. The Design-Builder and Department administrative staffs are concentrating on expedited performance of the project and certification of personnel may hinder that process.

Warranties will likely be required by WSDOT for each Design-Build project. *The use of warranties provides a mechanism for reducing WSDOT involvement in the design and construction of the project.* The warranty terms will be developed in concert with the ability of the industry to provide appropriate insurance or extend the bond at a reasonable cost. Warranty terms will be established for specific project components and based on the expected performance of that component. Elements subject to significant wear during the life of the project, such as pavements or bridge deck joints, are good candidates for consideration of a warranty. The warranty or maintenance contract should ensure that the product functions within the tolerances of the performance standard until the end of a stated warranty period. Product warranties presently requested for manufactured products under current design-bid-build contracting terms will also be requested under design-build contracting. Section 1300 (Appendix 6) of the Scope of Work contains language for a pavement warranty. The Scope of

Work provision in Section 400 (Appendix 6) must be coordinated with the warranty provision in Section 1300 for compatibility.

4.4.4 Prepare Revisions to the Standard Specification and Special Provisions

A special version of the Amendments to the Standard Specifications has been created for Division 1 of the Standard Specifications to use with design-build contracting. To avoid confusion, they are given the title "Revisions to the Standard Specifications", (Revisions). A generic version is contained in Appendix 7, (Revisions to the Standard Specifications for D-B Commentary) along with a Commentary. In addition, a generic Design-Build Special Provision is prepared for many of the Division 1 General Special Provisions but not all. A generic version of Design-Build Special Provision is contained in Appendix 8 (Special Provisions Commentary) along with a Commentary. Prior to the RFP being finalized, the Revisions to the Standard Specifications for D-B Commentary needs to be reviewed and approved by the Statewide Construction Administration Engineer.

The Revisions and Special Provisions are wholly complementary; not redundant or conflicting. No subsection has a corresponding subsection in the other component. The intent of having two documents modifying the Standard Specifications is to emulate the current design-bid-build process. The Revisions are intended to contain universal changes that are relevant to all design-build projects while the Special Provisions are intended to be project specific.

The Revision/Special Provisions concept is used rather than a stand-alone contract due to dependency on the Standard Specifications of the WSDOT guidelines, manuals, standards, technical specifications, and other contract forms. Revising the Standard Specifications allows all other references to remain valid. In an ongoing programmatic approach to design-build contracting, it is best to allow the design-build core documentation to evolve with the Department's design-bid-build core documentation. Project by project upgrading of the design-build Revisions and Special Provisions will be required, but that is expected to be far less laborious than re-writing a complete stand-a-lone contract for each design-build project. A provision-by-provision comparison of the Amendments and GSPs is required to identify the specific changes from the last design-build project. Update the generic documents after each successive design-build project to capture necessary modifications and improvements.

Enlist the expertise of a specification specialist, working with the technical team members to set the necessary requirements and perform the work involved in creating a project-specific Revisions and Special Provisions based on the generic documents. The generic documents have "$$$?$$$" embedded in places identified as needing specific input. The entire document will require word for word review to ensure the language is applicable for the project.

4.4.5 Prepare Bid Tab

For design-build projects, the bid schedule is comprised of a reasonable breakdown of the major work items on a lump sum basis. The breakdown could consist of a single item for the entire project. The Contract Provisions require that after award, the Design-Builder provide a Schedule of Values to break down the bid items into lists of scheduled work elements for project cost tracking, payments, and use in change order price adjustments. **Specify in Special Provision** Section 1-09.9 (Appendix 8) **any specific breakdown requirements of the lump sum items in a Schedule of Values.** A sample list of elements identified by the Pilot Project Teams has been included in the generic Special Provisions. Consider the breakdown in the Special

Provisions and ultimately provided by the Design-Builder carefully for unbalanced items. Check the Schedule of Values against the Cash Flow Schedule provided with the Proposers, and the project schedule for conformity. The Schedule of Values must be acceptable to the Department and is a negotiated effort with the Design-Builder.

In rehabilitation/preservation projects, where existing features are to be modified, the existing condition may not be known in enough detail to assign an accurate cost or price. Consider assigning a unit cost, against a pre-assigned estimated quantity for high-risk items, unknown to WSDOT and the Design-Builder, to establish a basis for measuring and paying for the actual work. A description of the work, the basis for measurement and payment must be included in the Special Provisions.

Design-build contracting may provide cost savings to the Department. Determining if cost savings are actually realized is difficult due to the lack of direct measurements. The formal evaluation process for the pilot projects attempted to quantify the cost differences between the pilot projects and historical WSDOT projects. Benchmark projects were selected and data were gathered in preparation of a direct comparison. The real benefits of design-build contracting to WSDOT are of a continuing interest to the Department. Considerations to internal accounting methods as well as design-build process and project evaluation metrics should be part of every WSDOT design-build project.

The WSDOT accounting process does not easily adapt to the design-build process. Some accounting items must be tracked to report to the legislature, at least for the pilot projects. Normally, two Work Orders are required during the life of the project, one for design and one for construction work. These are not only for WSDOT labor charges, but also for the design and construction portions of the design-build work. The payment schedule or Schedule of Values must be set up separately for design and construction. Work charges for the different funding categories such as I2, P1 need to be broken out and tracked separately, to effectively evaluate against Design-Bid-Build, and to report back to the legislature on program delivery. This may be done either through separate work orders, percentage calculations, or other appropriate methods. A separate group is required under the Design Work Order for Stipends. A separate group(s) is recommended under one of the Design Work Orders in order to track the Qualification/Proposal evaluations.

The following work operations for design and operation codes for construction were identified as relevant tracking areas for the design and construction administration functions:

- Design
  - General Project Management
  - Design Document (data, documentation, cost estimates)
  - PS & E
  - Surveying
  - Environmental Document
- Construction
  - 0301 General Project Management
  - 0302 Travel To And From The Office To The Job Site
  - 0321 Progress And Final Estimates And Records

- 0330 Inspection Of Earthwork, Drainage, Surface and Paving
- 0331 Inspection Of Structures
- 0332 General Inspection
- 0340 Testing (Earthwork, Surface and Paving, Drainage, Miscellaneous)

The Schedule of Values (SOV) is to be broken, as a minimum, into these functions by the Design-Builder. The idea is to derive the total for Design from the SOV with breakouts for PS & E and Surveying. The General Project Management for Design will be obtained through an interview with the Design-Builder.

For the construction phase of the project, WSDOT is interested in a total for the Construction QC/QA Program, a breakout for inspection and testing as separate items, but not a break out of the different types of testing and inspection. Under construction work orders (00XXXX) the "group categories" of interest are as follows:

- Group Category 01 - Payments To Contractor
- Group Category 02 - Work Done By Agreements (E.G., Consultants, Etc.)
- Group Category 03 - Construction Engineering (i.e., WSDOT Administration, Testing, Inspection, Etc.)
- Group Category 04 - State Force Work (E.G., Money Set Up For WSDOT To Do Some Work)
- Group Category 05 - Materials Furnished By The State
- Group Category 06 - Contingencies

4.5 Publish and Review Documents

The assembly and printing production of the RFP Package is a similar operation to the Department procedure to publish specifications. The package is organized as described in Guidebook Section 5.2. The RFP Package may have attachments that are in numerous electronic formats that will require hard copy transfer to Publications.

An understanding of the design-build process and project intent is required to provide meaningful review comments in a timely manner. The Project Team will communicate with Department experts in a number of areas (described in Guidebook Section 5.1.1) in developing the RFP Package. Comprise the distribution list for the RFP Package of the experts used to develop the package, Project Team, Design-Build Program Management, Evaluation Team, and other Regional Management.

4.6 Response to RFIs

A Proposer responding to criteria in the RFQ and RFP of a design-build project requires an understanding of the project to be successful. Project understanding can be derived from the data provided by the Department in the RFP, and through interviewing WSDOT individuals and groups who are involved in the project development. Theoretically, the score awarded to a Proposer is proportional to the information gained and reflected in the SOQ and Final Proposal. Proposers tend to start researching project understanding very early in the life of the project. The Department typically should designate the Project Engineer as the sole contact person for information requests by the Proposers and others interested in project information.

Prior to advertisement of the project, the project information that is released to interested parties should be consistent to all that inquire. A policy must be established early on how to respond to requests for information (RFIs) and what information will be made available. Website communication with stakeholders during project development and advertisement is an effective tool to provide available information and answers to frequently asked questions (FAQ's). Appendix 11 (Frequently Asked Questions) contains FAQ's of the stakeholders during the program development. The list was posted on the design-build website and maintained throughout the program and pilot project development.

The process for responding to RFIs should become formal during the selection process. Define the formal process adopted in the RFQ and RFP Proposal General Requirements (see RFQ Section 1.4 (Appendix 3) and RFP Proposal General Requirements Section 3.2 (Appendix 4). The website could also be used during the selection process to post Proposer questions and Department responses as well as addendum.

The development of the design/builder's SOQ and Final Proposal are competitive in nature. Confidentiality during this process should be maintained whenever an RFI is directly tied to a design/builder's specific approach. When a contract interpretation is asked for or a potential error/conflict is noted, the information should be shared with all competitors.

Design Builder Selection

5.0 Design-Builder Selection

This section of the guidebook deals with the selection process as it progresses from the initial Letter of Interest until ultimately a Final Proposal is selected as the Best Value and the project is awarded.

Confidentiality and Security

It is important to understand that the evaluation and selection process is a competitive process. As such, WSDOT has the authority and obligation to keep certain information confidential during the competitive process. This information will be made public at the end of the process.

Confidentiality is critical to the validity of the evaluation and selection process. Each participant in the evaluation process for either the RFQ or RFP shall sign a "Confidentiality and Non-Disclosure Agreement, No Conflict of Interest Statement." **Store all proposal documents in a secured (locked) room during non-working hours.** Documents should be reviewed in a common, secured area during the day. Store all evaluation notes and comments in the same manner. Documents will not be accessible to the general public, to Proposers, or to WSDOT employees not involved in the selection process.

It will become apparent to the project manager that having a very large evaluation staff will make this confidentiality requirement unwieldy. The project manager will need to balance the need for specific expertise vs. the absolute need for confidentiality.

> The confidentiality agreement shall contain the following verbiage:
>
> This project consists of a *** project description ***. This project is being constructed under RCW 47.20.750, which allows WSDOT to construct projects under the design-build process.
>
> The Request for Best and Final Proposal process includes verbiage in which WSDOT commits to keeping the entire scoring procedure confidential. WSDOT is obligated to maintain this confidentiality until the contract has been executed.
>
> As a part of the review/scoring process I understand that the information provided to me is to be shared only with those directly involved with the review/scoring process that have a legitimate need to know.
>
> I understand that my involvement in this process requires that I adhere to this commitment of confidentiality.

As both the ROQ and RFP selection processes are competitive in nature this confidentiality agreement will apply to both selection processes. The Project Office will be the point of contact for all outside correspondence in the same manner that they are in the design-bid-build advertisement phase. As some of the individuals involved with the evaluation process may not be familiar with contract administration this method of communication shall be made clear to everyone involved with the evaluation.

The Project Office is reminded that the development of the Best and Final Submittal does involve extensive design effort and will likely generate a large number of Information/Clarification requests than a standard design-bid-build project. The internal procedures within the project office should be modified to reflect this increased staff requirement prior to advertisement.

Location and Logistics

Because of the sensitive nature of the proposals, and the necessity for proposal details to be kept secure, all evaluations will take place in a single location, with all members working only at that location for that stage of the evaluation. Copies of proposals, notes, and evaluation materials will be left in a locked room at the completion of each day's work. For instance, SOQ evaluation might be set for a week of intensive work, with a conference room and offices reserved for the evaluation. PEB members would be required to establish a schedule that would complete the evaluation process within the time frame set out.

5.1 Letter of Interest

When Initially setting up a project the project team should consider requesting letters of interest from the industry. These letters are not binding but it can provide the team with an idea of what level of interest there is in the project.

The Letters of Interest will also let the industry know that WSDOT has committed to the process and is continuing to work towards a Request for Qualification. Letters of Interest should be routed through HQ Construction Ad and Award Office.

5.2 Request for Qualifications

5.2.1 Prequalification

WSDOT has an existing contractor prequalification system that is based on the capacities of contractors to do specified types of work and sizes of projects. This process is also used for design/builder prequalification. The ability of the contractor to perform the work is considered adequate initial prequalification.

All sizes and types of work that the Department performs have a prequalification work class. The prequalification system is based on the Project Engineer's estimates from the final design. With Design-Build, use the preliminary cost breakdown, including major components of the project, design, earthwork, structure, and so on.

5.2.2 Project Advertisement

Publish an advertisement announcing the availability of the Request for Qualifications in much the same manner as typical bidding and professional service advertisement practices. The description used in the advertisement will be a combination of that used for professional service solicitation and contractor bid solicitation. Send RFQ packages to those requesting them and to WSDOT's typical plan review centers.

It is strongly suggested that a draft copy of the Request for Proposal be included with the RFQ package. Although not binding at this point, the RFP provides significantly more detail about the project and about the continuing selection process. It also provides contract language, bond and insurance requirements and other information of interest to Proposers. Making the draft RFP available provides Proposers an opportunity to review the documents and submit comments and/or concerns before it is finalized. This can greatly improve the acceptability of the Contract Provisions to all parties and result in a better project.

5.2.3. Pre-SOQ Submittal Meeting

The pilot projects utilized a pre-SOQ submittal meeting to discuss issues related to the process and the documents. The value of having a pre-submittal meeting should be evaluated for each project. The purpose of the meeting is to discuss the intent of the Design-Build contract and provide details of the project. *If one is held, the notice should clearly state if attendance is mandatory.* The selection process, contract terms, and expected outcomes should be discussed, as well as project specific questions, both administrative and technical. Since the solicitation will contain the RFQ and draft RFP, questions could arise that will require modification to the RFP package. These changes would be incorporated into the final publication of the RFP rather than a number of addenda.

The pre-submittal meeting should be held no sooner than 2 weeks after advertisement of the project and no later than 2 weeks prior to the SOQ submittal date.

5.2.4 Evaluate SOQ and Shortlist

The evaluation process requires tight control by the Selection Official (SO). The following process and recommended times should be used as a framework to design and manage the actual selection process. The times for this process (contained in parenthesis) are goals only. Actual commitments made to Proposers should be longer than these recommendations to accommodate the possibility of complicated analysis, a large number of SOQs received, or other factors that could affect the ability of the Evaluation Team to meet the commitment.

Upon receipt of the SOQs, personnel from HQ Contract Ad & Award, HQ Construction and HQ Consultant Services will make an initial determination as to whether the SOQ is responsive, using pass fail and other criteria set up as part of the RFQ (complete on Day 1). **Use a checklist of items for determination of responsiveness.** The Proposal Evaluation Board will assess how well the evaluation criteria were met and score accordingly. In making this evaluation, they may call upon selected members of the Technical Evaluation Board as needed for input. The team should independently review each of the proposals during the first two days of their work (complete on Day 3). Following this independent review the team should discuss and agree by consensus on a final score for each SOQ (complete on Day 5). This will help to ensure that the broad expertise provided by the scoring team is fully utilized in scoring. It is also acceptable for a single member of the review board to do research for the entire group (consultant and contractor performance reviews). At any time during the process, the Proposal Evaluation Board may make, based upon their reading, a determination that a SOQ is non-responsive.

To ensure that scoring is consistent a specific outline of a point matrix should be constructed prior to the submittal of the SOQ packages. An ideal answer to each scoring section shall be provided to evaluators for each scoring section. This ideal answer shall be kept confidential until after the scoring is complete. As the Proposal Evaluation Board will be made up of

individuals with varying backgrounds it is recommended that the group score the proposals together.

The Proposal Evaluation Board will then make a recommendation to the Selection Official of the top three to five Proposers to be asked to prepare a Best and Final Proposal. The choice of three, four, or five Proposers is left to the PEB.

The development of a Best and Final Proposal is prohibitively expensive for a design-builder. The stipends provided by WSDOT do not fully cover the cost of submitting a proposal. When making the decision to expand the short-listed field beyond three WSDOT is increasing the risk for all parties involved. Unless there is an opportunity for significantly different Best and Final Proposals the PEB should limit the number of short-listed firms invited to submit a Best and Final Proposal to three.

In cases where the PEB feels that more than three firms are required then concurrence from the State Construction Engineer is required.

The Selection Official may concur with the recommendation, or may ask the PEB to reevaluate if the SO feels the evaluation was flawed for any reason.

In cases where the number of qualified submittals is less than three, approval to proceed with an RFP advertisement will require concurrence from the Secretary of Transportation.

All Proposers submitting SOQs will be notified of the results of the shortlist selection process not later than 30 calendar days from the date set for receipt of SOQs. (WSDOT will strive to notify within 10 business days.)

The short-listed Proposers will be provided with a final RFP and asked to prepare Best and Final Proposals for the Department's evaluation. They will be required to attend the Shortlist Proposal Meeting, scheduled to clarify the remainder of the proposal process for all proposers.

Evaluation team members will prepare the following written reports for the different phases of the evaluation:

- **SOQ Evaluation.** A narrative describing the process of evaluation, and reasons for scores on each criteria. These narratives also are used by the TEB in evaluation of the Best and Final Proposals but may be augmented by additional information presented in the Final Proposals. These narratives become part of the permanent project selection record.
- **Technical Expert's Recommendations.** A 1-2 page narrative evaluation and reason for the raw score determination. These narratives are used by the Technical Evaluation Board in their review, and also become part of the permanent project selection record.
- **Technical Evaluation Board Report.** A narrative documenting the process of their review and evaluation, and any changes to Technical Expert's scoring recommendations. This narrative is used by the Proposal Evaluation Board, and also becomes part of the permanent project selection record.
- **Proposal Evaluation Board Report.** A narrative documenting any changes to the Technical Evaluation Board scores or other considerations deemed necessary. This narrative becomes part of the permanent project selection record.

5.3 Evaluate Technical Proposals

The evaluation of the Technical Proposal is the most important and significant exercise the Department will undertake in the design-build contracting process. The evaluation represents a design review. Selection of a proposal represents acceptance of the proposed design, equivalent to the "Design Approval" of the design-bid-build process. In addition, the Department is evaluating the proposed construction process. In the design-bid-build process, the review of the final plans is a rigorous exercise; evaluating the Technical Proposal is the equivalent step in the design-build process. The Technical Proposal will be reviewed for compliance with the contract requirements including the relevant codes and manuals.

Following is the selection process set out for the pilot projects. The scoring begins with each Technical Expert reading relevant areas of the Technical Proposal individually to gain an understanding of the subject matter, then recording a recommended raw score for each area they are responsible for on the form provided. In addition to this raw score, each Technical Expert is required to prepare a 1-2 page written summary of their analysis. In the cases where two or more Technical Experts form a team, only one written summary is required. Simultaneous with this phase, all other Evaluation Team members will read all Technical Proposals individually, to gain a basic understanding of each. This stage of evaluation should be completed in 2 days (day 3). The Technical Experts who determine the technical approach for a specific product does not meet the requirements of the Contract Provisions will recommend that the proposal is non-responsive and send their recommendation to the TEB for review.

Technical Experts then meet individually with the Technical Evaluation Board, for discussion of each technical area (Days 4 & 5). Oral presentations by Proposers will take place on the afternoon of Day 5, or morning of Day 6, or both. The TEB will by this time make an initial, individual, evaluation of the Management/Organizational Qualifications, and Project Work Plan/Schedule of each Technical Proposal. Through discussions the TEB and Technical Expert will arrive at a mutually agreeable raw score for each technical area. Pre-established weighting criteria and best professional judgment are used as needed in some areas. The TEB develops final scores for each technical area. The TEB has some latitude in either accepting the raw score offered by the Technical Expert, or adding other information, to arrive at the final determination. The weighted raw scores are combined using a pre-determined formula to arrive at a composite Technical Solutions score. This is the first major factor score.

Develop a system or scale for use by the Technical Experts and TEB in determining the scoring. Establish a basis for the scoring such as the minimum acceptable score for meeting the requirements of the contract. *All evaluators must have the same system in mind to minimize scoring discrepancies.* It is recommended that evaluators use a non-numbered scale to judge each criterion with judgment positions identified. The positions could relate to aspects as simple as unacceptable (non-responsive), acceptable (meets criteria), exceptional (exceeds criteria). The TEB would use these scaled judgments to actually assign point values. The Technical Expert's concentration would be isolated to relative judgments rather than individual points.

The second role of the TEB is to agree upon a score for the other two major factor areas, namely:

- Management and Organizational
- Project Schedule

Scoring is accomplished by analysis of the entire proposal individually by each TEB member, (Days 2 & 3) presentation of individual opinions, then debate and agreement by consensus

(Days 6 & 7). A trained facilitator should facilitate the entire TEB meeting. They should also designate one member of the group as a recorder to develop the draft summary of their work.

The TEB completes the main body of their work by completing the written summary of their decisions. The TEB begins reading the proposals on Day 2, and completes their work on Day 7. The entire work of the TEB should take no more than 6 days (Day 7). The TEB then meets with the Proposal Evaluation Board (PEB) (Day 8), to present their scoring and related information.

The PEB may either concur with the scoring, or challenge the TEB recommendation. If challenged, the PEB and TEB must meet to reconcile their differences, and arrive at a mutually agreed upon score. If they for some reason cannot agree, the PEB will make the final determination (Day 8). The PEB begins reading the proposals on Day 2, and completes their work on Day 8. The PEB meets as a group on Day 8 and part of Day 9, for presentation to the Selection Official (SO).

The recommendation is then passed upward to the SO (Day 9). The SO may concur, or disagree with, the PEB's recommendation. If the SO disagrees, the PEB and the SO meet to resolve any differences.

5.4 Pre Submittal Meetings

During the Evaluation process WSDOT should provide a forum for confidential meetings between Proposers and WSDOT. These meetings may be kept confidential when discussing solution-specific issues. Allowing the Proposers a forum in which to initially discuss potential solutions can help to ensure that the Proposal comes as close to possible to matching WSDOT's desires.

If errors or inconsistencies in the proposal are noted then this information should be made available to all Proposers.

5.5 Oral Presentations

Section 2.2 of the Proposal General Requirements contains a provision that allows Proposers an opportunity to present fortifying presentations of their proposals. Approximately one week after Final Proposals are submitted, each Proposer is allowed to make a one-hour oral presentation to all members of the WSDOT Evaluation Team. The presentations afford the Proposer the opportunity to highlight the significant aspects of their Technical Proposals and their understanding of the RFP requirements. Oral presentations provide the evaluators an overall perspective of the project and offer a chance for the Evaluation Team to ask clarifying questions. *The oral presentations shall not be used to fill-in missing or incomplete information that was required in the written proposal.*

5.6Open Price Proposal

Upon receipt of the Final Proposals, the Price Proposals will be put in a locked vault until after the Technical Proposals are scored. Personnel from HQ Contract Ad & Award and HQ Consultant Services will make an initial determination as to whether the Final Proposal is responsive without opening the Price Proposal. However, at any time during this process, any member of the Evaluation Team may make a determination that based upon their reading, a

Final Proposal is non-responsive. This determination would be subject to review and agreement by the PEB before disqualifying the Final Proposal. This initial determination of responsiveness should take 1 day (day 1).

The Price Proposal is opened publicly at a predetermined and advertised time. The scores of the Technical Proposal are tabulated and prepared prior to the public opening. The values of the Price Proposals are read and entered into the scoring matrix as described in Guidebook Section 6.10.

5.7 Calculate Highest Score

The equation adopted for the WSDOT design-build selection process is a simple division of the technical score by the proposed price. In the example below, the total possible for the technical score is 1000 points. The technical score is then adjusted by a factor to create an order of magnitude similar to the price. For example, with a $10 million project and a 1000-point system, 1,000,000 to get to a useful whole number final score would multiply the technical score.

Total Score = (Technical Score x 1,000,000)/Bid price ($)

An example of calculation scenarios follows:

Scoring

Team	Technical Proposal Score	Proposal Price
A	930	10,937,200
B	890	9,000,000
C	940	9,600,000
D	820	8,700,000

Calculations

A $\frac{930 \times 10^6}{10{,}937{,}200} = 85$

B $\frac{890 \times 10^6}{9{,}000{,}000} = 99$

C $\frac{940 \times 10^6}{9{,}600{,}000} = 98$

D $\frac{820 \times 10^6}{8{,}700{,}000} = 94$

Proposer B would be chosen in this example, even though C has the highest technical score and D has the lowest bid.

WSDOT would select the Final Proposal from Proposers B and evaluate the Price Proposal for responsiveness in the same manner as a Bid received in the design-bid-build process. WSDOT proceeds from this point to contract award and execution.

5.8 Award Contract

The Department is required to negotiate with the highest scored Proposers to execute a contract. If unable to execute a contract, negotiations with that Proposer would terminate and begin with the next highest scored Proposer. This process would continue until the project is awarded or

the selection process is terminated. In the event of identical best value scores, the Proposers with the lowest proposal price would be awarded the contract. The Design-Builder awarded the contract shall provide a performance and payment bond for the contracted amount (RCW 39.10.050 (6)).

5.9 QC/QA Plan Review

The QC/QA Program is a critical component of the design and construction of the project. It partly represents assurance to the Department that the Design-Builder is executing in accordance with the contract. WSDOT will provide the quality assurance and independent testing, but the established QC/QA Program is the backbone for which the Department will gauge compliance.

The Contract Provisions require that the QC/QA Program submitted with the proposal be brought into conformance prior to execution of the contract (see Appendix 6, Scope of Work Section 1100). The Department must negotiate the provisions of the highest scoring Proposers and agree on the final QC/QA Program.

Design-Build Contract Administration

6.0 Design Build Contract Administration

After selection of a Design-Builder and execution of the contract, the Department takes on the role of contract administration and quality assurance. WSDOT's focus for contract administration will be on the Design-Builder's project manager. All aspects of the project for design and construction, as defined in the specifications, will pass through this person throughout the life of the project. The Design-Builder's project manager will be responsible for management activities, including progress reports, scheduling, communication, project direction, change management, and oversight of the quality control program.

It is important to note that a design-build project is a binding contract as soon as the project is formally awarded to the Design-Builder. WSDOT Construction administers design-build contracts. Involvement of support groups will continue in a contractual environment.

WSDOT's responsibilities for contract administration involve monitoring contract compliance and schedules, processing progress payments, performing quality assurance activities, assisting in permitting and right-of-way acquisitions, negotiating contract amendments, and resolving disputes. Technical submittals by the Design-Builder require review by WSDOT staff for conformance to the technical criteria and contract terms. In some cases, the design and construction will be fast tracked, requiring timely processing by the Department to avoid impacts to the project schedule. Progress payment requests prepared by the Design-Builder will be reviewed by WSDOT.

The focus of the Department's quality assurance program is on product compliance with contract documents, verification of the Design-Builder's quality control measures, and meeting Federal quality requirements. Quality assurance activities focus on monitoring contract execution with respect to a negotiated Quality Control Plan.

6.1 Project Team Composition

The Project Team required during contract administration is similar to the team typically assembled for a design-bid-build project. Design-build does not eliminate tasks required during the construction of a project; it allocates the functions into a single entity. Typically, all the functions WSDOT perform when a design is performed by a consultant and then contracted for construction are performed during the execution of a design-build contract. However, the functions are performed in a condensed time period and require prompt attention by the team to not affect the project schedule.

Depending on the size of the project, the primary team members may include:

- Project Engineer
- Assistant PE
- Designer(s)
- Inspector(s)
- Material Tester
- QA Specialist

- Administration staff (coordinate design review, QA, and contract administration/documentation)

6.2 Roles of the Project Team Members

The roles of the team members are all affected by the Revisions to the Standard Specifications. Every project will have unique provisions and requirements that will require adaptation by the team members. **Highlight unique design-build contract terms for the team early in the execution of the contract.** Significant issues related to specific contract provisions should be raised and addressed between the Project Team members and the Design-Builder at the partnering session.

As the execution of a design-build contract is typically fast-paced through the design phase, introduce the Project Team to the Contract Provisions through a formal training program. The program should cover the Department's role, the changes to the Standard Specifications that affect each of the team members, and what procedures will be used to accommodate the changes. **Review typical forms used by Department to process submittals and modify them based on the role of the Department and the Design-Builder.** In some cases the Design-Builder may be processing some of the typical forms with the Department's review.

6.3 Contract Administration

The design-build Revisions to the Standard Specifications Section 1-05.1, (Appendix 7) and 1-05.2 define the authority of the Engineer and the inspector. The provisions state that the PE has the authority to enforce the provisions of the design-build contract. The contract documents (specifically the Scope of Work) guide the development of the final design. The Design-Builder, not WSDOT, creates the final plans that are a component of the contract. The PE and the Project Team are limited to checking the plans and specifications for conformance with the design criteria and the constructed work against the final plans and specifications submitted by Design-Builder. Changes to the design drawings and specifications can only be required if they do not conform to the terms of the contract documents (see Appendix 6 Scope of Work Section 1065.30).

During the execution of the contract, the Design-Builder must submit many of the same documents required under a design-bid-build professional services and construction contract. The submittals of the design phase may be new to the WSDOT construction management staff. The Scope of Work Section 1130.05.3 (Appendix 6) contains a generic list of submittals that should be checked as part of the Department training program and meetings with the Design-Builder.

6.4 Project Pre-Contract Meeting and Site Visit

Scope of Work Section 1027 (Appendix 6) describes a site visit between the Department and Design-Builder. The meeting is intended to familiarize participants with the project, review contract terms, discuss the project schedule, and establish communication links for beginning the project.

6.5 Design and Construction Document Preparation

6.5.1 Design Documents Preparation

The Design-Builder will initiate their design effort by completing the necessary investigations and studies required by their proposed design and the Contract Provisions. The list contained in Scope of Work Section 1130.05.3 is a guideline to what those submittals might be for a project.

The critical path elements of the project will most likely be centered on the right-of-way and permit processes of the project. As described in Section 4.3 of the guidebook, the Department will acquire the necessary right-of-way for a project based on the Department's conceptual design. Right-of-way requirements for any reason (see Scope of Work Section 475 in Appendix 6) should be addressed immediately to ensure minimal impacts to the project.

Acquiring certain permits is another task that is officially the responsibility of the Department. However, preparation of complete permit application packages, based on the impacts of the actual design, will be the responsibility of the Design-Builder. Required adjustments in the permit applications or the mitigation requirements will remain with the Design-Builder. In certain cases, the Design-Builder could be made responsible for obtaining certain permits as WSDOT's agent. Provisions for the anticipated time for permit acquisition are written into the Scope of Work Section 420.02 Permits (Appendix 6). Allowances for acquisition time beyond the allotted period, due to circumstances beyond the control of the Department or the Design-Builder, will be added to the contract.

The Design-Builder also will determine the need for utility relocations that are dependent on the design and construction activities; thus, the risks of such are under the control of the Design-Builder. The Department investigations during project development identified significant utility conflicts (see Guidebook Section 4.4) and addressed the utilities' special concerns. If agreements were prudent, they were obtained. The Design-Builder is responsible for coordination of the necessary relocations. The Department role with the utilities will be defined in the Scope of Work Section 430 (Appendix 6) and may or may not include processing payment for the work.

6.5.2 Prepare Construction Documents

The Design-Builder will begin preparation of the Construction Documents when the necessary data are collected. The Department will have the opportunity to review the reports prepared by the Design-Builder but will not interfere with the design process. Department comments given to the Design-Builder from any reviewer will be in line with the Scope of Work description of the Department role. Construction Documents may be prepared in a manner that will allow phased construction of the project, with the 100 percent plan set being broken into appropriate sections. The review process described in Scope of Work Section 1065 (Appendix 6) is written to accommodate this type of process.

6.5.3 Plan Review and Oversight

The Department's typical design-bid-build process involves a "Design Approval" decision point that is not relevant to the design-build process. By awarding the design-build contract, the Department is approving and accepting the design; thus, approval of design is inherent in the selection process. *If the proposed design meets the requirements of the contract documents, no significant changes can be made without a corresponding contract change order.* The details necessary

for WSDOT approval of design must be requested in the RFP and supplied in the Best and Final Proposal. The acceptance of the proposal authorizes production of final plans.

With design-build contracting, the design risk is placed with the Design-Builder; and the Department's review will be to determine if the proposed design is per the intent of the Contract Provisions (Scope of Work Section 1065). Language in the Contract Provisions protects the proposed concepts from significant changes during final design. Proposals that meet the contract requirements as described in the Contract Provisions but do not meet what the Department intended would require a change to the contract. There is no pre-defined review period for the Department, as the Design-Builder and the Department will decide on the appropriate timing of reviews during execution of the contract (Scope of Work Section 1130.02 Appendix 6).

In a design-build contract, the Department and the Design-Builder both warrant something to each other. The Department needs to warrant that the project's criteria and contract documents meet the standards and requirements for the project but not warrant the applicability of the design. The Design-Builder essentially warrants that the design and the constructed products will meet the intended outcome of the Department. For these reasons, only comments related to non-conforming design elements not meeting the contract requirements will be incorporated. All other comments are for the Design-Builder's consideration only. The decision to incorporate Department comments of a "preferential" nature resides with the Design-Builder. **Develop a protocol to delineate the required and preferred types of review comments.**

WSDOT's constructability and maintenance reviews occur simultaneously in the current design-bid-build process. In design-build contracting, constructability becomes the responsibility of the Design-Builder, as the designer and builder are combined on the same team. The Department carries no liability for whether a design is constructible. Whether a design meets the Department's needs for long-term maintenance is still relevant and must be considered in the preparation of the contract design criteria. Changes to the design during construction for identified maintenance concerns that are not detailed in the design criteria will be a contract change.

6.6 Preconstruction Conference/Meeting

Prior to the start of construction, the Design-Builder will conduct a preconstruction conference. The traditional preconstruction conference activities associated with design-bid-build construction will occur with design-build contracting however, some parts of construction could take place while design is still under way. With a phased design of the project, phased construction could occur very near the start of the contract time. The preconstruction conference is required to discuss contract administration and work coordination with outside parties, such as local agencies, utilities and permitting agencies. Under design-build, the Design-Builder will be responsible for these activities and thus will be responsible for holding the preconstruction conference.

6.7 Re-establish Survey Control/Construction Surveying

Project survey control is provided by the Department and is established during the development of the project (see Guidebook Section 3.5.1). The Design-Builder will re-establish survey control based on data provided by the Department. The Design-Builder will maintain responsibility for the control and required staking for construction. The Department will

conduct necessary quality assurance checks on the control and staking if determined to be required.

6.8 Materials Testing

The transition from design-bid-build prescriptive specifications and plans to design-build performance specifications requires a change in methods of measurement of quality. The Department has set the requirements the Design-Builder must adhere to in developing a QC/QA Program, which defines the quality controls procedures for the products associated with the project. Some quality assurance monitoring and control functions are under the Department's control to comply with FHWA policies. Department tasks will include verification testing, independent assurance sampling, and fabrication inspection (off-site). The Design-Builder's responsibilities include materials testing; review working drawings, and full time construction inspection.

The working drawing review, which is a check on the fabrication drawings as compared to the design drawings, will be conducted by the designer of the facility (the Design-Builder). The designer must remain responsible for the fabrication and proper installation of the detailed components.

WSDOT's Materials Lab will function just as under a design-bid-build contract. All required QA samples and tests will be collected and tested according to current guidelines. In addition, if WSDOT designed a portion of the project, the QC testing will fall into their range of responsibilities. Fabrication inspections will require WSDOT involvement in ensuring the required certifications of the fabricators. QC inspection of the fabrication will be part of the QA/QC plan and the responsibility of the Design-Builder's inspector.

6.9 Construction Inspection

WSDOT's inspection involvement will be less extensive than under design-bid-build, depending on the construction schedule and the type of project. The primary role is to monitor the progression of the construction against the Construction Documents submitted by the Design-Builder. *The inspector's authority has not changed, although his work will be coordinated with the Design-Builder inspector.* On projects where WSDOT performed final design on portions of the project, the WSDOT inspector's role will be similar to that under design-bid-build projects. With mixed assignments on-site, the WSDOT and Design-Builder inspectors will need to maintain close coordination to ensure none of the required QC measures are missed.

Copies of the working drawings will be forwarded to the Department for use in independent assurance inspection, mandatory inspection (Hold Points to be determined for each project), and construction inspection oversight (Witness Points, to be determined for each project).

6.10 Contract Changes

Contract changes on a design-build project should generally be limited to areas which the requirements included in the RFP cannot be easily met. This will generally happen when a preliminary design is advanced and conflicts within the proposed solution occur. When such a situation occurs during the contract a change order will be in order. The procedures for authorizing, administering and executing change orders are outlined within WSDOT's Construction Manual.

6.11 Construction Documentation

Much of the construction documentation currently being collected under design-bid-build is still necessary under a design-build contract, such as the materials certifications. The contract has provisions (see Appendix 6 Scope of Work Section 1200) requiring the submittal of documentation in support of progress payment requests.

6.12 Partial Payment Application

The Design-Builder will prepare the application for partial payment on a monthly basis, which will be reviewed by the Department for progress estimates verification (see Appendix 8 Special Provisions Section 1-09.9). The partial payment application estimate will be based on the schedule of values negotiated with the Department prior to submission of the first partial payment.

Contract Closure

7.0 Contract Closure

[This section of Guidebook is based on a presumed process untested (to date) by the pilot projects. The details have been extensively investigated and compared to other DOT practices. Except for the details of the step-by-step execution of the process, the process is considered sound and complete. During the execution of each design-build project, capture lessons learned and incorporate them when and where appropriate.]

A design-build project ends when all conditions of the contract have been fulfilled. This includes design activities and record drawings, construction activities, QC/QA work, project documentation, and any warranty periods. The steps of officially completing the project follow the design-bid-build process. WSDOT will conduct a final inspection and provide the Design-Builder with a list of corrective or incomplete work items. The Design-Builder is responsible for collecting all the required documentation and submitting it to WSDOT on a weekly basis (00162.10d). During the preparation of the Semi-Final documents, the Design-Builder may be required to submit or re-submit missing, incomplete, or inaccurate documents.

A design-build project that is described and specified using performance parameters is "accepted" by WSDOT based on the Design-Builder's final plans and technical specifications. Acceptance of the project's concepts occurred during preliminary design, as presented in the Design-Builder's proposal and modified at the beginning of the design work. During execution of the contract, acceptance of the project's components occurred through the QA/QC program. If the QA/QC plan was followed, the execution should lead to an acceptable final product, aside from typical minor corrective work. Warranty requirements will extend beyond the completion of construction and will be monitored for compliance on the specific objectives of the warranty. Final acceptance of the project provides confirmation that the completed product meets the contract terms.

Components of the project may carry warranty provisions requiring performance for a prescribed time prior to final acceptance. The warranty provisions describe the required condition of the component for the duration of the warranty period; measurements for progressive payments or final payments are based on those provisions. Final acceptance occurs when the warranty period ends and the component's condition is confirmed to meet the requirements of the provisions or is restored to those requirements.

An alternative to a warranty period is a maintenance program that keeps the project at a prescribed minimum condition throughout the maintenance period. Maintenance agreements work well for a distinct project where limits are well defined and other maintenance will be not performed by WSDOT. A pavement rehabilitation project within a continuous highway section, where the Design-Builder maintains the new section, but the Department maintains the rest of the highway, could create an ambiguous definition of responsibility. A major new bridge is a highly distinctive project and may be well suited to a maintenance agreement. Acceptance of the project becomes similar to the warranty condition where the project (or component's) condition is confirmed to meet the requirements of the provisions or is restored to those requirements.

The tasks associated with the contract closure lie almost entirely with the Department. The Department will establish substantial and/or physical completion of the work as described in

the Revisions to the Standard Specifications. Determination of physical completion signifies the end of liquidated damages.

APPENDIX 1

Design-Build Process Chart

Generic Approach for Identifying and Developing a DOT Design-Build Project (Page 1 of 4)

© 1998, CH2M HILL, Inc.

Process Steps	WSDOT STIP →	Evaluate Project Scope →	Assess Project Benefits →	Assess Project Risks →
Things to Consider		➔ Project Size ➔ Project Schedule ➔ Traffic Maintenance Requirements	➔ Staff Workload Leveling ➔ Reduced Schedule ➔ Traffic Staging/Management ➔ Innovation from Complexity ➔ Quality from Innovation	➔ Geotechnical ➔ Environmental Clearances ➔ Right-of-way Acquisition ➔ Interagency Agreements ➔ Utility Relocations ➔ Railroad Involvement
WSDOT Work Tasks		➔ Preliminary Scope Development	➔ Preliminary Benefit Assessment	➔ Preliminary Risk Assessment
WSDOT Products		➔ Preliminary Scope Definition	➔ Project Benefit Statement	➔ Project Risk Statement

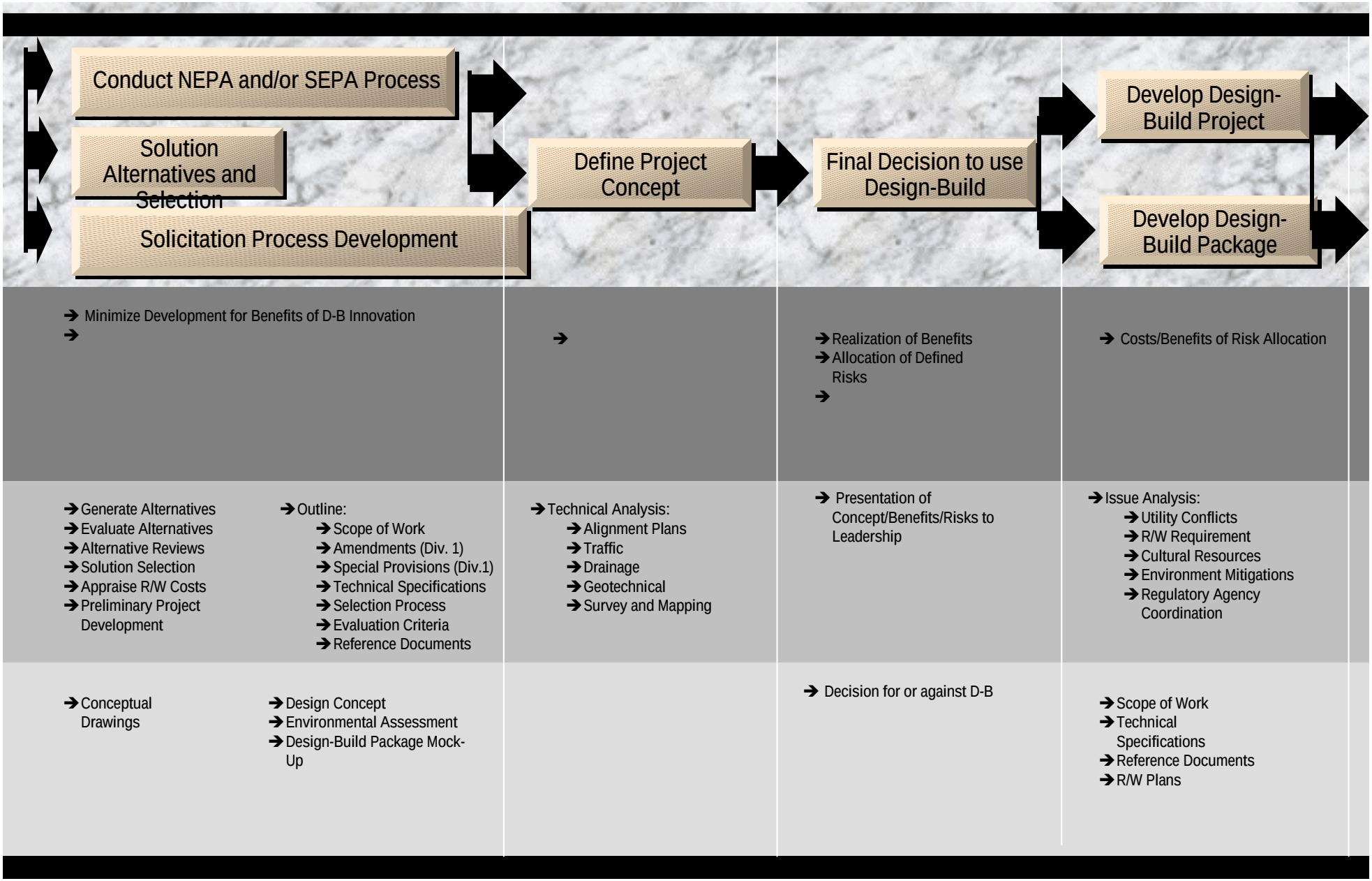
Generic Approach for Identifying and Developing a DOT Design-Build Project (Page 1 of 4)

© 1998, CH2M HILL, Inc.

Process Steps	WSDOT STIP →	Evaluate Project Scope →	Assess Project Benefits →	Assess Project Risks →
Things to Consider		➔ Project Size ➔ Project Schedule ➔ Traffic Maintenance Requirements	➔ Staff Workload Leveling ➔ Reduced Schedule ➔ Traffic Staging/Management ➔ Innovation from Complexity ➔ Quality from Innovation	➔ Geotechnical ➔ Environmental Clearances ➔ Right-of-way Acquisition ➔ Interagency Agreements ➔ Utility Relocations ➔ Railroad Involvement
WSDOT Work Tasks		➔ Preliminary Scope Development	➔ Preliminary Benefit Assessment	➔ Preliminary Risk Assessment
WSDOT Products		➔ Preliminary Scope Definition	➔ Project Benefit Statement	➔ Project Risk Statement

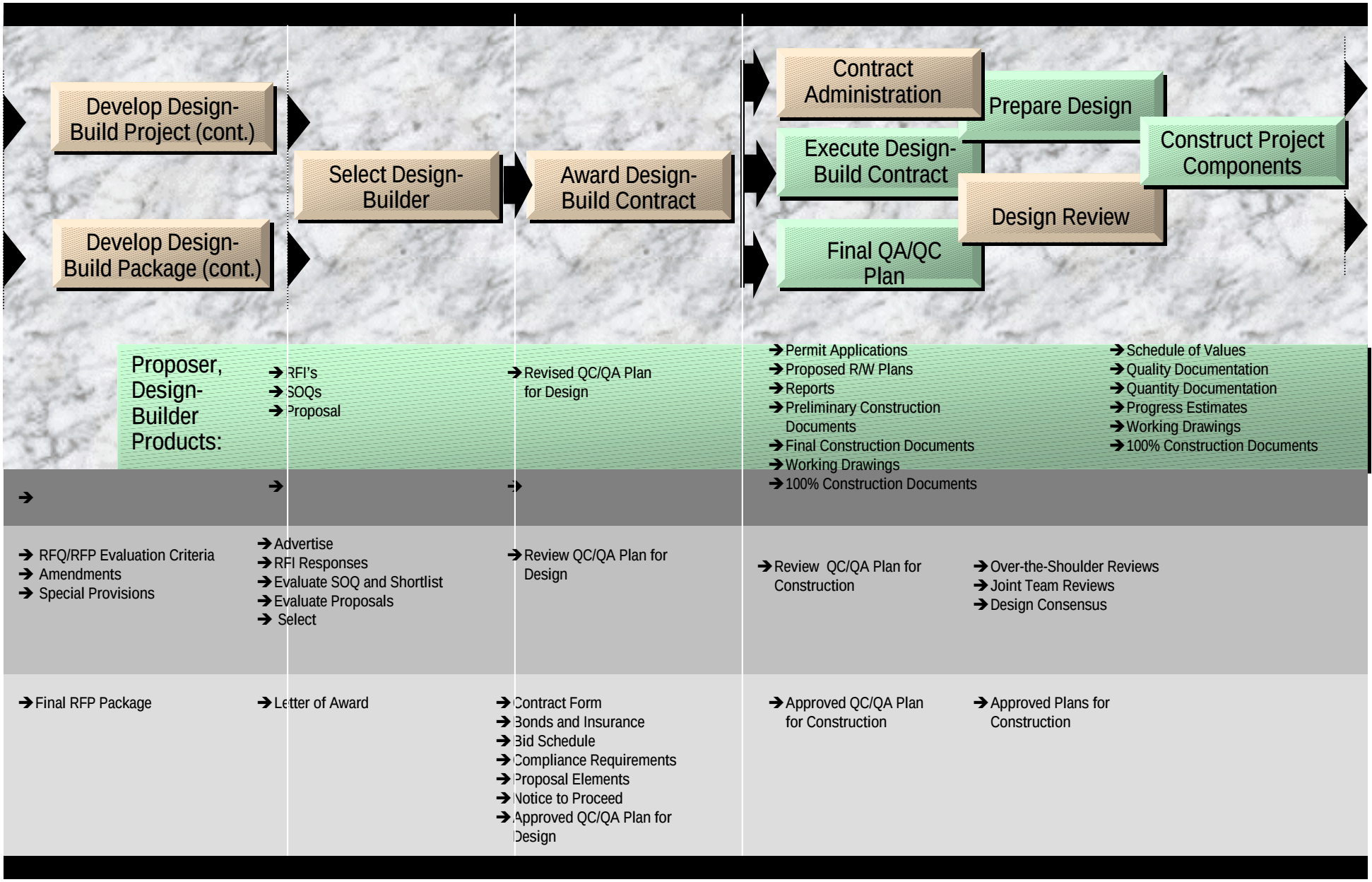
Generic Approach for Identifying and Developing a DOT Design-Build Project (Page 3 of 4)

© 1998, CH2M HILL, Inc.



Generic Approach for Identifying and Developing a DOT Design-Build Project (Page 4 of 4)

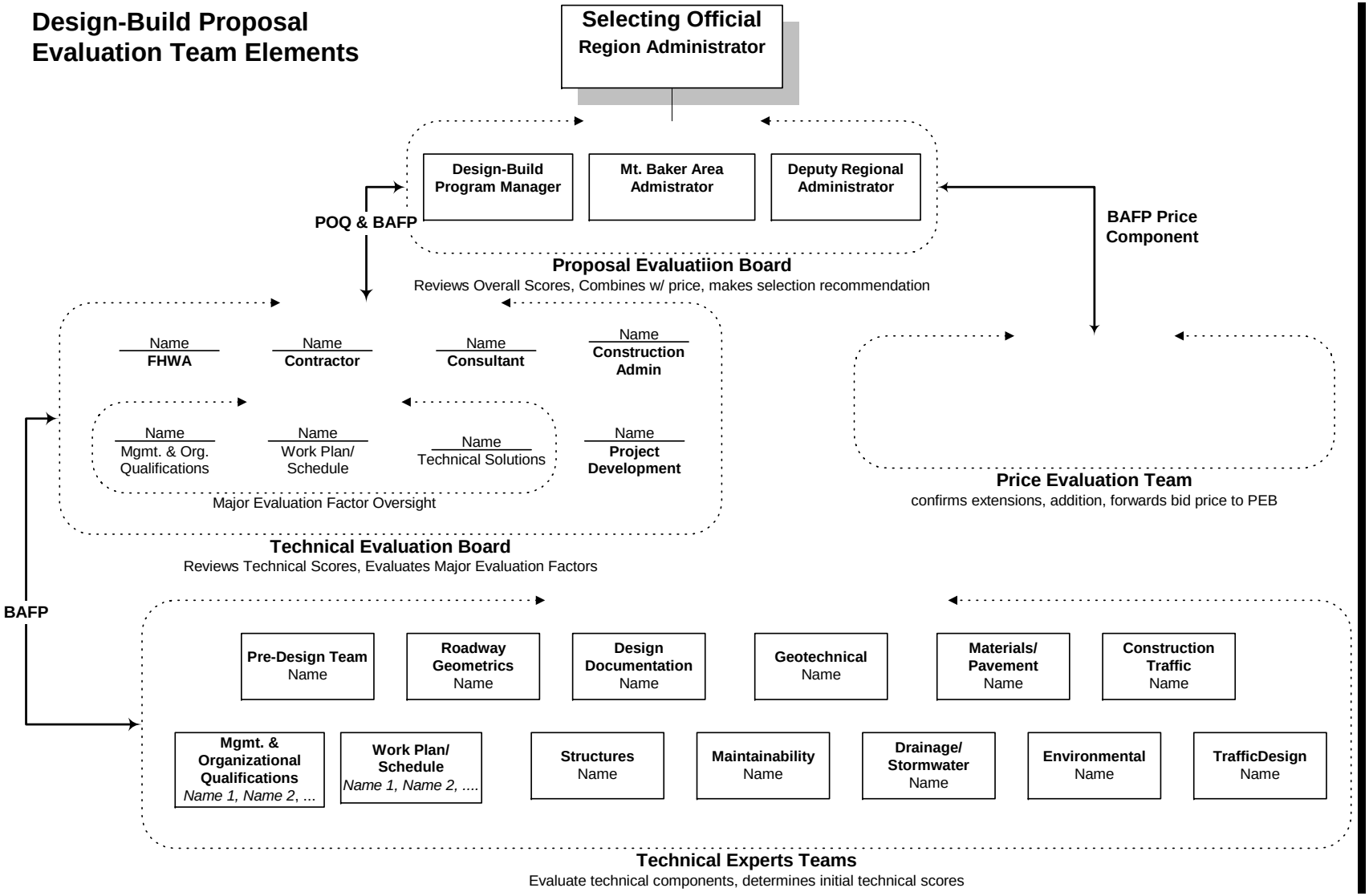
© 1998, CH2M HILL, Inc.



APPENDIX 2

Evaluation Team Chart

Design-Build Proposal Evaluation Team Elements



APPENDIX 3

RFQ

1.0 Proposal of Qualification Requirements

1.1 Introduction

This Request for Qualifications package (RFQ), dated **$$$?$$$**, is issued by the Washington Department of Transportation (WSDOT) to seek a Design-Builder to perform the [Project Name] (the "Project") in [Location], Washington. After evaluating Design-Build highway projects in several other states, WSDOT has determined that the use of Design-Build contracting for certain types of highway projects may provide advantages over the normal project delivery methods. The reasons for using the Design-Build contracting method on this project include:

1. There is an opportunity for greater innovation and efficiencies between the designer and the builder than using the Design-Bid-Build method, and;
2. A significant savings in project delivery time could be realized by using Design-Build.

The Design-Builder selected will perform the Project under a Design-Build contract (the "Contract"). The procurement is a two-step process based on WSDOT's evaluation of (1) Proposals of Qualification (SOQs) in response to this RFQ, and (2) Final Proposals in response to WSDOT's Request for Proposals (RFP). Submittal of SOQs is open to any entity that is prequalified with WSDOT for work class $$$?$$$ or $$$?$$$, or that includes a construction contractor partner or member prequalified with WSDOT for work class $$$?$$$ or $$$?$$$in the amount of $$$?$$$ million dollars or more. Based on an evaluation of SOQs, WSDOT anticipates selecting between three and five Proposers to submit Final Proposals. (Firms or teams of firms submitting SOQs are referred to as Proposers in this document.)

A draft RFP accompanies this RFQ as Exhibit E. The draft is provided so that:

1. Proposers may understand the scope of the project adequately to prepare the SOQ, and;
2. Proposers may provide comments to WSDOT to aid in the development of the final RFP.

See Section 1.4 below for information on how to make comments. WSDOT reserves the right to make changes to the RFP in its sole discretion.

The Contract is anticipated to be executed in $$$?$$$, and will cover approximately a $$$?$$$ year period. The total current value of the Contract is estimated to be in the range of $$$?$$$ to $$$?$$$.

1.2 Submitting Proposals

Sealed submittals must be marked

Statement of Qualifications
[Project Name] Project

and will be received on or before $$$?$$$ p.m. Pacific Time $$$?$$$ at:

Washington State Department of Transportation
310 Maple Park Drive SE
Transportation Building, Room 1D21
Olympia, WA 98504-7360.

The sealed submittals must include one original SOQ bearing an original signature and seven copies of the SOQ.

The Introductory letter of the SOQ must be signed by a representative authorized to bind the Proposer. By submitting the SOQ, each Proposer agrees to be bound by the requirements specified in this RFQ.

Faxed submittals and/or late submittals will be not be accepted. Proposers shall submit their SOQs in writing, and must respond to all requirements set forth in this RFQ.

1.3 Pre-Proposal Conference

A pre-proposal conference is scheduled on $$$?$$$ at $$$?$$$ p.m. to $$$?$$$ p.m. PT, at the $$$?$$$, WA**.** The purpose of the conference is to answer any questions Proposers may have related to preparation of SOQs or to project scope.

1.4 Inquiries and Comments

Inquiries and comments relating to any and all aspects of this RFQ and/or RFP must be in writing (e mail acceptable) and directed to:

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
[Project Engineer], (Project Engineer)
$$$?$$$
$$$?$$$
$$$?$$$ @wsdot.wa.gov
FAX $$$?$$$

All inquiries and comments must be received no later than 5:00 pm, $$$?$$$, in order to be answered and/or considered for inclusion in the final RFP. Answers to substantive questions will be made available to all RFQ recipients via e mail; and when appropriate, revisions, substitutions, or clarifications will be issued as official addenda. [Project Engineer],(Project Engineer), is the only WSDOT employee authorized to provide further information on this project during preparation of the Statement of Qualifications. Changes/modifications to the RFQ and/or RFP shall be *only* in the form of written addenda issued by WSDOT.

1.5 Obtaining Requests for Qualifications

Persons with disabilities may request this information be prepared and supplied in alternate forms by calling collect (206) 664-9009, Seattle area 587-5500 (TDD or V), or outside Seattle 1-800-833-6388 (TDD or V.)

The ad may be viewed in electronic format at our web site at:

http://www.wsdot.wa.gov/fossc/cons/contaa/WSDOTPRO/default.htm

The RFQ and draft RFP are available in electronic format at our web site at:

http://www.wsdot.wa.gov/DesignBuild/Db/$$$?$$$.htm

1.6 Addenda

WSDOT reserves the right to revise this RFQ. Such revisions, if any, shall be in the form of written addenda issued by WSDOT. WSDOT will provide fax notification that an addenda is being issued and mail or fax the addenda to all known RFQ recipients.

2.0 Background and Project Description

[Insert a summary of the Project Description, the following are examples from the pilot projects]

"This project consists of the design and construction of a grade separation structure for the Thurston Way Intersection with State Route 500 (SR 500) in Vancouver, Washington. The eastbound on ramp and westbound off ramp at the Andresen Rd. Interchange will require modification as well. In addition, the SR 500 mainline will be overlaid with asphalt concrete pavement from Milepost (MP) 3.51 to MP 4.73

The purpose of this project is to improve the safety of the intersection and meet the Highway System Plan Highway Improvement service objective of eliminating major at-grade intersections on multi-lane highways with a speed of 45 mph (80 kph) or higher."

"The Project consists of the rehabilitation of the Portland cement concrete pavement (PCCP) and asphalt concrete pavement (ACP) in the NB and SB lanes and shoulders of Interstate 5 (SR5) in Bellingham, Washington between Mileposts 252.26 and 255.36.

The purpose of the Project is to improve the pavement structural integrity and surface smoothness of the mainline, shoulders and ramps. Required safety improvements include upgrading the interchange on and off-ramp connections and other minor safety items. "

Refer to the Scope of Work section of the draft RFP attached hereto as Exhibit E for a detailed description of the Project.

3.0 Required Contents for Proposals of Qualification

Each SOQ will be evaluated based on the following:

3.1 Pass/Fail Criteria

Each SOQ must comply with the requirements of this Section 3.1. SOQs not meeting all requirements of this section shall be considered non-responsive and may be rejected.

3.1.1 SOQ Format, Style and Length

In order to assure uniformity of the SOQs and to facilitate the evaluation process, all SOQs should be organized and labeled following the outline below:

Introductory Letter

1.1 Project Understanding and Approach

1.2 Project Team, Key Personnel and Processes

1.3 Past Performance

1.4 Quality Control Program

1.5 Safety Program

2.0 Supportive Material, including information required on exhibits:

A. Proposer Information

B. Financial Information

C. Work History

D. Related Work Experience

Proposer may use forms supplied with this RFQ, or duplicate format for word processor use.

Writing style should be concise and straightforward. Lengthy narratives containing extraneous information are discouraged. Proposers are encouraged to minimize total page count, however, firms using a type smaller than 12-point for the main text may be considered non-responsive. Proposers may use their discretion for the font size of other materials (e.g. graphics, charts). Foldouts, not exceeding 11x17, are permitted.

3.1.2 Introductory Letter

The SOQ shall include an introductory letter addressed to:

Washington State Department of Transportation
c/o Bid Room 1D21
310 Maple Park Drive
Olympia WA 98504-7360

The letter shall contain the following items:

1. The Proposers expression of interest in being selected for the Project;
2. A statement acknowledging receipt of all RFQ addenda, if any issued;
3. A statement that the Proposer or construction contractor partner or member of the Proposer is pre-qualified with WSDOT for work class $$$?$$$ or $$$?$$$ in the amount of $$$?$$$ million dollars or more;
4. A statement of the commitment of the key personnel identified in the SOQ to the extent required to meet WSDOT's schedule and quality expectations;
5. A statement that the Proposer will comply with WSDOT's policy on DBE requirements for the Contract and WSDOT's non-discrimination policy;
6. A summary of key points regarding the Proposer's qualifications;
7. A statement that the Proposer will comply with all applicable federal, state, and local laws and regulations; and
8. A statement that the Proposer, if selected, can provide the product detailed in the Scope of Work in the time limits established in the Scope of Work, and within the budget established for the Project.

3.1.3 Proposer General Information

Provide the information required on Exhibit A, Proposer Information (attached) for the Proposer, and for each member firm of the Proposer, as applicable. Member firms are defined to be the primary construction partner and primary design partner of the Design-Builder, and do not include other subcontractors or subconsultants.

3.1.4 Financial Information

Complete Exhibit B, Financial Statement, for the Proposer and for each member firm of the Proposer, as applicable. Construction contractors that have prequalified with WSDOT for the class of work on this project do not need to complete this step, but other Proposer member firms that are financially responsible for the completion of this project must do so.

3.2 Scored Evaluation Criteria

The SOQ shall address the following items listed below. Point totals possible are listed at each subheading. Points possible for each evaluation criterion follow each criterion.

3.2.1 Project Understanding (*300* points)

1. Discuss generally the tasks involved in the Project. Identify special issues or problems that are likely to be encountered. Illustrate clearly and concisely your understanding of the technical and institutional elements that must be addressed by the Proposer to achieve completion of the Project.
2. Discuss your understanding of the traffic control required for the Project and how traffic control will impact the Project schedule. Discuss any major traffic control issues that need to be addressed, and your solution.
3. Outline key community relations issues and how they will be addressed.
4. Provide a general description of key issues that might affect schedule.
5. Explain your understanding of partnering and how it will be implemented for specific tasks and issues on the Project.

Criteria for WSDOT Evaluation:

A. Major tasks, potential risk factors, and issues (e.g. safety, traffic staging and control, failure of a team member, partnering, current environmental regulations, WSDOT Design matrices etc.) are described along with identifying adequate methods for dealing with them. (*200* points)

B. Key issues affecting schedule are identified and realistic. (*100* points)

3.2.2 Proposer Project Team, Key Personnel and Processes (*300* points)

1. Describe in detail the organizational structure of the project team. Provide a description of any teaming arrangements, the functions and organizational structure of each team member, including key subconsultants and subcontractors. Specifically identify any team members who will take financial responsibility for the project, and identify any liability limitations.
2. Identify the following key personnel proposed for the Project:

   Design-Build Project Manager: Identify the person who (1) will be responsible for ensuring personnel and other resources are made available for the Project; (2) will handle contract administration matters, and; (3) will be ultimately responsible for the quality and timeliness of the Proposer's performance. Identify any other projects that person will be involved with concurrently and time committed to each project. State that person's position and authority within the design-build firm. Discuss previous similar projects for which this person has performed a similar function. Identify that person's experience working with WSDOT, local agencies and regulatory agencies.

Design Project Manager: Identify the person who will actively manage the design of the Project. Identify any other projects that person will be involved with concurrently and time committed to each project. List similar projects for which this person has performed a comparable function within the last five years. Discuss relevant experience, professional registrations, education and other components of qualifications applicable to the Project. Identify that person's experience working with WSDOT, local agencies and regulatory agencies.

Construction Project Manager: Identify the person who will actively manage the construction of the Project. Identify any other projects that person will be involved with concurrently and time committed to each project. List similar projects for which this person has performed a comparable function within the last five years. Discuss relevant experience, professional registrations, education and other components of qualifications applicable to the Project. Identify that person's experience working with WSDOT, local agencies, and regulatory agencies.

Quality System Manager: Identify the person who will actively manage the Quality Control/Quality Assurance program of the Project. Identify any other projects that person will be involved with concurrently and time committed to each project. List similar projects for which this person has performed a comparable function within the last five years. Discuss relevant experience, professional registrations, education and other qualifications applicable to the Project. (Note - per the WSDOT requirements for Quality Control, this individual shall be a Professional Engineer licensed by the State of Washington having a minimum of ten years supervisory experience in roadway or bridge design or ten years supervisory experience in inspection or materials testing on highway transportation construction projects or a combination thereof.) Identify that person's experience working with WSDOT, local agencies, and regulatory agencies in a similar capacity.

Project Engineer(s) and/or Other Key Personnel: Identify other key members of the Project team including sub-consultants/subcontractors that provide special expertise or will perform key tasks. Describe their anticipated roles. Identify experience working with WSDOT, local agencies, and regulatory agencies.

3. Describe any equipment or other resources the Proposer has that will enhance their ability to accomplish the Project. Describe any expertise or special capabilities of members of the Proposer's design-build team that are critical to the SOQ.

4. Discuss quantitatively how the Project would impact the current and anticipated workload of the office that will perform this work. Is staffing up necessary? If so, discuss the areas and how it will be accomplished. Describe the Proposer's internal procedures for developing, monitoring, and maintaining Project schedules.

5. Define the methods the Proposer has in place for addressing claims, contract modifications and schedule recovery to maintain the completion date.

Criteria for WSDOT Evaluation:

A. The Proposer's organizational chart and organization description clearly delineate the structure and interrelationships between members of the proposing team. There is a clear picture of responsibility and management approach, illustrating the Proposer's ability to deliver the Project on time and within budget. (*90* points)

B. The Proposer's financial statements, staffing, equipment, and other resources demonstrate the ability to carry out the Project as described. (*60* points)

C. Key personnel demonstrate specific relevant experience on design-build projects. (*60* points)

D. Key personnel demonstrate specific relevant experience on similar projects (non Design-Build) (*30* points)

E. Key personnel's relevant experience is at the appropriate level. (*30* points)

F. Key members of the team possess unique qualifications required of the Project. (*30* points)

3.2.3 Proposer's Past Performance (*200* points)

1. Provide a recent work history on the Work History form attached hereto as Exhibit C, or in similar format. If the Proposer is organized specifically for this project, list the last five projects completed by each of the Proposer's member firms. Include a contact name, current address, telephone number, and fax number.

2. Use the Related Work Experience Information form attached hereto as Exhibit D, or similar format, to discuss recent relevant experience of the Proposer and/or the Proposer member firms. To the extent possible list only projects similar in nature to the Project and that involve team members proposed for the Project. Describe total project costs and the total value of change orders and claims for each project. Describe any permit violations or environmental regulation violations. Include a contact name, current address, telephone number, and fax number for each project listed.

3. Provide examples of projects in which the contractor, design consultant, or project managers have completed their task ahead of schedule and/or below budget. Explain how this was accomplished.

4. Describe your experience developing the information for acquiring the permits required for similar projects and compliance with permit conditions and environmental regulations.

Criteria for WSDOT Evaluation:

A. The Proposer and/or Proposer member firms have demonstrated organizational and management capability to deliver similar projects using design-build contracting. (*40* points)

B. The Proposer member firms have demonstrated organizational and management capability, working individually or as a team, to deliver similar projects, using methods other than design-build. (*60* points)

C. The Proposer and/or Proposer member firms have demonstrated a history of resolving disputes without litigation, termination for cause, or liquidated damages. (*40* points)

D. The Proposer and/or Proposer member firms have demonstrated a history of completing similar projects with little or no cost or schedule growth, including experience with mechanisms to avoid delays and minimize claims. (*40* points)

E. The Proposer and/or Proposer member firms have demonstrated a history of meeting regulatory requirements without permit violations. (*20* points)

3.2.4 Quality Control Program (*100* points)

1. Identify Proposer's (or Proposer's member firms') internal policies and procedures for quality control and quality assurance.

2. Describe how the Proposer's internal quality control program would enhance the development of the Project.

Criteria for WSDOT Evaluation:

A. The experience levels of the Design and Construction QC/QA managers are sufficient to perform the tasks of overseeing Design and Construction QC/QA. (*50* points)

B. Proposer and/or Proposer member firms demonstrate QC/QA procedures for both design and construction that are proactive in providing a quality project. (*50* points)

3.2.5 Safety Program (*100* points)

1. Provide a brief overview of the Proposer's safety program.
2. Describe the past five years safety record on all construction projects. List circumstances and outcome for all citations.
3. Submit resume of Proposer's safety officer.

Criteria for WSDOT Evaluation:

A. Proposer and/or Proposer member firms have an established and effective safety program. (*40* points)

B. Proposer and/or Proposer member firms have a minimum of lost time accidents. (*40* points)

C. Proposer and/or Proposer member firms safety officer's experience is adequate to manage the safety program for the Project. (*20* points)

3.3 Supportive Material

In addition to the completed exhibits A, B, C, & D, this section of the SOQ may include organizational charts, capacity charts, graphs, photographs, maps, resumes, references, etc.

4.0 Proposal Evaluation and Shortlisting

4.1 Confidentiality and Security

Critical to the validity of the evaluation and selection process is the absolute necessity for confidentiality. Each participant in the evaluation process will sign a "Confidentiality and Non-Disclosure Agreement, No Conflict of Interest Statement." All proposal documents will be stored in a secured (locked) room during non-working hours, and reviewed in a common, secured area during the day. All evaluation notes and comments will be stored in the same manner. Documents will not be accessible to the general public, to Proposers, or to WSDOT employees not involved in the selection process.

4.2 SOQ Evaluation and Shortlist

Upon receipt of the SOQs, WSDOT will make an initial determination as to whether each SOQ is responsive, using pass/fail criteria established in this RFQ. WSDOT may exclude from consideration any SOQ that is not responsive to this RFQ. WSDOT will then assess how well the evaluation criteria were met and score accordingly. At any time during this process, WSDOT may make a determination that a SOQ is non-responsive.

WSDOT anticipates that it will select between three and five Proposers to send final RFPs and request Final Proposals in response thereto.

All Proposers submitting SOQs will be notified of the results of the shortlist selection process. WSDOT anticipates this process to take not longer than 30 calendar days from the date set for receipt of SOQs.

5.0 General Solicitation Information

5.1 Disadvantaged Businesses

WSDOT, in accordance with Title VI of the Civil Rights Act of 1064, 42 U.S.C. 2000a to 2000d-4, and Title 49 of the Code of Federal Regulations, part 21, Nondiscrimination in Federal-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all Proposers that it will affirmatively insure that in any contract entered into pursuant to this RFQ, disadvantaged business enterprise will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award.

5.2 Changes in Key Persons

Note that WSDOT requires that individuals and firms which are discussed in the SOQ will be retained throughout the solicitation and Contract period, in the capacities discussed, unless WSDOT approves replacement in writing.

5.3 Clarifications

WSDOT may at any time require any additional information or clarification from the Proposer that it may need to understand the Proposer's Project approach or other details of its SOQ.

5.4 Proposal Rejection and Cancellation

WSDOT reserves the right to reject any or all SOQs , waive informalities, and/or cancel the solicitation process in its sole discretion. WSDOT assumes no obligation of any kind for expenses incurred by any respondent to this solicitation. All submittals become the property of WSDOT and will not be returned.

5.5 Design-Builder Responsibility

The Proposer selected as Design-Builder for this project will be required to assume responsibility for all services outlined in the RFP and finalized in the Contract, whether the Proposer, a representative or subcontractor produces them.

5.6 Public Records

This RFQ and one copy of every selected SOQ received in response to it, together with copies of all documents pertaining to the award of a Contract, shall be kept by WSDOT and made a part of a file or record which shall be open to public inspection following the selection process. If a SOQ contains any information that is considered by the Proposer to be a trade secret under RCW 19.108 each sheet of such information must be marked with the following legend:

"This data constitutes a trade secret under RCW 19.108 and shall not be disclosed except in accordance with the Washington Public Records Act, RCW 42.17.260"

The Washington Public Records Act exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies "unless the public interest requires disclosure in the particular instance." RCW 42.17.310. Therefore, nondisclosure of documents or any portion of a

document submitted as part of a SOQ may depend upon judicial determinations made pursuant to the Public Records Act.

Identifying the SOQ in whole as a trade secret is not acceptable. Failure to identify a portion of the SOQ or proposal as a trade secret shall be deemed a waiver of any future claim of that information as a trade secret.

In the event of litigation concerning the disclosure of any material submitted by the submitting party, WSDOT's sole involvement will be as a stakeholder retaining the material until otherwise ordered by a court, and the submitting party shall be responsible for otherwise prosecuting or defending any action concerning the disclosure of the materials at its sole expense and risk.

5.7 Selection Protest

This Section sets forth the exclusive protest remedies available with respect to this RFQ. Each Proposer, by submitting its SOQ, expressly recognizes the limitation on its rights to protest contained herein, expressly waives all other rights and remedies and agrees that the decision on any protest, as provided herein, shall be final and conclusive unless arbitrary and capricious. These provisions are included in this RFQ expressly in consideration for such waiver and agreement by the Proposers. Such waiver and agreement by each Proposer are also consideration to each other Proposer for making the same waiver and agreement.

Every Proposer who submits a proposal shall be notified of its selection status. Any Proposer who claims to have been aggrieved by either having its proposal rejected by WSDOT or by not having been selected to submit a Final Proposal shall have seven calendar days after receiving notification to submit a written protest, including a statement of the grounds, facts, and any legal authority, and all documents and affidavits in support of the protest, to WSDOT. WSDOT shall not consider a protest submitted after the deadline established in this section. Evidentiary statements, if any, shall be submitted under penalty of perjury. The protestant shall have the burden of proving its protest.

WSDOT shall issue a written decision regarding the protest within 15 calendar days after the filing of protest. If WSDOT concludes that the entity filing the protest has established a basis for protest, the issue will be submitted to WSDOT's selection committee to determine whether the Proposers selected to submit Final Proposals should be revised.

If the protest is denied, the protestant may seek judicial review of WSDOT's decision in Thurston County Superior Court within five days of receiving WSDOT's decision denying the protest. Each party to such review shall bear its own attorney fees, expert witness fees, and other litigation costs.

5.8 Foreign Corporations

RCW 23B.15.010 requires that foreign corporations obtain a certificate of authority to transact business in the state of Washington, issued by the Office of the Secretary of State, before conducting business in the state. RCW 23B.01.400(1) defines a foreign corporation as a corporation for profit incorporated under a law other than the law of the State of Washington.

5.10 WSDOT's Right to Use Ideas

WSDOT reserves the right to use any ideas contained in any SOQ either in connection with the RFP or in connection with the Contract.

Exhibit A - Proposer Information

Name of Proposer: _____

Year Established: _____ Federal Tax ID No.: _____

Contact Person for this Project: _____

Contact Telephone No.: _____ Fax No.: _____

Representative authorized to bind the Proposer: _____

Title _____

A. Business Organization (check one):

☐ Corporation. Indicate the State and Year of Incorporation_____
(Complete Sections A-F.)

☐ Partnership (Complete Sections A-F for each member.)

☐ Joint Venture (Complete Sections A-F for each member.)

☐ Other (describe)_____

_____

(Complete Sections A-F for each member.)

B. Business Headquarters Address: _____

_____

_____

_____

C. Address of Office Performing
Work, if different from above:_____

_____

_____

_____

D. Bonding Capacity:

Total: _____ Available: _____

E. If the entity is a Joint Venture, Partnership, or other form of joint organization, indicate the name, role and amount of financial liability of each member firm in the space below. Provide the information requested in items A through F for each member firm and attach it to the SOQ.

Name of Member Firm	Role	Financial Liability

F. Is the firm under investigation by any agency of the federal government (e.g. the Justice Department, SEC, Department of Defense, Federal Trade Commission, etc.) or by any agency of a state or foreign government?

☐Yes ☐No

If yes, please explain.

Under penalty of perjury, I certify that the foregoing is true and correct, and that I am the firm's Official Representative.

By: _____

Print Name:_____

Title: _____

Date:_____

Exhibit B - Financial Statement

Provide all information requested below, and attach for each member firm a copy of a financial statement as audited or reviewed for its last fiscal year prepared in accordance with the standards of the American Institute of Certified Public Accountants. The only exception is for construction contractor member firms that are prequalified with WSDOT for the appropriate class of work for this project. The statement must be prepared by an independent certified public accountant registered and licensed under the laws of any state. Balance sheets, income statements, a statement of retained earnings, supporting schedules and notes, and the opinion of the independent auditor must accompany the financial statement. A compiled financial statement is not acceptable.

Name of Firm _____

The above firm is:

A parent firm of _____

A subsidiary firm of_____

End of firm's fiscal year:

Month_____ Day _____

Date of year end financial statement:

Month_____ Day _____Year _____

The firm certifies that its net worth has not substantially changed from the sum shown in the attached financial statement.

By:_____Title _____

Exhibit C - Work History

Firm Name _____

Check one:

☐ Proposer ☐ Construction Firm ☐ Design Firm

List the last five projects completed by the Proposer, or if the Proposer is organized specifically for this project, list the last five projects completed by each member firm.

Project Name, Location, and Nature of Work	**Nature of Your Firm's Responsibility**	**Project Owner**	**Name, Telephone, and Current Address of owner's project manager**	**Cost of your portion of work**	**Completion Date**

Work History (continued)
Firm Name _____

Project Name, Location, and Nature of Work	Nature of Your Firm's Responsibility	Project Owner	Name, Telephone, and Current Address of Owner's Project Manager	Cost of your portion of work	Completion Date

Exhibit D - Related Work Experience Information

Firm Name _____

Check one:

☐ Proposer ☐ Construction Firm ☐ Design Firm

Provide information on recent relevant experience of the Proposer, or if the Proposer is organized specifically for this project, provide information for projects completed by each member firm. To the extent possible list only projects similar in nature to the Project and that involve team members proposed for the Project. Describe total project costs and the total value of change orders and claims for each project. Describe any permit violations or environmental regulation violations. Include a contact name, current address, telephone number, and fax number for each project listed. Use additional sheets as necessary.

APPENDIX 4

Proposal General Requirements

PROPOSAL GENERAL REQUIREMENTS

1.0 Project Description Summary

[Insert Project Description summary, pilot project examples follow]

Example No. 1 - "This project consists of a design-build contract for the design and construction of a grade separation structure for the Thurston Way Intersection with State Route 500 (SR 500), and the realignment of the eastbound on ramp from Andresen Rd. and westbound off ramp to Andresen Rd. in Vancouver, Washington. In addition, the SR 500 mainline will be overlaid with asphalt concrete pavement from Milepost (MP) 3.51 to MP 4.73. See the Scope of Work for a more detailed project description."

Example No. 2 - "This project consists of the rehabilitation of the Portland cement concrete pavement (PCCP) and asphalt concrete pavement (ACP) in the NB and SB lanes and shoulders of Interstate 5 (SR5) in Bellingham, Washington between Mileposts 252.26 and 255.36, on a design-build basis. The project will use Federal funding.

The purpose of this project is to improve the pavement structural integrity and surface smoothness of the mainline, shoulders and ramps. In addition, the project will include safety improvements such as upgrading the interchange on and off-ramp connections and other minor safety items."

1.1 Major Work Items

[Insert a portion of the Project Description that defines the major work items, pilot project examples follow]

Example No. 1 - "SR 500 is an important east/west link in the Vancouver area, connecting I-5 and I-205 before heading east to Camas. The Thurston Way intersection is within the portion of SR 500 that has been determined to be a High Accident Corridor. The declining Level of Service (LOS) and increasing accident rate can be attributed to the growing volumes of traffic on SR 500 and particularly the high left-turn volumes at this present at-grade intersection. Thurston Way is one of the more congested north-south arterials in Clark County as it serves as direct access to Vancouver Mall, Vancouver Plaza, and other satellite shops, stores, restaurants, as well as high density housing.

The interchange is proposed as a safety strategy for a conceptual safety solution in the State Highway System Plan. Due to limited right-of-way and high left turn volumes, a preliminary investigation indicated that a single point urban interchange was feasible at this location. Retaining walls will be required to gain the height necessary for a grade separation.

This project will require design and construction work items in public relations, design and construction survey, roadway, signing, delineation, illumination, signalization, bridge and structures, hydrology/hydraulics, environmental, QC/QA for both design and construction, and contract administration.

The existing mainline pavement and shoulders beyond the limits of the proposed interchange

and Thurston Way will be overlaid/inlaid with asphalt concrete pavement. The mainline, ramp, and shoulder pavement within the interchange areas will be designed meeting WSDOT minimum pavement structure requirements. Surface drainage will be reconfigured for the additional impervious surface area. Water quality and quantity treatment will be required for an area exceeding the added impervious surface."

Example No. 2 - "This project will require design and construction work items in roadway, signing, delineation, illumination, bridge and structures, hydrology/hydraulics, environmental, QC/QA of design and construction, and contract administration.

The identified deficiency initiating the need for this project is the aged and deteriorated condition of the PCCP in the mainline and ACP in the shoulders of Interstate 5. "

2.0 Design-Builder Selection Process

2.1 Summary

The selection process for this project consists of two separate submittals, a Statement of Qualifications (SOQ) and a Final Proposal. Submittal of SOQs is open to any design-build team that includes a construction entity pre-qualified by WSDOT for the class of work involved. SOQs will be scored based upon criteria pre-announced in the Request for Qualifications (RFQ), then ranked. Based upon the highest ranked scores, no fewer than three and no more than five Proposers will be asked to proceed and develop a Final Proposal.

Final Proposals will consist of two separate proposals: A Technical Proposal and a Price Proposal. The Technical Proposals will be reviewed for responsiveness, then scored, according to criteria published in the RFP. The Price Proposal will then be publicly opened. The Technical Proposal score will be divided by the price to arrive at a final score. Assuming the Contract is awarded, it will be awarded to the responsive Proposer with the highest scored Final Proposal. At WSDOT's option, certain limited negotiations may occur with the selected Proposer prior to award. Contract execution will then take place.

2.2 FINAL PROPOSAL Evaluation Process

WSDOT has established a written evaluation and selection procedure that separates the Technical and Price Proposals and retains this separation until the technical evaluations are made and recommendations submitted to a high-level board which will review the Technical Proposal scores and make its recommendation to the selection official. The entire scoring procedure, including evaluation team meetings and scoring materials, will be strictly confidential until after the public opening of Price Proposals. All Evaluation Team members will be required to certify in writing that they have no conflicts of interest and that they will strictly adhere to the procedure herein described.

The procedure will involve the following steps:

- WSDOT receives Final Proposals; separates Technical and Price Proposals.
- Evaluation Team evaluates technical items according to established criteria (see later section of this RFP), assigns scores for major evaluation factors, and sums an overall technical score for each Proposer's Technical Proposal.
- Oral presentations made by Proposers. Approximately one week after Final Proposal s are submitted, each Proposer is allowed to make a one-hour oral presentation to all members of the WSDOT Evaluation Team. The presentations afford the Proposer the

opportunity to highlight the significant aspects of their Technical Proposals and their understanding of the RFP requirements. Oral presentations provide the evaluators an overall perspective of the project and offer a chance for the Evaluation Team to ask clarifying questions. Presentation and questions/answers shall not exceed 60 minutes.

- Technical Evaluation Team reviews scores, including clarifications from oral presentations.
- Proposal Evaluation Board reviews technical scores, and reports scores to the Selection Official.
- Price Proposal is publicly opened, price is combined with technical score according to the method described below:

The equation adopted for the WSDOT Design-Build selection process is a simple division of the technical score by the proposed price. In the example below, total possible for the technical score is [**1,000**] points. The technical score is then adjusted by a factor to create an order of magnitude similar to the price. For example, with a $10 million project and a 1,000 point system, the technical score would be multiplied by 10,000,000 to get to a useful whole number final score.

Total Score = (Technical Score x 10,000,000)/Bid Price ($)

An example of calculation scenarios follows:

Proposal Data:

Proposer	Tech Score	Bid Price
A	930	10,937,200
B	890	9,000,000
C	940	9,600,000
D	820	8,700,000

Scoring Calculations:

A $\frac{930 \times 10^7}{10{,}937{,}200} = 850$

B $\frac{890 \times 10^7}{9{,}000{,}000} = 989$

C $\frac{940 \times 10^7}{9{,}600{,}000} = 979$

D $\frac{820 \times 10^7}{8{,}700{,}000} = 942$

Proposer B would be chosen in this example.

2.3 Contract Award

WSDOT will negotiate with the highest scored Proposer to execute a contract. If unable to execute a contract, negotiations with that Proposer will terminate and begin with the next highest scored firm. This process will continue until the project is awarded or the selection process is terminated. In the event of identical best value scores, the Proposer with the lowest bid price will be awarded the contract. The Design-Builder awarded the contract shall provide a performance and payment bond for the contracted amount (RCW 39.10.050 (6)).

3.0 FINAL PROPOSAL Requirements

3.1 General Requirements

The Best and Final Proposal shall be delivered to the address below by $$$?$$$ p.m., local time, on $$$?$$$.

WSDOT
310 Maple Park Drive SE
Transportation Building, Room 1D21
Olympia, WA 98504-7360

Technical and Price Proposals will be accepted before and on the published date, and until the time specified. No proposals will be accepted after the time specified. Proposals shall be submitted in two separate, sealed parcels containing the Technical Proposal in one and the Price Proposal in the other. Parcels shall be clearly marked to identify the project and the Proposer. Each parcel shall also be clearly marked to identify the contents as the Technical Proposal or Price Proposal. All separately sealed parcels of the Final Proposal, except for rolled full-size drawings, shall be submitted together in one container.

3.2 Technical Proposal Requirements

25 copies of the Technical Proposal shall be submitted in bound volume on standard 8.5" x 11" paper. Charts and exhibits may be larger, but must be folded to the standard size. Design drawings shall be reduced 50 percent, correct scale reduction, to 11" x 17", and bound in a separate section of the Technical Proposal. For legibility, lettering size shall be such as to be not less than 1/16" on the 50 percent drawings. Proposals will not be returned to Proposers.

In addition, one set of full-size (22"x 34") and half-size drawings shall be submitted with each proposal.

Key project team members who were identified in the Statement of Qualifications shall not be changed in the Technical Proposal without written approval by WSDOT. Such a request may be sent to:

WSDOT
$$$?$$$, Project Engineer
$$$?$$$
$$$?$$$, WA $$$?$$$
Phone 360.XXX.XXXX
FAX 360.XXX.XXXX

Technical Proposals shall be submitted in a sealed package. The outer wrapping will clearly indicate the following information:

[Project Name]
TECHNICAL PROPOSAL
Submitted By: (Proposer's name)

3.3 Price Proposal Requirements

The Price Proposal shall be submitted in a single copy and shall contain the proposed price for performing the work specified in the contract. The Price Proposal shall be made on the following forms furnished by WSDOT. Failure to execute and include the required documents will render the proposal non-responsive. Copies of the following blank documents accompany this RFP in Appendix I:

- Bid Blanks WSDOT Form 272-036
- Non-Collusion Affidavit WSDOT Form 272-036H
- DBE Commitment Affidavit
- Proposal Signatures WSDOT Form 272-036D
- Bid or Proposal Bond WSDOT Form 272-001

Copies of the following forms are also included in Appendix $$$?$$$ for reference only - execution of these forms is required at the time of contract execution:

- Design-Build Contract Form
- Design-Build Performance and Payment Bond
- Design-Build Warranty Bond

Price Proposals shall be submitted in a sealed package. The outer wrapping will clearly indicate the following information:

[Project Name]

PRICE PROPOSAL
Submitted By: (Proposer's name)

3.4 Submittal and Review of Design Deviations

There are $$$?$$$ design deviations that have been approved as a result of preliminary investigations. Design deviations that have been approved are included in the RFP and described in the Scope of Work. If a Proposer wishes to propose a new design deviation, it may do so in accordance with the following procedure.

A. Deviation requests to WSDOT must be developed according to the Design Manual.

B. Deviation requests must be submitted to WSDOT on or before 15 business days prior to the submittal date of the Final Proposal. Four (4) copies of the submittal, labeled "SR 500 Thurston Way Interchange Design Deviations," shall be delivered to:

WSDOT
ATTN: $$$?$$$, Project Engineer
$$$?$$$
$$$?$$$, WA XXXXX-XXXX
[Project Name] Design Deviations.

C. WSDOT and FHWA will review the submittal within 10 business days and respond to the Proposer with a decision.

D. The submitted deviation request and results will not be disclosed to the other Proposers.

For deviation requests after selection of a Design-Builder, WSDOT and FHWA will review the written request within 10 business days and respond with a decision.

3.5 Stipend

An honorarium of $$$?$$$ shall be awarded to each Proposer on the short-list who provides a responsive, but unsuccessful, Best and Final Proposal. If a proposal is rejected as non-responsive, no honorarium shall be paid. If a contract award is not made, all responsive Proposers shall be offered the honorarium. The honorarium shall be paid to eligible Proposers within ninety days after the award of the contract or the decision not to award. Once award is made, unsuccessful Proposers will be notified of the opportunity to apply for the stipulated fee.

If the Proposer agrees to accept the honorarium, WSDOT reserves the right to use any ideas or information contained in the proposals in connection with any contract awarded for the project, or in connection with a subsequent procurement, with no obligation to pay additional compensation to the unsuccessful Proposers. Unsuccessful Proposers may elect to refuse payment of the honorarium and retain any rights to their proposal and the ideas and information contained in it.

3.6 Disadvantaged Business Enterprise Participation

Included in Appendix I of this RFP is the DBE Commitment Affidavit on which each Proposer shall state its ability or inability to meet the project's overall DBE goal.

The above documentation shall be submitted with the Final Proposal. Submittals shall be in a sealed parcel and shall be clearly marked to identify the project and the Proposer. No submittals will be accepted after the time specified. These parcels will be retained, unopened, until after

the Price Proposals have been opened. The outer wrapping will clearly indicate the following information:

[Project Name]
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
Submitted By: (Proposer's name)

3.7 Cash Flow Schedule

In addition to the project schedule submitted with the Technical Proposal, each Proposer shall submit a schedule of the projected monthly payments that would be earned if its proposed construction schedule is followed. These Cash Flow Schedules shall be submitted in a single copy.

The above documentation shall be submitted with the Final Proposal in a separate sealed parcel and shall be clearly marked to identify the project and the Proposer. These parcels will be retained, unopened, until after the Price Proposals have been opened. The outer wrapping shall clearly indicate the following information:

[Project Name]
CASH FLOW SCHEDULE
Submitted By: (Proposer's name)

3.8 Escrow of Proposal Documents

In accordance with the requirements of Section 1-03.3 of the Special Provisions, the highest scoring Proposer shall deliver one copy of all documentary information used in preparation of its Price Proposal to the escrow agent chosen by WSDOT, prior to execution of the Contract. On the same date, the highest scoring Proposer shall provide to WSDOT an escrow agreement on the form contained in Appendix I fully executed by the Proposer and the escrow agent.

3.9 Clarification of Submittals

WSDOT reserves the right to require clarification of any submittals during the period following submittal. The Proposer agrees to respond to WSDOT's requests with the appropriate personnel to answer questions necessary to provide clarification of any areas where the intent or meaning of the submittal is in doubt.

Such requests will be for purposes of clarification only. Changes or modifications to the Technical or Price Proposal will not be permitted.

3.10 Responsiveness of Technical Proposal

The Technical Proposal shall be representative of a complete work that meets or exceeds the requirements of the Request for Proposal. WSDOT will evaluate and score each Technical Proposal based on the Proposer's demonstration of meeting or exceeding the minimum requirements of the Request for Proposal. Concepts with deficiencies or defects, i.e., that do not meet the minimum requirements of the Request for Proposal, will be scored proportionately lower.

The Proposer with the highest scoring Best and Final Proposal must cure, to the satisfaction of WSDOT, all Proposal defects. WSDOT will provide a detailed list of identified defects and deficiencies in a "Notice of Design-Build Best and Final Proposal Responsiveness" prior to the award of contract. The time required to cure the identified defects will be in accordance with Section 1-03.2. Failure to so cure all identified defects will result in forfeiture of Proposer's Best and Final Proposal Deposit (Section 1-02.7) and claim to the Stipend.

WSDOT's acceptance of a Best and Final Proposal with latent defects or deficiencies shall not relieve the Design-Builder of the obligation to meet the requirements of the Contract Provisions (See Special Provisions Section 1-04.4).

This provision does not supersede other RFP requirements where a proposal may be found irregular (e.g. Standard Specifications 1-02.13, 1-02.14).

APPENDIX 5

Technical Proposal Contents and Evaluation Criteria

TECHNICAL PROPOSAL CONTENTS AND EVALUATION CRITERIA

The Technical Proposal shall be developed using narratives, tables, charts, plots, drawings, and sketches as appropriate. The purpose of the Technical Proposal is to document the Proposer's understanding of the project, its selection of appropriate design criteria, and its approach for completing all design and construction activities.

Each shortlisted Proposer shall present sufficient drawings and other documentation to ensure complete comprehension of the design solution and meeting the specific requirements of the Technical Proposal criteria. Plans shall be prepared in accordance with the WSDOT Plans Preparation Manual.

Each Proposer shall prepare written narratives confirming compliance with the Scope of Work and other required bases of design for engineering, and construction concepts, and the structural systems to be used as deemed appropriate by the Proposer.

Information to be included as a minimum in each section is itemized below. Point totals for evaluation purposes are listed for each major factor, and at each subheading. The entire contents of the proposal will be used to evaluate how well each of the following major factors is addressed, with the following maximum points allowed:

Major Factor	Points Possible
1. Management and Organization	[*100*]
2. Schedule	[*100*]
3. Technical Solutions	[*800*]
TOTAL	[*1000*]

[The point distribution shown above and represented by the evaluation criteria shown below, are related to the SR 500, Thurston Way Design-Build Pilot Project. Additional evaluation criteria are also shown for the SR5, Pavement Rehabilitation, Pilot Project when they differed]

1.0 Management and Organization (*100* Points)

Each proposal shall provide information substantiating the Proposer's capability to accomplish the work described in this RFP. The proposal shall include an explanation of the Proposer's approach to project management and the capabilities to provide the personnel, facilities, and equipment to complete the project.

The proposal shall clearly illustrate the Proposer's capabilities to: (a) control and coordinate the various subcontractors and other resources; (b) interface with WSDOT; (c) control the costs and schedules of the project; (d) comply with federal, state and local environmental and other applicable laws and requirements; and (e) provide the experienced personnel and facilities required to successfully complete the project.

The proposal shall provide a description of the organizational structure and management methodology to be used by the Proposer for completing the work and shall meet the following requirements:

1.1 Organization Narrative and Charts

The proposal shall include a chart or charts indicating the basic structure of the Proposer's organization and the roles, responsibilities and functions of each sub-organization, including the interrelationships of project management, design, construction, and QC/QA, and subcontractors, suppliers, and subconsultants. Chart(s) supplied shall identify key persons for the design, construction, and QC/QA management effort. Also, describe the methods to be used to ensure necessary coordination among these organizations.

For each of the key personnel, the proposal shall include a description of his or her function and responsibility relative to the project. The proposal shall indicate the percent of time each key person will devote exclusively to the project.

At least the following positions will be considered "key personnel" by WSDOT:

- Design-Build Project Manager
- Construction Project Manager
- Design Project Manager
- Design-Builder Quality System Manager

The Proposer's organization chart shall indicate any additional positions considered key personnel and show their relationship to other key personnel.

1.2 Management Controls

The proposal shall describe the Proposer's management system to be used during all phases of the project to control and coordinate the cost and schedule of the work.

A brief narrative description of the proposed project control approach shall be provided, which shall include at least the following:

- Description of the Proposer's system for preparing and updating schedule and calculating progress performance.
- Description of the Proposed plan to integrate subcontractor and subconsultant activities into its scheduling and reporting system.
- Description of how the Proposer approaches re-scheduling of its own and subcontractors' and subconsultant activities to achieve schedule recovery objectives and how the Proposer enforces these objectives with its work force and its subcontractors and subconsultants.

1.3 Design Management

The proposal shall include the following:

The Proposer's concept of design management, including a description of the plan for coordination of civil/structural, utilities, railroads, traffic maintenance, third party liaison, constructability and maintainability, community relations and environmental mitigation.

A brief narrative description of the proposed plan for furnishing the design work for the project shall be provided. This plan shall include at least the following items:

- The proposed location of the design office(s)
- A description of the work, which the Proposer anticipates will be performed by the Proposer's, own direct labor force and those categories that will be performed by subconsultants.
- A description of how the Proposer's design personnel will interface with the Proposer's construction personnel and WSDOT personnel.

1.4 Construction Management

The proposal shall describe the Proposer's concept of the project construction management and how it interrelates with the other elements of management of the project. A brief narrative description of the proposed plan for construction of the project shall be provided. This description shall include at least the following:

- A construction organization chart for the project, showing the relationships between functions shown on the chart and the functional relationships with subcontractors. The chart shall indicate how the Proposer intends to divide the project into work segments to enable optimum construction performance.
- A description of those categories of work, which the Proposer anticipates will be performed by the Proposer's, own direct labor force and those categories that will be performed by subcontractors.
- The Proposer's plans and procedures to ensure timely deliveries of materials to achieve the project schedule.

1.5 Quality Management Program

The Proposer shall submit a comprehensive Quality Control/Quality Assurance Plan, which covers its responsibilities and actions for both the design and construction phases. This plan, at a minimum, shall address the requirements outlined in Section 1100 of the Scope of Work and specifically address:

Design	**Construction**
Quality Control	Quality Control
Technical Review	Quality Acceptance
Design Oversight Review	Verification Correlation
Plan Implementation	Independent Assurance Correlation
Quality Manager	Quality Manager
	Testing Supervisor
	Workmanship Inspection
	Plan Implementation

1.6 DBE Performance Plan

The proposal shall provide a DBE Performance Plan, outlining how, and in which subcontract areas of work, the Proposer intends to meet the DBE goals.

1.7 Coordination with Other Agencies

The proposal shall describe the plan for coordination with Federal, State and local agencies, including State Patrol, emergency response agencies, WSDOT's maintenance forces (including snow and ice removal), railroads, and city and county government. The person(s) who will have lead responsibility for such coordination shall be identified.

1.8 Public Relations

The proposal shall describe plans for dealing with public information including staff contact(s) and details of interaction with WSDOT in a team relationship. Elements of the public information plan are described in Section 425 of the Scope of Work.

The proposal shall describe plans for meeting the objectives set forth in Section 425 of the Scope of Work according to the strategies presented (with special emphasis on stakeholder concerns), and/or according to strategies recommended by the Proposer. The Proposer is encouraged to recommend other innovative strategies.

1.9 Safety

The proposal shall provide a summary of the Project Safety Plan, describing how it will be implemented and coordinated among the various entities working on the project. The key person who will be assigned safety responsibilities on the project shall be identified.

Summarize the plan for public safety with respect to the project.

1.10 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the management and organization major factor:

[The following criteria and scoring breakdown is from the pilot projects, review and adjust according to the required emphasis the current project]

Criteria		Points Possible
A.	Organizational structure as illustrated by charts and narrative for all phases of the project	*5*
B.	Proposed management system to control and coordinate the cost & schedule and adequacy of the DBE plan for meeting the DBE goals	*5*
C.	Procedures to control and coordinate the work of subcontractors and subconsultants	*5*
D.	Project Management and Organization consistency with Schedule	*15*
E.	Concept of design management and coordination	*5*
F.	Plan for coordinating design and construction schedule with others	*15*
G.	Processes for integrating design and construction aspects of the project	*5*
H.	QC/QA plan for design and construction	*20*
I.	Procedures for interfacing with WSDOT, and Federal, State and local agencies	*5*
J.	Public Relations	*10*
K.	Safety	*10*
Total		***100***

2.0 Schedule (*100* Points)

The proposal shall include information sufficient to allow WSDOT to evaluate the proposed schedule, and shall meet the following requirements:

2.1 Narrative

The proposal shall include a description of the Proposer's Work Breakdown Structure (WBS), including project phases and major activities. Describe the inter-relationships between the WBS, phases, and major activities and how the breakdown facilitates coordination between design, review, and construction of the project. The proposal shall describe how the WBS is consistent with the Proposer's organization and approach to management.

2.2 Chart

A preliminary schedule for the project shall be provided, showing the WBS, phases, and major activities. The schedule shall show the sequence and continuity of operations, as well as the date of physical completion. Some activities that are project-wide, such as QC/QA, may be shown as stand alone activities on the schedule.

The proposed schedule shall be broken down to show activities in sufficient detail to show construction sequencing and significant project interrelationships.

The schedule shall show the activity relationships, duration, and timing of the phases, and activities for engineering, construction, and maintenance during construction. The schedule shall reflect major project milestones, if any, designated by WSDOT or the Proposer. The schedule shall account for all schedule constraints indicated in the contract provisions.

2.3 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Schedule major factor:

	Criteria	Points Possible
A.	Meeting or improving upon the completion deadline in the RFP. For completion of the contract [***100***] calendar days sooner than the date indicated in the Special Provision, Time For Completion, the Proposer would obtain all [***50***] points. Other dates would be prorated and rounded to the nearest whole point.	*50*
B.	Clarity and completeness of Proposer's work breakdown structure	*10*
C.	Logical sequencing and integration of activities and phases	*20*
D.	Adequately addressing the interrelationships of design and construction	*20*
Total		***100***

3.0 Technical Solutions (*800* Points)

The Technical Solutions major factor score will be the total of scores for each of the areas listed in this section. In addition, each of the areas listed below will be used as additional information in the evaluation of the other two major factors, Schedule, and Management and Organization.

3.1 Geotechnical and Earthwork (*100* Points)

Describe any additional geotechnical investigation to be done for geotechnical design. Submit a

Geotechnical Plan that includes information on the design and construction approach proposed for the following geotechnical features and issues for the project:

A. Excavation and embankments (i.e. slopes, material source, quality, settlement, stability, seismic design), including any ground stabilization or other mitigating measures required for successful construction and long-term performance

B. Walls (i.e. types, foundation systems, settlement, stability, seismic design).

C. Structure foundations (i.e. types, settlement, bearing capacity, seismic design) and installation techniques.

D. Geotechnical design for stormwater facilities.

For each of these geotechnical features and issues, describe the design approach proposed in terms of the design codes, standards, manuals, and methods which will be used, as well as any assumptions that will be used to accomplish the design. Describe creative or innovative ways the geotechnical design, construction, and/or choice of wall and foundation types, and ground stabilization techniques, if needed, will benefit and/or enhance time, quality, and cost aspects of the project. Also describe how the design will address the constructability and long-term performance of the project geotechnical features. The approach proposed for QC/QA for the design, construction, and performance of the geotechnical project features should also be provided.

3.1.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Geotechnical and Earthwork component of the Technical Solutions major factor:

Criteria	Points Possible
*A. **Site investigation approach** - The approach used demonstrate thoroughness, such that the risk of surprises during construction are minimized. The site investigation approach should also demonstrate that adequate input data is obtained to have confidence in the geotechnical design.*	*15*
*B. **Design approach** - The appropriate and knowledgeable use of standards, codes, manuals and design methods, which are widely accepted, coupled with sound geotechnical engineering experience and judgment. Use of design innovation which yields cost and/or time savings is also important, but it must be demonstrated that any increased risk is mitigated through the use of sound geotechnical engineering principles and thoroughness of design/investigation, coupled with a good performance verification program. The design approach is linked to the investigation approach, constructability, long-term performance, and the QC/QA approach to be used.*	*25*
*C. **Constructability of geotechnical elements related to shared risk issues** – Description of constructability issues that affect the exposure of the state in the areas of shared risk. Constructability issues should be addressed in a way that demonstrates that areas of shared risk will be minimized.*	*20*
*D. **Long-term performance of geotechnical elements** - The Proposer chooses materials and design alternatives which have a history or acceptance among practitioners for good long-term performance. The*	*20*

Proposer demonstrates steps that will be taken to minimize the State's exposure to any potential long-term performance problems.	
E. ***Geotechnical QC/QA approach*** *- The approach used insures that the design is well thought out and error free, and that the quality of the constructed product in terms of material properties and performance is adequately verified and documented.*	*20*
Total	***100***

3.2 Pavement (*100* Points)

The Proposer shall submit its plan to meet the requirements of the Scope of Work and Warranty described in the contract provisions. The plan shall describe how the Proposer plans to address the performance parameters of ride quality, skid resistance, durability, structural capacity, material quality, maintainability of pavements and construction sequence as it relates to the project.

3.2.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Pavement component of the Technical Solutions major factor:

Criteria	Points Possible
A. Site investigation approach - Appropriate and validated technology for the characterization of subgrade soils and/or the existing pavement structure. For pavement rehabilitation, methodology used to establish existing pavement condition and identification of site location for pavement repair and remedial action.	*20*
B. Design/Rehabilitation Approach - Appropriate use of local and national standards, guides, manuals, and design methodology, coupled with sound pavement engineering and experience.	*20*
C. Material Selection - appropriate use of materials that have locally proven to result in long-term pavement performance.	*20*
D. Constructability - Pavement section and all associated components is designed such that constructability is ensured. C..	*20*
E. Pavement QA/QC Approach - Methodology used to ensure pavement sections are constructed as designed and minimization of defects that may result during construction such that long-term performance is not jeopardized.	*20*
Total	***100***

3.3 Environmental and Other Permits (*25* Points)

Describe the Proposer's approach for providing required permits that are the responsibility of the Design-Builder. Describe the Proposer's approach for providing environmental information identified in the Scope of Work for Permits that WSDOT will obtain. Describe the problems anticipated in these areas and the proposed solutions. Indicated the acres of wetlands disturbed by the proposal.

3.3.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the

Environmental Permits component of the Technical Solutions major factor:

Criteria	Points Possible
A. Understanding of the permits required for the project	*5*
B. Understanding of the process for obtaining permits	***5***
C. Description of anticipated problems and their solutions	*5*
D. Wetlands disturbed - If 0.3 acres or less are disturbed then the proposer shall receive all the points. If 0.5 acres or more are disturbed then the proposer shall receive zero points. If the acreage of wetlands disturbed is between 0.3 and 0.5 acres then the points shall be prorated, accordingly.	*10*
Total	***25***

3.4 Utility Relocation Plans (*25* Points)

Identify what utilities will likely be in conflict with design features and will need to be relocated. Identify what has been done to coordinate and plan for the relocation of affected utilities.

3.4.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Utility Relocation Plans component of the Technical Solutions major factor:

Criteria	Points Possible
A. Description of communication during Proposal development	8
B. Approach to maintaining a working relationship with the Utilities	5
C. Approach to coordinating with the Utility Owners during the design and construction of the project	12
Total	**25**

3.5 Roadway Design and Features (*150* Points)

Identify the preliminary horizontal and vertical alignment of all roadway elements. Provide plans utilizing the Department's Interchange Plan for Approval and Intersection Plan for Approval, as a guide to preparing the plans. The plans shall show enough detail to show the intersection of the on and off ramps along with the channelization, and the modifications to the ramps, or any other modifications to the mainline.

Provide profiles utilizing the Plans Preparation Manual as a guide.

On a plan view, identify the significant design features including channelization, barriers, guardrail, slopes, pedestrian facilities and structures. Illumination, signing, signals and SC&DI details may be provided on plan sheets or separately, as described in the Traffic Engineering Section of these requirements. Identify the appropriate design criteria for each feature.

Identify any deviations, other than approved design exceptions, from established design criteria that will be utilized. Explain why the deviation is necessary.

3.5.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the

Roadway Design Features component of the Technical Solutions major factor:

Criteria	Points Possible
A. *Innovative modifications to the Department's minimum requirement as stated in Scope of Work Section 440 that will improve the safety and mobility for the traveling public within the project limits*	*45*
B. *Clarity and detail of the geometrics and design features. The roadway geometry utilizes the appropriate horizontal and vertical alignment, lane and shoulder widths, on/of connections, cross slopes, fill/ditch slopes, clear zone, barriers, ramp terminals, and other safety features. The design meets the intent of the project, and includes all the necessary steps and elements.*	*60*
C. *Design for moving pedestrians through the corridor safely, and connecting into and maintaining the existing pedestrian facility.*	*45*
[Following are other criteria considered in the pilot projects]	
X. Roadway Geometric Integrity - The appropriate horizontal and vertical alignment, lane and shoulder widths, On/Off connections, cross slopes, fill/ditch slopes, clear zone, bridges, barriers and ramp terminals.	
X. Geometric balance/trade offs - Innovative design to minimize number of design deviations and evaluate upgrades while maintaining roadway geometric integrity.	
X. Completeness of the design - How the design meets the intent of the project and if the design concept includes all the necessary steps and elements.	
X. Innovative modifications to the Department's minimum requirements as stated in Scope of Work Section 440 that will improve the safety and mobility of the traveling public within the project limits.	
Total	**150**

3.6 Structure Features (*100* Points)

Define the structure types of bridge(s), retaining walls and noise walls that will be used for the project. Provide drawings showing plan, elevation and typical sections with dimensions. Provide a maximum three page description for (each) bridge and a maximum one page description for each wall, of the structure type, design criteria, methods of structural analysis, construction materials, design life considerations, and a description of creative or innovative aspects of the design and construction that will benefit the quality, time or cost of the project.

3.6.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Structure Features component of the Technical Solutions major factor:

Criteria	Points Possible
A. Selection of appropriate structure type, functional, cost effective,	*70*

constructible and aesthetic, in accordance with AASHTO and WSDOT bridge design and bridge materials practices and standards.	
B. Clear and concise structural drawings and written submittals.	*15*
C. An effective QC/QA structures program for the design builder and WSDOT.	*15*
[Following are other criteria considered in the pilot projects]	
X Design Approach - The appropriate and knowledgeable use of standards and methods coupled with sound structural engineering judgment. How well the design meets the intent of the project and if the design concept includes all the necessary steps and elements.	
X. Aesthetic structure designs - How well the structures complement and contribute to the overall Project appearance and unity with existing structures in the corridor.	
X. Innovative modifications to the Department's minimum requirements as stated in Scope of Work Section 445 that will improve the safety and mobility of the traveling public within the project limits.	
Total	***100***

3.7 Drainage Design (75 Points)

Describe, using a narrative and conceptual plans, the temporary and permanent stormwater Best Management Practices (BMP's) and drainage features for the project. Include project drawings showing the existing and new transportation corridor, surface water drainage features, critical habitats, sensitive areas, and significant geologic features (soil, slopes, and geology). Describe how the design will satisfy requirements in the Scope of Work. Provide a drainage summary for each drainage basin showing total impervious and non-impervious areas, total impervious area receiving treatment, runoff design assumptions and methodology. Provide a conceptual temporary erosion and sediment control plan. Identify unique designs, including reasons for the unique designs.

3.7.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Drainage Design component of the Technical Solutions major factor:

Criteria	Points Possible
A. Design Approach - Appropriate and knowledgeable use of Highway Runoff Manual design features and more restrictive local requirements. Approach to meeting treatment and detention requirements for the stormwater collected from the project site. Plan for coordinating with local agency requirements in developing the stormwater plan.	*25*
B. Project Specifics - Design considers the unique and sensitive hydrologic, environmental, and water related issues within the project drainage areas. Appropriate and reasonable construction related activities are	*30*

addressed and mitigated. Design acknowledges and responds to changing conditions during construction. Innovative design has been utilized successfully under similar conditions.	
C. Completeness of Design - Permanent drainage features meet current design standards, and are functional and maintainable.	*20*
[Following are other criteria considered in the pilot projects]	
X. Temporary Erosion and Sediment Control - Appropriate and reasonable use of temporary stormwater BMP's for addressing and mitigating construction activities. Design acknowledges and shows responsiveness to changing conditions during construction.	
X. Innovation - Design includes innovation that improves the effectiveness of the treatment facilities. Innovative design has been utilized successfully under similar conditions.	
Total	***75***

3.8 Traffic Engineering Design (*100* Points)

Describe the design methodology, construction and efficiency of the illumination system, and how it provides the required illumination while avoiding external light pollution and detrimental glare, and provides ease of maintenance and durability while maintaining power and lighting efficiency. Provide conceptual plan sheets on the Roadway plans or separate drawings.

Describe the design methodology including the manuals required, the construction and efficiency of the signal system. Provide conceptual plan sheets on the Roadway plans or separate drawings.

Describe the design methodology including the manuals required, the construction and efficiency of the permanent signing. Describe signing elements to be provided on all roadways and the various stages of construction of the signing. Provide conceptual plan sheets on the Roadway plans or separate drawings.

Describe the design methodology including the manuals required, the construction and efficiency of the SC&DI. Provide conceptual plan sheets on the Roadway plans or separate drawings.

Describe the methodology for designing the temporary illumination and signal systems. Provide conceptual plan sheets on the Roadway plans or separate drawings.

3.8.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Traffic Engineering Design component of the Technical Solutions major factor:

Criteria	Points Possible
A. Approach to designing and constructing the illumination system, which would include a conceptual plan / description showing system sufficiency combined with energy consumption economy as specified in the design	*10*

criteria for Roadway Lighting, Section 460.01, shielding and glare minimization, ease of and accessibility for maintenance, and construction / product economy	
B. Approach to designing and constructing the signal system, which would include a conceptual plan / description showing system sufficiency in providing vehicular and pedestrian flow within the intersection as specified in the design criteria for Intersection and Signalization, Section 460.03, ease of and accessibility for maintenance, coordination with adjacent traffic control systems, and construction / product economy.	*25*
C. Approach to designing and constructing the permanent signing which would include a conceptual plan / description of the methods and signing elements as specified in the design criteria for the Signing and Delineation Plans, Section 460.02.	*10*
D. Approach to designing and constructing the SC&DI system which would include a conceptual plan / description incorporating all required components of the ITS as specified in the design criteria for SC & DI, Section 465, ease of and accessibility for maintenance, and construction / product economy.	*25*
*E. Plan for designing and constructing the temporary illumination and signal systems for this project, which would include conceptual staging, plans incorporation of temporary illumination system, and conceptual staging plans incorporation of temporary signal system. A conceptual plan describing the methods and signing elements for the temporary signing during various construction stages as specified in the design criteria for the Traffic Control Plans and Detour Plans, Section 470.01 & 470.02, ** *	*30*
Total	***100***

3.9 Maintenance During Construction and Maintainability (25 Points)

This section contains two parts; maintenance performed while the project is under construction and how maintainable are the features after construction is complete.

During Construction

Provide a description on how the Design-Builder will coordinate required maintenance activities within the construction zone as it relates to the Construction Zone Responsibility Work Sheet in Appendix J Include a description on how the Design-Builder will ensure a safe and clean work zone, their ability to be responsive to urgent calls during non-working hours, performing timely repairs to damage caused by a third party and how they will prevent standing water from forming on the traveled lanes.

Maintainability

Provide a description on access to features requiring maintenance and how impacts to the traveling public will be minimized. The description is to include maintenance access for items such as sweeping, cleaning of catch basins, repairing guard rail, signing, detention and retention ponds, under ground retention-detention vaults, etc.

Describe how the design and materials chosen to improve traffic safety and water quality will improve how those items are maintained. Consideration should be given to frequency of maintenance and special tools or equipment required to perform maintenance. Items to

consider are guardrail, attenuators, signing, retaining walls, noise walls, pavement markings, retention and detention ponds, underground retention-detention vaults, catch basins/manholes and roadside landscaping.

3.9.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Maintainability component of the Technical Solutions major factor:

Criteria	Points Possible
A. The efficiency of maintenance of certain infrastructure elements, such as structure, wall facings and their durability for graffiti removal, barriers; pavement markings, drainage facilities, illumination components, signal components, and signing.	*10*
B. Approach to maintaining a safe and clean work zone during construction, regarding roadway and shoulder sweeping, cleanup of debris or dead animals, striping, signing, drainage and signals and being responsive to urgent calls during non-working hours.	*5*
C. Coordination of work between Construction and Maintenance activities.	***5***
D. Access provided to maintain items while minimizing impacts to the traveling public	***5***
Total	***25***

[The following section was also included in the SR-5 Pilot Project criteria. It is shown as an example of awarding points for lane closure limitations. One of the significant innovation areas of design-build contracting is combining the expertise of the designer and constructor early to reduce impacts to the public.]

3.10 Work Zone Traffic Control (100 Points)

The Proposer shall describe the proposed construction work zone traffic control concept that will be used for each construction phase during working and non-working hours. Describe the methods to be used for designing, implementing and monitoring construction work zone traffic control. Include discussions of staffing requirements, including discussions of the following:

- *Staffing requirements for maintenance and protection of traffic during construction.*
- *Plans for lane, roadway and ramp closures*
- *Ramp closure sequencing*
- *Plans for detours during ramp closures*
- *Plans for pedestrian control*
- *Access plan for emergency vehicles*
- *Description of traffic control devices to be used*
- *Plan for maintaining traffic control devices*

- *Contractor access to and from roadways*
- *Plans for driver information and advance notification.*
- *How business and residential access will be maintained.*

3.10.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Work Zone Traffic Control component of the Technical Solutions major factor:

Criteria	*Points Possible*
A. Understanding of traffic operations during construction	*10*
B. Provisions for motorists, pedestrians, bicyclists, Department and contractor safety as part of the management of traffic	*10*
C. Thoroughness and clarity of the scope, methodology and tools 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, transit and businesses	*30*
D. Staffing for managing traffic control in the construction zones	*10*
E. Proposed methods for notifying the Department, the City, transit, and motorists of closures, detours and route alterations	*10*
F. Process to notify those involved with emergency response to reduce the period or effect from closures and detours	*20*
G. Understanding of local jurisdictional concerns associated with traffic needs in the corridor.	*10*
[Following are other criteria considered in the pilot projects]	
X Plans For Ramp, Roadway, and Lane closures - Thoroughness and clarity of the scope, methodology, and tools used to provide for the maintenance of traffic through the project area during construction, maximizing the movement of people, goods and services while minimizing negative impacts to residents, commuters, transit and businesses.	
X Work Zone Safety - Approach and methodology for maximizing the safety to workers, motorists, and pedestrians as part of the management of traffic.	
X Approach and methodology to maintaining accessibility and providing driver information.	
Total	***100***

3.11 Lane, Ramp and Roadway Closures (175 Points)

The following items shall be submitted as part of the proposal:

A. *The total number of 24 hour lane closures on Interstate 5 as defined in the Special Provisions for both the southbound and northbound directions. List the number for each direction separately.*

B. The total number of 24 hour lane closures on Iowa Street (includes one lane each direction) under I-5 as defined in the Special Provisions. . Each direction does not need to be listed separately.

C. The total number of 24 hour lane closures on Lakeway Drive under I-5 as defined in the Special Provisions for both the eastbound and westbound directions. Each direction does not need to be listed separately.

D. The total number of nightly ramp closures as defined in the Special Provisions for each of the following ramps on the project:

Lakeway Dr. I/C	*Iowa St. I/C*	*Sunset Avenue (SR 542) I/C*
NB on-ramp *NB off-ramp* *SB on-ramp* *NB off-ramp*	*NB on-ramp* *NB off-ramp* *SB on-ramp* *NB off-ramp*	*NB off-ramp* *SB on-ramp*

3.13.1 Evaluation Criteria for WSDOT Evaluation Team

The following elements of the proposal will be evaluated to determine the score for the Lane, Ramp and Roadway Closures component of the Technical Solutions major factor:

Criteria	***Max Possible***
A. *The total number of 24 hour lane closures in the northbound direction of Interstate 5. This criteria will be scored as follows:* *0 to 10 closures 50 points* *25 or more closures 0 points* *Between 10 and 20 closures the points will prorated at 3 points each. For example: 11 closures would score 47 points, 12 closures would score 44 points, etc.* *Between 20 and 24 closures the points will prorated at 4 points each. For example: 21 closures would score 16 points, 22 closures would score 12 points, etc.*	*50*
B. *The total number of 24 hour lane closures in the southbound direction of Interstate 5. This criteria will be scored as follows:* *0 to 7 closures 25 points* *17 or more closures 0 points* *Between 7 and 12 closures the points will Prorated at 2 points each. For example: 8 closures would score 23 points, 9 closures would score 21 points, etc.* *Between 12 and 16 closures the points will Prorated at 3 points each. For example: 13 closures would score 12 points, 14 closures*	*25*

Criteria	***Max Possible***
would score 9 points, etc.	
C. *The total number of 24 hour lane closures on Iowa Street. This criteria will be scored as follows:* *0 to 21 closures 8 points* *29 or more closures 0 points* *Between 21 and 28 closures the points will Prorated at 1 point each. For example: 22 closures would score 7 points, 23 closures would score 6 points, etc.*	*8*
D. *The total number of 24 hour lane closures on Lakeway Drive. This criteria will be scored as follows:* *0 to 21 closures 17 points* *38 or more closures 0 points* *Between 21 and 37 closures the points will Prorated at 1 point each. For example: 22 closures would score 16 points, 23 closures would score 15 points, etc.*	*17*
E. *The total number of nightly ramp closures for each on or off ramp. This criteria will be scored as follows:* *<u>Scoring Type A: (11 maximum possible points)</u>* *0 to 1 closures 11 points* *2 closures 9 points* *3 closures 6 points* *4 closures 3 points* *5 closures 0 points* *<u>Scoring Type B: (6 maximum possible points)</u>* *0 to 1 closures 6 ponits* *2 closures 5 points* *3 closures 4 points* *4 closures 2 points* *5 closures 0 points*	
<u>Lakeway Dr. I/C:</u>	
NB on-ramp -- Scoring Type B *NB off-ramp -- Scoring Type B* *SB on-ramp -- Scoring Type B* *SB off-ramp -- Scoring Type A*	*6* *6* *11* *6*

Criteria	***Max Possible***
Iowa St. I/C:	
NB on-ramp -- Scoring Type A *NB off-ramp -- Scoring Type B* *SB on-ramp -- Scoring Type B* *SB off-ramp -- Scoring Type A*	*11* *6* *6* *11*
Sunset Avenue (SR 542) I/C	
NB off-ramp -- Scoring Type B *SB on-ramp -- Scoring Type B*	*6* *6*
Total	***175***

APPENDIX 6

Scope of Work Commentary

Some of the sections in the Scope of Work are self-explanatory or will require little consideration by the Project Team. This Commentary provides comment to those sections of the Scope of Work that have specific considerations for the Project Team.

SECTION 100 - GENERAL INFORMATION

Section 100 of the Scope of Work contains the detailed Project Description as described in Guidebook Section 5.2.2.4. The Scope of Work Section 100 contains two examples of a Project Description from the pilot projects. The section is not intended to define contract requirements but instead to describe project intent. The summary of the project allows interpretation of how the individual Contract Provisions fit into the complete contract.

SECTION 200 - DESIGN REFERENCES

The Department and other relevant references are listed in Section 200 of the Scope of Work. The lists provided are intended to be inclusive of all relevant references. Since the final design is performed by the Design-Builder, the Department cannot define the exact reference list prior to contract execution. The Design-Builder is responsible for determining which references are relevant. Require the Project Team to review the list to ensure it is complete, relevant, and current.

The rule of precedence within the Scope of Work is stated in the second paragraph of the section and must be followed by the Project Team to ensure the desired design procedure is defined. Avoid duplication of requirements; references should only be listed in a single location, either in the Section 400 or 200.

205 Design Reports and Studies

Design documentation and studies are defined as project-specific references created by the Project Team. The documents are split into two groups: those that specify requirements, and those that provide information and data. Determine if the information in the design documentation is to be extracted and placed directly into Section 400 of the Scope of Work or referenced as an attached document.

210 WSDOT Design Manuals and Guidelines

This section contains the listing of current WSDOT Manuals and Guidelines. WSDOT documents have precedence over general references listed in Section 220. The list is ordered with manuals and guidelines first followed by standard plans and construction documents. The standard plans are derived from the information in the guidelines and manuals and thus cannot have precedence over them.

220 General References and Publications

The general references are intended to cover the national, local, and other requirement documents that designs and studies must adhere to. The list is intended to be complementary to Section 210, providing requirements that the WSDOT documents don't cover. Duplication or conflict is handled through the order of precedence. If documents are obviously inapplicable, eliminate them to avoid confusion.

SECTION 400 – PROFESSIONAL SERVICES

Section 400 describes in detail how the professional service tasks are to be conducted. The services include activities that occur during design and construction and some are non-design-oriented tasks. Review the subsections and determine if all technical areas are addressed and whether the described functions are appropriately defined.

405 Design Deviations

The project development detail must support deviation requests that describe what can be met, not just what can't be met. A complete detailed design is not required for this determination. Support the deviation request conceptually rather than with the completed design typically used in the design-bid-build process.

If required for the project, the Department should approve deviations prior to solicitation of Proposers. Since the final design is not set by the Department, only the requirements of the design, the Proposer's Best and Final Proposal may include other deviations. These deviations would be evaluated and approved or rejected by the Department as part of the proposal evaluation. Final design during contract execution might discover other necessary geometric design deviations for which the Design-Builder must prepare appropriate documentation and application materials. During contract execution, the Department will process the geometric deviation requests and approve if warranted, the impacts of the Department's deviation review and acceptance must be absorbed by the Design-Builder without contract adjustment.

When investigating the project concepts, consider geometric deviations first on a "broad-brush" basis, without considering all possible variations in design alignments and impacts. This set of deviations establishes a basis for comparing the value of Proposer requested deviations. As design-build is intended to foster innovation in design, it may be in the Department's, and the public's, best interest to consider innovative ideas requiring deviations within the context of the performance specifications.

Accept and evaluate deviations during the solicitation process according to the following categories:

1. necessary for WSDOT design decisions;
2. potentially advantageous to the Department, or not, but will need to be requested formally by Proposers for evaluation;
3. necessary for individual Proposers, requested formally by Proposers for evaluation and approved or not during proposal preparation.

Consider all contract deviations during the selection process individually and on a "blind" basis, so that evaluators do not know who is making the request, thus eliminating the possibility of favoritism.

Acceptance of a design deviation from geometric design standards would not be accepted just to save costs because cost cannot be the only reason to deviate. If an environmental reason noted in the NEPA phase, or a limit in scope and the design matrices make a deviation necessary, every Proposer should be made aware of the acceptable deviation.

410 Surveys and Mapping

Specify survey information to be provided by the Department as part of the design criteria of this section. Survey control will be established by the Department as part of the preliminary site work to prepare the contract documents. Additional survey work required to complete the final design will be provided by the Design-Builder. Define project-specific requirements related to completing the final survey work that are not included in the referenced Highway Surveying Manual (M22-97).

415 Geotechnical Design

Specify any geotechnical information or reports provided by or required by the Department. The Department will perform some preliminary geotechnical work in the preparation of the contract documents and possibly during the selection process (see Revision Section 1-04 Supplemental Boring Program) to provide information necessary to develop the design as envisioned by the Scope of Work. Any additional geotechnical work necessary for the Design-Builder's specific proposal will be conducted by the Design-Builder. Provide copies of any existing geotechnical information that is available to all short-listed Proposers in order to save time and expense. See Guidebook Section 3.5.2 for a detailed discussion on this topic.

416 Pavement Design

The Resurfacing Report, will address the pavement section design. The Resurfacing Report's use should be flexible depending on the project type. On "Improvement" projects, where the pavement section is not dependent on existing subgrade, WSDOT would prefer to use a warranty and the report would provide design criteria, a reference pavement section design for proposal evaluation, and warranty provisions.

On "Preservation" projects, the actual design is best determined by WSDOT due to the liability associated with the condition of the existing subgrade. In either case, use the report as an internal backup reference document for WSDOT evaluation of proposals and/or designs. Place information from the report within this section of the Scope of Work or reference it for use by the Proposers in proposal preparation.

420 Environmental

The Environmental Section of the Scope of Work must define the requirements of all environmental-related processes allocated to the Design-Builder. Allocated responsibility may include additional data collection, environmental studies, mitigation measures, reports, or permits required to complete regulatory compliance procedures. As discussed in Guidebook Section 3.6, the NEPA/SEPA processes will be completed in the preparation of the contract documents, except in some unique individual cases where it may be possible to include portions of this step in the Scope of Work. Provide all data and analysis performed by the Department to all short-listed Proposers.

The Department will officially apply for the permits when the owner is required to be the applicant, but the Design-Builder will prepare all necessary permit application information when the design is well defined. Splitting the responsibilities of a task requires communication and coordination between the Department and the Design-Builder. Review and modify the coordination process defined in the Scope of Work. Clearly define the responsibility of the Department and Design-Builder in determining permit requirements, time allowed for permit decisions, and application responsibilities. Especially note all known permit requirements

affecting construction options and costs. Coordinate delineation of necessary permits with the relevant section of the Revisions to the Standard Specifications and Special Provisions. The language should not alleviate the Design-Builder's responsibility to prepare the necessary permit information or to modify existing project permits as necessary, nor should it indemnify the Design-Builder from thoroughly investigating additional permit requirements.

Pre-emptive discussions between WSDOT and the regulatory agencies will benefit the project by setting expectations and refining contract language to meet the expectations of the agencies. Regulatory familiarity with the project prior to receiving permit applications will also aid in expediting the review and approval process. Contact all resource and regulatory agencies and introduce the project and intended process to them. Prior contact also helps alert the regulatory agency and Design-Builder to project-specific issues that should be addressed by the design to expedite the approval process.

425 Public Information and Public Involvement Plan

During the execution of the design-build contract the second phase of the Department's Public Involvement Program will be executed. As described in Guidebook Section 3.7, WSDOT will maintain responsibility for required and optional public involvement activities. The generic section contains language that requires the Design-Builder to provide relevant documents to the Department for dissemination. Primarily, the Department is requiring design documentation and traffic staging information to share with interested public entities.

430 Utilities

In the design-bid-build process, either the utility performs relocations by a predetermined time or the contractor relocates them as part of the contract. The Department determines the extent of utility impacts during final design and requests relocation. It the work cannot be accomplished in time, WSDOT will include the utility work on the bid list. Having all bidders propose costs for the utility work meets the statutory requirement of soliciting low bids. Although the utility line item may not be the lowest among bidders, the process involved competitive bid.

In design-build contracting, utilities are third party entities that introduce an unknown risk to the project. In some cases extensive utility contacts by WSDOT prior to contract award is advised. Minor utility conflicts may be best handled by the Design-Builder during proposal preparation.

To properly conduct a risk assessment to the contract from utility impacts, physically identify all existing utilities within the right-of-way, anticipate the affects on utilities, and discuss significant impacts and relocations with utility companies. Clearly specify all utility efforts required including utility concerns, relocation arrangements, constraints, temporary power needs, and agreements in the Scope of Work. If the Design-Builder is expected to use the Region's standard practices in coordinating with utility companies, then the requirements must be detailed in the scope or referenced. In responding to the RFP, the Proposers must address utility impacts, relocations, and coordination activities with the affected parties as part of their proposed approach.

The approach described in the generic Scope of Work allocates the work of coordination and construction of the impacted utility to the Design-Builder. The intent is to have the Design-Builder contract with the utility to perform the work. If this approach is maintained, the cost of relocating the utility will be paid by the utility to the Design-Builder directly. However, other

approaches were considered by the Pilot Project Teams. Consider the following summary points in devising the utility strategy:

1. Determine how and who will pay for the work, either by WSDOT, passing the monies through the Department, or by directly to Design-Builder by utility.
2. If by or through the Department, the utility costs must be included in the Proposal, whether in the bid list or in the Schedule of Values by individual utility.
3. The Design-Builder must be informed that the utilities have the option to perform their own solicitation if Design-Builder prices are too high.
4. If WSDOT is maintaining control and responsibility for utility relocations, a time frame for utility relocation must be included in the Contract Provisions. Schedule impacts can then be negotiated with the Design-Builder.

475 Right-of-Way

WSDOT's aim is to acquire all necessary rights-of-way prior to advertisement or by a prescribed time. However, to not limit Proposers or Design-Builder innovation in project configurations, provisions are included that allow project improvements to impact the right-of-way. The generic Scope of Work allows the Proposers the opportunity to develop a design proposal without right-of-way constraints. WSDOT considers this flexibility beneficial to the project. The Department will weigh the impacts of this flexibility on a case-by-case basis.

A plan to manage the risk of rights-of-way costs and the time of procurement is necessary to control these unknowns. If a proposal requires right-of-way beyond the defined limits, and is determined acceptable by the Department, the Design-Builder will prepare the necessary documents and the Department will acquire the property (within pre-established cost limits for the project). See Guidebook Section 4.3 for further discussion on ways to define the terms and Department processes that must be considered.

480 Construction (Special) Provisions

The Design-Builder is responsible for developing the technical Special Provisions (Divisions 2 through 9) in support of their design. To avoid confusion the Special Provisions developed by the Design-Builder are called Construction Provisions.

SECTION 1000 CONTRACT ADMINISTRATION

Section 1022 Responsibility Chart

The Responsibility Chart delineates the responsibility allocation for the project. Appendix 10 contains a generic version. The chart is redundant to the Contract Provisions and must be reviewed carefully for accuracy. Use the chart either as an index and instrument in designing the Contract Provisions, filling it out first, or as a review document, filling it out last. The chart is not intended to be inclusive of all provisions, but a highlight of significant high-risk areas.

Section 1026 Design-Builder Personnel

This provision is redundant to one contained in the RFQ, see Guidebook Section 4.2, but the RFQ is not a Contract Provision. This provision provides some leverage for the Department in keeping the proposed team members on the project.

Section 1065 Design Reviews and Oversight Visits

The design review process is defined by Revisions to the Standard Specifications Section 1-05.3 Plans and Working Drawings, and Scope of Work Sections 1130.05 and 1065. In combination, these provisions define authority, the process, and the documents to be submitted. The Revision and Scope of Work provisions are considered to be complete and should not require modification. Thoroughly review the provisions for context and understanding so the project's Design and Construction Document requirements are described appropriately.

WSDOT will not perform an official review that might be interpreted as acceptance or approval of the design, after the acceptance of the proposal. The word "approval" is not to be used or implied in any section of the Scope of Work, Revisions to the Standard Specifications, or Special Provisions. Refer to Scope of Work Section 1100 for details related to the Department's role in checking the design for contract compliance. The Department review will confirm that the project elements meet Scope of Work and other Contract Provisions. Licensed design professionals prepare the design and their seal on the drawing represents certification that the design meets all applicable codes, is correct, and accurate. The Scope of Work clearly defines the responsibility of the Design-Builder to check and certify Design and Construction Documents.

The defined review process provides the Department with sets of submittals on a delivery schedule updated on a daily basis to the Project Engineer. The Department has every opportunity to scrutinize the design prior to construction of the facility. However, construction is not required to wait for Department responses to submittals. The review teams must understand that timely reviews, checking for contract compliance, are in everyone's best interest.

Comments from the review team should be categorized as being "required" and "preferential or advisory." Required changes are those necessary to bring the design into compliance with the Contract Provisions. The Design-Builder must address preferential or advisory comments, but incorporation of changes is not required. If the reviewer wants a preferential or advisory change made to the design, be prepared to negotiate a change to the contract.

Section 1100 Design-Build QC/QA Plan Requirements

This section relates to the policies and procedures for ascertaining if products delivered under Design-Build meet the quality expectations and requirements of the Department. One of the key goals of WSDOT's Design-Build process is to transfer the responsibility for Quality Control (QC) and performance of the project to the Design-Builder.

WSDOT's HQ Materials Laboratory developed the QC/QA Program defined in Section 1100 through an intensive effort. The Project Team must become familiar with the provision with respect to the relevant project components. Specifically, ensure hold point and witness points are appropriate. Little if any modification is expected or advised without thorough review by an appropriate panel of experts.

Section 1300 Product Warranty Provisions

This section discusses the formulation of a product warranty for a constructed feature of the project, in contrast to a manufactured feature of the project. A summary of the pilot project investigation is also included.

In the design-build process, the Department intends to consider the use of product warranties to minimize QA involvement during design and construction. To maintain quality and reduce

WSDOT involvement in the design-build process, evaluate each project for necessary critical reviews or hold points in the design and construction phases to determine if they can be replaced by a product or component warranty.

To begin the warranty investigation process, review the project items that could carry a warranty and discuss the pros, cons, and limitations for each of the identified products. Be very specific about the warranty terms and conditions to facilitate bonding coverage by the Design-Builder. The terms and conditions define what is warrantied, how it is measured, when it is measured, who measures it, when a remedy is required, and how a remedy is to be administered. A dispute resolution process is also needed for the warranty process; review the WSDOT Dispute Resolution process contained in the generic Special Provisions found in Appendix 9.

Warranty provisions for selected items must be coordinated with the respective Scope of Work provisions. If a warranty is required on an item (e.g., asphalt paving), the Design-Builder must have control over the design. Responsibility for the performance of an item or product cannot be allocated to another party without also allocating authority. In addition, the performance of a product must be completely related to the actions of the responsible party. Warranties without complete responsibility and authority will probably be disputable, since a claim could be made that the Department's design and/or pre-existing conditions caused the failure.

Each product or component evaluated may have a different warranty term; for example, pavement 5 years, bridge joint 10 years, landscaping 2 years. For each of the warranty items, develop terms specifically based on aspects of the product that the Design-Builder has complete control over; e.g., smoothness and rutting in asphalt pavement rather than pre-existing elements such as subgrade. Stay away from items that the Design-Builder does not have complete control over (e.g., reflective cracking in asphalt paving and paving over pre-existing subgrade). The performance of the product should be monitored using specific criteria that can be measured and/or tested; for example, base the measurement of pavement condition deterioration on total equivalent wheel loads rather than a time increment such as years.

Federal funding may be used on warranty items but FHWA must concur as discussed in Guidebook Section 4.7. However, federal funds may not be applied to a warranty that includes work not normally eligible for federal-aid funds. For example, maintenance activities would be non-participatory.

Extended warranties on constructed products are an evolving aspect of construction contracting. Research current trends in warranty terms and conditions during the development of these provisions. Before inclusion in the draft RFP, allow time for review and comment by sureties, AGC, and applicable trade associations .

Pilot Project Warranty Development Efforts

The warranty provisions of the pilot projects were developed through an extensive effort involving research (Utah, Michigan, and Wisconsin DOTs), stakeholder involvement, pavement performance research, and inter-departmental discussions. The generic provisions contained in the Scope of Work Section 1300 are believed to be a good compromise between Department expectations and industry capabilities. The external stakeholders involved in the development process included representatives from:

Washington Attorney General's Office
Asphalt Paving Association of Washington

AIG Surety
Reliance Surety
AGC
Safeco Surety
Reliance Surety
Bratrud Middleton
WSDOT Risk Management
WSDOT Materials Laboratory
WSDOT Construction Office

To help set the warranty terms for the concrete panel rehabilitation, research was conducted into the historic performance of pavement rehabilitation on Department projects. A query of pavement conditions in the SW Region for a five-year period provided historic data on pavement retrofit distress. Most problems in dowel bar retrofit occurred within the 5-year period. Highway sections, such as SR 500, that were found to have been under-designed based on the actual traffic volumes, were excluded from the query. The query also indicated that minimal distress occurs after 5 years. The Project Team considered the fact that the 5 years of performance did not indicate a 40-year life would be obtained. However, the Department's review of the Design-Builder interpretation and adherence to the design criteria contained in Scope of Work Section 416 provided the confidence that a 40-year structure will be obtained, and the 5-year warranty provision ensured the construction quality

.

SCOPE OF WORK

SECTION 100 - GENERAL INFORMATION

This Scope of Work contains certain requirements relating to design and construction of the project, including requirements for providing professional services, contract administration, and Quality Control/Quality Assurance (QC/QA) for the project, and shall be interpreted as provided in the General Requirements to the Standard Specifications. Definitions of words and phrases contained in the General Requirements, as revised by the Amendments to the Standard Specifications, shall also apply to the Scope of Work. This Scope of Work is intended to provide clear requirements of finished Work while allowing the Design-Builder flexibility in selecting the design, means, materials, components, and construction methods used.

The project will use Federal funding and is subject to all requirements applicable to federal-aid highway projects.

[The following Sections: 110, 120, and 130 are the Project Description. The pilot project descriptions are both provided as an example. The descriptions are provided in complete and uninterrupted, thus sections numbers repeat.]

Example No. 1

"110 Location

This project consists of a contract for the design and construction of a grade separation structure for the Thurston Way Intersection with State Route 500 (SR 500), and the realignment of the eastbound on ramp from Andresen Rd. and westbound off ramp to Andresen Rd. in Vancouver, Washington. In addition, the SR 500 mainline will be overlaid with asphalt concrete pavement from Milepost (MP) 3.51 to MP 4.73

A vicinity map is attached in Appendix G.

120 Purpose

The purpose of this project is to improve the safety of the intersection and meet the Highway System Plan Highway Improvement service objective of eliminating major at-grade intersections on multi-lane highways with a speed of 45 mph (72 kph) or higher.

130 Description

SR 500 is an important east/west link in the Vancouver area, connecting I-5 and I-205 before heading east to Camas. The Thurston Way intersection is within the portion of SR 500 that has been determined to be a High Accident Corridor. The declining Level of Service (LOS) and increasing accident rate can be attributed to the growing volumes of traffic on SR 500 and particularly the high left-turn volumes at this present at-grade intersection. Thurston Way is one of the more congested north-south arterials in Clark County as it serves as direct access to Vancouver Mall, Vancouver Plaza, and other satellite shops, stores, restaurants, as well as high density housing.

The interchange is proposed as a safety strategy for a conceptual safety solution in the State Highway System Plan. Due to limited right-of-way and high left turn volumes, a preliminary investigation indicated that a single point urban interchange was feasible at this location. Retaining walls will be required to gain the height necessary for a grade separation.

The complex geographical features in the immediate proximity of the project site require consideration including:

- *Andresen Road is approximately 0.77 miles (1.24 km) to the west of Thurston Way.*
- *I-205 is approximately 0.87 miles (1.40 km) to the east of Thurston Way.*
- *Access control design for existing property owners along Thurston Way and impacts during construction.*
- *The existing right-of-way is narrow in the project area.*
- *Wetlands exist on the north side of SR 500 between Andresen Road and Thurston Way.*

The project must be built in conformance with WSDOT requirements. The Design-Builder shall be responsible for including all Work items necessary to fully address these requirements.

This project will require design and construction work items in public relations, design and construction survey, roadway, signing, delineation, illumination, signalization, bridge and structures, hydrology/hydraulics, environmental, QC/QA for both design and construction, and contract administration.

The existing mainline pavement and shoulders beyond the limits of the interchange and Thurston Way will be overlaid with asphalt concrete pavement. The mainline, ramps and shoulder pavement will be designed meeting WSDOT minimum pavement structure requirements. Surface drainage will be reconfigured for the additional impervious surface area. Water quality and quantity treatment will be required for an area exceeding the added impervious surface.

The following items have been identified by WSDOT through the conceptual investigations. Other items may be required to fulfill the requirements of the contract.

- *Bridge*
- *Retaining walls in numerous locations to avoid right-of-way impacts.*
- *Noise walls as described in the environmental documentation.*
- *Conduits throughout the length of the project for SC&DI. Vaults will also be needed.*
- *Ramp meters and a surveillance camera.*
- *Lane striping.*
- *Continuous temporary and permanent lighting between the interchanges*
- *Temporary and permanent signals.*
- *Drainage Facilities*
- *Pedestrian Facilities*

Avoiding right-of-way impacts while improving the ramp connections requires the addition of retaining walls near the interchange.

WSDOT and FHWA have agreed on required safety upgrades for highway projects of this type using Federal funding. These agreements are reflected in the Design Matrices referenced elsewhere in this Scope of Work. Compliance with the Design Matrices will include developing an acceptable weaving distance between adjacent interchanges."

Example No. 2

" 110 Location

This project consists of rehabilitation of the Portland cement concrete pavement (PCCP) and asphalt concrete pavement (ACP) in the NB and SB lanes and shoulders of Interstate 5 (SR5) in

Bellingham, Washington between Mileposts 252.26 and 255.36, to be performed on a design-build basis.

Location and vicinity maps are attached in Appendix D.

120 Purpose

The purpose of this project is to improve the pavement structural integrity and surface smoothness of the mainline, shoulders and ramps. Required safety improvements include upgrading the interchange on and off-ramp connections and other minor safety items.

130 Description

The project must be built in conformance with WSDOT requirements. The Design-Builder shall be responsible for including all Work items necessary to fully address these requirements. WSDOT has recognized that major work items are likely to include but are not limited to:

130.01 Roadway

- *Dowel bar retrofit of structurally adequate PCCP panels in both the right and left lanes of the NB and SB I-5 mainline.*
- *Repair or replace of distressed or structurally inadequate PCCP panels.*
- *Ride quality improvement of the mainline PCCP in both the right and left lanes of the NB and SB I-5 mainline.*
- *Reconstruct or repair and overlay the ramps at the Lakeway Drive and Iowa Street Interchanges.*
- *Clean and seal all longitudinal, transverse and diagonal pavement joints and all cracks.*
- *Remove and rebuild the mainline ACP shoulders, which include removal of existing rolled concrete gutters.*
- *Lengthen non-standard on and off ramp connections at the Lakeway Drive, Iowa Street and SR 542 interchanges.*
- *Add weave lane between Iowa and Lakeway interchanges on S.B. I-5.*
- *Upgrade non-standard shoulder widths.*
- *Flatten slopes.*
- *Upgrade non-standard guardrail the full length of the project.*

130.02 Signing, Delineation, Illumination

- *Install delineation.*
- *Evaluate and replace permanent signing.*
- *Update ramp taper illumination.*
- *Install sign and bridge lighting.*

130.03 Bridge and Structures

- *Replace non-standard bridge rail on Bridge 5/814.*
- *Remove the existing ACP overlay from the deck of Bridge 5/820E, perform bridge deck repair and overlay it with a Modified Concrete overlay.*
- *Add bridge approach slabs at approaches to bridges 5/809 E & W, 5/810 E & W, 5/811, 5/812, 5/813, and 5/820 E & W.*
- *Widen Bridges 5/809E, 5/810E, 5/811E, and 5/812 (southbound side).*
- *Remove superstructure and center pier of abandoned railroad Bridge 5/816.*

- *Construct retaining walls at Lakeway Drive Interchange (NB off, NB on, and SB off ramps), SR 542 Interchange (SB on-ramp), and Iowa Street Interchange (NB off, NB on, SB off, and SB on ramps) which may include replacement or repair of the existing retaining wall along Lincoln St. between Kentucky St. and Iowa St.*

130.04 Hydrology/Hydraulics

- *Remove rolled concrete gutters and replace with new surface and enclosed drainage.*
- *Construct storm water treatment and detention facilities.*

130.05 Environmental

- *Mitigate wetland impacts.*
- *Construct noise mitigation on the west side of southbound I-5 between the Lakeway and Iowa Street interchanges.*

130.06 Roadside Restoration

Restore roadside impacts to landscaping

130.07 Work Item Relationships

The identified deficiency initiating the need for this project is the aged and deteriorated condition of the PCCP in the mainline and ACP in the shoulders of Interstate 5.

Rehabilitation of the shoulder pavement will consist of removing all existing rolled concrete gutter and rebuilding the shoulders. ACP is proposed as the shoulder replacement material.

Rehabilitation of the mainline PCCP will require repair or replacement of distressed or structurally inadequate panels; dowel bar retrofit of intact , structurally adequate panels; and ride improvement of the PCCP surface by removing ruts and existing bumps caused by the wear and differential faulting between the existing PCCP panels.

A number of safety issues shall be addressed as required by the WSDOT Design Matrices for this type of project. Many of the identified work items stem from Design Matrices requirements and other inter-related causes. This section discusses the inter-relationships of the work items.

130.07.1 Pavement Rehabilitation

The existing shoulders are in need of repair and are not structurally adequate to carry mainline traffic loads. Rebuilding of the shoulders will be needed prior to their being used to carry any increase in traffic loading from any staging. In addition, surface drainage on the shoulders will need to be reconfigured from the existing rolled concrete gutter to sheet flow to the outside edge of the paved shoulder.

The existing drainage system flows predominantly to Whatcom Creek near the center of the project section. The existing drainage system has been a maintenance problem for the Region. Whatcom Creek is a recognized water quality sensitive area and is a salmon bearing stream. Water quality and quantity treatment will be required for an area exceeding the added impervious surface.

Additional run-off concerns exist for the capture and disposal of slurry that may result from any cutting or grinding of the PCCP during construction. Equipment capable of limiting and capturing the slurry will be required.

130.07.2 Design Matrix Safety Requirements

WSDOT and FHWA have agreed on required safety upgrades for highway projects of this type using Federal funding. These agreements are reflected in the Design Matrices referenced elsewhere in this Scope of Work. Compliance with the Design Matrices will require lengthening acceleration and deceleration lanes at on/off ramp connections where the existing acceleration/deceleration lanes are non-standard.

Avoiding right-of-way impacts while improving the ramp connections requires the addition of retaining walls and bridge widenings in numerous locations near the interchanges. Wetlands will be impacted in areas adjacent to Whatcom Creek, and Sunset Drive as well. The Design-Builder will be required to perform mitigation measures for these impacts. Widening the Whatcom Creek Bridge will create additional environmental impacts to the creek area which must be mitigated by the Design-Builder."

SECTION 200 - DESIGN REFERENCES

Design references developed and published by WSDOT and other agencies and required to be used in the design of this project are listed in this Section.

The list of references is intended only to assist the Design-Builder in identifying the relevant references.

The design of the project work shall be in accordance with this Scope of Work and the references listed herein. The order of precedence of the Contract Provisions is defined in Section 1-04.2 of the Amendments. The order of precedence for the Scope of work is defined as follows. References specifically cited in Section 400 of this Scope of Work shall take precedence over references generally listed in Section 200. Conflicts among references listed in Section 200 will be resolved by the order in which the reference appears in Section 200, i.e. the reference listed first in the section shall take precedence. It is the responsibility of the Design-Builder to obtain clarification on ambiguities and conflicts prior to proceeding with design and construction.

Standard Plans are listed as a source of information for a preferred and acceptable means of performing redundant type work. The Design-Builder may use the Standard Plans as appropriate for the specific design for the project. If Standard Plans are specified in Scope of Work Section 400 as a project requirement, the Design-Builder shall use the Standard Plans as provided with no modification.

205 Project Specific Reports, Studies and Informational Documents

[List all project documents created by the Project Team that contains relevant information about the project.]

The following documents are applicable to this project and are either attached or available as noted. The Design-Builder is responsible for verifying the accuracy of the information.

Basemap hardcopy, Survey Electronic Data Files • Basemap file (.dgn) • CAiCE Archive file (.arc)	Appendix $$$?$$$ and on the Design-build Web Page at: http://www.wsdot.wa.gov/designbuild/db/index.htm)
Record of Survey	Available Upon Request
Baseline Geotechnical Report -	Appendix $$$?$$$
Noise Technical Report -	Appendix $$$?$$$ (Electronically Available on the Design-Build Web Site)
Ramp and Mainline Traffic Counts, Traffic Forecasts	Appendix $$$?$$$ (Electronically Available on the Design-Build Web Site)
Wetland Delineation Report -	Available Upon Request
Biological Assessment -	Available Upon Request
Air Quality Report -	Available Upon Request
Draft SEPA Checklist - Available Upon Request	(Electronically Available on the Design-Build Web Site)
Draft Design File; Draft Project Definition, Draft Design Decision, Environmental	Available Upon Request

Review Summary -	
Available "As Built" plans of existing conditions -	Available Upon Request
Available right-of-way plans of existing conditions -	Available Upon Request
Other site specific reports and design letters referenced in the reports in this section -	Available Upon Request
Pavement Rehabilitation Report.	Appendix $$$?$$$
Construction Zone Responsibility Worksheet.	Appendix $$$?$$$
Hydraulic Basin Analysis and Existing Conditions Report	Available on request
Other site specific reports and design letters referenced in the reports in this section	Available on request
Pile driving records	Available on request

210 WSDOT Design Manuals And Guidelines

- WSDOT Highway Surveying Manual (M22-97)
- WSDOT Soil and Rock Classification Guidelines, Geotechnical Branch, 1994
- WSDOT Design Manual (M22-01) (DM)
- WSDOT Highway Engineering Field Formulas (M22-24)
- WSDOT Right of Way Manual (M26-01)
- Endangered Species Act (ESA) §7(d) Project List And Stormwater Effects Guidance (IL-4020.00)
- WSDOT Hydraulics Manual (M23-03)
- WSDOT Highway Runoff Manual (M31-16)
- WSDOT Bridge Design Manual, Volumes 1 & 2 (M23-50) (BDM)
- WSDOT Maintenance Manual (M51-01)
- WSDOT Sign Design Guide (M**$$$?$$$**)
- WSDOT Sign Fabrication Manual(M55-05)
- WSDOT Utility Accommodation Policy
- WSDOT Environmental Procedures Manual (M31-11)
- WSDOT Protection of Wetlands Action Plan (D31-12)
- WSDOT Roadside Manual (M25-30)
- WSDOT Roadside Classification Plan (M25-31)
- WSDOT SC & DI Design Guide (1999) as prepared by NWR Traffic Systems Management Center
- WSDOT Pavement Guide (1994)
- WSDOT Pavement Surface Condition Rating Manual
- WSDOT Time Standard Manual (M-54-05)

- WSDOT Traffic Manual (M51-02)
- Washington State Modifications to MUTCD
- WSDOT Manual of Approved Signs (MOAS)
- WSDOT Traffic Group's Sign Sheeting Guidelines
- WSDOT Traffic Control Guidelines for Survey Operations
- WSDOT Work Zone Traffic Control Guidelines (M54-44)
- WSDOT Plans Preparation Manual (M22-31) (PPM)
- WSDOT CADD Manual (M22-32)
- WSDOT Construction Manual (M41-01)
- WSDOT Materials Manual (M46-01)
- WSDOT Safety Manual (M75-01)
- WSDOT Incident Response Guide
- WSDOT Asbestos Abatement Manual (M27-80)
- Washington State Patrol Traffic Control Assistance in Work Zones (IL-4008.00)
- WSDOT Standard Plans for Roads, Bridge and Municipal Construction - Metric (M21-01)
- WSDOT Qualified Products List (M46-02)
- WSDOT Standard Item Table

220 General References And Publications

The Construction Documents shall define the project requirements using WSDOT references and publications, with any necessary supplementation provided by appropriate AASHTO and/or FHWA references. The following general regulations, references, and publications supplement the preceding references and those specifically referenced in the Scope of Work and shall be selected by the Design-Builder, as appropriate, to control the work described in the Contract Provisions. Inquiries concerning inconsistencies and conflicts shall be directed to the WSDOT Project Engineer.

220-01 Environmental

- National Environmental Policy Act of 1969
- 36 CFR 800 - Protection of Historical and Cultural Properties
- 23 CFR 771 - Environmental Impact and Related Procedures
- 23 CFR 772 - Procedures for the Abatement of Highway Traffic Noise and Construction Noise
- FHPM 7-7-9 - Air Quality Guidelines
- Endangered Species Act of 1973, and supplements
- Executive Order 11990 (Protection of Wetlands)
- Executive Order 11988 (Floodplain Management)
- National Historic Preservation Act of 1966
- Section 4(f) of the Department of Transportation Act
- Section 404 of the Clean Water Act of 1977 (33CFR320-330)
- FHWA Technical Advisory T6640.8, "Guidance Material for the Preparation of Environmental Documents"
- Section 1424(e) of the Safe Drinking Water Act (Sole Source Aquifer Review)
- 36 CFR 60 - Determinations of Eligibility for Inclusion in the National Register of Historic Places
- Public Law 91-646 - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Section 402 Clean Water (NPDES)
- Washington State Water Quality Law (Section 401)
- Washington State Hydraulic Code (Ch. 220-110 WAC)
- Noise Abatement Policy for State-Funded Projects
- Hazardous Waste Management Act (HWMA)
- Underground Storage Tank Act of 1986
- Local codes and ordinances relating to air quality, noise, dust abatement, light, drainage, etc.

220-02 Drainage-Hydraulics-Hydrology

- The City of Vancouver's Stormwater Ordinance
- Stormwater Management Manual for the Puget Sound Basin

220-03 Roadway Geometrics

- Guide for the Design of High Occupancy Vehicles and Public Transfer Facilities (1983)
- AASHTO - A Policy on Geometric Design of Highway and Streets
- AASHTO - Roadside Design Guide
- Manual Uniform Traffic Control Devices
- Highway Capacity Manual, Transportation Research Board (TRB)

220-04 Materials

- Annual Book of American Society for Testing and Materials Standards
- AASHTO Guide for Design of Pavement Structures
- AASHTO Materials Specifications and Tests
- DARWin Pavement Design Software
- American Concrete Pavement Associations Pavement Analysis Software

220-05 Geotechnical

- AASHTO Manual on Subsurface Investigations (1988)
- AASHTO Standard Specifications for Highway Bridges, 16th Edition, 1996, with current interim addenda
- Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications, FHWA-ED-88-053, 1988
- Drilled Shafts: Construction Procedures and Design Methods, HI-88-042, FHWA, 1988
- Handbook on the Design and Construction of Drilled Shafts under Lateral Load, IP-84-11, FHWA, 1984
- Ground Anchors and Anchored Systems, Geotechnical Engineering Circular No. 4, SA-99-018, FHWA, May 1999
- Recommendations for Prestressed Rock and Soil Anchors, Post Tensioning Institute, 3rd Edition, 1996
- Design and Construction of Driven Pile Foundations, Vol. 1 & 2, HI-97-013 & HI-97-014, FHWA, 1997
- Manual for Design and Construction of Soil Nail Walls, SA-96-069, FHWA, 1996
- Soil Nailing Field Inspectors Manual - Soil Nail Walls, SA-93-068, FHWA, 1993

- Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines, SA-96-071, FHWA, 1997
- Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, SA-96-072, FHWA, 1997
- Drilled and Grouted Micropiles: State-of-Practice Review, Vol. 1 - 4, RD-96-017, FHWA, 1997
- Geosynthetic Design and Construction Guidelines, FHWA HI-95-038, 1995
- Slope Stability Reference Guide for National Forests in the United States, Vol. 1, 2, and 3, US Forest Service, 1995
- Rockslopes: Design, Excavation, and Stabilization, TS-89-045, FHWA, 1989
- Rock Blasting and Overbreak Control, HI-92-01, FHWA, 1992
- Design and Construction of Stone Columns, RD-83-026, FHWA, 1983.
- Load and Resistance Factor Design (LRFD) for Highway Bridge Substructures, HI-98-032, FHWA, 1998
- AASHTO LRFD Bridge Design Specification, Second Edition, 1998

220-06 Water Quality

- National Pollutant Discharge Elimination System (NPDES) Storm Water General Permit for Construction Activity for the State of Washington.
- Evaluation and Management of Highway Runoff Water Quality, FHWA, June 1996.
- AASHTO Highway Drainage Guidelines, Volume III (Federal Funds)
- Implementing Agreement with Department of Ecology on water quality

220-07 Traffic Design (Highway Lighting, Signing, Traffic Control)

- AASHTO Informational Guide to Roadway Lighting
- AASHTO Roadside Design Guide
- National Electrical Code
- Manual of Uniform Traffic Control Devices
- Standard Highway Signs, Federal Highway Administration

220-09 Bridges/Structures

- AASHTO Standard Specifications for Highway Bridges, Sixteenth Edition, 1996 and Interim Revisions through 1998.
- AASHTO Guide Specification for Fatigue Design of Steel Bridges
- AASHTO Guide Specification for Structural Supports for Highway Signs, Luminaries, and Traffic Signals.
- AASHTO Guide Specification for Structural Design of Sound Walls
- ANSI/AASHTO/AWS D1.5-XX Bridge Welding Code
- AWS D1.1-XX Structural Welding Code.
- AASHTO Manual for Condition Evaluation of Bridges, 1994.

220-10 Landscape

- Roadside Classification Plan (1996)

SECTION 400 – PROFESSIONAL SERVICES

This Section sets forth requirements to be met by the Design-Builder in designing the project and preparing Construction Documents. The Design-Builder shall perform all work in accordance with the policies and procedures in effect at the time the RFP is issued, unless otherwise directed.

401 Design Features

The Design-Builder shall provide the engineering services required to furnish the work products identified in the Project Scope of Work. The services include the tasks of data preparation, data interpretation, Design Document and Construction Document preparation. Design and Construction Documents shall be prepared by (or under the direction of) a Professional Engineer, licensed under Title 18 RCW, State of Washington, and shall carry the Professional Engineer's signature and seal.

Design of this project shall be based on the:

- Draft Project Definition,
- Draft Design Decisions Summary,
- Line (**$$$?$$$**) of Design Matrix **$$$?$$$**, in the Design Manual [Figure **$$$?$$$**],
- Specific design criteria listed below.

The design criteria listed in this Section are specific requirements that take precedence over other references. When specific requirements are not listed, design references listed in Section 200 shall be used to formulate the basis for the design of the project work.

405 Design Deviations

405.01 Pre-Approved Deviations

$$$?$$$ design deviations were approved prior to issuance of the RFP and may be used by the Design-Builder. Following are the design deviations that have been approved as a result of preliminary investigations.

A. **$$$?$$$**

B. **$$$?$$$**

405.02 Additional Deviations

The Design-Builder may also implement any additional deviations approved by WSDOT in accordance with Section 3.4 of the FINAL PROPOSAL General Requirements. The Design-Builder is encouraged not to create additional design deviations as there is no assurance that they will be approved.

410 Surveys and Mapping

The meaning of words and terms used in this Section 410 and not otherwise defined in the Contract Provisions shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

410.01 WSDOT Provided Surveys and Mapping

WSDOT has prepared mapping for [Project Name] from MP **$$$?$$$** to MP **$$$?$$$.**

Primary and secondary survey horizontal control was established by WSDOT with GPS equipment in the Washington coordinate system, **$$$?$$$** zone, North American Datum of 1983 (NAD 83/91) with a data set accuracy is <**$$$?$$$** M @ 2 Sigma. The WSDOT photogrammetric digital map data set accuracy is <0.1 M @ 2 Sigma, which could also be stated as, well defined visible detail points in the digital file are within 0.1 M if true ground position at the 95 percent confidence level.

The initial primary and secondary control coordinates were converted from State Plane coordinates to Project Ground coordinates. The State Plane control coordinates were divided by the combined factor of **$$$?$$$**. The combined factor was derived by multiplying the elevation factor of **$$$?$$$** by the scale factor of **$$$?$$$**. To ensure that the Project Ground coordinates are not mistaken for State Plane coordinates, 100,000 meters were added to both the northings and eastings.

Vertical control is based on North American Vertical Datum of 1988 (NAVD 88).

The 3D Microstation .DGN file comprised of photogrammetric data was transformed from State Plan coordinates to Project Ground datum.

Supplemental field survey data of utility locates, drainage and other hidden features were obtained with an electronic 3 second total station, using single angles and single distances with and error ellipse of 0.02 M at 95 percent confidence level. The field survey work was merged into the 3D Microstation .DGN file.

All field survey work, design and construction will be done in project ground datum.

Any conversion from Metric to English shall use the U.S. Survey foot definition: 1 meter = 39.37 inches exactly.

Areas that were obscured due to dense trees, brush or dark shadows may contain weak x, y, z data which may require a field survey check or verification.

410.02 Design Survey Work

The Design-Builder shall review data provided by WSDOT. The Design-Builder shall be responsible for additional field survey work. All field survey work shall be suitable for Design and Construction Document preparation and meet the technical requirements of WSDOT and the Washington State Board of Technical Registration.

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

B. The Design-Builder shall delineate the right-of-way so that utility companies may prepare relocation plans. Delineation with strips of plastic flagging attached to lath located at intervals shall provide a clear delineation of the right-of-way. This work shall be completed immediately prior to the date that utility company personnel are scheduled to conduct a field survey of the project.

C. The Design-Builder shall utilize Section 1450 of the Design Manual for modifying the monumentation.

410.03 Construction Surveying - Bridge

Copies of WSDOT provided primary survey control data are available for the Proposer's inspection at the office of the Project Engineer.

The Design-Builder shall be responsible for all surveying necessary to complete the work. Except for the survey control data to be furnished by WSDOT, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Design-Builder's responsibility.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three business days after the end of the shift.

The survey work by the Design-Builder shall include but not be limited to the following:

A. Verify the primary horizontal and vertical control furnished by WSDOT, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to WSDOT.

B. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.

C. Establish offsets to footing centerline of bearing for structure excavation.

D. Establish offsets to footing centerline of bearing for footing forms.

E. Establish wing wall, retaining wall, and noise wall horizontal alignment.

F. Establish retaining wall top of wall profile grade.

G. Establish elevation benchmarks for all substructure formwork.

H. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.

I. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.

J. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.

K. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.

L. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.

M. Establish grout pad locations and elevations.

N. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.

O. Establish box girder bottom slab grades and locations.

P. Establish girder and/or web wall profiles and locations.

Q. Establish diaphragm locations and centerline of bearing.

R. Establish roadway slab grades and provide dimensions from top of girder to top of roadway slab. Compute elevations at top of bridge roadway decks at one-tenth points

along centerline of each girder web and set elevations for deck paving machine rails. All form grades and other working grades shall be calculated by the Design-Builder.

S. Establish traffic barrier and curb profile and alignment on roadway slab.

The Design-Builder shall provide WSDOT copies of all calculations and staking data prior to staking.

To facilitate the establishment of these lines and elevations, WSDOT will provide the Design-Builder with the following primary survey and control information:

A. Descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, WSDOT will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each right-of-way alignment included in the project.

The Design-Builder shall ensure a surveying accuracy within the following tolerances:

	Vertical	**Horizontal**
1. Stationing on structures		±5 millimeters
2. Alignment on structures		±5 millimeters
3. Superstructure elevations	±3 millimeters variation from plan elevation	
4. Substructure	±5 millimeters variation from plan grades	

WSDOT may spot-check the Design-Builder's surveying. These spot-checks will not change the requirements for normal checking by the Design-Builder.

When staking the following items, the Design-Builder shall perform independent checks from different secondary control to ensure that the points staked for these items are within the specified survey accuracy tolerances:

Piles
Shafts
Footings
Columns

The Design-Builder shall calculate coordinates for the points associated with piles, shafts, footings and columns.

Contract work to be performed using Design-Builder-provided stakes shall not begin until WSDOT has been given the opportunity to review the staking. Such review shall not relieve the Design-Builder of responsibility for the accuracy of the stakes.

410.04 Contractor Surveying - Roadway

Copies of WSDOT provided primary survey control data are available for the Proposer's inspection at the office of the Project Engineer.

The Design-Builder shall be responsible for all surveying necessary to complete the work. Except for the survey control data to be furnished by WSDOT, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Design-Builder's responsibility.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three business days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work by the Design-Builder shall include but not be limited to the following:

A. Verify the primary horizontal and vertical control furnished by WSDOT, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to WSDOT.

B. Establish and maintain the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 20 meters.

C. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 20 meters apart.

D. Establish grading limits, placing slope stakes at centerline increments not more than 20 meters apart. Establish offset reference to all slope stakes.

E. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 10 meters.

F. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 20 meters in tangent sections, 10 meters in curve sections with a radius less than 100 meters, and at 3-meter intervals in intersection radii with a radius less than 3 meters. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 4 meters.

G. Establish intermediate elevation benchmarks as needed to check work throughout the project.

H. Provide references for paving pins at 10 meter intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.

I. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

The Design-Builder shall provide WSDOT copies of all calculations and staking data 5 days prior to staking.

To facilitate the establishment of these lines and elevations, WSDOT will provide the Design-Builder with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control, and descriptions of two additional primary control points for every additional 5 kilometers of project length. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, WSDOT will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each right-of-way alignment included in the project.

The Design-Builder shall ensure a surveying accuracy within the following tolerances:

	Vertical	Horizontal
Slope stakes	±60 millimeters	±300 millimeters
Subgrade grade stakes set 15 millimeters below grade	0 high	±150 millimeters
		15 millimeters low (parallel to alignment)
		±30 millimeters (normal to alignment).
Stationing on roadway	N/A	±30 millimeters
Alignment on roadway	N/A	±15 millimeters
Surfacing grade stakes	±5 millimeters	±150 millimeters(parallel to alignment)
		±30 millimeters(normal to alignment)
Roadway paving pins for surfacing or paving	±5 millimeters	±60 millimeters (parallel to alignment)
		±30 millimeters (normal to alignment)

WSDOT may spot-check the Design-Builder's surveying. These spot-checks will not change the requirements for normal checking by the Design-Builder.

When staking roadway alignment and stationing, the Design-Builder shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

Contract work to be performed using Design-Builder-provided stakes shall not begin until WSDOT has been given the opportunity to review the staking. Such review shall not relieve the Design-Builder of responsibility for the accuracy of the stakes.

415 Geotechnical Design

415.01 Design Criteria

Geotechnical design shall be done in accordance with the criteria in this section and in "Section **$$$?$$$** Geotechnical Design Criteria" of the Geotechnical Report in Appendix **$$$?$$$**.

425.01.01 Foundations

The following minimum factors of safety for bearing capacity and uplift design of foundations, to be applied to the ultimate foundation capacity, shall apply for Load Factor Design (LFD):

	Minimum Factor of Safety FS		
Load Group	Spread Footings	Shafts	Piles
Unfactored DL + LL, Groups I-IV, V, VI, VIII, and IX	3.0	2.5	2.5
Group VII	1.0	1.3	1.0

Auger cast piles shall not be used for support of walls and bridge structures.

If liquefiable soils are determined to be present, and it has been determined that they will in fact liquefy under the design earthquake for the site, the soil shall be stabilized to protect the bridge from damage due to lateral deformation and downdrag caused by the liquefaction or the structure shall be designed to withstand the forces and moments resulting from the lateral and vertical movements caused by the liquefaction. Additionally, the design of the foundations shall be evaluated with the soil in a liquefied state.

415.01.02 Retaining Walls, Reinforced Soil Slopes, and Noise Wall

Proprietary wall systems may be used only if they are WSDOT preapproved systems. Wall systems currently preapproved are as follows:

Manufacturer	**System Name**	**System Description**	**Max. Height Approved**
Reinforced Earth Company	Reinforced Earth	Steel strip soil reinforcing with precast concrete facing panels	10 m (33 ft)
VSL Corporation	Retained Earth	Steel bar mat soil reinforcing with precast concrete facing panels	10 m (33 ft)
Hilfiker Walls	Reinforced Soil Wall	Welded wire soil reinforcing with welded wire or precast concrete panel facing units	10 m (33 ft)
Tensar Earth Technologies	Tensar Ares Wall	Tensar geogrid soil reinforcement with precast concrete facing panels	10 m (33 ft)

Manufacturer	System Name	System Description	Max. Height Approved
Criblock Retaining Walls, NW	Criblock	Precast concrete crib box gravity system	10 m (33 ft)
Stresswall, International	Stresswall	Precast counterforts with precast concrete panels between	10 m (33 ft)
The Neel Company	T-Wall	Precast T sections stacked vertically	3 m (10 ft)
Intercor, Inc.	Nelson Retaining Wall	CIP spread footing with precast panels and CIP counterforts	9 m (28 ft)
Con-Tech Systems	Green Wall	Precast concrete facing elements with tiebacks	10 m (33 ft)

Non-preapproved proprietary wall systems can be used subject to approval from the Geotechnical Branch, Bridge and Structures Office. All non-preapproved proprietary wall systems shall have been reviewed by the Highway Innovative Technology Evaluation Center (HITEC, 1015 15th St. NW, Suite 600, Washington D.C. 20005) and shall be submitted to WSDOT for approval prior to inclusion in the project. The submittal shall include the HITEC report plus example design hand calculations at 3 m (10 ft), 6 m (20 ft), and 10 m (33 ft). The calculations must include seismic design. WSDOT's approval of HITEC reviewed walls for this project will not place that wall system into preapproved status for future projects.

Special Provisions for proprietary walls shall be developed in accordance with Section 480 of the Scope of Work.

If geosynthetic retaining walls or reinforced slopes are used, the long-term geosynthetic design strength shall be determined using WSDOT Test Method 925 “Determination of Long-Term Strength for Geosynthetic Reinforcement.” For temporary geosynthetic walls and reinforced slopes, the design strength of the geosynthetic shall be equal to T_{ult}/RF, where T_{ult} is the minimum average roll value (MARV) of the ultimate wide width tensile strength of the geosynthetic and RF is a reduction factor, or the long-term geosynthetic strength as determined from WSDOT Test method 925, whichever is less. If the design life of the wall is 1.5 to 3 years, use RF = 3.5. If the design life is less than 1.5 years but greater than or equal to one year, use RF = 3.0. If the design life is less than one year, use RF = 2.5.

Soil nails in soil nail walls shall be double corrosion protected (i.e., fully encapsulated) in the portion of the wall which supports loading from adjacent structures. Epoxy coating for soil nails is acceptable elsewhere as a minimum. All permanent tieback and deadman anchors shall be double corrosion protected.

415.01.03 Cuts, Fills, Excavation, and Other Geotechnical Features

Shredded tires shall not be used for roadway fills.

The minimum factor of safety for the stability design of slopes shall be 1.25. A higher factor of safety, per the AASHTO Standard Specifications for Highway Bridges, 1996 with current interims, shall be used where the slope supports a wall or other structure.

415.02 Qualifications
[Consider incorporating this section into the RFQ or RFP]

The Design-Builder Geotechnical Design Manager is the individual with overall responsibility for development of the geotechnical design and adherence to the Design-Build RFP. This individual shall be a Professional Engineer licensed by the State of Washington having a minimum of seven years supervisory experience in geotechnical design as applied to roadway or bridge design.

The individual responsible for installation and monitoring of any instrumentation used to verify the performance or integrity of the geotechnical feature, including CSL Testing, inclinometer measurements, piezometers, settlement indicating devices, SPT testing, Becker Hammer testing (BPT), electronic cone testing, etc., shall have a minimum of 2 years of experience with the specific type of instrumentation the individual will be using.

415.03 Geotechnical Investigation

The Design-Builder shall conduct additional explorations as determined necessary by the Design-Builder at bridge foundation locations, along the alignment of planned retaining walls, at locations of significant cuts and fills, at minor structures such as culverts, signs, signals, and luminaires, and at the locations of stormwater retention-detention structures to supplement the geotechnical baseline data available. The Design-Builder shall plan and conduct a subsurface investigation program as determined necessary by the Design-Builder utilizing exploratory borings, test pits, geophysical methods, and in-situ tests to provide information relative to soil, groundwater, and other geologic conditions along the project alignment for final design. The investigation shall be in accordance with WSDOT Design Manual Division 5, Investigation of Soils, Rock, and Surfacing Materials. All boring locations shall be surveyed, and station, offset, elevation, and state plane coordinates shall be determined and included on the boring logs.

Geotechnical requirements contained in the AASHTO Manual (Reference Section 200) on Subsurface Investigations (1988) and the Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications, ED-88-053, FHWA, 1988 shall be considered as minimum requirements. These are not intended to preclude innovative methods of Geotechnical investigations and testing that may be proposed by the Design-Builder. Soil properties used for design shall be determined in accordance with the WSDOT Materials Manual and the AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing. Field tests shall be conducted in general accordance with appropriate American Society for Testing Materials (ASTM) and WSDOT standards. Laboratories selected by the Design-Builder to perform geotechnical testing and analyses must meet the WSDOT requirements in the WSDOT Materials Manual. All test results shall be included in the Geotechnical Report.

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

The Geotechnical Report shall summarize the results of the field exploration and all of the equipment used. Down hole hammers or wire line operated hammers shall not be used for

Standard Penetration Tests (SPT). Boring logs with station, offset, elevation, state plane coordinates, groundwater elevations, uncorrected SPT test results with blows per 150 mm shall be provided. For cone penetrometers, a plot showing tip resistance, friction, friction ratio, pore water pressure, and inclination with depth shall be provided. Soil units encountered in the field exploration shall be described and their extent and limits shall be identified. Soils profiles shall be developed and shown for all structures and significant cut and fill slopes. Plan views shall be prepared that show the actual locations of the borings in relation to project elements.

The Design-Builder shall provide and install field instrumentation in the exploratory borings of the project conducted by the Design-Builder to monitor water levels and slope movements during both design and construction as needed to satisfy the design and quality control requirements. Instrumentation for quality control on construction may include, but not be limited to, the monitoring of slope movement, wall movement, pore pressure, settlement, and settlement rates. The Design-Builder shall identify the recommended instrument types, locations, installation requirements, zones of influence, and critical readings or levels in the geotechnical report. All instruments shall be installed and monitored by the Design-Builder. Instrumentation readings shall be included in the geotechnical report, and included in supplemental instrumentation monitoring reports as needed for additional readings, including monitoring done during and after construction as part of the QA/QC plan.

415.04 Geotechnical Studies

The Design-Builder shall perform necessary geotechnical engineering analysis to identify critical design elements and provide a basis for geotechnical recommendations. Descriptions of the analysis and/or calculations shall be provided at WSDOT's request. The Design-Builder shall provide comprehensive geotechnical engineering design recommendations for the project. The recommendations shall be detailed and complete for the design of structures, cut slopes, fill slopes, embankments, and drainage facilities. At a minimum the Design-Builder shall address the following:

A. Overall stability for cut slopes, embankments, and structures shall be assessed. For structures, minimum foundation widths, embedment, overexcavation, and ground improvement shall be addressed to satisfy overall stability requirements. Maximum cut and fill slope inclinations shall be determined. Any mitigating measures needed to obtain the required level of safety for slopes shall be fully developed for the project.

B. For structures, suitable foundation types shall be assessed and alternate foundation types recommended. For spread footings, allowable bearing capacity and settlement shall be provided. For seismic design of spread footings, ultimate bearing capacity and shear modulus values shall be determined for strain levels likely to occur in the design seismic event For piles and shafts, ultimate capacity figures shall be developed that show the capacity in relation to tip elevation for both compression and tension. Settlement shall be assessed and group reduction factors shall be determined. Downdrag and lateral squeeze shall be reviewed. Parameters for P-y curve development shall be developed. Minimum tip elevations, casing requirements, and estimates of overdrive shall be provided.

C. Suitable retaining wall types shall be recommended. For all walls (including standard, preapproved proprietary, and non-preapproved proprietary walls), bearing capacity, settlement, construction considerations, and external stability shall be addressed. For non-standard, non-proprietary walls, internal stability shall be addressed.

D. Earthwork recommendations shall be provided including subgrade preparation, material requirements, compaction criteria, and settlement estimates. In areas where compressible soils are encountered, overexcavation, staged construction,

instrumentation, settlement, and creep characteristics and estimates shall be addressed as well as details of any mitigating measures needed to keep embankment performance within project constraints.

E. Seismic hazards shall be assessed and recommendations shall be provided to mitigate the effects of the identified seismic hazards.

F. At stream crossings, evaluation of alternatives and recommendations shall be provided for extending the existing culvert, pipe jacking a new culvert, installing a bottomless culvert, or constructing of a bridge structure. Pipe bedding, subgrade preparation, bearing capacity, and settlement shall be addressed. For pipe jacking, jacking pit construction shall be assessed along with the potential for caving soils.

G. General drainage, groundwater, pH, and resistivity values as they apply to the project shall be provided. Drainage studies shall involve reviewing soil conditions and field data at the locations of major drainage structures. Potential impacts of drainage facilities on slope stability shall be evaluated. Recommendations shall be provided for erosion protection at outlets and for materials to be used in pond or ditch linings.

H. For signals, illumination, and sign structures, allowable lateral bearing capacity shall be evaluated. Where poor soils are present that preclude the use of a WSDOT standard foundation design as provided in the WSDOT Standard Plans and the WSDOT Design Manual, design recommendations for special foundation designs shall be prepared. Foundation designs for these types of structures shall address bearing capacity, lateral capacity, rotational capacity, settlement, and construction of the foundations.

I. Where possible, design recommendations shall be provided in tabular or graphical form.

J. Construction considerations shall be addressed. Temporary slopes and shoring limits shall be the responsibility of the Design-Builder. Special Provisions shall be prepared for elements that may encounter difficult ground conditions or that may require non-typical construction methods. Overexcavation recommendations and backfill requirements shall be discussed and details prepared for the project. Construction staging requirements, where applicable, shall be addressed. Wet weather construction and temporary construction water control shall be evaluated.

415.05 Geotechnical Report

The Design-Builder shall prepare a Geotechnical Report that summarizes the results of the exploration and engineering studies described above. The report shall present:

A. A summary of field exploration methods, results, and interpretations, including boring and test pit logs, descriptions of soil conditions and water levels encountered during drilling, and soil profiles and cross-sections.

B. A summary of laboratory testing methods and tabulated results.

C. A summary of engineering studies, including material property assumptions, descriptions of computational methods, results of computations, and conclusions regarding design. The conclusions regarding design shall include recommendations for feasible and prudent foundations for each overcrossing foundation, for each wall location, and for each drainage facility.

D. A summary of recommendations for earthwork factors(shrink and swell), cut and fill slope rates/stability, geologic unit locations (rock blasting, etc.), and suitability for embankment and/or aggregate.

E. A summary of special foundation construction considerations and advisory specification requirements.

F. Design methods for proposed or recommended foundations.

G. Design alternatives based on Geotechnical findings.

The report shall be organized so that bridge designers and others can refer to pertinent sections. A separate bridge foundation report shall not be prepared.

The Design-Builder shall provide five (5) copies of a draft version of the Geotechnical Report to WSDOT for review and comment. Upon receipt of written review comments from WSDOT, the Design-Builder shall finalize the draft report. The Design-Builder shall deliver ten (10) copies of the finalized report to the Engineer.

Upon completion of the final Geotechnical report the Design-Builder may proceed with preparation of the pavement and/or foundation designs.

The Design-Builder shall include in the Special Provisions all notes related to materials found on the final construction plans and not already covered by the Standard Specifications or General Special Provisions.

Design-Builder shall not be relieved of obligations to perform the Work in accordance with the Contract Provisions by reviews, tests, inspections or approvals performed by any persons, or by any failure of any person to take such action. The reviews, inspections, tests and approvals conducted by WSDOT and others do not constitute acceptance of the materials or Work reviewed, tested or inspected, and WSDOT may reject or accept any Work or materials, request changes and/or identify additional Work which must be done at any time, whether or not previous reviews, inspections, tests or approvals were conducted by WSDOT.

416 Pavement Design

The pavement design and construction for mainline, collectors/distributors, auxiliary lanes shall, at a minimum, provide for a [**40**] year service life. The Design-Builder shall design a pavement section that provides for surface and subsurface drainage giving full consideration to frost effect and the elimination of trapped water. Pavement design and construction for ramps, frontage roads, cross streets, and local streets shall, at a minimum, be designed to provide a [**20**] year service life. The pavement design shall be in accordance with the AASHTO Guide for the Design of Pavement Structures, [**1993**] and the WSDOT Pavement Guide– Volume 1, and for the conditions listed below.

416.01 Qualifications
[Consider placing this criteria in the RFQ and/or RFP]

The pavement designer shall be a qualified and licensed engineer having at least 10 years experience in pavement design.

416.02 Design Criteria: General
[The following is a pilot project example.]

"A. SR 500 shall be overlaid with 60 mm of Asphalt Concrete Pavement (ACP) Class A PG 64-22 (minimum) from MP 3.51 to the beginning of the new pavement section at the west end of the interchange, and shall be either overlaid, or planed and inlaid with 45

mm of ACP Class A PG 64-22 (minimum) from the end of the new pavement section at the east end of the interchange to the SR 205 overcrossing (MP 4.73). These overlay/inlay pavement sections shall match into the adjacent pavement sections at either end with a butt joint (See the Plans Preparation Manual for a Butt Joint Planing Detail).

B. Thurston Way shall be overlaid so that the minimum ACP depth is 195 mm. Overlays on Thurston Way shall be with ACP Cl. A PG 64-22 (minimum), and shall be a minimum of 45 mm. Any overlay sections on Thurston Way shall match into the adjacent pavement sections at either end with a butt joint (See the Plans Preparation Manual for a Butt Joint Planing Detail). New pavement sections on Thurston Way shall be 105 mm of ACP Cl. A PG 64-22 (minimum), over 90 mm of ACP CL. A or E PG 84-22 (minimum), over 165 mm (minimum) of Crushed Surfacing Base Coarse.

C. New pavement sections on the mainline and ramps shall be designed by the Design-Builder in accordance with the criteria listed in this section. The new shoulder sections on mainline shall be paved at the same depth as the lanes.

D. The shoulder sections on the ramps shall have a minimum ACP depth of 90 mm. The surfacing depth for the shoulders shall be based on the total depth of the ramp lane; the pavement section depth for the ramp lane shall equal the pavement section depth of the shoulder.

E. If the shoulders of the highway are utilized as temporary detour/staging routes then the Design-Builder shall construct or reconstruct them to accommodate the anticipated ESAL's to avoid incurring asphalt distress.

F. The pavement sections for mainline, ramps, collectors/distributors, auxiliary lanes shall be either asphalt concrete pavement or cement concrete pavement."

416.03 Design Criteria: Asphalt Concrete Pavement

A. The base material shall not be cement treated base.

B. The base material, if crushed stone, shall contain less than 7 percent passing the 0.075 millimeter (No. 200) sieve.

C. The Design-Builder shall make adjustments to the minimum layer thicknesses to accommodate climatic conditions such as frost depth. A total minimum pavement structure of 300 millimeters (12 inches) is required to minimize the effects of freeze-thaw cycles.

D. Pavement sections shall be designed based on a 40 year design life of 26 million ESAL's.

E. Asphalt mix design shall be based on either Hveem or Superpave mix design procedures.

416.04 Design Criteria: Portland Cement Concrete Pavement

A. The Design-Builder shall make adjustments to the minimum layer thicknesses to accommodate climatic conditions such as frost depth. A total minimum pavement structure of 300 millimeters (12 inches) is required to minimize the effects of freeze-thaw cycles.

B. Concrete pavement shall not be continuously reinforced.

C. The base material shall not be cement treated base.

D. The base material, if crushed stone, shall contain less than 7 percent passing the 0.075 millimeter (No. 200) sieve.

E. Pavement sections shall be designed for the following anticipated traffic loadings: Mainline: [**125,000,000**] ESALs [**40**]-year; Ramps: [**4,000,000**] ESALs; [**40**]-years.

F. Concrete pavements shall have maximum joint spacing of [**4.6**] meter (15 feet) or match existing joint spacing, whichever is less.

G. The Design-Builder shall design the concrete pavement joints with load transfer devices (i.e., dowels) to ensure a minimum of 80 percent load transfer at the joints

H. ACI 211.1 shall be used as a guide to determine concrete mix proportions.

416.05 Design Criteria: Existing PCC Pavement Rehabilitation

A. If grinding is used to meet the ride quality requirements in Section 1340.01, the equipment specified for grinding the cement concrete pavement shall use diamond embedded blades or grinding heads.

B. All PCCP panels that are showing medium to high severity cracking as defined in WSDOT's Pavement Surface Condition Rating Manual, and as discussed in the Pavement Rehabilitation Report in Appendix $$$?$$$, shall be replaced with new PCCP panels that match the existing panel depths. These replacement panels shall be installed using tie bars and dowel bars as shown on Standard Plan A-1.

C. The existing PCCP shall be rehabilitated by retrofitting all transverse joints and cracks with epoxy coated dowel bars. WSDOT has provided a 100 percent design for the dowel bar retrofit. Said retrofit shall be constructed in accordance with the Special Provisions and the Dowel Bar Plans attached in Appendix $$$?$$$.

D. All existing rolled concrete gutters shall be removed and replaced with a minimum section of 150 mm ACP, over 150 mm of CSBC.

E. All existing shoulder pavement shall be removed and replaced with a minimum of 105 mm of ACP, over the existing material.

420 Environmental and Other Permits

420.01 Noise

Preliminary investigations by WSDOT have concluded that noise impacts will result from the realignment of SR 500 and the eastbound on-ramp at Thurston Way. The SR 500, Thurston Way Noise Technical Report describes the investigation, conclusions, and a conceptual solution. The required reduction in traffic noise at the impacted residences is 10 dBA. Changes to the preliminary alignment shown in the Noise Report will affect the analysis performed by WSDOT. Alternatives to the preliminary alignment or the noise wall concept shown will be analyzed by WSDOT during the preparation of proposals and execution of the contract. WSDOT will require five (5) business days to reanalyze any change to the concepts shown in the Noise Report.

420.02 Permits

It is the responsibility of the Design-Builder to determine which permits are required for construction of this project. Applications for permits for which WSDOT is required to be the applicant shall be prepared by the Design-Builder. Draft permit applications for these permits shall be submitted to WSDOT for review at least 14 days prior to the date the application is to be submitted. The Design-Builder shall be responsible for providing WSDOT with all necessary information, including environmental data and technical data for the roadway cross drainage-ways (i.e. typical sections, location and approximate areas of cut and fill within each drainage way) to support the determination of need for a permit and/or the permit application. If a permit

is required from the Corps of Engineers, the plans shall be on 8-1/2” x 11” sheets. The plans for all other permits shall be on 11”x17” sheets.

WSDOT, in coordination with the affected federal, state and local agencies and jurisdictions, will obtain the permits listed below, if required, upon receipt of acceptable draft permit applications and back-up information from the Design-Builder. The Design-Builder shall allow time in the project schedule for processing the applications, after completed applications are received by WSDOT. Permit approvals requiring longer than the stated time will be considered a delay in accordance with Section 1-08.8.

The following permits require WSDOT to be the applicant (the length of time required for each permit after receipt of a completed package by WSDOT is indicated in the column on the right):

Permit	*Estimated Time To Process Application And Obtain Approval*
A. Hydraulic Permit Approval (HPA)	**$$$?$$$** Months
B. Shoreline Permit	6 Months
C. Corps Permit	**$$$?$$$** Months
D. NPDES	**$$$?$$$** Weeks
E. Local Agency Permits	**$$$?$$$** Weeks

Permits for which WSDOT is not required to be the applicant shall be the responsibility of the Design-Builder.

Construction activities may not begin until the appropriate environmental permits are issued. This project will add greater than 465 square meters (5000 square feet) impervious surface and will require a Temporary Erosion and Sediment Control Plan as part of the Stormwater Site Plan. A National Pollutant Discharge Elimination System (NPDES) permit will be required if there are more than five (5) acres of clearing and grubbing.

[Include local agency requirements as well as others that impact the project. Following is a pilot project example.]

The City of Vancouver will require a review of the plans to insure compliance with their Stormwater Control and Erosion Control Ordinances. The Design-Builder shall coordinate with the City of Vancouver, Stormwater Services during the design process. A letter of Approval from the City of Vancouver is required prior to construction of the proposed drainage system.

The Design-Builder shall be responsible for incorporating any mitigation measures into the design of the project that are mentioned in the final Biological Assessment for this project, as well as in any other final environmental documents.

A delineation of the wetlands within the existing drainage facility is shown on the basemap. WSDOT has developed a wetland mitigation site. The wetland mitigation site will accommodate the elimination of [**$$$?$$$]** acres wetlands, based on a [**$$$?$$$**] mitigation rate. WSDOT will be submitting a Permit to the Corp of Engineers for this mitigation; this Corp Permit shall be obtained by [**$$$?$$$**]. The Design-Builder shall develop the project to minimize impacts to the wetlands. Should the Design-Builder eliminate more than [**$$$?$$$**] acres of wetlands, then the

Design-Builder shall be responsible for the additional mitigation required. Note, additional mitigation can occur at the site in the disturbed wetland area. The Design-Builder shall mitigate for the additional wetlands disturbed at a [**$$$?$$$**] rate for creation, and a [**$$$?$$$**] rate for enhancement.

A Biological Assessment (BA) has been completed, and approved by National Marine Fisheries Service (NMFS) with a requirement that it maintains the authority to review and approve the stormwater site plan. The Design-Builder shall supply a stormwater site plan to WSDOT to obtain approval from NMFS. The Design-Builder shall allow two months in the project schedule for obtaining approval of the storm water site plan by NMFS, after completed applications are received by WSDOT. The stormwater site plan for NMFS approval shall include the following:

1. The existing pavement area in square feet within the limits of [**$$$?$$$**]
2. The additional pavement area in square feet at the locations (see no. 1 above for locations)
3. The area in square feet to be treated at the locations (see no. 1 above for locations)
4. The location of treatment facilities, and
5. The description of treatment for each of the sub-basins

420.03 Hazardous Material

No Hazardous Material Survey has been conducted nor is anticipated to be necessary. The project is predominately contained within the existing right-of-way.

425 Public Information and Public Involvement Plan

425.01 General

WSDOT's goal is to minimize the emotional and physical impact on highway users, businesses and neighborhoods that abut, or are serviced by, the highways that comprise this project. It will be the responsibility of the Design/Builder to provide the following services for the well-being of the affected highway users, residents, and businesses.

The Design-Builder shall provide a public information specialist responsible for managing public information and public involvement activities outlined below. This staff member shall be experienced in all aspects of providing the public with information on public works projects, including newsletter writing, design and production, direct mailing, telecommunications, news release writing and public speaking. This public information specialist will be expected to work with WSDOT staff in a team effort to help promote public satisfaction with the project.

The public information specialist shall have "real-time" access to all project details that may be relevant to the public, public agencies, emergency service providers, businesses, and other interested groups. The public information specialist is expected to provide that "real-time" information to WSDOT's public information staff located in the [**$$$?$$$**] Regional Office at (**Phone number**) on a weekly basis at a minimum, and more frequently if deemed necessary by WSDOT.

Although media interviews will mainly be the responsibility of WSDOT, on request the Design-Builder or the public information specialist may be asked to provide the media with an interview or other information on short notice. In such a case, the Design-Builder or the public information

specialist shall deliver a message consistent with WSDOT's message. The Design-Builder or designee shall inform and coordinate this activity with WSDOT prior to the interview.

In addition, all written audio and video materials produced by the Design-Builder's staff for public dissemination shall comply with WSDOT's standards. A copy of all such materials shall be provided to WSDOT for preapproval at least seven (7) calendar days prior to scheduled distribution.

The goal of written, audio or video materials should be to increase stakeholder satisfaction of the project by educating and informing the public about the project, including long-term, short-term and daily disruptions or changes to traffic conditions, project benefits, project staging when appropriate, and other relevant issues.

At least two weeks before construction activities begin, WSDOT's public information staff will meet with the Design-Builder and public information specialist to review the following requirements.

425.02 Strategies and Responsibilities

Reference to WSDOT or the Design-Builder in the following list of tasks designates the leadership and responsibility for the task described.

425.02.01 Signage

Design-Builder shall post project signs on mainline [**$$$?$$$**], affected ramps and detours.

A. Design-Builder shall update the signs as appropriate

B. Design-Builder shall post project information telephone number at construction site on appropriate signs

425.02.02 Media Contact

WSDOT shall write and distribute an initial news release announcing project, communicating message that emphasizes unique benefits of design/build projects

WSDOT shall prepare newspaper articles and radio and TV announcements. Design-Builder and staff shall be available, with one workday's notice, to support WSDOT staff in preparing such articles and announcements. The purpose of these communiqués shall be to provide the media and public with the latest information on the project scope, details and schedule of the project.

WSDOT shall provide print/broadcast interviews as needed

WSDOT shall conduct a media tour of project site if requested to enhance articles and answer media inquiries, including educating reporters on design/build approach and potential traffic impacts during project

WSDOT shall provide primary spokesperson with one backup spokesperson to answer media inquiries and explain issues associated with project. [Project Engineer 360.XXX.XXXX], will be the primary contact person. [$$$?$$$ 360.XXX.XXXX], will be the backup spokesperson.

WSDOT shall distribute news releases on planned closures, detour routes, rechannelization plans and other relevant issues to local media. Specific details and text shall be provided by Design-Builder's public information specialist in a timely manner that

provides advanced public notification and meets local broadcast and print media deadlines. The Design-Builder public information specialist should provide notice on intersection closures at least one week in advance.

425.02.03 Speaker's Bureau

The Design-Builder shall have well-trained and informed speakers available for public meetings, community and civic organizations, neighborhoods associations, private businesses, and other stakeholders.

425.02.04 Interaction With Businesses and Large Employers

The Design-Builder shall contact businesses [*within a one (1.0) mile radius of the project*]; [*companies that employ more than 100 persons*], and provide them with information on potential traffic disruptions and alternate transportation options in advance of closures.

The Design-Builder shall provide a contact person to answer public inquiries and commuter questions.

425.02.05 Interactive

The Design-Builder shall create a project-specific design-build web page to link with WSDOT's Southwest Region Home Page, content and design to be preapproved by WSDOT. The site shall be maintained and updated by the Design-Builder.

The Design-Builder shall include information in that web page on lane and ramp closures, detour routes, rechannelization plans, and other construction-related issues relevant to the motoring public. The information shall be updated as appropriate.

The Design-Builder shall include sections for public education, benefits to design/build projects in general and this project in particular, and ongoing project status.

The Design-Builder shall include an e-mail contact on the web page to respond to public e-mail inquiries or complaints. The original e-mail inquiry and the Design-Builder's response shall be forwarded to WSDOT Project Engineer and/or designee(s) at the same time the response is sent. The Design-Builder shall respond to all e-mail inquiries within one working day of receipt.

425.02.06 Telephone Hotline

The Design-Builder shall provide timely advanced closure information to WSDOT so WSDOT staff can include that information in its Commuter Information Line recordings.

The Design-Builder shall establish a complaint telephone hotline and post the phone number on an appropriate motorist sign at the project site. Design-Builder shall advertise this number on community flyers, the design/build web page, and other avenues of communication. Design-Builder shall respond to all complaint calls within one business day. All complaints and responses shall be logged. The log shall include the complainant's name, telephone number, nature of complaint, date received and resolution steps taken by Design-Builder. A copy of that log shall be provided to the WSDOT Project Engineer with the weekly summary listed below.

425.02.07 Weekly Progress Reports

The Design-Builder shall provide weekly updates to the [**$$$?$$$** Office, 360.XXX.XXXX], by [**$$$?$$$**] on [**$$$?$$$**]. That information should specify details of the following week's

closures, detours, general project status and other information relevant to the motoring public. The [**$$$?$$$** staff will include that information in the department's weekly [**$$$?$$$** (*Travel Advisory/Construction Update Report)*].

The Design-Builder shall provide WSDOT Project Engineer a weekly summary of public inquiries, complaints and comments that includes general categories and trends of comments and an explanation of how Design-Builder has responded to those comments.

425.02.08 Open Houses or Public Meetings

the Design-Builder shall be available, on ten (10) workdays' notice, to attend meetings or make presentations at WSDOT's request. The purpose of these meetings shall be to inform the public of and answer questions regarding the scope, details, and anticipated schedule of the project. Such meetings and presentations may be held at any hours between 8:00 AM and 9:00 PM on any day of the week except Sundays and legal holidays. Design-Builder will be responsible, as applicable, for the preparation of graphics, hand-out materials, minutes of the meetings, audiovisual displays and similar material for such meetings. All such materials shall prominently identify WSDOT and be pre-approved by WSDOT staff. The Design-Builder shall work with WSDOT to finalize the agenda for any public meetings.

Design-Builder's public information specialist will create, reproduce and distribute flyers advertising public meetings or open houses to stakeholders identified in previous sections at least two weeks in advance of such meetings. The written notices of such meetings will be pre-approved by WSDOT staff. WSDOT will secure the meeting locations and advertise the meetings in the local newspaper. WSDOT will provide a meeting moderator and provide any liability insurance required.

425.02.09 Company and Stakeholder Database

[*WSDOT has established a database of businesses, community groups, neighborhood associations, local government officials, and other parties interested in the project*.] [*The Design-Builder shall create and maintain an accurate database of the large employers (defined in section entitled Interaction with Businesses and Large Employers)*.] The Design-Builder shall update and accurately maintain the database. New entries shall include the name of the company, a key contact person, and a mailing address. The database shall have the ability to print the information in a mailing label format. The Design-Builder shall, with one workday's notice, provide this database, in mail label format or form otherwise requested, to WSDOT staff. This database shall be used when mailing informational or educational materials about the project.

The above database shall also include appropriate stakeholders, including but not limited to, emergency service providers, school districts, local governmental jurisdictions, local legislators, open house attendees, and local offices of the Washington Trucking Association, Washington State Patrol and Automobile Association of America. Citizens requesting information or complaining about the project shall be given the option to be included in the database as well. If so, their names and addresses shall be immediately added to the database. WSDOT staff may also request that names be added to the database.

430 Utilities

430.01 Known Utilities

Existing utilities within the project limits have been identified and information collected by WSDOT from utility companies and municipalities for type, and approximate location. Utility contact information is listed in the Special Provisions Section 1-07.17. WSDOT will provide this "as-built" utility information on the electronic basemap. WSDOT does not guarantee the accuracy of the information provided by the Utility. Therefore, this information shall be confirmed by the Design-Builder through site investigations and be placed on the project base map by the Design-Builder.

[**The following provisions were used by a pilot project to delineate significant and specific utility concerns and requirements and are provided here as example**.]

"Potential utility conflicts consist of a City of Vancouver waterline and sanitary sewer line, Clark Public Utility underground powerline, NW Natural gas line, and WSDOT irrigation lines. All utility design, utility relocation, extension, addition or betterment accomplished by the Design-Builder shall be reimbursed by the Utility, and those costs shall not be included in the lump sum contract amount for this project.

430.01.01 City of Vancouver Sanitary Sewer Main

Owner: The City of Vancouver, Engineering Services Department, Sewer System Planning and Design Division

The Design-Builder shall perform an engineering study to evaluate the impacts of the interchange construction on the existing sanitary sewer main(s). This study may include measurement of the pipe thickness where the pipe enters manholes and potholing to determine existing bedding. An Engineer's stamped report of such impacts based on the proposed interchange design, or a stamped declaration there are no adverse impacts; and an Engineer's stamped design for modifying the sanitary sewer line, per City of Vancouver standards, to protect it from the interchange construction, if such protection is determined to be needed, shall be submitted to the City of Vancouver for review. The City will review and respond to the design within three (3) weeks of receipt of the stamped design.

The City of Vancouver, Engineering Services Department, prefers the Design-Builder perform any relocation or protection of the sanitary sewer line as required by the Design-Builder's stamped design. The City may competitively bid the relocation or protection work, or perform the work with City forces if the proposed cost from the Design-Builder is considered to be non-competitive. If required, the City of Vancouver would require four months to relocate or modify the sanitary sewer line upon receipt and acceptance of the Design-Builder's stamped design, as described in this section.

430.01.02 City of Vancouver Waterline

Owner: The City of Vancouver, Water System Engineering Division.

The City of Vancouver, Water System Engineering Division prefers the Design-Builder perform the relocation of their waterline, as required by the proposed design. If relocation of the waterline is required, then relocation shall include an increase to a 20-inch waterline. The limits of this work shall extend to the State right of way line to the north and south. The City may competitively bid the relocation work, or perform the work with City forces if the proposed cost from the Design-Builder is considered to be non-competitive. If required, the City of Vancouver would require four months to relocate the waterline upon receipt of the

information from the Design-Builder, as described in this section. The Design-Builder shall coordinate with the City of Vancouver to insure continuous water service to the area.

If it is agreed that Design-Builder will relocate the waterline as required by the project, then the Design Builder shall design the relocation for the waterline, per City of Vancouver standards. If required, the City of Vancouver would require four months to relocate the waterline upon receipt of a preliminary design of the proposed interchange from the Design-Builder. Upon review and approval by the City, the Design-Builder may proceed with the modifications to the waterline per City of Vancouver standards. The City will review and respond to the design within two weeks of receipt of the stamped design.

430.01.03 NW Natural Gas Line
Owner: NW Natural

NW Natural will relocate their gas line as required by the design of the interchange. Prior to the gas line relocation, the Design-Builder shall stake out any proposed objects that the gas line is to avoid, such as footings. NW Natural will require two months to relocate the gas line upon receipt of the information from the Design-Builder, as described in this section.

The Design-Builder shall adjust the gas line valve lids to match the finished grade of the new pavement. Adjustment of the valve lids shall require valve box spacers to be installed for raising the lids. NW Natural will supply the spacers for installation by the Design-Builder during paving operations. NW Natural will require two weeks notice prior to paving for delivery of the spacers. If NW Natural fails to deliver the required materials prior to paving, then NW Natural will adjust the valve lids. The valves shall remain accessible at all times.

430.01.04 Clark Public Utility Power Line
Owner Clark Public Utility

Clark Public Utility will perform any necessary relocations. Clark Public Utility will require two months to relocate the power line upon receipt of the information from the Design-Builder, as described in this section, if the relocation can occur within the existing State right-of-way. Clark Public Utility will require twelve months to relocate the power line upon receipt of the information from the Design-Builder, as described in this section, if the relocation falls outside the existing Sate right-of-way."

430.02 Location of Existing Utilities

The Design-Builder shall identify potential conflicts between new roadway and bridge features (i.e., drainage and sign bridge foundations, etc.), and existing utilities. The Design-Builder shall communicate and coordinate with utility companies planned relocations on construction plans and determine and resolve utility construction conflicts and Control Zone compliance issues.

A technical memorandum, including a map, shall be developed by the Design-Builder summarizing the conflicts and the relocation arrangements with the affected utility.

All work shall be performed in accordance with WSDOT's *Utility Accommodation Policy*.

430.03 Utility Conflicts and Adjustments

The Design-Builder shall determine any utility construction conflicts and/or Control Zone compliance issues, which require the utility to be relocated or adjusted, and shall advise WSDOT. The Design-Builder shall arrange and conduct utility coordination meetings to identify and resolve of conflicts. The Design-Builder shall review relocation plans produced by utility

companies to assure that utility conflicts are eliminated and that proposed utility installations conform to *Utility Accommodation Policy.*

430.04 Utility Plans

The Design-Builder shall prepare reproducible plans showing the locations of all existing aerial and buried utility facilities and shall indicate the potential areas of conflict between the utility facilities and the roadway improvements. Vertical locations of underground utilities shall be shown on sections or details only when the actual elevation has been determined by physically exposing the utility and surveying its location.

The base map shall contain matching ground controls at intervals of no more than one hundred fifty (150) meters together with a description of the desired area for utility horizontal designation. Where elevations are necessary for the determination of conflicts, the Design-Builder shall furnish a list of the possible conflict locations and conflicting utilities. This list will be used by the Design-Builder for identification of potholing locations to provide accurate horizontal and vertical location of the utility.

The Design-Builder shall furnish copies of the plans to each utility company which has facilities in the area, and shall also furnish copies of cross sections upon request from the utility companies or WSDOT. The size of the plans, 1/2 size or full size, shall be as requested by the utility companies. In all cases, the plans shall be scaleable i.e., full size or true half-size. The Design-Builder shall send the plans to the utility companies, receive responses, and provide to WSDOT copies of all correspondence to and from the utility companies.

The Design-Builder shall include planned utility relocations on the final plans.

The Design-Builder shall send a Utility Object Relocation Record (UORR), identifying above ground utility objects which must be corrected in order to meet Control Zone requirements, to any Utility with such above ground facilities and request that such Utility provide plans showing how the correction is to be done. The Design-Builder shall, upon receipt of the response from the Utility on their planned corrections, verify that the planned relocation or mitigation of the Utility's facilities complies with Control Zone requirements, and the Design- Builder shall supply copies of the UORR with the planned corrections to the WSDOT Region Utilities Engineer for review and approval.

430.05 Utility Relocations and Adjustments

Where a utility relocation may be required:

A. The Design-Builder shall identify possible alternatives to minimize utility conflicts.

B. The Design-Builder shall notify WSDOT promptly upon determination that relocation of a utility company facility is required.

C. WSDOT will notify the utility company to relocate conflicting utilities at the utility owner's expense.

D. Additions, extensions, and betterment of an existing utilities facility are the financial responsibility of the utility owner. In the case of a request for addition, extension or betterment, the Design-Builder shall advise WSDOT of utility company's request, for additions, extensions, and/or betterment and shall advise the utility company that approval of its request is subject to concurrence by WSDOT.

Any utility design, utility relocation, extension, addition or betterment accomplished by the Design-Builder shall be reimbursed by the Utility via WSDOT.

430.06 Utility Clearance Letter

The Design-Builder shall prepare a utility clearance letter and submit it, together with copies of correspondence from utility companies verifying the information, to WSDOT for review and concurrence.

If there are no conflicts, the clearance letter shall state that there are no utilities in conflict with construction (i.e. when there are no utility facilities needing adjustment or when all adjustments have been completed prior to writing the clearance letter).

If adjustments are needed, the clearance letter shall list each utility company separately, showing:

A. The name of the company

B. The nature of required adjustment

C. The status of Agreements and permits between Design-Builder and Utility

D. The status of the utility adjustment

   1) Completed

   2) To be done by Design-Builder during construction

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

   4) In progress, with estimated completion date

440 Roadway Design

The Design-Builder shall design all roadway geometrics including horizontal alignment, vertical alignment, cross section elements and superelevation in accordance with the Scope of Work.

Deviations listed in the Scope of Work Section 405 shall be shown on the plan sheets under Deviation Notes as shown in the [*NW Region*] Channelization Plan Checklist.

Any significant change to the intent of the design may require right-of-way and also may require a review of the Environmental documents that have been approved for this project. If any such changes are proposed, the Design-Builder shall bear the responsibility for the cost and schedule adjustments made necessary by same.

440.01 Design Criteria

[**Two approaches to specifying design criteria were used on the pilot projects, both are shown below as alternative approaches**]

"The Design-Builder shall utilize the Design Criteria listed in the Draft Design File in developing the design of the project. If the Design Criteria are not achievable, the Design-Builder shall submit to WSDOT clear documentation of what can not be achieved and a proposed alternative for review."

"*The Design-Builder shall utilize the Design Criteria listed below in developing the design of the project. If the Design Criteria listed below are not achievable, the Design-Builder shall submit to WSDOT clear documentation of what can not be achieved and a proposed alternative for review.*

A. Design Speed = 100 KPH for designing the mainline, and 80 KPH for the ramps,

B. Design vehicle = WB -15 for the turning movements,

The following design requirements are based on a single point urban interchange. The minimum LOS is indicated should the Design-Builder develop another type of interchange.

A. Minimum lane configurations:

1. *SR 500 Mainline; two lanes in each direction with a 6.7 meter median with one exception: The existing third lane westbound shall be maintained from the westbound off ramp at Thurston Way to the east.*
2. *Auxiliary lanes east and westbound between Thurston Way and Andresen Rd. and Thurston Way and SR 205 to accommodate the weaving movement between the interchanges. The eastbound auxiliary lane shall begin at the eastbound on ramp from Andresen Rd. and shall end at the eastbound off ramp to Thurston Way. The eastbound auxiliary lane shall begin again at the eastbound on ramp from Thurston Way and shall end at the eastbound off ramp to southbound SR 205. The westbound auxiliary lane shall begin at the westbound on ramp from Thurston Way and shall end at the westbound off ramp to Andresen Rd. The existing third westbound lane, east of Thurston Way shall end at the Thurston Way westbound off ramp.*
3. *Eastbound off ramp to Thurston Way shall be a two lane off ramp tapering into three lanes, two left turn lanes and a right turn lane. The channelization for the off ramp shall be developed to accommodate the maximum queue length described below.*
4. *Westbound off ramp to Thurston Way shall be a two lane off ramp tapering into three lanes, two left turn lanes and a right turn lane. The channelization for the off ramp shall be developed to accommodate the maximum queue length described below.*
5. *Eastbound on ramp from Thurston Way shall require two lanes at the intersection of Thurston Way forthe southbound left turn movement. The northbound right turn movement shall be a merge. The right lane for the left turn movements shall extend 150 meters east of the radius return, and then taper from two lanes to one lane. The taper rate shall be 35 to 1 to allow for increased weaving distance between the proposed Thurston Way Interchange and the existing SR 205 Interchange, and to reduce the impacts to the existing berm east of the intersection.*
6. *Westbound on ramp from Thurston Way shall require two lanes at the intersection of Thurston Way, one for the left turn movement with one for the right turn movement. The two lanes shall extend 90 meters from the radius return, prior to tapering to one lane.*
7. *Thurston Way: The existing lane configuration shall remain on Thurston Way with three exceptions; the northbound right turn lane to the eastbound on ramp shall be extended back to within 20 meters of the Vancouver Plaza Drive Intersection, one of the northbound left turn lanes shall be eliminated, and a 1.5 meter bicycle path shall be created on either side of Thurston Way within the limits of the project*

B. Maximum queue lengths based on 2019 DDHV, a 75-25 split for the southbound left turn movement, and 130 second cycle:

1. *Eastbound off ramp, left turn lanes = 100 meters (2 lanes)*
2. *Westbound off ramp, left turn lanes = 110 meters (2 lanes)*
3. *Northbound left turn lane = 80 meters (2 lanes)*
4. *Northbound through lanes = 100 meters (2 lanes)*

5. *Southbound left turn lanes = 160 meters (2 lanes)*
6. *Southbound through lanes = 70 meters (2 lanes)*

The northbound and southbound left turn lane lengths shall be modified to fit the existing conditions, accommodating the left turn lane lengths for the signals to the north and south. Any revisions to the left turn lane lengths for the adjacent intersections shall be coordinated with the City of Vancouver.

Note, under the existing conditions, the maximum attainable lane length is approximately 40 meters. Under the existing conditions, the maximum attainable lane length is approximately 90 meters.

The minimum level of service (LOS) for the signalized intersection at Thurston Way shall be LOS D for the design year.

C. The weaving length between the interchanges shall be as follows:

Weaving Section	***Length***
Eastbound between Andresen Rd. and Thurston Way	*640 meters**
Eastbound between Thurston Way and SR 205, southbound on ramp	*550 meters*
Westbound between SR 205, southbound off ramp, and Thurston Way	*640 meters*
Westbound between Thurston Way and Andresen Rd.	*500 meters**
**Distances require the realignment of the eastbound on ramp from Andresen Rd. and the westbound off ramp to Andresen Rd.*	

The required weaving length shall be based on the detail on page 940-24 of the Design Manual, which shows the beginning and ending points of the weaving section.

The weaving lengths are based on obtaining a minimum of LOS B for the weaving movements westbound between Thurston Way and Andresen Rd. and a minimum LOS D for the other weaving movements. Alternate designs shall meet this same LOS.

D. Raised traffic islands shall be constructed between the right turn and left turn lanes in all four corners of the interchange. The raised traffic islands shall be either concrete brick or imprinted sidewalk by Bomenite.

E. A 2.4 meter sidewalk along with cast-in-place curb and gutter shall be designed and constructed on both sides of Thurston Way, and shall match into the existing sidewalk to the north and south of the interchange. The sidewalk shall be either concrete brick or imprinted sidewalk by Bomenite that matches the same color, texture and pattern of the Andresen Rd. interchange. This material shall be placed in the areas, consistent with those areas at the Andresen rd. Interchange.

F. The existing bicycle/pedestrian facility on the south side of SR 500 between Andresen Rd. and Thurston Way shall be retained and be reconnected into the sidewalk on Thurston Way as required to accommodate the interchange. Concrete median barrier shall be installed between the eastbound off ramp to Thurston Way and the existing bicycle/pedestrian facility for a distance of 150 meters from the sidewalk on Thurston Way."

440.02 Design and Plan Preparation

440.02.01 Index and Vicinity Map

The Design-Builder shall prepare an index listing of plan sheet titles as they appear on the plan sheets and in accordance with the Plans Preparation Manual (PPM). The Design-Builder shall also prepare a vicinity map showing the Project limits in accordance with the PPM. The plan shall include without limitation mileposts of the project, beginning of and ending of construction, equations and exceptions, distance in miles to nearest cities or towns, location of railroads, waterways and underpassing roadways.

440.02.02 Roadway Sections

The Design-Builder shall prepare the roadway section plans in accordance with the WSDOT Design Manual M22-01 (DM), and PPM. Roadway sections shall provide the geometric information on the roadway cross section to be constructed.

440.02.03 Site Preparation Plans

The Design-Builder shall prepare the site preparation plans in accordance with the PPM. The site preparation plans shall be used to depict removal and demolition and other such related items that can not be clearly addressed on other required plan sheets.

440.02.04 Alignment and Right-of-Way Plans

The Design-Builder shall prepare the alignment and right-of-way plans in accordance with the PPM. The Design-Builder shall develop the alignment data and display the information in the alignment tables, showing the curve data and coordinates necessary to construct the Project. The Design-Builder shall calculate the alignments for incorporation into the alignment plans. The alignment and right-of-way plans shall show existing and proposed alignments, existing right-of-way with stationing and distance ties, construction permits and easements, proposed fencing, monumentation, and other applicable items as described in the PPM.

440.02.05 Profiles

The Design-Builder shall prepare mainline, ramp and other roadway profile sheets in accordance with the PPM as necessary. The Design-Builder shall calculate the profiles and super-elevation diagrams to be incorporated into the profile sheets. The profiles shall show existing and proposed profile alignment data along with proposed superelevation diagrams, embankment quantities, excavation quantities, roadway section references, clearing and grubbing quantities, and other applicable items as described in the PPM.

440.02.06 Paving and Grading Plans

The Design-Builder shall prepare the paving plans, grading plans, and details in accordance with the roadway sections, DM, PPM and other WSDOT provided information. The paving plans shall include, without limitation, paving limits, grinding locations, (roadway section item, barrier type and location, guard rail type and location, guard rail anchor type and location, ramp gore and intersection grading, interchange contour grading, and other applicable items). The Design-Builder shall prepare quantity takeoffs, tabulations, and backup calculations in accordance with the PPM to support the Schedule of Values and quantity needs of the QC/QA Plan, see Section 1140 of the Scope of Work.

The Design-Builder shall prepare roadway Construction Documents on WSDOT standard sheets for the roadway improvements.

Design-Builder shall provide cross sections for review when requested. Horizontal and vertical scales shall be the same. Each cross section shall show the plotted roadway

template superimposed on the plotted natural terrain. Cross sections shall normally be prepared at 20 meter intervals, as a minimum, with additional sections at breaks in the terrain unless otherwise directed by the WSDOT Project Engineer. (Cross sections shall be included in all submittals to utility companies).

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

440.02.07 Intersection Plan for Approval

The Design-Builder shall prepare and furnish an Intersection Plans for Approval in accordance with the Design Manual.

440.02.08 Interchange Plan for Approval

The Design-Builder shall prepare and furnish an Interchange Plans for Approval in accordance with our standard practices for developing this plan.

440.02.9 Clear Zone Inventory

The Design-Builder shall develop and furnish a Clear Zone Inventory, according to the Design Manual (Section 700), based on the design of the interchange. All objects within the clear zone shall be addressed.

440.03 Quantities

The Design-Builder shall prepare quantity takeoffs, tabulations, and backup calculations in accordance with the PPM to support items listed in the Schedule of Values and quantity needs of the QC/QA Plan.

445 Bridge and Structures Design

This section covers the design of permanent bridges, retaining walls, noise walls, barriers, drainage structures, sign structures and other structures in the project.

The Design-Builder shall perform structural analyses and design of the bridges, retaining walls, noise walls, and other structures included in the Project, following applicable regulations, codes, and professional practices, and prepare plans, specifications and estimates in accordance with the Geotechnical Report, the Bridge Design Manual, the AASHTO 16th. Edition, and applicable WSDOT and AASHTO design and construction specifications.

Prior to preparation of final design and construction documents, the Design-Builder shall submit preliminary plans for the bridge and walls. The preliminary plans shall be prepared in accordance with the Bridge Design Manual.

445.01 Design Criteria

Bridge shall be designed and constructed using the following criteria:

A. The bridge shall be designed using an AASHTO [HS 25] design truck or two [24 Kip axles at 4 foot] centers.

B. Bridge barrier and railings shall be selected and designed according to WSDOT Bridge Group memo; “A General Guideline for Selection of Bridge Railings”, dated May 7, 1998.

C. Longitudinal expansion joints shall not be used.

D. Bridge expansion bearings shall be designed to provide for maintenance accessibility and future removal and replacement.

E. The superstructure shall not be designed to be fracture critical.

F. The bridge roadway deck shall be cast in place concrete.

G. Abutment walls shall be cast-in-place concrete with a fractured fin form-liner incorporate with a design pattern. The design pattern shall be furnished by WSDOT.

H. For a multispan bridge the superstructure shall be box girders.

I. Pigmented sealer for concrete shall match the color Washington Gray Revised.

J. Slope protection shall be consistent with aesthetic treatments within the corridor and conform to details contained in WSDOT Standard Plan drawings.

445.02 Aesthetics

The structures shall have clean lines and form, compatibility with adjacent structures in the corridor, and an attractive pleasing finish, shape and texture of concrete.

445.03 Approach Slabs

An approach slab shall be provided at the end of each bridge, and shall be the same width as the bridge deck.

445.04 Sign Structures

The need for overhead signs and sign support structures shall be carefully considered. Existing sign support structures may be used for new signs or replacement signs where practical. However the integrity of existing sign support structures must be verified with the HQ Bridge and Structures/Bridge Preservation Office. Sign structures shall be designed and constructed in accordance with NW Region standard policy, AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, dated 1994. Monotube type structures shall be used for new sign bridges and cantilevers. WSDOT Standard Sign Structures are acceptable.

Only cast-in-place retaining walls may be used to support signs and lighting. All other wall types must isolate the loads from signs and lighting.

The bottom of the signs that are mounted on bridges shall be at least 75 mm above the bottom of the bridge superstructure. Details of bridge mounted signs shall be included with the bridge drawings. Drilling into prestressed concrete will not be permitted; use concrete inserts or embedded bolts.

445.05 Retaining Walls

The following criteria shall apply to permanent wall structures. The Design-Builder will have sole responsibility for the type, material, performance, and safety of temporary retaining structures, subject to accepted engineering practice.

Retaining wall layout shall address slope maintenance above and below the wall and provide returns into the retained fill or cut at retaining wall ends where possible. Final tolerances shall be 12mm in 3 meters for level and plumb. Design and construction shall consider surface and subsurface drainage. A system shall be provided to intercept or prevent surface water from entering behind walls. A fence or pedestrian railing shall be provided at the top of walls over 1.3 meters high where access is open to the public or where there is a need for maintenance access.

445-06 Calculations

Calculations shall be bound and numbered with a table of contents. Reference computer programs in the calculations. Computer documentation shall include: name of program, vendor, version and release date.

450 Drainage Design

The Design-Builder shall provide a well-drained corridor and a safe environment for the individuals who use and maintain the highway. The design and construction of all drainage structures and appurtenances shall adequately address functionality, durability, ease of maintenance, maintenance access, safety, aesthetics and protection against vandalism according to the contract specifications and standards. In fulfilling the requirements for drainage, the Design-Builder shall abide by and fulfill the requirements related to drainage features or systems while at the same time meeting the requirements of other required design elements on the project.

450.01 Hydrology

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

The drainage system shall be designed in accordance with Chapter 1 of the WSDOT Hydraulics Manual. The Design-Builder shall design the drainage facility utilizing the more restrictive criteria among the WSDOT Hydraulics Manual and the WSDOT Highway Runoff Manual.

The Design-Builder shall perform the drainage design for all drainage features on the project. All design work shall be documented in a Hydraulics Report including the size and location of drainage and stormwater treatment structures.

450.02 Hydraulic Report

The Design-Builder shall be responsible for preparing the Draft and Final Hydraulics Report. The Hydraulics Report shall contain detailed calculations as well as rational for selecting all drainage system. The Hydraulics Report shall be stamped by a professional engineer registered in the State of Washington and shall transmit three (3) copies of the Report to the Engineer prior to preparing the drainage plans.

450.03 Drainage Designs

The Design-Builder shall prepare drainage plans, profiles, details, and structure notes in accordance with the Hydraulics Manual, the Plans Preparation Manual (PPM). The facilities shall be designed to effectively drain the Project. The Design-Builder shall prepare plans and details for stormwater detention/treatment facilities for runoff from within the Project limits in accordance with Instructional Letter 4020.00 (IL-4020.00) titled “Endangered Species Act (ESA) §7(d) Project List And Stormwater Effects Guidance” and the Hydraulics Manual. The Design-Builder shall prepare structure note sheets and backup calculations for these sheets in accordance with the PPM.

Pipe sizes, lengths and other summary data shall be provided on the WSDOT standard new pipe summary sheet. Drainage plan and profile drawings shall be developed which cover the entire project limits. Additional drawings shall be provided to document drainage details that are not defined in the WSDOT Standard Plans. All drainage design drawings shall conform to WSDOT PPM.

Design reviews shall be in accordance with the QC/QA Plan Requirements. The final design submittal shall include the location of catch basins, manholes, and profiles or details showing all invert elevations, proposed finished grade elevations above the top of pipe.

The Design-Builder shall prepare design and construction documents for drainage features including, but not limited to:

A. Drainage culverts and underpass structures

B. Catch basins, manholes and connector pipes

C. Drainage Pipe and Concrete Box Culvert Summary Sheets

D. Drainage details

E. Drainage culvert profiles

F. Biofiltration Swales

G. Retention/Detention Basins/Wet ponds

450.03.1 Bridge Deck Drainage
Runoff from bridge decks shall be carried off the bridge and into the adjacent roadway drainage system.

450.03.2 Bridge Approach Drains
The design shall intercept gutter flow at both ends of bridges. Stormwater flowing toward the bridge shall be intercepted prior to the approach slab. The inlets and catch basins shall conform to requirements of this Scope of Work.

450.03.3 Storm Drain Systems
Runoff falling within the limits of the project, storm water draining into the project site, and additional drainage identified in the drainage documents for inclusion with the project shall be collected and conveyed to an existing storm drain system, or an on-site system.

Any connector pipes requiring lengthening shall be extended in kind by the Design-Builder. Shallow connector pipe installations shall be encased with a lean concrete backfill per the WSDOT Standard Specifications.

450.03.4 Inlets, Catch Basins and Pipes
Any inlet, or pipe that will not become part of the final drainage system can be removed or abandoned in place. Any such abandonment shall be done in accordance with Section 2-02 of the Standard Specifications with the following addition: Any void that may remain as a result of abandoning a drainage feature shall be filled with lean concrete or an equivalent material to guarantee that no settlement will occur as a result of the void. Catch basins that will not become part of the final drainage system shall be removed.

450.03.5 Connections to Existing Systems
The Design-Builder shall develop plans and specifications for connections with existing storm drain systems. These details shall be reviewed prior to making any connections. The existing drainage pattern shall not be impeded in any way that would impact the safety of the traveling public during the construction of the project.

450.03.6 Pipe
Pipe alternates shall be in accordance with the WSDOT Hydraulics Manual.

455 Roadside Restoration Design

The Design-Builder shall design and construct roadside restoration for restoring roadside impacts in accordance with the special provisions. The Design-builder shall install an irrigation system in accordance with the special provisions.

460 Traffic Engineering Design

460.01 Roadway Illumination

This section covers the illumination of the route mainline and all entrance and exit ramps, intersections and crossroads for the entire project. The Design-Builder shall submit to WSDOT a preliminary set of illumination plans showing existing illumination, existing electrical hardware locations, proposed locations for the new luminaires, underdeck illumination and sign lighting, wiring diagrams, and electrical hardware.

460.01.01 Design Criteria

The design shall be based on the following criteria:

A. Illumination shall be furnished and installed per all State and local codes, and per WSDOT Design Manual standards, WSDOT Traffic Manual, and Standard Specifications.

B. Illumination shall be shielded where there are adjacent business or residential concerns. Continuous illumination shall be installed between the adjacent interchanges, Andresen Rd. and SR 205, on SR 500. The required illumination density for mainline, ramps, intersections, gore areas and below the structure shall be per WSDOT Standards. Luminaires shall match the existing luminaires within the corridor.

C. Temporary illumination shall be furnished and installed per current WSDOT Design Standards and Standard specifications.

D. The designer shall comply with WSDOT's current illumination policy and provide a complete set of roadway illumination Construction Documents including, but not limited to:

   1) Complete freeway illumination including mainline, entrance and exit gore areas, ramps, and crossroads.

   2) Sign Lighting.

E. Existing electrical services shall be upgraded, as needed, for new illumination. If a new or upgraded existing electrical service is needed, the Design-Builder shall coordinate with WSDOT and submit the necessary design information for the new or upgraded electrical service to the Engineer. WSDOT will obtain any Service Agreements from the electrical company. The time required for WSDOT to obtain the service agreement once the Design-Builder submits the required information will be 21 calendar days.

F. The Design-Builder shall design and construct the illumination system with consideration to future maintenance. The illumination system shall be designed to minimize lane closures required for maintenance.

460.01.2 Illumination Design

The Design-Builder shall prepare preliminary plans for the illumination. The plans shall be drawn to WSDOT standards. The plans shall include the following minimum information:

A. Luminaire pole locations.

B. Load center locations.

C. Power source.

D. Conductor schedule.

E. Voltage drop calculations.

F. Breaker Schedule

G. Luminaire Schedule

H. Photometric Data

All existing above and below ground utilities are also to be included in the preliminary illumination plan.

In addition, lighting calculations utilizing AGI Lighting Design Software available from Lighting Analysts, Inc. Littletown, Colorado 303.972.8851 shall be submitted in hard copy and computer disc.

WSDOT Electrical Design shall review the preliminary design before the Design-Builder may commence final design in accordance with Section 1060.

460.01.03 Construction

The Design-Builder shall submit as-built plans, product manuals and shop drawings for the illumination system after construction is complete. Final acceptance will not be granted until this material is submitted.

460.02 Signing and Delineation Plans

The Design-Builder shall take a sign inventory, using the WSDOT approved sign inventory sheet, to aid in preparing signing plans, signing specifications, and signing details for this project (including sign legend layouts, overhead sign structure details, and sign light power supply details). The signing plans, specifications, and details shall be prepared using the WSDOT Traffic Manual M51-02, DM, MUTCD, WSDOT Sign Fabrication Manual M55-05 and the PPM. The Design-Builder shall submit to WSDOT preliminary sets of signing plans and signing specifications showing existing signing, signs to be removed or relocated, and proposed locations for new signing.

The Design-Builder shall design, furnish and install all signing on the project to provide guidance ensuring the safe and efficient movement of traffic. In addition, the Design-Builder shall design, furnish and install new replacement signs as part of a sign rehabilitation effort on this corridor.

The Design-Builder shall prepare designs for signing that are consistent with current signing practice and in conformance with the Manual on Uniform traffic control Devices (MUTCD), the Traffic Engineering Design Manual, the Manual of Approved Signs (MOAS), and Traffic Group's Sign Sheeting Guidelines.

Non-standard signs shall be detailed on the project plans following the layouts given in the above referenced documents.

460.02.01 Design Criteria

A. Stop bars, cross walk stripes, 8-inch gore stripes, and traffic arrows shall be plastic. Raised pavement markers shall be utilized per our Standard Plans for the delineation of the mainline auxiliary lanes, the ramps and Thurston Way. Paint stripe for the mainline centerline skip stripe shall be installed per the Special Provision, Metric Methylmethacrylate.

B. Construction Signing shall be per Part VI of the Manual on Uniform Traffic Control Devices (MUTCD), Washington State Modifications to the MUTCD and the guidelines found within the WSDOT Traffic Manual. Work Zone Traffic Control Plans shall be submitted and approved by the Traffic Control Supervisor within the WSDOT Southwest Region Traffic Office prior to implementation.

C. Overhead sign structures shall match the existing corridor sign structures.

460.02.2 Signing

The Design-Builder shall take a sign inventory using the approved signing inventory form provided by WSDOT. The Design-Builder shall develop a signing plan for the corridor which includes all necessary signs for the mainline, frontage road, ramps and interchanges including but not limited to guide, regulatory, warning and MIS signs. This plan shall also include signing for areas outside of the project limits that will be affected by the construction.

460.02.3 Sign Mounting

Minimum sign clearance for overhead signs shall be a minimum of 5.35 meter over the entire width of pavement including gutters, as measured from the bottom of the sign to the roadway surface.

460.02.4 Sign Layout

Guide signs layouts shall be done in accordance with the Freeway Signing Guide section of the WSDOT Sign Fabrication Manual.

460.02.5 Design

The design shall include a signing plan and sign specification sheets giving the location of the sign, the size of the sign, the legend of the sign, and the mounting type. In addition signing details plan sheets shall be developed for all signs that are not included in WSDOT's manual of approved signs. For overhead signs, sign elevation sheets showing the sign position in relation to the travel lanes and the position of the sign lighting fixtures in relation to the sign panel shall be provided.

Prior to fabrication of any sign elements, a guide sign concept plan with proposed formats shall be submitted to WSDOT for review. In addition, any modifications made to "R" and "W" series signs shall be submitted to the State Traffic Engineer for approval. This process should take one to two weeks. The remainder of the Design-Builders design will be reviewed in accordance with Section 1130.02.

460.02.6 Construction

Positive guidance by the use of existing, interim and new signing shall be provided for the traveling public at all times during construction to ensure safe and informed operation while traffic is maintained on the roadway. The traffic control plan submitted by the Design-Builder shall address the use of interim signing and pavement markings during the transition from existing to new signing.

460.03 Intersection Signalization

The Design-Builder shall prepare Construction Documents for installation of traffic signals. The Design-Builder shall design, furnish and construct traffic signals at the traffic interchange of Thurston Way. An interconnect shall be installed between the adjacent City of Vancouver signals to the north and south. Signal timing plans will be developed and implemented by WSDOT Southwest Region Signal Operations. The signal controller shall match the future adjacent controllers planned by the City of Vancouver.

The Design-Builder shall design the intersection and traffic signals to optimize vehicle levels of service, minimize delay, and accommodate pedestrians, as necessary. The signal shall be constructed within existing right-of-way limits. The design of the signals shall be performed in conjunction with the roadway geometric design to minimize the stop bar separation on the single point urban interchange.

Traffic signal designs shall include the means to optimize the complex traffic flow issues at the interchange areas. For example, such designs may include traffic responsive operation, and the use of queue detection on the freeway exit ramps and cross roads. All preformed loop detection shall be placed in new pavement per the technical specifications. The design of the traffic signal shall be compatible with the Southwest Region ITS Plan.

The Design-Builder shall upgrade existing electrical services, as needed, for the new signals. If a new or upgraded existing electrical service is needed, the Design-Builder shall coordinate with WSDOT and submit the necessary design information for the new or upgraded electrical service to the Engineer. WSDOT will obtain any Service Agreements from the electrical company. The time required for WSDOT to obtain the service agreement once the Design-Builder submits the required information will be 21 calendar days.

460.03.01 Design Criteria

Traffic signals shall be designed using the following criteria:

A. The signal controller shall be a Type 170 to match the City of Vancouver's future controllers at the intersections to the north and south. An interconnect shall be installed between the WSDOT and City of Vancouver signals to coordinate the system.

B. Signals shall be furnished and installed per current WSDOT Design Standards and Standard specifications.

C. Temporary signals shall be furnished and installed per current WSDOT Design Standards and Standard specifications. Temporary signals shall be traffic actuated and coordinated with adjacent City of Vancouver signal systems.

D. The Design-Builder shall furnish and install all signal equipment. ALL signal equipment shall be new and conform to WSDOT standards and specifications. The Design-Builder shall only use WSDOT pre approved signal poles. No special pole designs shall be used for this project. Light Emitting Diodes (LED's) shall be utilized for all vehicle/pedestrian heads except under the structure. The signal heads under the structure shall be programmable.

E. The Design Builder shall furnish and install a battery backup or Uninterruptible Power System (UPS) that shall power the traffic signals in the event of normal power failure.

   1) The Traffic UPS shall be capable of producing - simultaneously - fully regenerated, conditioned and true sine wave, standby and continuous AC outputs.

2) Suggested operating mode for respective outputs during power failure: Continuous output provided for signal controllers and modems; Standby output provided for signals in flash mode operation (optional delay timer available for short-term battery run under full cycling operation).

3) Up to the maximum rating, the Traffic UPS shall be capable of running any combination of signal heads, whether Incandescent, LED or Neon, by any manufacturer, regardless of power factor, without overdriving the poorer power factor LED heads which may cause early degradation, low luminosity or early signal failure.

4) Upon loss of utility power the Traffic UPS shall insert battery power into the system via a supplied Power Interface Module (PIM). In case of UPS failure and/or battery depletion, the PIM will ensure that the UPS will drop out and, upon return of utility power, the traffic control system will default to normal operating mode.

5) The Power Interface Module shall enable removal and replacement of the Traffic UPS without shutting down the traffic control system (i.e. “hot swap” capability). Connectors shall be equipped with a “safety interlock” feature.

6) For 170 or “California” style cabinets, upon loss of power the Traffic UPS shall actuate the existing Flash Transfer Relays (FTRs) and Mercury Contactor (MC) to force the traffic control system into Flash Mode operation.

7) Existing Flasher Modules and Flash Transfer Relays shall be utilized.

8) To facilitate emergency crews and police activities, the Traffic UPS shall be compatible with police panel functions (i.e. “Signals OFF” switch must kill power to the field wiring even when on UPS/Battery power).

9) The Traffic UPS shall not duplicate or take over flash operation or flash transfer relay functions.

10) The Traffic UPS shall be capable of providing continuous, fully conditioned, regulated, sinusoidal (AC) power to selected devices such as signal controllers, modems, communications hubs, NTCIP adapters and video equipment.

460.03.02 Design

The Design-Builder shall prepare preliminary design plans for the traffic signals. The plans shall be drawn to WSDOT Standards. The plans shall include the following minimum information:

A. Lane geometry, striping and queue lengths.

B. Signal pole locations.

C. Signal head locations.

D. Types of signal faces (F, R, etc.).

E. Controller location.

F. Power source.

G. Type and location of detection.

H. Pole and conductor schedule.

The Design-Builder shall submit the preliminary design for review as outlined in Section 1065 prior to purchasing equipment.

The 100 percent Design shall contain full plans as required to construct and operate the signalized intersections. This shall include all requirements for the efficient operation of the traffic signal.

460.03.03 Construction

The Design-Builder shall conduct burn-in and testing of all traffic signal hardware and assure its functionality prior to field installation.

The Design-Builder shall notify WSDOT Electrical Design fourteen (14) calendar days prior to scheduled start of operation of any traffic signal. The Design-Builder shall inspect the traffic signal installation. WSDOT will provide cursory, as necessary. WSDOT Electrical Operations and Maintenance will program the equipment. Unless otherwise directed, the Design-Builder will receive authorization from WSDOT Electrical Operation and Maintenance for turn on of the signal on the specific date scheduled. The start of operation of the traffic signal does not constitute final acceptance of the traffic signal installation. Final acceptance will be made after satisfactory field inspection by WSDOT Electrical Design staff and receipt of as-built documentation.

465 Surveillance Camera And Driver Information (Sc&Di) & Intelligence Transportation System (Its)

The Design-Builder shall design, furnish, and install the SC&DI portions of this project per the current SC&DI Design Guide as prepared by WSDOT Northwest Region's Traffic Systems Management Center.

Specific requirements for the VMS are specified below, and the Design-Builder shall consult with WSDOT for more specific requirements. These requirements are subject to change depending on the WSDOT Southwest Region Intelligent Transportation System needs.

Final SC&DI / Intelligent Transportation System (ITS) design and installation shall require the approval of the WSDOT Southwest Region Traffic Engineer.

SC&DI & ITS shall include the following components:

A. Variable Message Sign (VMS)

B. Ramp Metering Systems

C. CCTV Cameras

D. Conduit

E. Vault Hub (For future integrated Traffic Management System)

465.01 Design and Construction Criteria

The Design-Builder shall supply a Variable Message Sign (VMS). The approximate VMS locations shall be on SR 500 at the Andresen Rd. interchange eastbound on ramp at approximately MP 3.6. The exact locations will be determined later. The VMS shall be mounted on cantilever steel supports off the roadway shoulder.

The VMS shall be equivalent to the existing VMS located on SR 5, south of 179th St. in the vicinity of the fairgrounds, and be of an approved quality.

The VMS must be full matrix amber Light Emitting Diode (LED) display and shall consist of individually controlled pixels no larger than 2.5 inches by 2.5 inches. The sign shall be

capable of displaying three (3) lines of fifteen (15) 18-inch characters with a minimum of a pixel separation between each line. This row of separation shall consist of addressable pixels such that they can be activated to display other graphics and other text layouts. The VMS shall be capable of displaying a variable speed limit on the 1/3 portion of the sign and three lines of ten (10) 18-inch characters on the remaining 2/3 of the sign.

Ramp meters and controllers shall be Type 170, for both on ramps, and shall be loop actuated. They shall be furnished and installed per all State and Local codes and per WSDOT current Design and Standard Specifications

The surveillance camera shall be a Cohu DSP 3500 Series High Performance CCD Color Camera with remote setup and control, backlight compensation, zoom and control features. The camera system shall also have a weather proof housing, 16-16 MM f1.8 Lens, Sunshield, Pelco Pan/ Tilt, MPC-D-111 with ER2315C Control Receiver, and all other necessary accessories to provide a complete functional camera system.

SC&DI - 2-4” conduit for fiber optics shall be installed from one end of the project to the other; a vault shall be installed at the easterly conduit end in the vicinity of the SR 205, southbound on ramp. See the SC&DI attachment in Appendix G, for the details on the vault.

Install a 2” conduit in each bridge rail. The bridge rail will extend to junction boxes at either end of the structure, in the pavement outside the limits of the structure.

470 Work Zone Traffic Control

The Design-Builder shall prepare construction staging plans, Phasing and Construction Sequence Reports, and coordinate Work Zone Traffic Control Meetings. The Phasing and Construction Sequence report shall address items such as construction stage limits, earthwork volumes, construction sequencing, and traffic control.

470.01 Construction Staging and Traffic Control Plans

The Design-Builder shall prepare construction staging plans, detour plans, site specific traffic control plans, typical plans, and details in accordance with the Design Manual, Plans Preparation Manual, Traffic Manual, MUTCD, and other WSDOT provided information. Construction staging shall be developed, along with detour and signing plans. Construction signing and temporary illumination systems shall be shown on site specific traffic control plans.

Traffic control plans shall be approved by an engineer licensed in the State of Washington with traffic expertise, prior to actual construction that will affect traffic. The Design-Builder shall submit a preliminary set of traffic control plans to the Engineer for review and comment 10 business days prior to implementation. Traffic control plans for local agency roadways shall be approved by the local agency prior to submittal to the Engineer for review and comment.

470.02 Detour Plans

The Design-Builder shall prepare any detour plans required for detouring mainline traffic onto local roadways. It shall be the Design-Builder’s responsibility to obtain detour agreements from local agencies for use of local roadways for mainline traffic detours. All detours shall be on paved roadways.

470.03 Work Zone Traffic Control Meeting

The Design-Builder shall schedule a Work Zone Traffic Control (WZTC) Meeting per the Design

Manual. At a minimum, the following personnel shall be invited to the Work Zone Traffic Control Meeting:

1. Local Agency Transportation Engineer,
2. Emergency Services,
3. Local Law Enforcement (include the WSP),
4. WSDOT's Construction Traffic Engineer,
5. WSDOT's Area Maintenance Superintendent, and
6. WSDOT's Project Engineer.

The personnel invited to the WZTC Meeting shall be notified two weeks in advance of the Meeting. Issues raised in the WZTC Meeting shall be addressed by the Design Builder.

475 Right-Of-Way

The Design Builder shall verify right-of-way boundaries prior to utilization of right-of-way areas outside of existing fenceline. Areas that are not fenced shall be verified as right-of-way if work is to be done outside of the existing roadway prism.

If additional right-of-way is requested by the Design-Builder as a value added element of the project, WSDOT will review a request, prepared in accordance with General Requirement subsection 1-04.4. The cost of additional value added right-of-way shall be borne by the Design-Builder. Schedule impacts shall also be borne by the Design-Builder unless WSDOT determines that it is in the best interests of the public to change the contract terms.

475.01 Right-of-Way Requirements Determination

The Design-Builder shall determine the requirements for new right-of-way rights. Right-of-way rights can include, but are not limited to, new roadway, access rights, slope or temporary construction easements, waste sites, borrow pits, and haul roads.

The Design-Builder shall submit to WSDOT, in writing, the preliminary right-of-way requirements. The new right-of-way requirements shall be submitted in triplicate to WSDOT for review and shall include the following:

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

B. A plan of sufficient scale and detail to show the existing and proposed roadway right-of-way and proposed easements.

C. Type of acquisition required including estimates of the final right-of-way with enough definition to identify all ownership's that will be affected. The preliminary requirements should be large enough to cover all possible right-of-way needs.

475.02 Right-of-Way Acquisition

If new right-of-way is required or determined to be acceptable for the project, WSDOT will acquire all necessary rights for right-of-way and easements. Based on the requirements provided by the Design-Builder, WSDOT will:

A. Approve final right-of-way plans and associated documents prepared by the Design-Builder necessary for right-of-way acquisition

B. Acquire necessary right-of-way including easements, material sites and waste sites.

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

D. Prepare the necessary data for project clearance letters.

After revised Right of Way Plans have been approved by WSDOT, WSDOT will require five (5) months to acquire additional right-of-way that does not require relocation, or litigation, and nine (9) months to acquire right-of-way that does require relocation, or litigation.

Right-of-way Plan approval by WSDOT will take six (6) weeks after receipt of a completed revised Right of Way Plan from the Design-Builder.

475.03 Temporary Right of Entry Documents

A temporary right of entry document for entry to each parcel for any or all of the following activities is required to be obtained by the Design-Builder: Geotechnical investigations, design or construction survey work, and any construction activities. The Design-Builder shall notify WSDOT of the need for any temporary right of entry documents no later than thirty (30) days after the notice to proceed. The Design-Builder may not enter any such property prior to the property owner signing the right of entry document

480 Construction Specifications

The WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, 1998 (Metric Version), including WSDOT Amendments and General Special Provisions (Divisions 2 through 9) and Bridge Special Provisions, shall be used by the Design-Builder as a minimum requirement for materials and construction requirements modified as necessary by the Design-Builder to address project specific needs. The Design-Builder shall prepare the construction specifications for Materials and Construction items and procedures not adequately covered by WSDOT's Standard Specifications, Bridge Special Provisions (BSP) and General Special Provisions (GSP) library, maintaining or improving the level of quality represented therein. Measurement and payment provisions of the GSPs or BSPs will be per these Contract Provisions. All references to the roles of the parties described in the Standard Specifications and GSPs and BSPs are understood to be as described in the Contract Provisions. Final construction specifications shall be prepared by (or under the direction of) a Professional Engineer registered in the State of Washington. WSDOT will review and provide over-the-shoulder comments on all submittals of construction specifications.

SECTION 1000 -- CONTRACT ADMINISTRATION

The work in this contract shall be administered in accordance with this section of the Scope of Work.

1010 Washington Department of Transportation

WSDOT's Project Engineer shall:

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

B. Review the Design-Builder's billings

C. Review and evaluate the Design-Builder's requests for extension of time and supplemental agreements

D. Review all correspondence with public agencies prior to the Design-Builder's mailing of any correspondence.

E. Coordinate/monitor the distribution of public information

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

G. Coordinate project scheduling between the Design-Builder and WSDOT, coordinate WSDOT oversight of QA/QC activities, and coordinate documentation reviews by WSDOT.

H. Other duties as agreed upon by the Design-Builder and WSDOT

1020 Design-Builder

The Design-Builder shall:

A. Establish, furnish and maintain suitable design and construction office facilities in the vicinity of the project, to serve as the project office for the duration of the project in the location specified in the Design-Builder's Technical Proposal

B. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project

C. Establish internal accounting methods and procedures for documenting and monitoring project costs

D. Provide project costs as required to WSDOT or to WSDOT’s agent, for purposes of monitoring Design-Build pilot projects

E. Establish and maintain contract administration procedures, which shall include preparation of supplemental agreements and requests for time extensions as well as administration of subcontracts

F. Include the complete project name and number on all correspondence related to this contract.

G. Participate in design consensus, status and team building meetings with all appropriate participants at the start, on a monthly basis during the project development period and as needed to maintain the design schedule. If requested by the WSDOT Project Engineer, the Design-Builder shall act as the lead.

H. Assume complete responsibility for the accuracy and completeness of Construction

Documents and related design prepared under this project.

I. Other duties as agreed upon by the Design-Builder and WSDOT.

1021 PROJECT CONTROL

The expected completion date for this project is listed in the Special Provisions. Submittal dates for Construction and Design Documents shall be included in the Progress Schedule described in contract provisions Standard Specification Amendments Subsection 1-08.3. Dates of required and/or expected WSDOT design reviews and the required review times in accordance with Section 1065 and 1130.05 of this Scope of Work shall also be included. Schedule changes in the design elements that impact the review times of WSDOT shall be updated and the progress schedule re-submitted.

For each design item, segment, or phase of construction designated by the Design-Builder, the Design-Builder shall include the design reviews**,** and, through day to day communications, keep WSDOT up to date on exact timing of reviews. The Design-Builder shall allow design review days specified in the QC/QA Plan Requirements (Scope of Work section 1130) in its schedule for design review including design review of 100 percent designs. The 100 percent design is defined as completion of design products listed in the design scope of work.

The Design-Builder shall provide data upon request to monitor costs and manpower and to report progress.

The project control system shall include features to:

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

B. Identify progress against schedule for each identified work item

C. Forecast completion dates from current progress

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

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

F. Forecast future conflicts in any area

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

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

1022 Responsibility Chart

Appendix A is a chart indicating the division of responsibilities between the Design-Builder, WSDOT and other stakeholders. This chart is intended as a quick reference only. In the event of conflict the written Scope of Work shall take precedence.

1023 Project Related Correspondence

The Design-Builder shall furnish written documentation of communications between the Design-Builder and any party pertaining specifically to this project to WSDOT for their records within one week of the communication. The Design-Builder is responsible for recording and distributing to the participants the minutes of all meetings pertaining to this project within two (2) days of the meeting.

1025 Quality Control Plan Requirements

The Design-Builder is responsible for the accuracy and completeness of the plans and related design prepared under this contract and shall provide QC/QA measures defined in Section 1100 of this Scope of Work.

1026 Design-Builder Personnel

The Design-Builder's work shall be performed and/or directed by the key persons identified in the Technical Proposal of its Final Proposal. Any changes in the indicated key persons shall be subject to review and approval by WSDOT prior to making the change.

1027 Pre-Contract Meeting and Site Visit

As soon as practicable after the award of the contract, the Design-Builder shall hold a meeting with WSDOT to discuss the project and exchange information as outlined in Section 1-2.1C of the Construction Manual.

The Design-Builder shall visit the project site within fifteen (15) business days of the receipt of written Notice to Proceed, or as otherwise approved by the WSDOT Project Engineer. The Design-Builder shall make arrangements for the site visit with agency representatives as appropriate (WSDOT, FHWA, and other interested persons), at least two (2) weeks prior to the visit. Within seven (7) calendar days after the site visit, the Design-Builder shall issue to WSDOT a brief written report including observations, discussions, and any questions pertaining to the scope or level of effort of the project. The purpose of this visit is to acquaint key personnel with the details and features of the project to facilitate the design process.

1040 Design Documentation

The Design-Builder shall document engineering and design progress and changes in its Progress Schedule (including work on any design change)**.**

A. The Design-Builder shall, upon WSDOT request, submit to WSDOT for review all design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the Design Documents.

B. Structural calculations shall be submitted to WSDOT for all elements.

C. At the project completion, a set of project documentation sheets, sealed by a Professional Engineer, registered in the State of Washington, shall be submitted with the record set of plans and tracings.

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

   1. Supplemental design criteria used by the Design-Builder for the project Final Design.
   2. Right-of-Way calculations (including easements)
   3. Geotechnical reports for the pavement and/or foundation design
   4. Documentation of decisions reached as a result of meetings, telephone conversations or site visits
   5. Drainage reports

6. Bridge Selection Report and Preliminary Plan

E. Computer-Aided Drafting and Design (CADD): Computer Aided Drafting (CAD) files shall be prepared using WSDOT methodologies and standards as defined in Plans Preparation Manual (M22-31). The Design-Builder shall submit the computer design files, including end area cross sections, to WSDOT in CAiCE format. All CADD data shall be provided to WSDOT in a format that can be used directly by Microstation with no translation and that when accessed within Microstation is organized on the WSDOT standard levels, symbologies, colors, weights and basemap/sheet file organization.

All documents, exhibits, and related files including photographic negatives used in the project, shall become and remain the property of WSDOT as appropriate and may be used by WSDOT without restriction. Such unrestricted use, unrelated to the design basis and intent of this project, will be without liability or legal exposure to the Design-Builder.

1065 Design Reviews and Oversight Visits

The plans will be reviewed by the project team including representatives of WSDOT technical sections for conformity with WSDOT procedures and the terms of the contract according to the QC/QA Plan requirements (Scope of Work subsection 1130). Review by WSDOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.

WSDOT may also make periodic visits to the designer(s) offices to discuss and verify design progress and the designers' QC/QA plan. WSDOT will give the Design-Builder two (2) calendar days advance notice of intent to make an oversight visit.

Throughout the design process, the Design-Builder may request additional oversight visits by WSDOT to discuss and verify design progress and to assist the Design-Builder and/or its designer(s) in resolving design questions and issues. The Design-Builder shall give WSDOT two (2) calendar days notice of any requested oversight visit.

1065.10 Early Construction

The Design-Builders schedule and work plan shall identify the items, segments, or phases that the Design-Builder plans to release for early construction (i.e., construction that is to start prior to completion of 100 percent Construction Documents). Design reviews will be conducted for items or segments of permanent construction work identified by the Design-Builder for early construction. The Design-Builder may start construction of any element of the project only after all the following bulleted items have occurred:

A. The designer has completed its design QC checks and certifies in writing that the design is ready to be released for early construction.

B. The Design-Builder's Design QA Manager has also stated in writing that the design of the item, segment, or phase of work has been designed in accordance with Contract requirements.

C. The design has been checked in accordance with the Design-Builder's approved Design Quality Control Plan.

D. The design has been subjected to a constructability review to determine that construction can proceed safely (from the aspects of public and worker safety).

E. The project has progressed to the point that the work may be released for early construction and not require subsequent change in design affecting construction.

F. The responsible Washington licensed professional engineer has stamped, signed and dated the plans and specifications for early construction.

G. Adequate stakes, lines and grades shall have been established in the field to control the work.

H. Design-Builder has obtained all necessary permits for such work.

I. Has submitted 100 Percent Construction/Final Construction Documents for the segment, (Scope of Work Section 1065.40).

The Design-Builder may start work at its own risk on permanent construction at the time the early construction design review begins. Non-permanent construction work may proceed without reviews.

WSDOT will participate in design reviews for early construction work. If WSDOT, in its review, observes that the Design-Builder is not complying with Contract requirements and/or that the QC/QA checks are not complete, it will notify the Design-Builder in writing. WSDOT's design review and comments will not constitute approval or acceptance of the design or subsequent construction.

The construction on the item, segment, or phase covered by the Design QA Managers statement approving early construction shall only progress to the point covered by the design documents included in that statement. Prior to construction progressing further, the Design-Builder shall complete the next phase of design or complete the 100 percent design, in which case construction could proceed under Section 1065.40.

Subsequent phases of design being released for construction shall be checked and released by the Design-Builder's Design QA Manager as indicated above for the initial item or segment of work. A design review will be conducted as described above, as each phase of design is released for construction.

If there is evidence that the Design-Builder's QC/QA procedures are not adequate, for example, if a problem is spotted during the design reviews or becomes evident during construction, WSDOT may, at its sole discretion, suspend future early construction until sufficient QC/QA procedures are in place. Such a suspension shall be considered a suspension for cause. If the deficiency affects construction in progress, WSDOT has the right to require correction of the design and/or construction defects before construction can proceed further.

1065.20 Other Interim Design Reviews

For any designs for which early construction reviews will not be conducted, at least one design review shall be conducted before completion of 100 percent design. The percentage of design will be mutually agreed upon between the Design-Builder and WSDOT, but should be near the mid-point of design.

Prior to WSDOT's participation in a design review, the Design-Builder's Design QA Manager shall certify that the item or segment of work 1) has been designed in accordance with Contract requirements, and 2) has been checked in accordance with the Design-Builders approved QC/QA Plan. WSDOT will participate in a design review of all elements specifically stated in the Scope of Work. The Design-Builder may request that WSDOT participate in other interim design reviews.

1065.30 Design Changes

Either the Design-Builder or WSDOT may initiate design changes. Design changes may occur on items or segments undergoing early construction or may occur after final design. All design changes shall undergo the same QA/QC checks as the original design. See Design QC/QA Plan, Scope of Work Section 1130.05 and Section 1-04.4 of the Standard Specifications.

Design changes during early construction, before final designs are complete, or design changes to final designs, shall be approved in writing by the engineer in responsible charge of the original design. All design change plans, specifications, calculations, and reports shall be stamped, signed and dated by a Washington licensed professional engineer. In both cases, the Design-Builder's Design QA Manager shall certify in writing that the design change 1) conforms to all applicable Contract requirements, 2) has been checked in accordance with the Design-Builder's Approved Design Quality Control Plan and 3) is consistent with all other elements of the design. The Design-Builder shall request and schedule interim and 100 percent oversight review(s) by WSDOT for all design changes.

The final plans shall reflect the most current design standards, specifications and WSDOT policy. Therefore, the Design-Builder shall be responsible for studying revisions to the plans made during the development of the project and ascertaining how the design will be affected. The Design-Builder shall work with the WSDOT Project Manager, who will give the final authorization, in determining the propriety of modifying the design to accommodate the revised standards, specifications, and WSDOT policy. The Design-Builder will be compensated by Contract Modification for any significant redesign and additional construction costs resulting from this requirement.

For changes initiated by the Design-Builder, the Design-Builder shall bear all costs associated with making the design change and obtaining concurrence of the original designer. For changes initiated by WSDOT, WSDOT will bear all such costs.

1065.40 Review of 100 Percent Design

When the Design-Builder has completed the 100 percent design of the entire project, the Design-Builder's Design QA Manager shall certify that the work:

A. Has been designed in accordance with Contract requirements.

B. Has been checked in accordance with the Design-Builders approved Design Quality Control Plan.

C. Is ready for construction to 100 percent completion.

The Design-Builder may proceed at its own risk with construction at the time the 100 percent design review is started provided said certification has been provided that the provisions of Scope of Work Section 1065.10 are met.

WSDOT will review the 100 percent design. The Design-Builder shall develop a method to redline the design package to document the Design QA Manager's and WSDOT's comments given at the 100 percent review and shall provide a method to document the incorporation of these comments, in the formal final design submittal. After the Design-Builder has incorporated the 100 percent design review comments in its design and/or resolved any contract issues with WSDOT, the Design-Builder shall prepare a formal final design submittal to WSDOT that shall include:

A. all design plans
B. design calculations
C. design reports
D. specifications
E. estimated quantities

All submittals shall be in accordance with the QC/QA Plan Requirements.

All plans, reports, and specifications shall be sealed and signed by the engineer in responsible charge. WSDOT will check to see that the required changes given at the 100 percent design review were incorporated to WSDOT's satisfaction. If necessary, the Design-Builder shall resubmit revised final design documents to WSDOT. WSDOT will provide any comments on the final design within seven (7) calendar days of receipt of the final design documents.

1070 Quantity Estimates

The Design-Builder shall provide quantity estimates for work covered by early construction plans and for work covered by 100 percent plans. The quantity estimates shall be in units that facilitate quality assurance sampling and testing; i.e., the units shall be consistent with the units used to determine frequency of sampling and testing. For example, if X number of compaction tests are specified to be taken for every Y cubic meters of embankment, the quantity estimate would need to be in cubic meters of embankment. See the QC/QA Plan Requirements Scope of Work subsection 1140.

1080 Pre-Construction Meeting and Construction Documentation

The Design-Builder is responsible for obtaining, maintaining, and monitoring for compliance all documents and records required in the contract provisions. Prior to start of construction work, an orientation meeting will be held between the Design-Builder and WSDOT to address documentation requirements.

1080.01 Documentation Reviews

WSDOT will perform formal documentation reviews at approximately 25 percent, 75 percent, and 100 percent completion of construction. Items to be reviewed are randomly selected by the documentation reviewer. These reviews are to ensure the Design-Builder is maintaining all the necessary documentation and records. A separate review will be performed at the completion of the project to review all materials documentation.

In addition to the formal reviews, WSDOT on-site personnel will perform daily documentation reviews. Examples of these daily reviews include materials documentation, payrolls, DBE documentation, etc.

1080.02 Underground Facilities

All underground facilities (culverts, drains, catch basins, grate inlets, conduit, water lines, irrigation lines, etc.) shall be documented to show the location and elevation. The Design-Builder shall use DOT Form 422-637, Field Note Record for Drainage or a similar format to document the items. An example of how the form is completed is shown on page 10-22 of the WSDOT Construction Manual.

1080.03 Progress Estimate Documentation

The Design-Builder will provide WSDOT a certified invoice showing amounts due for monthly progress estimates. The Design-Builder will include a lump sum breakdown and supporting documents (such as load counts, daily construction reports, drainage notes, etc.) in sufficient detail to substantiate the invoice amount. A summary of material acceptance documentation shall be included with the invoice to verify that material incorporated in the monthly progress estimate has met all materials requirements.

1080.04 Project Diaries and Inspector's Daily Report

The Design-Builder shall maintain daily records of construction activities in the form of a Construction Project Diary and an Inspector's Daily Report. Sections 10-3.5A and 10-3.5B of the Construction Manual describe what these reports shall consist of. Diaries shall also contain the information required in WSDOT Form 422-004A and shall be in a similar format. Together they shall provide a complete word picture of the project, covering both the normal work process and anything unusual that occurs on the project.

1080.05 Design-Builder's Record of Accidents and Traffic Control Surveillance

The Design-Builder shall maintain a record of all traffic accidents and a daily record of all traffic control signing that is within the limits of construction as outlined in Sections 1-2.3 F and J of the Construction Manual. DOT Forms 421-040A, Contractor's Daily Report of Traffic Control - Summary and 421-040B, Contractor's Daily Report of Traffic Control - Traffic Control Log shall be used to document the traffic control activity and signing.

1080.06 Final Records

The Design-Builder will submit the final records to WSDOT within 90 days of physical completion. The final records shall include without limitation:

1. Final Record Book No. 1
2. Project diary records
3. Design-Builder's Daily Report of Traffic Control
4. Materials Certification
5. As-built plans
6. Pile driving records (if applicable)
7. Post tensioning records (if applicable)

1080.07 Final Record Book No. 1

This book consists of documents bound in a semi-rigid, water resistant cover. Each page shall be numbered consecutively. The following documents shall be included and the order in which it is to be arranged is given below. No other material is to be included in this book.

1. Index sheet - containing the detailed index for Final Record Book No.1 and also the listing of the other final records contained in each book.
2. Design-Builder personnel list - containing the name and classification of managers, supervisors, foremen, testers and any other Design-Builder personnel who were responsible for signing documents or forms or were responsible for decision making on the project. Each person shall sign his or her identifying initials after his or her name on this list in the same manner as it appears in other project documents.

3. Comparison of Quantities - WSDOT will provide this report to the Design-Builder for inclusion in Final Record Book No. 1.
4. Final Contract Voucher Certification, Form 134-146 - including the Design-Builder's authorized signature and the WSDOT Region Administrator's signature.
5. Contract Estimate Payment Totals report - to be provided by WSDOT
6. Affidavit of Wages Paid, State L & I Form F700-007-000 - the original or copy of the approved affidavits.
7. List of Change Orders - showing the change order numbers, a brief description of each and the change order cost.
8. Record of construction materials - tabulating the source of the construction materials.

1080.8 Project Diaries and Contractor's Daily Report of Traffic Control

The Construction Project Diaries and Inspector's Daily Reports shall be organized in chronological order and bound in books similar to Final Record Book No. 1. The pages of these books do not require numbering, however the books themselves shall be numbered consecutively starting with Final Record Book No. 2. The Design-Builder's Daily Report of Traffic Control shall be bound in the same manner and the books numbered consecutively after the diaries books.

1080.9 Materials Certification

The Design-Builder shall submit a materials certification package to WSDOT which contains a checklist and supporting documentation. The Design-Builder may use DOT form 350-115, Contract Materials Checklist or develop one of its own with the same information. The supporting documentation shall consist of a summary of all documentation practices utilized for material acceptance and explanations of any deficiencies noted on the checklist. The summary should be organized in the order similar to Division 9 of the Standard Specifications for Road, Bridge, and Municipal Construction.

1080.10 As-Built Plans

As-built plans shall be full size, 22" x 34", blackline prints. Each plan sheet shall have lettering or a stamp identifying it as as-built plans.

As-builts are a record of how the project was actually constructed and shall reflect the same degree of detail as the Final Plan drawings. Underground features need to be documented showing the location and elevation. Also the Design-Builder must provide reproducible originals of the shop drawings for prestressed structural elements and all other structural steel components.

1080.11 Pile Driving Records

The Design-Builder shall complete the Pile Driving Record Book WSDOT, Form 450-004, and Test Pile record WSDOT Form 410-027 as outlined in Section 6-5.7C of the Construction Manual. This record shall be available to the Project Engineer when requested and it shall be turned over to WSDOT upon completion of the contract.

1080.12 Post-Tensioning Records

The Design-Builder shall complete the Post-Tensioning Record WSDOT Form 450-005 as outlined in Section 6-2.8 of the Construction Manual. This record shall be available to the Project Engineer when requested and it shall be turned over to WSDOT upon completion of the contract.

1080.13 Test Reports for Storm Sewers, Sanitary Sewers, and Water Mains

The Design-Builder shall develop and complete a report for the testing of Storm Sewers, Sanitary Sewers, and Water Mains. This report shall include the type of pipe, the location of the pipe, all of the calculated factors for the testing, the test results, and whether it passes or fails. This record shall be available to the Project Engineer when requested and it shall be turned over to WSDOT upon completion of the contract.

1080.14 Design-Builder Construction Survey

Copies of all survey calculations and survey notes including grade books and cross section notes shall be kept and provided to WSDOT when requested and turned over to WSDOT upon completion of the project.

1080.15 Temporary Final Records

Temporary final records are comprised of all relevant records not included in the final records. Copies of these records must be submitted to WSDOT to be retained for a 3 year period following acceptance of the project as required by RCW 40.14. Examples of these records include but are not limited to the following:

1. Quantity delivery tickets
2. Material acceptance test reports
3. Concrete pour records
4. Source of materials documentation
5. Prints of shop drawings
6. Copies of certified payrolls
7. Horizontal and vertical alignment data
8. Drainage notes
9. Earthwork calculation data
10. Computer listings and summaries
11. Falsework and formwork plans
13. Scalemen's report
14. Scale test report
15. Grade books
16. Cross section notes

1080.16 DBE and EEO Documentation

An overall Disadvantaged Business Enterprise (DBE) goal has been established for this project. The goal is found in the Special Provision, "Equal Employment Opportunity Responsibilities - Disadvantaged Business Enterprise Participation (DBE)" The Design-Builder will be responsible for meeting this goal. The Design-Builder will be responsible for providing all the documentation required for DBE and EEO compliance, including but not limited to DBE Utilization Certification DOT Form 272-056A or 272-056, the Affidavit of Amounts Paid DBE/MBE/WBE Participants (Form 421-023) and Monthly Employment Utilization Report (Form 820-10).

SECTION 1100 DESIGN-BUILD QC/QA PLAN REQUIREMENTS

1110 Description

The Design-Build QC/QA plan, submitted as part of the Final Proposal, must be approved by WSDOT prior to contract execution. This approval will occur after selection in order to allow minor modifications to the plan if necessary. No Work activities may proceed until the Design-Builder's Quality Control Plan has been approved in writing by WSDOT.

The plan shall detail how the Design-Builder will provide quality control (QC) and quality assurance (QA) for both the design and construction elements of the project, obtain samples for Design-Builder (D-B) quality control testing, perform tests for Design-Builder quality control, provide inspection, and exercise management control (i.e. quality assurance testing) to ensure that work conforms to the contract requirements. The following WSDOT and AASHTO publications should be consulted in preparing the Design-Build QC/QA Plan:

A. Design Manual (M22-01),

B. Bridge Design Manual (M 23-50),

C. Plans Preparation Manual (M 22-31),

D. Construction Manual (M47-01)

E. Standard Specifications for Road, Bridge, and Municipal Construction (M41-10),

F. AASHTO - Standard Specifications for Highways and Bridges (16th Edition)

G. Materials Manual (M46-01)

The Design-Build QC/QA Plan shall include a description of the quality control and quality assurance organization, including the number of full-time equivalent employees with specific Quality Control and/or Quality Assurance responsibilities and including a chart showing lines of authority and reporting responsibilities. The persons and organizations performing Quality Control and/or Quality Assurance functions shall have sufficient authority and organizational autonomy to identify quality problems, and to initiate, recommend, and verify implementation of solutions. Persons performing Quality Control and/or Quality Assurance functions shall be at an organizational level which ensures that they are not influenced by the impact of implementation of Quality Control and/or Quality Assurance measures on the Project schedule, performance or cost. To ensure the above organizational independence, at the very least, the QC/QA organization shall be established as a separate entity operating under a separate profit center from the design and production organization. All key personnel performing Quality Control and/or Quality Assurance functions shall be exclusively designated to such and shall not be assigned to perform conflicting duties.

Partnering should be considered an integral part of the Design Quality Control/Quality Assurance program. A partnering agreement is recommended to handle disputes. In addition a separate procedure for conflict resolution should be developed and agreed to by the partnering participants. The procedure should include, but is not limited to, the following elements.

1 Disputes should be delegated to the lowest appropriate level of authority on the project team to resolve within a specified timeframe.

2 A timeframe for each level of authority should be established before the project begins for a list of typical disputes that could occur on a project.

3 If the dispute is not resolved to the satisfaction of both parties within the specified time frame, the dispute would be automatically escalated to the next level of authority on the project team.

4 If left unresolved, the process would then continue to escalate to the highest level of authority where a final resolution would be arbitrated by an unbiased third party, whose selection would be agreed upon in advance as part of the QC/QA Plan.

5 A written report describing the dispute, all subsequent actions, and final disposition of the dispute should be submitted to the project records.

6 If subsequent disputes arise on the same issue, the written report should be included as a resource during the resolution process.

Disputes not resolved informally through the partnering process may be brought by either party to the Disputes Review Board.

1120 Design-Builder QC/QA Staff

At a minimum, Design-Builder QC/QA staff shall include the following:

1120.01 Design-Builder Quality System Manager

The Design-Builder Quality System Manager is the individual with overall responsibility for development of and adherence to the Design-Build QC/QA Plan. This individual shall be a Professional Engineer licensed by the State of Washington having a minimum of ten years supervisory experience in roadway or bridge design or ten years supervisory experience in inspection or materials testing on highway transportation construction projects or a combination thereof.

1120.02 Design-Builder Design QC/QA Manager

The Design-Builder Design QC/QA Manager is the individual with overall responsibility for the Design portion of the Design-Build QC/QA Plan. This individual shall have a minimum of five years supervisory experience in either roadway or bridge design on highway transportation construction projects.

1120.03 Design-Builder Construction QC/QA Manager

The Design-Build Construction QC/QA manager is the individual with overall responsibility for the Construction portion of the Design-Build QC/QA Plan. This individual will be responsible for implementing, monitoring and, as necessary, adjusting the processes to assure acceptable quality. This individual shall have a minimum of five years supervisory experience in inspection or documentation or testing materials or combination thereof on highway transportation construction projects, and shall meet one of the following additional requirements:

A. A Professional Engineer registered in the State of Washington with at least two years of highway materials and/or inspection experience acceptable to the Department, or

B. A Construction Technician certified at NICET level IV with at least five years of highway materials or inspection experience acceptable to the Department, or

C. A Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, or Construction with at least six years of highway materials and/or inspection experience acceptable to the Department.

In addition the Construction QC/QA Manager or his designated representative shall be available or on the project within four hours of being notified of a problem regarding the quality control of any work being done by the Design-Builder, or any of its subcontractors or agents.

1120.04 Quality Testing Supervisor

The Quality Testing Supervisor may be an employee of the Design-Builder's laboratory, and shall be on the site during testing. The Quality Testing Supervisor shall meet one of the following requirements:

A. A Professional Engineer, registered in the State of Washington, with at least one year of highway materials testing experience acceptable to the Department, or

B. An Engineer-In-Training, certified by the State of Washington, with at least two years of highway materials testing experience acceptable to the Department, or

C. A Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, Construction, or related field acceptable to the Department; and at least three years of highway materials testing experience acceptable to the Department, or

D. Certification by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing field as an Engineering Technician (Level III) or higher in the appropriate subfield in which sampling and testing is being performed, or

E. Certification by NICET in the Transportation Engineering Technology field as an Engineering Technician (Level III) or higher in the Highway Materials subfield, or

F. Certification by NICET as an Engineering Technician, or higher, in Civil Engineering Technology with at least five years of highway materials testing experience acceptable to the Department, or

G. An individual with at least eight years of highway materials testing and construction experience acceptable to the Department.

In addition to the above, technicians and inspectors shall be employed when necessary. The Testing Technicians and Inspection Technicians shall have the following qualifications:

1120.05 Testing Technicians

Only those technicians who have satisfactorily completed instructional courses conducted by the Western Alliance for Quality Transportation Construction (WAQTC) or have completed the necessary evaluation in the WSDOT Modules by WSDOT to become qualified in the testing procedures may be used by the Design-Builder for Quality Control Testing. WSDOT will provide initial evaluation of each testing technician designated in the QC/QA Plan for qualification in the WAQTC Modules. Evaluation of these testing technicians will be provided at a laboratory's customary cost recovery rate for code S831. These costs will be deducted from moneys due or become due the Design-Builder on the next progress estimate. See Appendix B, table 5 for a listing of WSDOT test modules and methods. A testing technician currently qualified by the American Concrete Institute (ACI) (Level I) will be considered qualified in the WSDOT Concrete module. The qualifications of laboratory technicians employed by a laboratory accredited by the AASHTO Accreditation Program (AAP) will be accepted for AASHTO test methods when confirmed by the laboratory's training and evaluation records.

The testing technicians performing the field and laboratory sampling and testing shall be employed by the Design-Builder or agents laboratory and supervised by the Quality Testing Supervisor.

1120.06 Inspection Technicians

The Design-Builder's QC/QA Inspection Technicians shall have a minimum of three years roadway construction inspection experience in the work activity being inspected. Inspection of electrical systems for acceptance will be conducted by WSDOT electrical inspectors. The

Design-Builder's testing technicians and construction inspectors may attend the instructional courses WSDOT provides its personnel on a space available basis. See Appendix B, table 5 for a listing of courses available.

1130 Design QC/QA Plan Requirements

1130.01 General

The quality control and quality assurance procedures for each type of Design Document and Construction Document shall be organized by engineering discipline (such as structural, civil and utilities). These procedures shall specify measures to be taken by the Design-Builder (1) to ensure that appropriate quality standards are specified and included in the Design Documents and Construction Documents and to control deviations from such standards, it being understood and agreed that no deviations from such standards shall be made unless they have been previously approved by WSDOT at WSDOT's sole discretion, and (2) for the selection of suitability of materials, and elements of the Work that are included in the Project.

The Design QC/QA Plan shall include the following:

Quality control and quality assurance procedures for preparing and checking all plans, calculations, drawings and other items submitted, to ensure that they are independently checked and back-checked in accordance with generally accepted architectural and engineering practices, by experienced architects and engineers, respectively. The originator, checker and back-checker shall be clearly identified on the face of all submittals. Specific procedures for verifying computer programs used shall also be included. Plans, reports and other documents shall be stamped, signed and dated by the responsible Washington registered architect or engineer where required under the Contract Provisions, under generally accepted architectural or engineering practices or by applicable laws.

The plan shall set forth the level, frequency and methods of review of the adequacy of the design of the Project, including the methods by which all final Design Documents and Construction Documents shall be independently reviewed and verified for adequacy of design and back-checked in accordance with generally accepted design and engineering practice by experienced architects and engineers not involved with the preparation of such Documents.

The plan shall set forth the procedures for coordinating Work performed by different persons in the same area, or in adjacent areas or in related tasks to ensure that conflicts, omissions or misalignments do not occur between drawings or between the drawings and the specifications and to coordinate the review, approval, release, distribution and revision of documents involving such persons.

The plan shall identify those elements of the Contract Provisions, Design Documents or Construction Documents, if any, requiring special Quality Control and/or Quality Assurance attention or emphasis, including applicable standards of quality or practice to be met, level of completeness and/or extent of detailing required.

The plan shall identify by discipline, the name, qualifications, duties, responsibilities and authorities for all persons proposed to be responsible for QC/QA.

The plan shall state any requirement for, and the name, qualifications, duties, responsibilities and authorities of, external technical experts necessary to ensure the quality of the design of the Project, the anticipated timing of use of, the expected availability of, and any coordination required with respect to any such experts.

The plan shall describe the required design quality control and assurance functions, including scheduled activities for Design QC/QA identifying the Design Documents and Construction Documents to be delivered to WSDOT for its review at each stage of the design or work phase of the Project.

All documents shall be maintained by the Design-Builder for the duration of the Contract and shall be organized, indexed and delivered to WSDOT (1) upon Final Acceptance unless required to be delivered earlier pursuant to the Contract Provisions, or (2) even if incomplete, within seven days of receipt of request from WSDOT. These documents should include but not be limited to the following items: design criteria, reports and notes, calculations, drawings, schematics, supporting materials, etc.

1130.02 WSDOT Review of Design Work

WSDOT will not officially approve Design Work after initial acceptance of the Design-Builder's Proposal, except as noted for requests for deviations, right of way plans, and permit documents. WSDOT will reach agreement with the Design-Builder on dates and times for design reviews, and will comment on Design Work, but will not require comment responses unless work is deemed to be outside the provisions of the contract. If WSDOT at any time determines that the Design Work is proceeding which does not conform to Contract requirements, WSDOT reserves the right to suspend work for cause until resolution of the issue.

1130.03 Design Quality Review

Prior to the release of final Design Documents and Construction Documents, the Design-Builder shall complete review with architects and engineers experienced in the appropriate disciplines(s). The review shall verify that the Design Documents and Construction Documents were prepared in such a manner as to ensure that they will be acceptable to WSDOT, as well as the Design-Build Team. The criteria used in such review shall include (1) conformity of the final Design documents and Construction Documents with the Contract Provisions; (2) assurance that all materials, equipment and elements of the Work provided for in such documents which shall be incorporated into the Project have been provided for and designed to perform satisfactorily for the purpose intended; (3) the appearance, organization, technical and grammatical accuracy of such documents; (4) verification that such documents have been checked and signed by the drafter, designer, checker and reviewers; (5) where required under the Contract, generally accepted architectural or engineering practices or applicable law, verification that such documents have been stamped, signed and dated by the responsible Washington registered civil engineer or architect; and (6) assurance that such documents fully provide for constructability, compatibility of materials and conformity to acceptance criteria for inspections and tests as provided in the Contract.

1130.05 Plan Approvals by WSDOT

Right of way plans and permit drawings shall be developed to WSDOT standards as described in the Plans Preparation Manual (M 22-31). WSDOT shall approve these drawings after a thorough review for completeness and conformance to standards. WSDOT will return all non-conforming drawings to the Design-Builder for corrective action.

1130.05.1 Plans Distribution

The Design-Builder shall provide to WSDOT copies of the following documents, with all design changes and revisions shown, upon their being stamped “Released for Construction”. These documents will be used by WSDOT to facilitate their administration and inspection responsibilities:

A. All Design and Construction Documents

B. All shop or fabrication drawings which have been approved by the Design-Builder

C. All forming plans which have been approved by the Design-Builder

D. All traffic control plans which have been approved by the Design-Builder

1130.05.2 QC/QA of Design Changes

Changes, including field changes, in the design of the project or any portion thereof as shown on the Design and Construction Documents, shall be subject to design QC/QA measures and procedures commensurate with those applied to the original design of the portion of the Project being changed. Furthermore, all changes described in this Section shall be approved in writing by the organization that performed the original design, with the written approval of WSDOT. Any changes affecting the basic configuration of the Project shall also be subject to the requirements contained in this Section. Documents containing design and /or field changes shall be distributed according to the requirements set forth in the section entitled "Plans Distribution".

1130.05.3 Submittals for Review by Department

Design and Construction Documents relating to the following construction phases shall be submitted to WSDOT for review. WSDOT approval of these submittals is not required and will not be provided. Any review comments made by WSDOT will be provided, in writing, to the Design-Builder within 10 business days, or as agreed to in writing. The following table indicates the submittals for review.

The Design-Builder shall be fully responsible for the schedule impacts and costs of revisions arising from WSDOT's review of the Construction Documents for consistency with the requirements of the Contract Provisions and caused by the Design-Builder's non-compliance with Contract requirements.

Construction Phase	**Documents**
Earthwork	Roadway Geometrics (Plan and Profile) Channelization Plan Intersection Plan Interchange Plan Traffic Control Plan Erosion Control Plan Clearing & Grubbing Removal of Structures and Obstructions Hazardous Waste Disposal Roadway Quantities * Geotechnical Report (slopes, geotextiles and wall designs) Construction Specifications
Geotechnical	Draft Geotechnical Report Final Geotechnical Report
Surfacing and Pavements	Preliminary Surfacing Report Final Surfacing Report Roadway Geometrics Roadway Sections Superelevation diagrams Surfacing Quantities *

Construction Phase	Documents
	Pavement Quantities * Paving Plan Construction Specifications
Structures	Bridge Selection Report and Preliminary Plan Roadway Geometrics Structure Design Drawing and calculations Rebar Bending diagrams & quantities Hydraulics Report Geotechnical Report (structure foundation, Walls, shoring, falsework, ground improvements, drainage features etc.) Construction Specifications
Drainage Structures & Water Distribution	Design Criteria for Conveyance, Detention and Treatment Facilities Hydraulics Report Stormwater Site Plan Design calculations Locations Drainage Plans & Profiles Drawing & Special Details Construction Specifications
Landscape, Irrigation	Planting Plan Irrigation Plan Construction Specifications
Safety and Traffic Items	Phasing and Construction Sequence Report Sign Inventory Traffic Markings and Delineation Guardrail Fencing Illumination System Signal System Permanent Signing Work Zone Traffic Control Construction Specifications
Misc. Construction	Plans and Plan Details Construction Specifications

*Quantities are for the purpose of identifying QC/QA requirements for both the Design-Builder and WSDOT as described in Section 1070 of the Scope of Work.

1140 Construction QC/QA Plan Requirements

1140.01 General

The plan must at a minimum address the following:

A. Describe the Design-Builder's quality control organization, including the number of full-time equivalent employees with specific Quality Control and/or Quality Assurance responsibilities and including a chart showing lines of authority and reporting responsibilities;

B. List by discipline the name, qualifications, duties, responsibilities and authorities for all persons proposed to be responsible for Construction Quality Control and/or Quality Assurance;

C. Project progress schedule;

D. Submittal schedule;

E. Inspection requirements;

F. Quality control sampling, testing, and analysis plan with frequencies, location and methods;

G. Instrumentation and survey monitoring for verification of the performance of the project geotechnical features;

H. Load testing and integrity testing required to verify adequacy of the foundation capacity, soil reinforcement elements, or adequacy of ground stabilization;

I. Identify the laboratory(s) to be used;

J. Specify documentation for QC/QA activities, including control charts; and

K. WSDOT requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contract Provisions may also require specific quality control measures for certain materials. When so required the Design-Builder shall provide all personnel, equipment, supplies, and facilities necessary to perform quality control, obtain samples, and perform tests required in the Contract Provisions.

1140.02 Design-Builder Responsibilities

The Design-Builder shall be responsible for the quality of construction and materials incorporated into the project. The Design-Builder's Quality Control measures are to insure that operational techniques and activities provide material of acceptable quality. Design-Builder sampling and testing shall be performed to control the processes and determine the degree of material compliance with the Contract Provisions.

1140.03 Department Responsibilities

Verification sampling and testing will be performed by WSDOT to validate Design-Builder sampling and testing as well as the quality of the material produced. An Independent Assurance Program will also be conducted by WSDOT to evaluate all sampling and testing used in the acceptance of material.

WSDOT shall be solely responsible for determining the acceptability of materials incorporated into the project. The acceptance decision will consider results of Design-Builder sampling and testing at specified frequencies and locations, verification sampling and testing at specified frequencies and locations, inspection by WSDOT of the attributes and processes that may affect the quality of the finished product, and a dispute resolution system to resolve discrepancies between the verification sampling and testing and the Design-Builder sampling and testing. The testing of referee samples to resolve disputes will be done by WSDOT at its FOSSC Materials Lab in Tumwater, WA.

The persons and organizations performing Quality Control and/or Quality Assurance functions shall have sufficient authority and operational independence to identify quality problems, and to initiate, recommend, and verify corrective actions. Persons performing Quality Control and/or Quality Assurance functions shall be at an organizational level that reports directly to upper level management of the Design-Build firm to assure independence from the influences of the project production staff. All key personnel performing Quality Control and/or Quality Assurance functions shall be designated as such and shall not be assigned to perform any conflicting duties.

1140.04 Activities Meetings

Prior to the start of any work activity the Design-Builder shall hold an Activity Meeting to ensure that all project personnel have a thorough understanding of work to be done. Work activities generally correspond to the sections of the Standard Specifications, such as clearing and grubbing, earthwork, aggregate base, and asphaltic concrete, or a definable feature of work such as pre-paving conference, pre-pour conferences for bridge decks. The Activity Meeting should include discussions relating to what will be accomplished, by whom it will be performed, and where, when, and how the work will be done. The Activity Meetings are to ensure that all parties have the same understanding of the design intent, have the appropriate plans, specifications and any special details, and are aware of safety regulations and procedures that need to be followed. At this time the QC inspection checklist for this activity should be reviewed. Activity Meetings shall be scheduled several days in advance of the actual work beginning on an activity to allow for additional preparation if necessary. The Activity Meetings shall be planned and conducted by the Design-Builder Construction QC/QA Manager. Minutes of the meeting shall be taken to document any clarifications and understandings related to the construction of the item that are not documented elsewhere. Activity Meetings are classified as hold points and shall be identified in the Design-Builder's QC/QA plan.

Typical Activity Meeting Content

Item
Scope (Design Criteria and Intent, Constraints)
Applicable Documents
Work Activity Outline and Schedule (What, Where, Who, When, and How)
Staking Plan
Safety Regulations and Procedures
Traffic Control Plan
Coordination with Utilities
Inspection Plan/Quality Control Procedures
Status of Submittals
Acceptance Criteria
Basis of Payment
Examination of Work Area

Item
Examination of Stored Material
Open Discussion

1140.05 Design-Builder Sampling and Testing

Design-Builder field and laboratory sampling and testing shall be performed as specified in the Standard Specifications and the Material Manual (M46-01). Sampling and testing shall be performed by qualified testing personnel defined in this specification. Representative samples shall be randomly obtained by the Design-Builder at specified frequencies and locations as shown in Appendix B, Table 2. The Design-Builder shall furnish copies of all test results to WSDOT within 24 hours of acquiring the sample or the next day of business.

The Design-Builder shall provide to WSDOT a testing plan for each material. The testing plan shall be developed using the Random Numbers Table (Appendix B, Table 3) or a comparable random selection process such as ASTM D 3665 and reflect the proposed total project quantity. The sampling location and sublot quantity (testing lot quantity) shall be as shown in Appendix B, Table 2 for the material being tested. The testing plan shall be submitted prior to the beginning of production or placement of the material.

1140.06 Design-Builder Laboratories

All sampling and testing shall be performed by a laboratory that is either:

A. accredited in the applicable AASHTO procedures by the AASHTO Accreditation Program (AAP): or

B. complies with the requirements of AASHTO R18 (18th Edition) for those tests to be performed.

All Design-Builder testing laboratories shall be inspected and approved by WSDOT for conformance with the requirements of AASHTO R18 and all applicable procedures.

The laboratory shall be properly equipped, staffed, and fully operational for an inspection by WSDOT Materials Quality Systems Manager a minimum of five (5) days prior to start of work. The Construction QC/QA Manager will be advised in writing of any deficiencies noted during WSDOT inspection and must take immediate action to correct the noted deficiencies. Work will not be permitted to proceed until the laboratory and staff are inspected and have received written approval from the WSDOT Materials Engineer.

Test equipment for certain test procedures shall be the same as listed below so that proper correlation between test results may be established. The tests and required equipment are:

A. AASHTO TP53-95 Asphalt Content by Ignition Method (Barnstead Thermolyne Model F85938 or other approved ignition furnace with internal balance).

B. WSDOT Test Methods 613 and 715 In-place Densities by Nuclear Method (Troxler 3400 Series Moisture/Density Gauge)

1140.07 Records

The Design-Builder shall prepare test reports meeting the requirements of AASHTO R18 or may use the appropriate RUNTIME forms provided on the WSDOT Engineering Publications CD Library, most current version. The Design-Builder shall also prepare, maintain, and submit to the Engineer completed test records and final materials certification in accordance with the requirements of Chapter 9 and 10 of WSDOT Construction Manual (M47-01).

Linear control charts shall be maintained for all tests by the Design-Builder, shall be posted in a location satisfactory to the Engineer and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the material identification, the test number, each test parameter, the upper and/or lower specification limits applicable to each test parameter, the Design-Builder's test results, and WSDOT's correlation and verification test results. The Design-Builder's failure to maintain up to date records may be cause for WSDOT to suspend the Design-Builder's operation of the affected material.

WSDOT will provide the test results of its verification test results to the Design-Builder within 24 hours of acquiring the sample or the next day of business. Test results shall be immediately posted on the linear control charts by the Design-Builder.

1140.08 Independent Assurance Inspection (IAI)

The Design-Builder's laboratory shall participate in WSDOT's Independent Assurance Sampling and Testing Program as described in Chapter 9-5 of the WSDOT Construction Manual (M47-01). Findings of all Independent Assurance observations and test results will be provided to the Design-Builder's QC/QA Manager by the Engineer. The Design-Builder shall immediately take corrective action for any noted deficiencies.

1140.09 Acceptance

1140.09.1 Statistical Acceptance

For materials with proposed quantities greater than two (2) Quality Control sublots as defined in Appendix B, table 2, statistical evaluation shall be the method of evaluation for acceptance decisions. The Design-Builder test results shall be statistically evaluated for quality level and price adjustment, if applicable, in accordance with this Section. The maximum allowable Composite Pay Factor (CPF) for materials accepted under this Section shall be 1.00.

Acceptance of materials shall be based on statistical evaluation for the applicable elements such as gradation, fracture, sand equivalent, asphalt content, optimum moisture, etc. The applicable "Adjustment Factor" for various materials is shown in Appendix B, table 7. The Design-Builder shall use WSDOT's QA Specification software that may be downloaded from the WSDOT web site. The material shall be sampled at the point of acceptance in accordance with the applicable test procedure listed in Appendix B, table 2

For the purpose of acceptance sampling and testing, a lot is defined as the total quantity of material to be used that was produced from the same operation such as a designated stockpile, crushing or screening operation, concrete mix design or hot mix asphalt job mix formula. All of the test results obtained from the same material shall be evaluated collectively and shall constitute a lot. The quantity represented by each sample will constitute a sublot. Sampling and testing for statistical acceptance shall be performed on a random basis at the frequency of one sample per sublot. Sublot size shall be determined to the nearest 100 tonnes to provide not less than three uniform sized sublots with a maximum sublot size as stated in Appendix B, table 2 for the material being sampled and tested.

Test Results: The Design-Builder shall furnish WSDOT with a copy of the results of all Quality Control testing within 24 hours of acquiring the sample or the next day of business. The Design-Builder shall compute the Composite Pay Factor (CPF) of the completed sublots after the first three sublots have been tested.

1140.09.2 Rejected Material

The following action shall be undertaken with regard to defective materials:

A. Rejected by Design-Builder: The Design-Builder may elect to remove any defective material and replace it with new material at no expense to WSDOT. Any such new material will be sampled, tested and statistically evaluated for acceptance.

B. Partial Sublot: In addition to the preceding random acceptance sampling and testing, WSDOT may also isolate from a normal sublot any material that is suspected of being defective in gradation, fracture, sand equivalent, asphalt content. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be evaluated for a price adjustment in accordance with the statistical acceptance section. This material will be considered a separate lot.

C. An Entire Sublot: If an entire sublot is rejected in accordance with Section 1-06.2, two additional random samples from this sublot will be obtained and the sublot evaluated as an independent lot with the original test result included.

D. A Lot In Progress: The Design-Builder shall shut down operations whenever:

   1) the CPF drops below 0.90 and in such event shall not resume production or placement of the material until such time as the Design-Builder has demonstrated that specification material can be produced for the lot in progress: or

   2) the CPF drops below 1.00 unless the Design-Builder is taking appropriate corrective action.

   When the material in question is from a stockpile which was produced without process quality control, (i.e. sampling and testing at a defined frequency by qualified technicians using verified equipment) the entire stockpile of material will be considered to be a source. Additional processing such as rescreening or other means may be necessary to provide specification material.

E. An Entire Lot: If an entire lot has a CPF of less than 0.75, the entire lot shall be rejected.

   The Price Adjustment will be calculated according to Section 1-06.2(2). Since these specifications designate the payment of the material by other than a unit bid price basis, the unit price for calculating a “Price Adjustment” as stated in Appendix B, table 7 will be used. The payment for the Price Adjustment shall be made under the item “Non-specification Material Price Adjustment” and “Non-specification Material Compaction Price Adjustment”.

   The calculation of a Price Adjustment for non-specification concrete strength shall be in accordance with Section 6-02.3(5)L of the Standard Specifications. The payment of the “Price Adjustment shall be made under the item “Non-specification Material Price Adjustment”

   The calculation of a Price Adjustment for non-specification hot mix asphalt concrete pavement shall be in accordance with Section 5-4.5(1) of the Standard Specifications. The payment of the Price Adjustment shall be made under the item “Non-specification Material Price Adjustment” and “Non-specification Material Compaction Price Adjustment.”

1140.09.4 Non-Statistical Acceptance of Small Quantities of Materials

WSDOT may elect to accept small quantities of materials without normal sampling and testing frequencies. The determination to accept materials using this provision rests solely with WSDOT. Structural Concrete will not be considered under the small quantity definition.

An item can be accepted as a small quantity if the proposed project quantity for a specific material is less than the one sublot as defined in Appendix B, table 2 or less than one-half of a sublot as defined in Appendix B, table 2 for mainline paving.

For materials not listed in Appendix B, table 2 WSDOT may use the acceptance criteria for small quantities stated in the Qualified Product List.

Questions that the Engineer will consider prior to use of small quantity acceptance are:

A. Has the material been previously approved?

B. Is the material certified?

C. Is there a current mix design or reference design?

D. Has it been recently tested with satisfactory results?

E. Is the material structurally significant?

Small quantity acceptance may be accomplished by visual, certification, or other methods. Acceptance of small quantities of materials by these methods must be fully documented. Documentation of materials under these methods must be provided by the Design-Builder accepting the material. For visual documentation, an entry should be made in the Inspectors Daily Report, or noted on field records, with a statement as to the basis of acceptance of the material approximate quantity involved.

Small quantity acceptance may be used for any proposal quantity of the following uses:

A. Driveways

B. Road approaches

C. Paved ditches and slopes

1140.09.5 Verification Sampling and Testing

Sampling and splitting of materials for verification and referee testing shall be performed by WSDOT or its designated agent. Verification and referee split samples shall be randomly obtained at a frequency stated in Appendix B, table 2. The verification sample test results will be statistically evaluated with the resultant Composite Pay Factor (CPF) compared to the Composite Pay Factor (CPF) of the Design-Builder's tests.

For material represented by the Design-Builder's Quality Control tests, test results may be used for acceptance decisions when the accumulative Composite Pay Factor (CPF) is:

A. Above 0.90 and

B. the difference between the computed CPF's for the Design-Builder's QC tests and WSDOT's verification tests is less than 0.05.

When the CPF for the Design-Builder Quality Control tests drops below 0.90, production or placement of the material shall be halted until the Design-Builder can demonstrate that specification material can be produced from the material source in question.

When the differences between the Design-Builder Quality Control tests and WSDOT verification tests is greater than or equal to 0.05 the disputes resolution process for Tested Materials described in Section 1140.10.03 shall be initiated.

To facilitate the statistical evaluation of the verification samples, one verification sample will be obtained from each of the first three Design-Builder's sublots and then one verification sample for each sublot quantity stated in Appendix B, table 2.

When certain attributes of a material are not statistically evaluated for acceptance, such as concrete slump, entrained air content, and temperature for concrete, and the differences between the Design-Builder's test results and WSDOT's verification test results exceed the values shown in Appendix B, table 1, placement shall be halted until the Design-Builder can demonstrate that the material is within the required specifications.

1140.10.03 Tested materials

A cooperative effort by WSDOT and Design-Builder to identify the cause of the non-specification material or the discrepancy in the test results will include the following actions:

A. A check of test data, calculations and results;

B. Observation of the Design-Builder's sampling and testing by the WSDOT Region Independent Assurance Inspector; and

C. Check of test equipment by the WSDOT Region Independent Assurance Inspector.

When the source of test result discrepancies between the Design-Builder and WSDOT laboratories cannot be resolved, testing of the referee split sample shall be performed at WSDOT's Field Operations Support Service Center Materials Laboratory located at 1655 South Second Ave., Tumwater Washington, 98512. The testing of the sample will be performed in duplicate by the laboratory without knowledge of the specific project conditions such as the identity of the Design-Builder, the test results of WSDOT or Design-Builder, or the specification targets. The results of these tests will be binding on both the Design-Builder and WSDOT. The Design-Builder or its representative may witness the testing if requested. Costs incurred for referee testing will be paid by the party found in error, at the established laboratory rates.

1150 Quality Control Inspections

1150.01 Witness and Hold Points

Witness and Hold Points are to be established where notification of WSDOT is required for WSDOT's option of observing or visually examining a specific work operation or test. Witness Points are points identified within the inspection plan which require notification of WSDOT. Work may proceed beyond a witness point with or without participation by WSDOT provided proper notification has been given. Hold Points are mandatory verification points identified within the inspection plan beyond which work cannot proceed until mandatory verification is performed and a written release is granted by WSDOT. Witness and Hold Points should be identified in the construction process where critical characteristics are to be measured and maintained, and at points where it is nearly impossible to determine the adequacy of either materials or workmanship once work proceeds past this point. All Activity Meetings shall be included in the Design-Builder's QC/QA Plan as Hold Points.

1150.02 Coordination and Notification

The Design-Builder's Construction QC manager shall designate a primary point of contact for notifications for inspection at hold points and witness points. An alternate individual may be designated to function in this capacity in his/her absence. WSDOT will also designate one individual to handle responses to the Design-Builder with written reports or releases for hold and witness points.

The time necessary to respond to the notification for inspection at hold and witness points shall be stated in the Design-Builder's QC Plan and mutually agreed to by both the Design-Builder and WSDOT.

1150.03 Hold Points

The following are mandatory hold points for inspections to be performed by WSDOT. The Design-Builder may wish to include others.

1150.03.01 Bridges and Structures (incl. all foundations)

1. Prior to all concrete placements
   a) WSDOT will check that the Design-Builder has completed the following:
      (1) Documentation is present for rebar (Mill Cert. or Mfg. Cert.)
      (2) Critical rebar clearances have been checked.
      (3) Rebar size, spacing and splices have been checked.
      (4) Roadway deck steel is properly supported

   WSDOT will perform the following independent inspections or checks.

      (1) Spot check deck steel for proper clearance to finish deck elevations
      (2) Spot check form dimensions
      (3) Check that concrete mix design has been reviewed by WSDOT
      (4) Pre-placement meeting held
      (5) Curing procedures agreed on and equipment available, including backups
2. Post-Tensioning
   a) WSDOT will perform the following independent inspections or checks.
      (1) Spot check condition (rust) of post-tension strand or bar
      (2) Spot check that bar or strand has been tested by WSDOT and test reports are available, incl. "e" values, "area", stress-strain curve is present
      (3) Spot check that proper size and quantity of post tensioning has been installed
      (4) Check that jack has current calibrations
      (5) Check that proper jacking force is applied and proper data entered for calculations
3. Prestressed Girders

a. Check that girders have been inspected and released for shipment by WSDOT

b. Spot check that camber of each has been field determined and properly calculated in final grades

4. For shaft foundations, WSDOT will review the CSL test results after the first shaft constructed at each bridge or wall to verify shaft integrity

5. For spread footings and walls, WSDOT will inspect footing excavation base prior to concrete pour to verify that soil/rock encountered is consistent with the Geotechnical Report

1150.03.02 Pavements & Bridge Decks

1. Concrete - Pre-pour conference

The following elements will be discussed:

a) Mix Design reviewed for conformance with specifications,

b) Aggregate sources have proper qualifications i.e. LA Wear, gradation, etc.

c) Proper equipment available, i.e. screed, broom and curing bridges

d) Each lot of curing compound has been tested by WSDOT

e) Proper testing equipment available, beam molds, stinger, etc.

f) Provisions for checking grade lines ahead of paving operation

g) Date and station stamps available and layout properly marked

h) Dowel bar and tie bar placement

i) Emergency covering material available in case of sudden rain

2. Asphalt Paving - Pre-paving conference

The following elements will be discussed:

a) Mix Design developed in conformance with specifications,

b) Calibration factor developed using production furnace, factor provided to WSDOT for verification, IAI, and Dispute Resolution testing,

c) Aggregate sources used have proper qualifications i.e. LA Wear, degradation, etc.

d) Stockpile of tested aggregate necessary to pave the project

e) QC sampling and testing by random method discussed

f) Compaction test sites determined on random basis

g) Traffic control, flagging & temp. striping

h) Hours of operation

i) Weather & surface temperature limitations

j) Paving methods - pick up machine, trucks, load transfer device

k) Load limits

l) Clear zones

m) Adjust drainage apertures and utilities

n) Tack Coat applications

o) Statistical evaluation policies

p) Options on use of rollers

q) Grade control, transverse and longitudinally

r) QC sampling and testing

1150.04 Witness Points

The following are witness points for inspections or checks that WSDOT may elect to perform. The Design-Builder may wish to include others.

1150.04.01 Pipe Installations

WSDOT shall be given the opportunity to check that the Design-Builder has completed the following:

1. Water Mains
   a) Hydrants meet using agency approval
   b) Bolted connections properly torqued
   c) Thrust blocks are of proper mass and location
   d) Compaction tests reports for bedding and backfill zones available
   e) Material Certificates for materials where appropriate
2. Sewers
   a) Check that leak tests performed (air and/or exfiltration or infiltration tests)
   b) Compaction tests reports for bedding and backfill zones available
   c) Material Certificates for materials where appropriate
3. Culverts
   a) Compaction tests reports for bedding and backfill zones available
   b) Material Certificates for materials where appropriate

1150.04.01 Compaction

WSDOT shall be given the opportunity to check that the Design-Builder has completed the following:

1. Embankment
   a) Compaction - minimum one test / lift
   b) Optimum Moisture
2. Backfill Zones

a) Compaction - minimum one test / lift / installation

3. Surfacing

a) Compaction - minimum one test / lift

1150.05 Performance Verification of Project Geotechnical Elements/Features

The Design-Builder's QC/QA plan shall include inspection and verification tests to determine the integrity of foundation structures and elements and to verify that their performance is as anticipated from the design. For drilled shaft foundations where water or slurry is present above the base of the shaft, Crosshole Sonic Logging (CSL) testing shall be conducted to verify the integrity of the shaft.

Walls shall be designed for expected total and differential settlements based on site geotechnical analyses. The Design-Builder's QC/QA plan shall include inspection, wall face tolerance and deflection measurements, and verification and proof tests for anchors and soil nails, to determine the integrity of foundation structures and wall elements, and to verify that the wall performance is as anticipated from the design.

The Design-Builder shall utilize geotechnical instrumentation as necessary and as recommended in the Geotechnical Report to verify the performance of areas of significant cuts or fills regarding deformation and stability, in particular where soft or otherwise unstable ground is present, or to control filling or cutting rates to maintain stability. An instrumentation and monitoring plan, including criteria which will be used to determine acceptance, shall be included in the Design-Builder's QC/QA plan.

If soil densification or other foundation soil stabilization techniques are used, the Design-Builder's QC/QA plan shall address how the integrity and success of the soil densification technique will be investigated, monitored, and compared to the intended design.

1150.06 Surveillance Inspection

WSDOT shall have the right to conduct surveillance inspection to verify the adequacy of the Design-Builder's inspection activities. Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause shall be removed immediately and replaced in an acceptable manner when found.

1150.07 Fabrication Inspection

The inspection of project specific fabricated items will be accomplished by WSDOT using its own forces. To facilitate these inspections the Design-Builder will promptly notify WSDOT of the intended fabricator and provide 2 copies of the "Approved" Shop Drawings. The fabricated items to be inspected include but are not limited to the following:

1. Treated timber and lumber except guardrail post and blocks
2. Treated piling
3. Epoxy coated rebar
4. Anchor bolts shipment
5. Type 1 raised pavement markers
6. Bridge bearings
7. Miscellaneous items that are shop welded
8. Miscellaneous galvanized steel items
9. Concrete and metal culvert pipe over 700 mm (27 inches) in diameter
10. Precast concrete panels
11. Prestressed concrete girders

12. Permanent precast concrete median barrier
13. Steel for bridges
14. Traffic signal and illumination standards
15. Utility vaults
16. Metal drainage castings

1150.08 State Inspected and Tested Items

WSDOT using its own resources will provide inspection and testing of the following off-site fabricated materials.

1150.08.01 Highway Traffic Signs

All traffic signs will be inspected at the point of fabrication by a representative of the State Traffic Engineers office. All signs so inspected will be tagged by the inspector prior to shipment with a Sign Acceptance report sent to the Engineer.

1150.08.02 Traffic Signal Controllers

All traffic signal controllers will be tested by WSDOT at its Field Operation Support Service Center Laboratory at Tumwater, WA. The Design-Builder is advised that the time necessary to test a controller is dependent upon the quality of the product submitted and the response time of the vendor in correcting deficiencies in the programming or circuitry. Only controllers tested by WSDOT shall be installed.

1150.09 Quality Control Inspection

The QC Plan shall contain inspection plans for each construction work item included in the project whether performed by the Design-Builder or a subcontractor or vendor. Work items may be definable features or items of work defined by WSDOT's Standard Specifications.

1150.10 Work Activities

The Design-Builder shall provide inspection for all work activities for conformance with the construction requirements in the Contract Provisions. The work activities to be inspected include but are not limited to the following types of work:

Clearing, Grubbing and Roadside Cleanup
Removal of Structure and Obstruction
Roadway Excavation and Embankment
Haul
Subgrade Preparation
Watering
Structure Excavation
Ditch Excavation
Trimming and Cleanup
Construction Geotextiles
Stockpiling Aggregates
Site Reclamation
Gravel Base
Ballast and Crushed Surfacing
Asphalt Treated Base
Subsealing
Bituminous Surface Treatment
Asphalt Concrete Pavement
Concrete Structures
Steel Structures
Piling
Bridge Railing
Painting
Waterproofing
Cribbing
Concrete Barrier
Precast Concrete Retaining Wall Stems
Drains
Culverts
Structural Plate Pipe, Pipe Arch, Arch and Underpass
Storm Sewers
Manholes, Inlets, Catch Basins, and Drywells
Cleaning Existing Drainage Structures
Pipe and Fittings for Water Mains
Trench Excavation, Bedding, and Backfill for Water Mains
Pipe Installations for Water Mains
Hydrants
Service Connections
Sanitary Sewers
Side Sewers
Sewer Cleanouts
Erosion Control
Roadside Planting
Irrigation System
Curb, Gutter and Spillways
Integral Cement Concrete Curbs
Precast Traffic Curbs & Block Traffic Curbs
Raised Pavement Markers
Guide Posts
Guardrail
Chain Link and Wire Fence
Monument Cases
Cement Concrete Sidewalks
Riprap
Concrete Slope Protection
Impact Attenuator System
Mailbox Support
Redirectional Land Form
Illumination, Traffic Signal System, and Electrical
Permanent Signing
Pavement Marking
Temporary Pavement Markings
Rock Wall
Glare Screens
Rock Protection Fence
Wire Mesh Slope Protection
Material Quality Controls
- Aggregates
- Hot Mix Asphalt
- Portland Cement Concrete

The Design-Builder's Quality Control Plan shall use the inspection procedures outlined in the WSDOT Construction Manual (M47-01).

The inspection of electrical items by the Design-Builder shall be limited to the inspection of: foundation for illuminaires, signal poles, and service and controller cabinets; erection of the illuminaires and signal poles; underground conduit placement; and detector loop placement. The inspection of the electrical circuitry will be accomplished by WSDOT's Electrical Inspectors.

During the design of the project, each item of work shall be reviewed to determine what significant characteristics of the item need to be monitored during the construction phase to ensure that the completed project will function in accordance with the design intent over its expected lifetime. The inspection plans shall include the appropriate criteria, tests, and inspection requirements identified in WSDOT's Standard Specifications, Construction Manual and Materials Manual. The following elements are to be addressed within each item inspection plan:

1. Identification - Work items included in the plan.
2. Characteristics - What characteristics of the item will be inspected.
3. Acceptance Criteria - Directly or by reference, provide sufficient information for the inspector to use to determine if the item or activity is conforming or nonconforming. Maximum use of checklists shall be made for this purpose. See Scope of Work, Section Construction Inspection Checklists, for requirements for construction inspection checklists. The plan should indicate what action will be taken for items found to be non conforming.

1150.11 Inspection Guidelines

Inspections shall be performed during all phases of the project from start to completion in order to assure that the work meets, and is being performed in accordance with the Contract Provisions, plans, specifications, approved submittals, and any requirements of local jurisdictions.

An examination of the quality of workmanship shall also be conducted to confirm that all work is being performed in accordance with all construction documents and any understandings reached at the Activity Meeting for that item.

Appropriate follow-up inspections, and sampling and testing of materials shall be performed continuously as each item of work progresses to assure consistency in workmanship, compliance with contract requirements and design and construction documents, and to assure satisfactory performance of the work in service.

1150.11.01 Inspection Documentation

Each of the Design-Builder's QC inspectors shall summarize their daily inspections, tests and material sampling activities in a daily report. WSDOT's Inspectors Daily Report or a similar form shall be used for maintaining a written record of inspection results. Copies of the inspector's diaries shall be provided to WSDOT daily. The report shall consist of the following key points of record:

1. Work performed by the firm, subcontractor, or material supplier.
2. Weather conditions.

3. Inspections performed and their results. Identify any corrective actions taken.
4. Communications.
5. Type, location, and results of all tests performed.
6. Delays encountered.
7. Identify any safety related problems and corrective action taken.
8. Identify all non-conforming work and the corrective action taken.
9. Signature of inspector.

1150.11.02 Construction Inspection Checklists

The Design-Builder's QC/QA Plan shall include inspection checklists for all anticipated construction operations and/or processes. These checklists are to be used by the Design-Builder's inspection personnel and other with responsibility for quality control such as foreman and individual workers.

The individual checklists shall be approved by WSDOT as part of the overall approval of the Design-Builder's QC/QA Plan. The checklist for each work activity shall include the construction requirements stated in the standard specifications or Contract Provisions for that work activity. As a minimum each checklist shall address the following:

Date	
Time	
Location	1. Pier or structure component 2. Drainage Code #, 3. Compaction Report (referenced to centerline station and subgrade elevation etc.)
Type of Inspection	Completion of drainage code, final check pre-pour check, etc.
Specification requirement	List of applicable specifications for this item
Frequency	Indicated test or inspection frequency if any (see Appendix B, table 2 for material test requirements)
Items Inspected	List elements or items inspected(i.e. rebar, chair placement or pipe size and type, grate box, pipe bedding, etc.)
Conformation to Specifications	Check that work and materials meet the appropriate specifications
Deficiencies noted	Note any deficiencies to specifications
Individual notified	Individual notified for corrective action
Corrective action noted	What form of corrective action is recommended to bring item into conformance with specifications

Action taken	What corrective action was taken
Material documentation	List and attach a copy of all required documentation (test reports – such as compaction test, aggregate gradation; mill tests; manufacture's certificates of compliance: catalog cut or product specifications, etc.)
Responsible Party Notified	Name of foreman or worker responsible for work.
Signature of Inspector	

SECTION 1200 CONSTRUCTION MAINTENANCE

1210 General

This section pertains to maintenance responsibilities during the contract time.

1220 WSDOT Responsibility

The highway section will be properly maintained with all drainage clean and operational prior to the start of contract time. Hard surface areas throughout the project will be swept and clean of debris. WSDOT will complete a Pre/Post Construction Project Review Checklist prior to the start of construction.

1230 Design-Builder Responsibility

The Design-Builder shall be responsible for maintaining the highway section during the life of the project. Specific responsibilities for the Design-Builder are listed in the Special Provision, Public Convenience and Safety/Construction Under Traffic.

SECTION 1300 PRODUCT WARRANTY PROVISIONS

The Design-builder shall warrant the new pavement sections for the mainline and ramps.

1310 General

The Design-Builder shall furnish, as part of the Final Proposal, a letter signed by an authorized representative stating that the Design-Builder shall warrant materials, work, and performance as described by this specification. The Design-Builder shall be responsible for the pavement performance and warranty work for a period of five years following final acceptance of the project by WSDOT. The term Final Acceptance as used in this specification does not include the warranty period.

Upon final acceptance of the project, the necessary warranty bond for the pavement item(s) shall be in effect for the total five year warranty period. The warranty bond shall be in the amount of **[$200,000**]. The bond shall insure the proper and prompt completion of required warranty work following completion of the pavement, including payments for all work performed, equipment and materials used in accordance with this specification. The extent of warranty work and the Design-Builder's liability for the work that may be required by these warranty provisions is not limited by the warranty bond amount.

The warranty bonds shall be one of the following:

A. A single term five year warranty bond that will be in effect for the entire warranty period

B. Certification from the Design-Builder and its bonding agency that the contract bond for the project will remain in effect for a period of one year beyond final acceptance of the project and will include warranty work as described herein. Warranty bonds extending beyond that period will be supplied by the Design-Builder. The Design-Builder will provide a two year renewable, non-cumulative warranty bond for two consecutive terms. Failure on behalf of the contractor or its surety to renew this warranty bond will result in a 20 percent payment of the face amount of the contract bond to WSDOT and the Design-Builder shall be considered in default.

1320 Performance

The parameters that will be used by WSDOT to evaluate performance of all constructed pavements for this project are ride quality, pavement friction, pavement surface condition, structural capacity and material quality. These parameters will be measured and evaluated by WSDOT after construction, annually (February through May) and prior to expiration of the warranty period. WSDOT will supply the Design Builder, in writing, the results of the pavement condition survey within 30 days of survey completion.

At least 60 days prior to the expiration of the warranty or at any time deemed necessary by the Engineer, the Engineer will notify the Design-Builder in writing if the pavement distress exceeds the criteria outlined in Tables 2, 3, or 4 below, as applicable. The Design-Builder will not be held responsible for distresses that are caused by factors beyond the control of the Design-Builder. A finding that the distress is due to factors outside the control of the Design-Builder shall be based on evidence submitted by the Design-Builder to the Engineer. If the Engineer does not agree with the Design-Builder then the Dispute Resolution provisions as outlined in Special Provision Section 1-04.5 will be followed. Within 45 days of receiving notice, the Design-Builder shall

commence to undertake the warranty work, submit a plan for completing the work within the following nine months, and/or provide written objection if the need for warranty work is contested. Disagreement between the Design-Builder and the Engineer shall be resolved in accordance with the dispute resolution provisions as outlined in Special Provision Section 1-04.5. If the Design-Builder fails to undertake warranty work within 45 days after receiving written notice from the Engineer or Dispute Resolution Team, WSDOT will complete the warranty work or contract to have it completed and the Design-Builder shall be responsible for the total cost of the warranty work.

Coring, milling, or other destructive procedures may not be performed by the Design-Builder, without prior consent of the Engineer. The Design-Builder will not be responsible for damages as a result of coring, milling or other destructive procedures conducted by WSDOT, utility companies or other entities not under the control of the Design-Builder.

All repair, maintenance, and warranty work performed as part of this warranty provision, except as excluded elsewhere in this provision, shall be covered by the warranty provision for the remainder of the warranty term.

During the warranty period, the warranty work shall be performed at no cost to WSDOT. Maintenance (elective and preventative action) work that the Design-Builder elects to perform during the warranty period shall be at no cost to WSDOT. If corrective action needs to be taken, the Design-Builder shall coordinate all such activities to minimize disruption to the traffic, with prior approval of WSDOT.

Maintenance or Warranty work that requires a resurfacing of the pavement shall not be performed later than October 15 without written approval from the Region Administrator. In addition, asphalt concrete shall not be placed on any wet surface, or when the average surface temperatures are less than those specified in table 1, below, or when weather conditions otherwise prevent the proper handling or finishing of the bituminous mixtures:

Table 1 AC Placement	
Compacted Thickness (mm)	Surface Course Temperature
Less than 30	13°C
31 to 60	7°C
61 to 105	2°C
More than 105	DNA

1330 Asphalt Concrete Pavement

1330.01 Ride Quality

Baseline measure of the International Roughness Index (IRI) will be conducted using WSDOT's South Dakota Type Profiler. Ride quality will be evaluated using a profilograph as indicated in the 1998 Standard Specifications for Road, Bridge and Municipal Construction and as follows:

A. The requirement for final acceptance will be a ride quality value of less than 100 centimeters per kilometer (60 inches per mile). If this limit is exceeded the Design-Builder shall replace the defective pavement (minimum depth of 45 millimeters) for the full lane width over the section at the Design-Builder's expense.

B. The ride quality value at the end of five years following project completion shall not exceed 150 centimeters per kilometers (95 inches per mile). If this criterion is not met, the Design-Builder shall take corrective action as indicated above to bring this parameter within the limits.

1330.02 Pavement Friction

Pavement friction shall meet the following performance criteria:

A. The requirement for final acceptance is a friction number greater than 50. Pavement exhibiting values less than 50 will require corrective action to provide values that exceed 50.

B. The friction value at the end of five years after the project has been completed shall be no less than 40. Pavements with a friction number less than 40 will require corrective action within six months. If at any time during said five-year period WSDOT determines, in accordance with ASTM E274-90, that this criterion is not met, upon receipt of notice to such effect from WSDOT, the Design-Builder shall take corrective action to provide values that meet or exceed 40, within six months after receipt of the notice.

1330.03 Pavement Surface Condition

Pavement surface condition shall meet the following performance criteria:

A. Final acceptance will permit no identifiable distress as defined by the WSDOT Pavement Surface Condition Rating Manual. If these criteria are not met, the Design-Builder shall take corrective action as outlined in Table 2.

B. Distress types exceeding the allowable level of severity at the end of five years after Final Acceptance shall require corrective action as outlined in Table 2.

1330.04 Structural Capacity

The structural capacity (thickness, strength) of pavement sections shall be evaluated during the construction phase through the Design-Builder's approved QC/QA program. The parameters that will be evaluated include thickness, strength, and quality of materials. Load transfer capacity of new concrete pavements will be verified to comply with design assumptions. The strength, thickness, and quality of materials will be evaluated to ensure compliance with the approved design.

The requirement for final acceptance shall be to meet or exceed the design criteria.

1330.05 Material Quality

Material quality shall be evaluated prior to and during construction through the Design-Builder's approved QC/QA program. Materials specified in the design and meeting the requirements outlined in the Standard Specifications shall be evaluated to meet or exceed requirements. Materials not meeting these specifications shall be removed immediately and replaced with acceptable material.

1340 Portland Cement Concrete

1340.01 Ride Quality

A baseline measure of the International Roughness Index (IRI) will be conducted using WSDOT's South Dakota Type Profiler. Ride quality will be evaluated using a profilograph as

indicated in the 1998 Standard Specifications for Road, Bridge and Municipal Construction and as follows:

A. The requirement for final acceptance on newly constructed concrete pavement will be satisfaction of Standard Specification Section 5-05.3(12). If said criteria are not met, the Design-Builder shall diamond grind the profile back to acceptable limits provided the area requiring grinding does not exceed five percent of the surface area of a day's production and does not compromise the structural capacity of the section. If this limit is exceeded or the section thickness is reduced by more than five percent, the Design-Builder shall replace the defective pavement for the full lane width over the section at the Design-Builder's expense.

B. The requirements for Final acceptance for ride quality on concrete pavements that have been retrofitted with dowel bars are as follows:

   1. The cross section shall not vary from true plane to permit a 6 millimeter (1/4 inch) thick shim, 75 millimeter (3 inches) in width, to pass under a 3 meter (10 foot) straight edge laid on the roadway surface perpendicular to the centerline.

   2. The cross section shall not vary from a true plane to permit a 3 millimeter (1/8-inch) thick shim, 75 millimeters (3 inches) in width, to pass under a 3 meter (10 foot) straight edge laid on the roadway surface parallel to the centerline.

   3. The high points and profile index shall be determined by an electronic profilograph using procedures described in WSDOT Test Number 807. The profile index shall not exceed metric **$$$?$$$** per mile section or have any high points in excess of 6 millimeter (1/4-inch).

   If these criteria are not met, the Design-Builder shall diamond grind the profile to acceptable limits provided the area requiring grinding does not reduce the structural capacity of the pavement section. If this limit is exceeded or the pavement thickness is reduced by more than five percent, the Design-Builder shall, upon receipt of notice to such effect from WSDOT, replace the defective pavement for the full lane width over the section at the Design-Builder's expense.

C. The IRI value at the end of five years following Final Acceptance shall not increase by more than 25 percent from the IRI value determined after project completion. If at any time during said five-year period WSDOT determines that this criterion is not met, upon receipt of notice to such effect from WSDOT, the Design-Builder shall take corrective action as indicated above to bring this parameter within the limits.

1340.02 Pavement Friction

Pavement friction shall meet the following performance criteria:

A. The requirement for Final acceptance is a friction value greater than 50. Pavement exhibiting values less than 50 will require corrective action to provide values that exceed 50.

B. The friction value at the end of five years after the project has been completed shall be no less than 40. If at any time during said five-year period WSDOT determines, in accordance with ASTM D274-90, that this criterion is not met, upon receipt of notice to such effect from WSDOT, the D-B shall take corrective action to provide values that meet or exceed 40, within six months after receipt of the notice.

1340.03 Pavement Surface Condition

Pavement shall meet the following performance criteria:

A. Final acceptance will permit no identifiable distress as defined by the WSDOT Pavement Surface Condition Rating Manual. If this criterion is not met, the Design-Builder shall take corrective action as outlined in Table 3.

B. Distress types exceeding the allowable level of severity at the end of five years after Final Acceptance shall require corrective action as outlined in Table 3.

1340.04 Structural Capacity

The structural capacity (thickness, strength) of pavement sections shall be evaluated during the construction phase through the Design-Builder's approved QC/QA program. The parameters that will be evaluated include thickness, strength, and quality of materials. Load transfer capacity of new concrete pavements will be verified to comply with design assumptions. The strength, thickness, and quality of materials will be evaluated to ensure compliance with the approved design.

The requirements for final acceptance shall be to meet or exceed the design criteria.

If the structural capacity is determined to be deficient by WSDOT, the Design-Builder shall take corrective action to rectify the deficiency.

1340.05 Material Quality

Material quality shall be evaluated prior to and during construction through the Design-Builder's approved QC/QA program. Materials specified in the design and meeting the requirements outlined in the Standard Specifications shall be evaluated to establish that they meet or exceed requirements. Materials not meeting these specifications shall be removed immediately and replaced with acceptable material. WSDOT verification testing shall in no way relieve the Design-Builder of responsibility under this warranty.

1350 Required Corrective Actions

TABLE 2. Required Corrective Actions for Pavement Distress Levels – Asphalt Concrete Pavements

Distress Type	Allowable Level of Severity	Allowable Extent of Severity	Corrective Action
Rutting and Wear	Less than 6 mm (1/4 inch)	Project length	Mill and fill with 50 mm (2 inches) of asphalt concrete pavement required
Alligator Cracking	Less than 6 mm (1/4 inch)	Less than ten percent of project length of both wheel paths	Pavement repair required
Longitudinal Cracking	Less than 6 mm (1/4 inch)	Less than 100 percent of project length (single crack)	Crack seal required
Transverse Cracking	Less than 6 mm (1/4 inch)	Less than 4 cracks per 30 m (100 feet)	Crack seal required

TABLE 3. Required Corrective Actions for Pavement Distress Levels – New Concrete Pavement

Distress Type	Allowable Level of Severity	Allowable Extent of Severity	Corrective Action
Cracking	One crack per panel	Less than ten percent of project length	Full depth repair required
Joint and Crack Spalling	Spalls less than 6 mm (1/4 inch) wide	Less than ten percent of joints and cracks	Partial depth repair required
Pumping and Blowing	Slight shoulder depression, no staining	Less than ten percent of joints and cracks	Full depth panel replacement and repair of underlying base material required
Faulting	Less than 3 mm (1/8 inch)	Less than ten percent of joints	Diamond grinding back to zero tolerance without compromising pavement section. If the structural integrity of the pavement section is compromised then full depth slab replacement is required.
Patching	Less than ten percent of panel area is patched	Less than ten percent of all panels in travel lane are patched	Full depth panel repair required
Scaling	Pavement appears slightly rough	Less than ten percent of pavement surface	Diamond grinding back to zero tolerance without compromising pavement section. If the structural integrity of the pavement

			section is compromised then full depth slab replacement required.
Wear	Less than 6 mm (1/4 inch)	Less than ten percent of one lane mile	Diamond grinding back to zero tolerance without compromising pavement section. If the structural integrity of the pavement section is compromised then full depth slab replacement required.
Joint Seal Damage	Hardening, adhesive failure, cohesive failure, complete loss of sealant	Less than ten percent of joint length per one lane mile	Joint resealing required

TABLE 4. Required Corrective Actions for Pavement Distress Levels – Dowel Bar Retrofit

Distress Type	Allowable Level of Severity	Allowable Extent of Severity	Corrective Action
Cracking within slot	Not acceptable	Not acceptable	Replace pour back material and dowel bar (if crack is full depth) required
Wear within slot	Less than 6 mm (1/4 inch)	Less than five percent of one lane mile	Partial depth repair required
Bond failure within slot	Not acceptable	Not acceptable	Replace pour back material required
Faulting	Less than 3 mm (1/8 inch)	Less than ten percent of panels	Full depth panel replacement of adjacent slabs at each joint location required
Spalling within slot	Spalls less than 6 mm (1/4 inch) wide	Less than ten percent of joints and cracks	Partial depth repair required

APPENDIX 7

Revisions to the Standard Specifications for D-B Commentary

See Guidebook Section 5.2.2.5 for a discussion of Revisions to the Standard Specifications (Revisions) and Special Provisions. A correct understanding to the philosophy of their use is necessary to edit them appropriately.

Even though the provisions contained in this generic document are considered to require minimal editing, they must be thoroughly reviewed prior to each use, compared to the current Amendments to the Standard Specifications (Amendments), and modified after each completed project to incorporate necessary changes. This Revision document should be treated similarly as the Amendments .

1-01 Definitions and Terms

Definitions and terms used in this Guidebook and the contract documents have precise meanings. Misuse of a term often leads to misunderstandings among Project Team members and stakeholders. A concerted effort was made to create generic documents with consistent term usage. Defined terms are capitalized to distinguish them from common terms.

1-02 Bid Procedures and Conditions

This section of the Standard Specifications is impacted by design-build in a number of areas. The document language of this section is designed to work in harmony with the Special Provisions and the Proposal General Requirements. Changes to the selection process outlined in this Guidebook and represented by the generic language must be tracked through all three documents to ensure the language is comprehensive.

Modifications to the Revisions to the Standard Specifications are not expected to be required.

1-03 Award and Execution of Contract

Section 1-03.2 Award of Contract

This subsection describes the timeframe for the selected Proposer and the Department to agree on the contract terms. Substitute Senate Bill 6439 and the Revised Code of Washington describe the requirements of the two-step selection process and describe negotiating with the highest scoring Proposers. Negotiation is limited, if at all, based on interpretation of this Statute and would not affect the scope or price of the project. In other words, anything that WSDOT intends to be in the contract should be in the RFP and its attachments.

The Proposer must submit a firm price in response to the RFP Package and Contract Provisions, so anything that will affect the Proposer's price has to be in the Final Proposal, whether it's construction standards or insurance requirements. The Statute refers to "negotiating" a contract with the successful Proposer; however, the Statute is also clear that the price cannot be negotiated at that point. Since the price can't be negotiated, the items that affect price also cannot be negotiated. The interpreted reason for the negotiation provision is that there may still

be some issues, such as schedule and QC/QA Program, that may remain to be negotiated, that would not necessarily affect the price.

Section 1-03.4 Contract Bonding

This subsection will require scrutiny by WSDOT for every project. Contract bonding, at the time of the pilot projects and the writing of the Guidebook, was a significant concern to the surety and insurance industries. The combination of design, construction, and warranties creates a unique bonding situation that the sureties are just beginning to address. The issues described in the following text may not be applicable at the time of WSDOT's next design-build project.

The bonding and insurance market is changing rapidly to respond to the expanding use of design-build contracting. For example, policies are just becoming available for Design-Builders to obtain professional liability insurance that will specifically cover design activities by the Design-Builder—which is usually a contractor. The Project Team should review the state of the industry and determine if the generic language should be modified. See Special Provisions Section 1-07.18 for a discussion on professional liability insurance and bonding.

The generic language requires the Design-Builder to provide an executed contract bond for the full amount of the contract. The bond shall be responsible for the aspects of design performance but not for design negligence, errors, omissions, or warranty of design. Some contractors may not have a good enough relationship with their sureties to get bonds including design performance, but for the typical design-build projects and Design-Builder's who regularly perform such work, it should not be an issue.

Another bonding concern with design-build contracting is the coverage of long-term warranty, maintenance, and/or performance guarantees, whether simply of a warranty nature, or specific to a narrow design feature of the project. The longer the guarantee obligation required by the surety, the more concerned they become with the long-term financial viability of the contractor, which is hard to predict over 5-10 years. The other concern is the length of the errors and omissions (E&O) tail coverage relative to the warranty period. For example, the surety is typically less concerned about a bridge structure failure 15 years after completion being attributable to design failure, than the need for asphalt paving major repairs/replacement "x" years after completion, because of a maintenance guarantee. The Department must clarify what aspect of the design is included under the bond. If design E&O is not included under the bond and long-term warranty obligations exist in the contract that are not design related, the surety and the E&O carrier may end in conflict over determining responsibility (Special Provisions Commentary Section 1-07.18).

The amount of a warranty bond relative to the cost of the possible warranty work to be performed is another bonding issue to be resolved. For example, if a project has a total pavement value of $1 million, and if total pavement failure is possible, should a warranty bond of $1 million be requested, or some fraction thereof? Typically, the warranty bond is set based on a risk analysis of the maximum probable loss. In most cases this is a very rough analysis. For the TCA projects ($700M+ contract price), a $25m bond was required (less than 3.5 percent of the contract price). For the Atlantic City/Brigantine Connector (a $200M contract) the amount was $15M for the first year and $5M for the remainder of the warranty period (7.5 percent of the contract price).

1-04 Scope of the work

Section 1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

This section deals with the order of precedence for the various documents created by the Department and the Design-Builder. The only purpose of this provision is to determine if extra pay is warranted. This provision is not utilized to determine which design criteria will govern, that order of precedence is discussed in Scope of Work Section 200. In reviewing a conflict or discrepancy in the Contract Provisions, the WSDOT designer will do so without regard to payment responsibility. Once the correct procedure is determined this section provides the basis for any dispute concerning the contract requirements.

When ordering the documents keep in mind that the information provided by WSDOT must govern. Following those documents or provisions would be the documents generated from the RFP—for example, the proposal. Finally, any documents developed as a result of the agreement reached with the first two instruments which form the complete contract. In other words, anything developed by the Design-Builder is subordinate to anything developed by WSDOT. Within WSDOT-created requirements, if conflicts exist, then a hierarchy is established to determine which statement upon which the Design-Builder should rely.

1-06 Control of Material

Section 1-06.1 Qualified Products List (QPL)

In coordination with QC/QA Program requirements specified in the Scope of Work, this subsection has been added to the Revisions to the Standard Specifications. Review and update the contents of this subsection to be current and consistent with related WSDOT documents.

1-07 Legal Relations and Responsibilities to the Public

Section 1-07.24

This section specifies that WSDOT has obtained all necessary rights-of-way unless noted differently in the RFP. This statement is compatible with WSDOT's design-build position on right-of-way. If the Project Team has determined to involve the Design-Builder in the right-of-way acquisition process, this provision should be modified to reflect the project specific circumstances.

1-08 Prosecution and Progress

Section 1-08.3 Progress Schedules

This section defines the requirements for progress schedules. It modifies the Standard Specifications language to account for the schedule contained in the proposal and includes various submittals relevant to design-build contracting and requested in Scope of Work Section 1100. The section should not require significant modifications.

Section 1-08.5 Time for Completion

This section bases the time of completion on physical completion of the project. The provision accounts for an RFP requesting a competitive completion date. Consider the value of rewarding

Proposers who submit a schedule with a completion time earlier than the contract completion date specified in Special Provisions Section 1-08.5. The RFP Technical Proposal Contents and Evaluation Criteria Section 2.0 defines the Department's expectations on project completion. This section of the Revisions to the Standard Specifications, Special Provisions Section 1-08.5, must be compatible.

Section 1-08.8 Extensions of Time

This section of the Standard Specifications has been revised in the generic document, review and modified as necessary. Paragraphs e and f reflect specific areas that may have a unique project circumstance requiring language changes.

REVISIONS TO THE STANDARD SPECIFICATIONS

Note: The following Revisions and Special Provisions shall be used in conjunction with the 1998 Standard Specifications for Road, Bridge, and Municipal Construction (Metric).

AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following Revisions to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications.

Each Revision contains all current revisions to the applicable section of the Standard Specifications and may include references that do not apply to this particular project.

SECTION 1-01 DEFINITIONS AND TERMS

1.01.3 Definitions

The following statements are added to the list of definitions:

1. All references to “bid”, “proposal” or “bid proposal” in the Standard Specifications are construed to mean Final Proposal

2. All references to “lowest responsible bidder” in the Standard Specifications are construed to mean “Proposer providing the highest scoring Final Proposal”.

3. All references to the “Contractor” in the Standard Specifications are construed to mean the Design-Builder.

4. All references to “Bidder” in the Standard Specifications are construed to mean “Proposer”.

The following definitions are added:

As-Built Plans - Final drawings furnished by the Design-Builder, documenting the details and dimensions of the completed work**.**

Basis of Design - The preliminary plan, standard drawings, criteria, parameters, and other design requirements upon which the detailed final design will be based.

Best and Final Proposal - The proposal submitted in accordance with the Request for Proposal, consisting of a Technical Proposal and a Price Proposal.

Construction Documents - Drawings (plans) and specifications provided by the Design-Builder and giving a detailed and precise representation of the configurations and arrangements of the materials and items being constructed. Construction documents are not to be used for construction until they are released for construction.

Design-Builder - The firm, partnership, joint venture or organization that contracts with the Washington State Department of Transportation to provide design, construction, and quality control services for the project.

Design Documents - Design-Builder drawings, specifications, calculations, records, reports or other documents, including shop drawings and special process procedures, which may be used for design, manufacture fabrication, installation, testing, examination and certification of items.

Disadvantaged Business Enterprise or DBE - A for-profit small business concern that is certified by the Washington State Office of Minority and Women's Business Enterprises.

Final Inspection - Inspection by WSDOT of the work to determine whether the work conforms to approved plans and specifications and is physically complete. Final inspection of warranted work will be made at the end of the warranty term.

Good Faith Efforts - Efforts to achieve a DBE goal or other requirement of 49 CFR part 26 which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the DBE program requirement.

Hold Point - Mandatory verification points identified in WSDOT - approved QC/QA plan beyond which work cannot proceed until verification is performed and a written release is granted by WSDOT.

Independent Assurance Inspection (IAI) - An unbiased and independent inspection of the Design-Builder's Quality Control Systems used to verify the reliability of the tests results obtained in the regular Quality Control sampling and testing activities.

Independent Assurance Testing (IAT) - A test conducted to check the calibration of the testing equipment and processes being used.

Joint Venture - (for purposes of DBE compliance) An association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risk, and profits of the joint venture are commensurate with its ownership interest.

Originator - The engineer, architect, planner, designer, or other person who develops a specific document. In the case of drawings, the Originator is the individual who provides the design information, sketches and instructions to the drafter.

Price Proposal - The part of the Final Proposal containing the offer of a Proposer, submitted on the prescribed forms, to perform the Work.

Proposers - Firms, partnerships, joint venture and organizations furnishing proposals in response to a WSDOT request.

Request for Proposal - The documents prepared by WSDOT including all forms, information, drawings and other documentation furnished to Proposer's to guide the preparation and submittal of a proposal.

Qualification (Personnel) - The characteristics or abilities gained through training or experience or both, as measured against established written and performance tests, that qualify an individual to perform a required function.

Quality Assurance (QA) - A program of planned policies, procedures, detailed responsibilities and systematic actions including inspection, testing and audits of the QC program necessary to provide adequate confidence that the QC and results meet the contract requirements.

Quality Control (QC) - The acts of examining, witnessing, inspecting, checking, and testing of in-process or completed work (including design) and installation activities, to determine conformity with specified requirements and acceptance of construction.

Released for Construction Documents - Those documents certified to have met all requirements for construction and have been stamped "Released for Construction" by the Project Quality Manager, or official designer.

Request for Qualifications - The formal solicitation by WSDOT of Proposer qualifications consisting of, among other things, experience, capabilities, and past performance.

Statistical- based Acceptance - Acceptance of the Design-Builder's QC test results through statistical comparison with Verification test results.

Technical Proposal - The part of a Final Proposal detailing, among other things, schedule, management, organization, and design of the project.

Verification Tests - Those tests performed by WSDOT on a random basis to verify that the Design-Builder is following proper QC/QA procedures and that such procedures appear to be effective in assuring quality

WAQTC - Western Alliance for Quality Transportation Construction a cooperative effort by the States of Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Wyoming, Washington and Western Federal Lands Highway Division to establish consistent testing procedures for use by all the states..

Witness Point - A point in production where WSDOT will be afforded the opportunity to inspect the work. Work may proceed beyond a witness point with or without action by WSDOT provided proper notification has been given.

The definition for **Award** is revised to read:

The formal decision of WSDOT to accept the Final Proposal of the responsive Proposers for the work.

The definition for **Contract Plans** is revised to read:

A publication by WSDOT addressing the work required for an individual project. The contract plans may include, but are not limited to, the following: a vicinity map, a summary of quantities, structure notes, signing information, traffic control plans, and detailed drawings; all for a specific individual project. At the time of the contract execution date, the contract plans include any addenda.

The definition for **Contract Provisions** is revised to read:

The collection of information describing and addressing the work required for an individual project. At the time of the Request for Final Proposal, the proposed contract provisions may include, for a specific individual project, the amendments to the standard specifications, the special provisions, a listing of the applicable standard plans, the prevailing minimum hourly wage rates, and an informational proposal form with the listing of bid items, contract plans, and scope of work. The proposed contract provisions may also include, for a specific individual project, the Required Contract Provisions Federal-aid Construction Contracts, and various required certifications or declarations.

At the time of the contract execution date, the contract provisions include the proposed contract provisions and include any addenda, a copy of the contract form, supplemental agreements and change orders, and the Final Proposal including a copy of the proposal form with the contract prices and extensions.

The definition for **Inspector** is deleted.

The definition for **Laboratory** is revised to read:

The laboratories of WSDOT, or other laboratories WSDOT authorizes to test work, soils, and materials. Design-Builder's testing laboratories shall be either AASHTO Accredited or fulfill the requirements of AASHTO R18 for those tests being performed for acceptance.

The definition for **Plans** is revised to read:

The Construction Documents, Contract Plans, Design Documents, Standard Plans, working and supplemental drawings, or reproductions thereof, and As-Built Plans which show the location, character, and dimensions or prescribed work including layouts, profiles, cross-sections, and other details of the Work to be performed.

The definition for **Project Engineer** is revised to read:

The Engineer's representative who is directly responsible for administration of the Design-Build contract.

The definition for **Proposal Form** is revised to read:

The form provided to the Proposers by WSDOT for submittal of a price proposal to WSDOT for a specific project. The form may include the item number and item description, if applicable, along with blank spaces to be completed by the Proposer for lump sum prices, total bid amount, signatures, date, the Proposers address, and federal tax ID no. The required certifications and declarations are part of the form.

The definition for **Working Drawings** is revised to read:

Shop drawings, shop plans, erection plans, falsework plans, framework plans, cofferdam, cribbing and shoring plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data, including a schedule of submittal dates.

SECTION 1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders

The last sentence of the third paragraph is revised to read:

To receive consideration for issuance of a bid proposal form on a specific project, the questionnaire (or supplement) must be received by the Prequalification Engineer 15 days prior to the time the Statement of Qualifications is due. In the event that the Proposer is a joint venture, partnership, or other legal entity involving two or more parties, only the party(ies) performing the construction work need be prequalified to do the class of work involved in the project.

1-02.2 Plans and Specifications

In the first two paragraphs the words “plans and specifications” are revised to read “Request for Proposals”.

The third paragraph is deleted.

1-02.5 Proposal Forms

This section is revised to read:

At the request of a Proposer, WSDOT will provide a proposal form for any project on which the Proposer is eligible to bid.

The proposal form will identify the project and its location. It will list lump sum and unit cost, if applicable, items of work. The Proposer shall complete spaces on the proposal form that call for bid prices, total bid amount, signatures, date, Proposer’s address, and Federal tax ID number. The required certifications are included as part of the form.

1-02.6 Preparation of Proposal

This section is revised to read:

WSDOT will accept only those Price Proposals properly executed on the form included in the RFP. The form may be reproduced electronically. All prices shall be in legible figures written in ink or typed. The proposal shall include:

1. A unit price for each item, if applicable (omitting digits more than four places to the right of the decimal point),
2. An extension for each unit price, if applicable (omitting digits more than two places to the right of the decimal point), and
3. The total contract price (the sum of all extensions).

In the space provided on the signature sheet, the bidder shall confirm that all addenda have been received.

The bidder shall submit a completed “DBE Commitment Affidavit”.

The bidder shall submit with the bid a list of:

1. Subcontractors who will perform work which amounts to more than 10 percent of the bid price, and

2. The work those subcontractors will perform on the contract.

If no subcontractor is listed, the bidder acknowledges that it does not intend to use any subcontractor whose work on the contract will exceed 10 percent of the bid price.

If the contract provisions establish a minimum bid amount for the item Traffic Control Labor, the bid for the item in the proposal shall equal or exceed that amount.

Any firm doing business under an assumed name shall submit a certified copy of a “Certificate of Assumed Name” (unless the Contracting Agency already has a copy on file).

Proposals of corporations shall be signed by the officer or officers having authority to sign them. If a bidder is a copartnership, the proposal shall be signed by an authorized member

of the copartnership. When the bidder is a joint venture, the proposal shall be signed by one or more individuals as authorized by the Joint Venture.

1-02.9 Delivery of Proposal

This Section is deleted.

1-02.10 Withdrawal or Revision of Proposal

This section is revised to read:

After submitting the Final Proposal to WSDOT, the Proposer may withdraw or revise it if:

1. The Proposer submits a written request signed by an authorized person, and
2. WSDOT receives the request before the time for receipt of proposals.

1-02.12 Public Opening of Proposals

This section is supplemented with the following:

Only the Price Proposal will be opened publicly. After the Technical Proposal has been evaluated and scored, the Price Proposal will be publicly opened. At that time, the Price Proposal amount and the Technical Proposal score will be combined into a final score.

1-02.13 Irregular Proposals

This section is revised to read:

1. A proposal will be considered irregular and will be rejected if:
    a. The bidder is not prequalified;
    b. The authorized proposal form furnished by the Contracting Agency is not used or is altered;
    c. The completed proposal form contains any unauthorized additions, deletions, alternate bids, or conditions;
    d. The bidder adds provisions reserving the right to reject or accept the award, or enter into the contract;
    e. A price per unit cannot be determined from the bid proposal;
    f. The proposal form is not properly executed;
    g. The bidder fails to submit or properly complete a subcontractor list, if applicable, as required in Section 1-02.6;
    h. The bidder fails to submit or properly complete a DBE Commitment affidavit, as required in Section 1-02.6;
    i. The bidder fails to submit or properly complete a Cash Flow Schedule as required in Section 3.7 of the PROPOSAL GENERAL REQUIREMENTS; or
    j. The bid proposal does not constitute a definite and unqualified offer to meet the material terms of the bid invitation.
2. A proposal may be considered irregular and may be rejected if:
    a. The proposal does not include a unit price for every bid item;

b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable bid) to the potential detriment of the Contracting Agency;

c. Receipt of addenda is not acknowledged;

d. A member of a joint venture and the joint venture submit proposals for the same project (in such an instance, both bids may be rejected); or

e. Proposal form entries are not made in ink.

1-02.14 Disqualification of Bidders

Number 3 is revised to read:

3. The entity responsible for construction of the work is not prequalified for the work or to the full extent of the bid.

1-02.15 Pre-Award Information

The first sentence is revised to read:

Before awarding any contract, WSDOT may require one or more of these items or actions of any or all the responsible Proposers.

SECTION 1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids

The second paragraph is revised to read:

The right is reserved by the Contracting Agency to waive informalities in the bidding, accept a proposal of other than the lowest responsible bidder, reject any or all bids, republish the call for bids, revise or cancel the work, or require the work to be done in another way if the best interest of the Contracting Agency is served.

1-03.4 Contract Bond

The first paragraph of Section 1-03.4 is revised to read:

The successful Proposer shall provide an executed contract bond for the full amount of the project construction and post-construction phase costs. The bond does not cover any responsibility for negligence, errors or omissions in design, or warranty of design. Coverage under the bond is limited to only the Construction phase and post construction phase of the contract. The bond premium is based only upon the value of the construction and post-construction phase of the contract, and not upon the design aspect of the contract as differentiated in the contract bid under Section 1-02.6, as revised.

SECTION 1-04 SCOPE OF THE WORK

1-04.1 Intent of the Contract

This section is deleted.

1-04.1(1) Bid Items Included in the Proposal

This section is revised to read:

The Design-Builder shall provide all labor, materials, tools, equipment, transportation, supplies, and incidentals required to complete all work for the items described in the Request for Proposal.

1-04.1(2) Bid Items not Included in the Proposal

This section is deleted.

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

This section is revised to read:

The Contract Provisions, as defined in Section 1-01.3 (excluding Final Proposal), complement each other in describing the complete work. Any requirement in one part binds as if stated in all parts. The Design-Builder shall provide any work or materials clearly implied in the contract even if the contract does not mention it specifically.

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 3 and 4; 2 presiding over 3, and 4; and so forth):

1. Addenda,
2. Special Provisions,
3. Revisions to the Standard Specifications
4. Division 1 of the Standard Specifications
5. Contract Plans
6. Scope of Work

This order of precedence shall not apply when work is required by one part of the contract but omitted from another part or parts of the contract. The work required in one part must be furnished even if not mentioned in other parts of the contract.

If any part of the contract requires work that does not include a description for how the work is to be performed, the work shall be performed in accordance with standard trade practice(s). For purposes of the contract, a standard trade practice is one having such regularity of observance in the trade as to justify an expectation that it will be observed by the Design-Builder in doing the work.

In case of any ambiguity or dispute over interpreting the contract, the Engineer's decision will be final as provided in Section 1-05.1.

1-04.8 Progress Estimates and Payments

The first sentence is revised to read:

Progress estimates or payments for any part of the work shall not be used as evidence of performance or quantities.

SECTION 1-05 CONTROL OF WORK

1-05.1 Authority of the Project Engineer

The second paragraph is revised to read:

The Engineer's decisions will be final on all questions including, but not limited to, the following:

1. Quality and acceptability of materials and work.
2. Measurement of unit price work.
3. Determination as to the existence of changed or differing site conditions,
4. Interpretation of the Contract.
5. Fulfillment of the contract by the Design-Builder,
6. Payments under the contract including equitable adjustment,
7. Suspension(s) of work,
8. Termination of the contract for default or public convenience.
9. Determination as to unworkable days.

1-05.3 Plans and Working Drawings

This section is revised to read:

The Design-Builder shall submit supplemental working drawings. Except as noted, all drawings and other submittals shall be delivered directly to the Project Engineer. The drawings shall be on sheets measuring 22 by 34 inches, 11 by 17 inches, or on sheets with dimensions in multiples of $8^1/2$ by 11 inches. If the Project Engineer elects to offer any comments, they will be submitted to the Design-Builder within 48 hours.

All Design-Builder submittals shall be in metric units. The applicable standard for metric units, terminology, abbreviations, and practice is found in ASTM E 380, Practice for Use of the International System of Units (SI). Submittal, review procedures, and review times of supplemental working drawings and specifications shall be as described in the Scope of Work.

1-05.4 Conformity With and Deviations From Plans and Stakes

This section is deleted.

1-05.6 Inspection of Work and Materials

The second paragraph is revised to read:

When the Engineer requests, the Design-Builder shall (without charge) provide samples of materials used or to be used in the work. The Engineer may order the Design-Builder to remove and replace, and bear the cost of doing so, any materials used without inspection.

1-05.7 Removal of Defective and Unauthorized Work

This section is revised to read:

WSDOT will not pay for defective work. Defective work includes work and materials that do not conform to the contract. At the Engineer's order, the Design-Builder shall immediately remedy, remove, replace, or dispose of defective work or materials and bear all costs of doing so.

1-05.10 Guarantees

This section is revised to read:

The Design-Builder shall furnish to WSDOT any guarantee or warranty furnished as a customary trade practice in connection with the purchase of any equipment, materials, or items incorporated into the project. The Design-Builder shall also provide specific warranties as defined in the Scope of Work.

SECTION 1-06 CONTROL OF MATERIALS

1-06.1 Source of Supply and Quality of Materials

This section including title is revised to read:

1-06.1 Approval of Materials Prior To Use

Prior to use, the Design-Builder shall notify the Engineer of all proposed materials. The Design-Builder shall use the Qualified Product List or the Request for Approval of Material form.

All equipment, materials, and articles incorporated into the permanent work:

1. Shall be new, unless the special provisions permit otherwise;
2. Shall meet the requirements of the contract and/or be approved by the Engineer if required by the contract provisions;
3. May be inspected or tested at any time during their preparation and use; and
4. Shall not be used in the work if they become unfit after being previously approved.

1-06.1(1) Qualified Products List (QPL)

The QPL is a listing of manufactured products that have been evaluated and determined suitable for use in highway construction.

If the Design-Builder elects to use the QPL, the most current list available at the time the product is proposed for use shall be used. The QPL submittal shall be prepared by the Design-Builder in accordance with the instructions in the QPL and submitted to the Engineer prior to use.

The QPL identifies the approved products, the applicable specification section, and the basis for acceptance at the project level. The listing is divided into two categories, “Approved” and “Conditionally Approved”. “Approved” products are denoted with an “A”. Those products may be accepted without additional sampling. “Conditionally Approved” products are denoted with a “CA”. The acceptance and use of these products is based upon additional job sampling and/or documentation. All additional acceptance actions need to be completed prior to the material being incorporated into the work.

The use of listed products shall be restricted to the Standard Specification for which they are listed and fulfillment of the acceptance requirement defined in the QPL. Qualified products not conforming to the specifications, not fulfilling the acceptance requirements, or improperly handled or installed, shall be replaced at the Design-Builder’s expense.

To qualify for continued listing on the QPL, products may be sampled and tested for conformance to the Standard Specifications. WSDOT reserves the right to make revisions to the QPL at any time.

If there is a conflict between the QPL and the contract, the provisions of the contract shall take precedence over the QPL.

The Design-Builder may use products listed on the latest edition of the Qualified Product List (QPL) without submitting a Request for Approval of Materials (RAM). The Design-Builder shall follow the acceptance requirements as listed in the QPL for the product/material used.

Aggregate materials listed on the Aggregate Sources Tracking System database for those uses approved. The acceptance of aggregates shall be as stated in Appendix B, Table 2. Other materials and aggregate sources may be used with prior approval of WSDOT.

When using products or materials not listed in the QPL the Design-Builder shall have the material tested prior to incorporating the materials into the project. The tests may be conducted by the WSDOT FOSSC materials laboratory or an independent testing laboratory employed by the Design-Builder and approved by the WSDOT Materials Engineer. For details regarding sample size and other requirements see the Chapter 9-4 of the WSDOT Construction Manual.

Standard Specification	**Material Type**
6-02.3(24)F&G	Mechanical Rebar Splices
9-04.2(2)	Two Component Poured Rubber Joint Sealer
9-06.5(3)	High Strength Bolts
9-07	Reinforcing Steel for Concrete
9-07.10	Post Tensions and Prestressing Reinforcement Strand
Special Provision	Post Tensions and Prestressing Reinforcement Bar
9-14.1	Topsoil Type A
9-16.1(1)A	Chain Link Fence Post - Class 1
9-16.1(7)	Chain Link Fence - Fabric
9-16.1(9)	Chain Link Fence - Tie Wire
9-16.2(2)	Wire Fence - Steel Post and Braces
9-16.2(6)	Wire Fence - Barbed Wire
9-16.2(7)	Wire Fence - Wire Mesh
9-16.4(3)	Wire Mesh Slope Protection - Wire Rope
9-16.6(2)	Glare Screen Fabric
9-16.6(5)	Glare Screen - Cable
9-16.7(2)	Rock Protection Fence - Posts
9-16.7(3)	Rock Protection Fence - Cable
9-16.7(7)	Rock Protection Fence - Chain Link Fence Fabric
9-16.7(8)	Rock Protection Fence - Post Anchor Rods
9-23	Concrete Curing Compounds
9-24	Plastic Waterstop
9-26	Epoxy Resins
9-27.3	Gabion Baskets
9-29.1	Conduit
9-29.16	Signal Controllers
9-33	Construction Geotextiles
9-33	Construction Geotextiles - Silt Fence
Special. Provision.	Elastomeric Bearing Pads - Preformed fabric pads
Special Provision.	Elastomeric Bearing Pads - Field Tests

1-06.1(2) Request for Approval of Material (RAM)

The RAM shall be used when the Design-Builder elects not to use the QPL or the material is not listed in the QPL. The RAM shall be prepared by the Design-Builder and submitted to the Engineer for approval before the material is incorporated into the work.

Approval of the material does not constitute acceptance of the material for incorporation into the work.

Additional acceptance actions as noted on the RAM need to be completed prior to the materials being incorporated into the work.

When requesting approval of an item that requires fabrication, both the fabricator and the manufacturer of the base material shall be identified on the RAM.

1-06.1(3) Visual Inspection

The acceptance of the following types of materials may be based on visual inspection prior to incorporating the materials into the project. Product documentation shall be provided, this documentation may be in the form of a manufacturer's catalog cut or product data sheets. For details regarding specific instructions for field acceptance see Chapter 9-04 of the WSDOT Construction Manual.

Specification	Product Type
9-04.1	Premolded Joint Filler
9-13.5(1)	Semi-Open Slope Protection
9-15.1(1)	Irrigation System - Galvanized Pipe & Fitting
9-23.6	Admixtures for Concrete
Sp. Prov.	Resin Bonded Anchors
9-29.3	Electrical Conductors
9-29.10	Luminaries
9-15.1(2)	Irrigation System - PVC Pipe & Fittings
9-15.1(3)	Irrigation System - Polyethylene Pipe
9-15.2	Irrigation System - Drip Tubing
9-15.3	Irrigation System - Automatic Controllers
9-15.4	Irrigation System - Sprinkler Heads
9-15.6	Irrigation System - Gate Valves
9-15.7(1)	Irrigation System - Manual Control Valves
9-15.7(2)	Irrigation System - Automatic Control Valves
9-15.8	Irrigation System - Quick Coupling Equipment
9-15.9	Irrigation System - Drain Valves
9-15.10	Irrigation System - Hose Bibs
9-15.12	Irrigation System - Check Valves
9-15.13	Irrigation System - Pressure Regulating Valves
9-15.14	Irrigation System - Three-Way Valves

Specification	Product Type
9-15.15	Irrigation System - Flow Control Valves
9-15.16	Irrigation System - Air Relief Valves
9-15.17	Irrigation System - Electrical Wire & Splices
9-15.18	Irrigation System - Detectable Marking Tape
9-15.19	Irrigation System - Wye Strainers
9-16.2(5)	Wire Fence - Staples & Wire Clamps
9-16.2(8)	Wire Fence - Vertical Cinch Stays
9-16.7(5)	Rock Protection Fence - Hog Rings Fasteners
9-30.1(4)	Water Distribution System - Steel Pipe
9-30.2(4)	Water Distribution System - Steel Pipe Fittings
9-30.1(5)	Water Distribution System - PVC Pipe
9-30.2(5)	Water Distribution System - PVC Pipe Fittings
9-30.2(6)	Water Distribution System - Restrained Joint
9-30.3(1,2)	Water Distribution System - Gate valves
9-30.3(3)	Water Distribution System - Butterfly Valves
9-30.3(4)	Water Distribution System - Valve Boxes
9-30.5	Water Distribution System - Hydrants
9-29.10	Luminaries Lamps
9-29.16(2)	Signal Lamps
9-29.16(2)	Signal Head

1-06.2(1) Samples and Tests for Acceptance

The first paragraph is revised to read:

> The Design-Builder shall deliver representative samples, (from the Design-Builder, Producer, or Fabricator) to the Engineer without charge before incorporating material into the work. In providing samples, the Design-Builder shall provide the Engineer with sufficient time and quantities for testing before use. The Engineer may require samples at any time.

The third paragraph is deleted.

The first sentence of the fourth paragraph is revised to read:

> All field and laboratory materials testing by the Engineer or the Design-Builder will follow methods described in the Contract Provisions, in the Washington State Department of Transportation Laboratory Manual, or other recognized standards.

1-06.3 Manufacturer's Certificate of Compliance

The second paragraph is deleted:

This section is supplemented with the following:

> The acceptance of the following types of materials shall be based on receipt of an Manufacturer's Certificate of Compliance prior to incorporating the materials into the

project. The Manufacturer's Certificate of Compliance shall meet the requirements of Section 1-06.3 of the Standard Specifications. In lieu of placing the material without a proper Manufacturer's Certificate of Compliance the Design-Builder may request that WSDOT sample and test the materials prior to incorporating them into the project. The cost for the necessary testing shall be at WSDOT's established cost recovery rate and shall be deducted from moneys due or become due the Design-Builder on the next progress estimate. For details regarding sample size and other requirements see Chapter 9-4 of the WSDOT Construction Manual.

Standard Specification	**Material Type**
9-01	Portland Cement or Blended Hydraulic Cement (Mill Cert Number)
Special Provision.	Expansion Joints
6-02.3(24)C	Rebar Chairs, Dobies, and Spacers
9-07.7	Wire Reinforcement for Concrete
5-05.3(19)	Bridge Approach Slab Anchors
9-05	Metal drain and under drain pipe
9-05	PVC and corrugated polyethylene drain pipe and under drain pipe
9-05	Metal culvert and storm sewer pipe and pipe arch
9-05	Metal culvert end sections.
9-05	Corrugated metal structural plate pipe, pipe arch, and under passes
9-05	Ductile iron pipe
9-05	Corrugated polyethylene culvert and storm sewer pipe up to and including 36-inch diameter.
9-05	Profile wall PVC culvert and storm sewer pipe up to and including 36-inch diameter
9-06.5(1)	Unfinished Bolts (ASTM A 307)
9-09	Structural Timber and Lumber Untreated
9-10.5	Steel H-Piling
9-10.5	Hollow Steel Piling and Jack Casing
9-16.1(4)	Chain Link Fence - Tension Wire and Attachments
9-30.1(1)	Water Distribution System - Ductile Iron Pipe
9-04.1(4)	Elastomeric Compression Seals
9-21.2	Raised Pavement Markers, Type 2
9-21.3	Raised Pavement Markers, Type 3
9-16.1(1)B	Chain Link Fence Post - Class 2
9-16.1(8)	Chain Link Fence - Fabric Bands and Stretcher Bars
9-16.1(2)A	Chain Link Fence Post - Roll Formed

Standard Specification	Material Type
9-16.1(3)	Chain Link Fence - Top Rail, Braces & Trusses
9-16.1(10)	Chain Link Fence - Gates
9-16.1(6)	Chain Link Fence - Fittings
9-16.2(4)	Wire Fence - Brace Wire
9-16.3(1)	Beam Guardrail - Rail Element
9-16.3(4)	Beam Guardrail - Hardware
9-16.3(5)	Beam Guardrail - Anchors
9-16.3(5)	Beam Guardrail - Anchor, Swaged Cable
9-16.4(2)	Wire Mesh Slope Protection - Wire Mesh
9-16.4(4)	Wire Mesh Slope Protection - Hardware
9-16.4(7)	Wire Mesh Slope Protection - Anchor Rods
9-16.6(3)	Glare Screen - Posts
9-16.6(4)	Glare Screen - Tension Wire
9-16.6(6)	Glare Screen - Cable and Tension Wire Attachments
9-16.6(7)	Glare Screen - Slats
9-16.6(8)	Glare Screen - Fittings
9-16.6(9)	Glare Screen - Fabric Bands and Stretcher Bars
9-16.6(10)	Glare Screen - Tie Wire
9-16.8(1)	Weathering Beam Guardrail - Rail & Hardware
9-16.8(2)	Weathering Beam Guardrail - Anchors
9-06	Cattle Guards
9-06	Sign Mounting Brackets
9-06	Special Steel Guardrail Posts
Special . Provision	Elastomeric Bearing Pads - Steel plates and shapes
9-16.3(2)	Guardrail Posts and Blocks - Steel

SECTION 1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.5(2) State Department of Fish and Wildlife

The second paragraph is revised to read:

This work will be incidental to the lump sum contract price.

1-07.10 Worker's Benefits

The first sentence of the third paragraph is revised to read:

The Design-Builder shall include in the bid all costs for payment of unemployment compensation and for providing either or both of the insurance coverages.

1-07.15 Temporary Water Pollution/Erosion Control

This section is revised to read:

This work is intended to prevent, control, and stop water pollution or erosion within the project, thereby protecting the work, nearby land, streams, and other bodies of water.

Controlling pollution, erosion, run-off, and related damage may require the Design-Builder to perform temporary work items including but not limited to:

1. Providing ditches, berms, culverts, and other measures to control surface water;
2. Building dams, settling basins, energy dissipaters, and other measures, to control downstream flows;
3. Controlling underground water found during construction; or
4. Covering or otherwise protecting slopes until permanent erosion-control measures are working.

Before any work begins, the Design-Builder shall submit a plan for temporary water pollution/erosion control according to the provisions of the Scope of Work. The plan shall show the schedule for all erosion-control work, whether permanent as required by the contract or temporary as proposed by the Design-Builder. The plan shall cover all areas the Design-Builder's work may affect inside and outside the limits of the project (including all WSDOT-provided sources, disposal sites, and haul roads, and all nearby land, streams, and other bodies of water). Before this plan has been reviewed, the Design-Builder shall do no clearing and grubbing or earthwork unless the Engineer approves in writing. The Design-Builder shall revise and update the plan whenever the Engineer so requests in writing.

If the Engineer, under Section 1-08.6, orders the work suspended for an extended time, the Design-Builder shall, before WSDOT assumes maintenance responsibility, make every effort to control erosion, pollution, and run-off during shutdown. Section 1-08.7 describes WSDOT's responsibility in such cases.

If natural elements rut or erode the slope, the Design-Builder shall restore and repair the damage, with the eroded material where possible, and clean up any remaining material in ditches and culverts. The Design-Builder shall schedule the work so that grading and permanent erosion control immediately follow clearing and grubbing. If conditions prevent such scheduling, temporary control measures will be required between work stages.

The area of excavation, borrow, and embankment work shall not exceed the Design-Builder's ability to meet the schedule for finish grading, mulching, seeding, and other permanent erosion control work.

Clearing and grubbing, excavation, borrow, or fill within the right of way shall never expose more than 70,000 square meters of erodible earth, unless the Engineer approves otherwise. The Engineer may increase or decrease this 70,000-square-meter limit in light of project conditions.

Temporary control measures are required if it appears pollution or erosion may result from weather, the nature of the materials, or progress on the work.

When temporary control devices are no longer needed, the Design-Builder shall remove them and finish the areas they occupied.

Nothing in this section shall relieve the Design-Builder from complying with other contract requirements.

1-07.22 Use of Explosives

This section is revised to read:

When using explosives, the Design-Builder shall use the utmost care to protect life and property, to prevent slides, and to leave undisturbed all materials outside the neat lines of the cross-section.

Explosives shall be handled, marked, stored, and used in compliance with WAC 296-52 and such local laws, rules, and regulations that may apply. The stricter provisions shall apply.

All explosives shall be stored securely as required by all laws and ordinances that apply. Each storage place shall be clearly marked: “Dangerous — Explosives.” No explosives shall be left unprotected.

If public utilities or railroads own equipment near the blast site, the Design-Builder shall notify the owners of the location, date, time, and approximate duration of the blasting. This notice shall be given sufficiently in advance to enable all owners to take any steps as they deem necessary to protect their property from injury.

Blasting near proposed structures shall be completed before work on them begins. When the use of explosives is necessary for the prosecution of the work, the Design-Builder’s insurance shall contain a special clause permitting the blasting.

1-07.24 Right of Way

This section is revised to read:

All rights of way for the completed facility will be provided by WSDOT in advance of construction. Any exceptions will be noted in the Request for Proposal. Should unavailable right of way have an impact on the Design-Builders operations, an extension of time will be considered in accordance with Section 1-08.8.

SECTION 1-08 PROSECUTION AND PROGRESS

1-08.1 Subcontracting

This section is revised to read:

The Design-Builder shall submit all requests to subcontract on the form the Engineer provides. Along with the request to sublet, the Design-Builder shall submit the names of any contracting firms the subcontractor proposes to use as lower tier subcontractors.

The Design-Builder shall require each subcontractor and lower tier subcontractor to comply with Section 1-07.9 and to furnish all certificates and statements required by the contract.

Subcontracting shall not:

1. Relieve the Design-Builder of any responsibility to carry out the contract,

2. Relieve the Design-Builder of any obligations or liability under the contract and the Design-Builder's bond,
3. Create any contract between WSDOT and the subcontractor, or
4. Convey to the subcontractor any rights against WSDOT.

WSDOT will not consider as subcontracting: (1) purchase of sand, gravel, crushed stone, crushed slag, batched concrete aggregates, ready mix concrete, off-site fabricated structural steel, other off-site fabricated items, and any other materials supplied by established and recognized commercial plants; or (2) delivery of these materials to the work site in vehicles owned or operated by such plants or by recognized independent or commercial hauling companies. However, the Washington State Department of Labor and Industries may determine that RCW 39.12 applies to the employees of such firms identified in 1 and 2 above in accordance with WAC 296-127. If this should occur, the provisions of Section 1-07.9, as modified or supplemented, shall apply.

The Design-Builder shall certify to the actual amounts paid to any Disadvantaged, Minority, or Women's Business Enterprise firms that were used as subcontractors, lower tier subcontractors, manufacturers, regular dealers, or service providers on the contract. This certification shall be submitted to the Project Engineer annually for the State fiscal year, July 1 through June 30, or through physical completion of the contract, whichever occurs earliest. The report is due July 20th following the fiscal year end or 20 calendar days after physical completion of the contract.

1-08.3 Progress Schedule

This section is revised to read:

The Design-Builder shall submit a preliminary progress schedule (first 60 calendar days) to the Engineer no later than five calendar days after the date the contract is executed. This preliminary schedule shall show work to be performed during the first 60 Calendar days of the contract. The preliminary progress schedule shall not materially change the schedule submitted with the Technical Proposal.

The Design-Builder shall submit five copies of the progress schedule (total calendar days) to the Engineer no later than 30 calendar days after the date the contract is executed. This schedule and any supplemental schedule shall show: (1) physical completion of all work within the specified contract time, (2) the proposed order of work, (3) projected starting and completion times for major phases of the work and for the total project, 4) work elements that have been identified as requiring hold points or witness points, and 5) Proposal Plan and working drawing review schedules. The schedule shall be developed by a critical path method. The Design-Builder shall provide sufficient material, equipment, and labor to meet the completion times in this schedule. WSDOT will allocate its resources based on the sequence and timing of the work events. Accurate portrayal of the events requiring WSDOT participation is imperative to allocate the appropriate staff in a timely manner.

The Design-Builder shall submit supplemental progress schedules when requested by the Project Engineer or as required by any provision of the contract. These supplemental schedules shall reflect any changes in the proposed order of the work, any construction delays, or other conditions that may affect the progress of the work. The Design-Builder shall provide the Project Engineer with the supplemental progress schedules within ten calendar days of receiving written notice of the request.

The original and all supplemental progress schedules shall not conflict with any time and order-of-work requirement in the contract.

If the Engineer deems that the original or any necessary supplemental progress schedule does not provide the information required in this section, WSDOT may withhold partial payments until a schedule containing the required information has been submitted by the Design-Builder and approved by the Engineer.

1-08.5 Time for Completion

This Section is revised to read:

The Design-Builder shall complete all physical contract work by the date stated in the contract provisions, or as extended by the Engineer in accordance with Section 1-08.8. The end date proposed by the Design-Builder in the Technical Proposal, as shown on the preliminary project schedule, if occurring prior to the date in the contract provisions, shall be considered the contract end date. The Design-Builder proposed end date will not be considered the contract end date if it occurs later that the date in the contract provisions.

1-08.8 Extensions of Time

The second paragraph is revised to read:

The contract's time for physical completion will be extended for a period equal to the time the Engineer determines the work was delayed because of:

1. Any action, neglect, or default of WSDOT, its officers, or employees, or of any other contractor employed by WSDOT;
2. Fire or other casualty for which the Design-Builder is not responsible;
3. Strikes;
4. Any other conditions for which these Specifications permit time extensions such as:
    a. In Section 1-04.4 if a change increases the time to do any of the work including unchanged work;
    b. In Section 1-04.5 if increased time is part of a protest that is found to be a valid protest;
    c. In Section 1-04.7 if a changed condition is determined to exist which caused a delay in completing the contract;
    d. In Section 1-07.13 if the performance of the work is delayed as a result of damage by others;
    e. In Section 1-07.17 if the removal or the relocation of any utility by forces other than the Design-Builder caused a delay;
    f. In Section 1-07.24 if a delay results from all the right of way necessary, as defined in Section 1-08.8, for the construction not being purchased and the Scope of Work does not make specific provisions regarding unpurchased right of way;
    g. In Section 1-08.6 if the performance of the work is suspended, delayed, or interrupted for an unreasonable period of time that proves to be the responsibility of WSDOT; or

h. In Section 1-09.11 if a dispute or claim also involves a delay in completing the contract and the dispute or claim proves to be valid.

5. Exceptional causes not specifically identified in items 1 through 4, provided the request letter proves the Design-Builder had no control over the cause of the delay and could have done nothing to avoid or shorten it.

The following paragraphs are inserted after the second paragraph:

Calendar days added to the contract by time extensions, when time has overrun, shall only apply to days on which liquidated damages or direct engineering have been charged, such as the following:

If substantial completion has been granted prior to all of the authorized calendar days being used, then the number of days in the time extension will eliminate an equal number of days on which direct engineering charges have accrued. If the substantial completion date is established after all of the authorized calendar days have been used, then the number of days in the time extension will eliminate an equal number of days on which liquidated damages or direct engineering charges have accrued.

SECTION 1-09 MEASUREMENT AND PAYMENT

1-09.3 Scope of Payment

The third paragraph in this section is revised to read:

The unit contract prices shall be full payment for all labor, materials, supplies, equipment, tools, and all other things required to completely incorporate the item into the work as though the item were to read “In Place.”

The last two paragraphs are deleted

1-09.7 Mobilization

This section is deleted.

1-09.8 Payment for Material on Hand

This section is deleted.

APPENDIX 8

Special Provisions Commentary

1-02 Bid Procedures and Conditions

Section 1-02.4 Examination of Plans, Specifications, and Site of Work

The Standard Specifications section has been supplemented significantly to account for WSDOT's position on geotechnical site investigations. Significant variations in project approach are expected in this area due to project type and specific site conditions. The generic document is based on the precept that WSDOT will conduct a preliminary investigation as described in Guidebook Section 1.3 and 3.5.2. This section of the Special Provisions describes the allocation of risk associated with specific Department decisions on this issue. The Department preliminary investigation, Special Provisions Section 1-02.4 (supplemental boring program) and Section 1-04.7, combine to define the basis for changed conditions and to reduce proposal preparation costs for Proposers.. The intention of this complete program is to reduce overall project costs to the Department by balancing the significant project unknowns, allowing the Proposers to determine actual project costs and include lower risk contingencies.

The supplemental boring program was approached differently on each of the pilot projects. The Project Team for the Thurston Way Interchange project in the SW Region determined a supplemental program was necessary for the bridge foundations. The Project Team for the I-5 Rehabilitation Project in the NW Region determined the risks associated with geotechnical unknowns were manageable and could be defined from the Department investigation, and a supplemental program would not add significant benefit.

The language for the supplemental boring program provision was derived from the Maine DOT Bath-Woolrich Bridge Project. The original provision used by Maine DOT was successfully executed (by an outside drilling contractor) during the proposal preparation period. WSDOT has tailored the language to meet the specific needs of the pilot projects and other Contract Provisions.

After completing the Department geotechnical investigation the Region Materials Section must anticipate the additional needs of Proposers and design a supplemental program if deemed valuable or beneficial to the project. Offering a supplemental program to Proposers will yield a request for more information, as any additional information will help Proposers refine feature costs. The Project Team should consider the following issues in designing a supplemental boring program:

1. The conceivable project feature variations and the need for additional data for each
2. The cost of the program to the Department
3. The cost of additional boring by individual Proposers
4. Loss of Proposers due to boring costs or level of inherent risk
5. The cost to the Department for risk contingencies
6. How to combine or mitigate requests from Proposers and minimize the total number of holes in a specific project vicinity
7. Ability to perform necessary work in the rigid timeframe, scheduling of additional crews, scheduling outside contractor if needed

1-03 Award and Execution of Contract

Section 1-03.3 Execution of Contract

This section has been supplemented with provisions describing how the Design-Builder must preserve their proposal price documentation. The Design-Builder must put all supporting information into escrow for use by the Department and Design-Builder in settling contract disputes. The documentation could also be useful in resolving schedule disputes during construction and in resolving disputes regarding the price of change orders, whether informally or before a Dispute Resolution Board. The provision for an affidavit, which is in the WSDOT specification, was not included because the provision language (and the Design-Builder's signature on the contract) constitutes a representation that the information is correct and complete. The provision allows for supplementation if WSDOT determines that the information is incomplete; otherwise, the burden is on the contractor to assure that it is. The documentation provides for the Design-Builder to remain the owner of the documentation. By allowing the Design-Builder to remain owner of the data, the Department will not have access to it in any future litigation, should it become necessary. However, the proposal documentation is expected to have minimal future value as the Design and Construction Documents replace it.

The generic Proposal General Requirements Section 3.8 links the Proposers to this section of the Special Provisions. Both sections may require modification if other requirements are necessary. It is expected that little refinement to the language will be necessary.

1-04 Scope of the work

Section 1-04.4 Changes

The significant modification made in this section is description of the Technical Proposal as part of the contract. By including the Technical Proposal, significant changes made to the concepts represented during final design require a change to the contract. The Department's selection of the Design-Builder is based significantly on the presentation of the project in the Technical Proposal. Changes made to the proposed concepts by the Design-Builder during final design must be evaluated carefully to determine if a loss of value has occurred or the change is outside the requirements of the Contract Provisions. Changes to the design may be necessary to meet the Contract Provisions if the Design-Builder misinterpreted the provisions during proposal preparation. The cost associated with correcting the discrepancy is allocated to the Design-Builder, as it is his responsibility to interpret design requirements of the Scope of Work. A contract change order should be issued if a change is allowed, even a no-cost change, to maintain the basis of the contract.

Section 1-04.5 Procedure and Protest by the Design-Builder

WSDOT General Special Provisions for these sections have been re-written to clarify the terms used. A number of appendices are included with these provisions which have also been re-written. The generic forms are included in Appendix $$$?$$$ of the Guidebook.

Section 1-04.7 Differing Site Conditions (Changed Conditions)

The modifications to the Standard Specifications in this section relate primarily to geotechnical considerations. The provisions of this section must be closely coordinated with Special Provisions Section 1-02.4 and Scope of Work Section 415.

Without special dispensation, any federal aid job must contain a differing site condition provision. The pilot projects evaluated the assignment of the unknown conditions risk to the owner. In determining how the provision was to work, a determination was made concerning which party was assuming the responsibility of determining what the risk is and how it would be managed. WSDOT will share the risk of geotechnical unknowns and thus requires a changed condition clause.

Complete allocation of geotechnical risk to the Design-Builder in making the determination of how much site investigation is required may allow elimination of a differing site condition clause for geotechnical issues. However, the Department's cost for complete allocation and the difficulty in separating project oversight responsibilities may make complete allocation prohibitive.

1-06 Control of Material

Changes to this section consist of minor changes to the GSPs to adapt terminology. A review of the provisions is necessary to ensure coherence with the QC/QA Program provision in the Scope of Work Section 1100.

1-07 Legal Relations and Responsibilities to the Public

Section 1-07.11 Equal Employment Opportunity Responsibilities

The EEO and DBE provisions of the GSPs were re-written to accommodate terminology and the selection process of design-build contracting. The RFP Proposal General Requirements Section 3.6 describes the required submittals during the selection process. Primarily, the Proposers need only provide an affidavit of commitment and not the explicit definition of the DBE commitments for the project. As the exact project definition and the quantities and associated costs of the work divisions may not be determined in the proposal, an exact determination of the DBE commitment is unknown. The Department is requesting a commitment by the Design-Builder to meet the specified goal or conduct the good faith effort described in this section's provisions.

Minor changes have been made throughout the GSP on record at the time of the pilot projects. At the time there provisions were written, revisions to the EEO and DBE sections were under consideration. Carefully review with the WSDOT Office of Equal Opportunity to ensure the design-build modifications are transferred to the current GSP provision for this Standard Specification section.

Section 1-07.17 Utilities and Similar Facilities

This section primarily lists the affected utilities in and around the project site. This section should be closely coordinated with Scope of Work Section 430. The requirements or agreement terms for each utility should be placed in either the Special Provisions or the Scope of Work. The pilot projects utilized the Scope of Work to communicate special utility requirements to the Design-Builder designers. As the requirements affect design as well as construction of the project, the best communication tool is considered the Scope of Work.

Section 1-07.18 Public Liability and Property Damage Insurance

Design-build contracting creates a unique (but recently more common) dilemma for the insurance and surety industry. The dilemma stems from the shift of traditional WSDOT tasks to

the Design-Builder in order to realize the benefit in the design-build contracting method. The various risks associated with the shifted tasks necessitates modifying indemnification and/or other insurance requirements currently used in the Standard Specifications and the General Special Provisions. WSDOT must understand the implications of combining design and construction into one contract with respect to insurance and performance bond requirements.

The surety and insurance industries are responding quickly to the nuances of design-build contracting by providing new products. The Department risk managers should review the Special Provisions in light of each project's unique issues related to performance bonding, professional liability insurance, and long-term warranties. The following discussion provides the background to the provisions contained in the generic Special Provisions.

Pilot Project Insurance/Bonding Efforts

Under traditional design-bid-build methods, WSDOT, as the owner, either designs the project or specifically contracts for the design and employs rigorous review processes prior to its acceptance. This ensures a high degree of WSDOT control over the project design process, and minimizes, from WSDOT's perspective, design errors and omissions (E&O). This method also minimizes any issues relating to scope or design functionality for the builder, since WSDOT prescribes to the builder the means and methods of the project through the detailed plans and specifications. In this traditional process, the Standard Specifications requires the builder to be paid for any changes to these documents.

Where a single entity Design-Builder self-performs or subcontracts design work for a design-build contract, they become single point responsible to WSDOT for both the design and construction functions, absent any other provisions. Thus, the Design-Builder will be required to warrant the sufficiency of the design and delivery of the constructed product. They are responsible for both scope problems (i.e., duties owed to the trade contractors relying upon the plans and specifications), and performance requirements [i.e., duties owed to the owner (WSDOT) of the facility]. The Design-Builder also assumes responsibility for any damages suffered because of either construction or design E&O deficiencies (direct, arising from the contractor's own in-house design team, or indirect because of subcontracting the design to a design firm).

Most Comprehensive/Commercial General Liability (CGL) insurance policies exclude coverage for bodily injury or property damages arising out of professional services by or for the insured. If these damages are not insured by some other means, the Design-Builder would be liable for damages resulting from design errors absent other specific E&O insurance provisions.

Professional liability carriers will not include performance (completion of the work) guarantees or liquidated damages in their policies. Typically, this is something covered by the performance bond, if performance by a certain date is guaranteed by the contract. The surety industry has evolved considerably over the past 5 years regarding the bonding of design-build projects. Contractors regularly performing design-build projects can obtain the design performance coverage with minimal or no surcharge over the conventional bond rates if the project involves systems that the contractor designs on a repeat basis. In the case of projects where the contractor may be assuming a unique, challenging or "state-of-the-art" design approach, a 10-25 percent surcharge to conventional rates might be expected.

Underwriters providing insurance coverage for design-build projects understand that regardless of whether design services are provided by an in-house design staff, joint-venture partners, or subcontracted, the Design-Builder will not be able to divorce itself from design

responsibility and related exposures to professional liability. These related exposures might include allegations of negligence relating to design preparation, site surveys, material selection, increased construction costs and construction observation leading to claims for economic loss, property damage, and bodily injury from participating parties and third parties. However, very often the surety views design-build work as a reduction in the overall risk to the contractor when compared to design-bid-build work, because the Design-Builder is in control of the design/engineering/scheduling process from the time of contract execution.

Performance bonds are not the appropriate risk financing tool for E&O. Bond premiums are a relatively small fee for underwriting contractors and providing certain guarantees to third parties. Bond premiums are also extremely inadequate to assume losses and defense costs associated with professional liability exposures. Further, long-term design liabilities would most assuredly not be afforded the protection of a performance bond and would ultimately fall upon the Design-Builder.

Insurance is loss sharing and relatively large premiums reflect a policy's share of expected future losses from that class of business. The Design-Build Subcommittee, Surety Association of America, has previously indicated that only 85 percent of total claims on E&O policies are reported within 5 years of project completion, 13 percent are reported between 5 to 10 years, and 2 percent are reported after 10 years. Since professional liability is a significant loss exposure with long-term liability, insurers generally provide effective coverage only on a "claims-made" basis. "Claims made" policies cover claims made during the year the policy is in force for any incidents that occurred and were claimed during the coverage period or previously occurred and claimed during the coverage period). An "extended reporting period" (tail coverage purchased for the policy) can be added to the policy extending the reporting period beyond the coverage period. "Claims made" policies do not cover claims reported after the policy period and extended reporting period have expired even if the loss actually occurred during the policy period. The surety looks to the professional liability coverage of the contractor's design team for primary protection against design E&O exposure. The surety is interested in the Design-Builder purchasing adequate limits and tail coverage to mitigate the risk. In addition, excess coverage is now becoming available to contractors, which includes professional liability coverage in the excess limits, on an occurrence basis.

The Revised Code of Washington (RCW), 4.16.300 - 4.16.320, establishes a statute of repose (and limitations) for actions or claims arising from construction, alteration, repair, design, planning, survey, engineering, etc., of improvements upon real property. Any cause of action that has not accrued within 6 years after such substantial completion of construction, or within 6 years after such termination of services, whichever is later, shall be barred. As such, an insurance coverage tail for both E&O and completed operations consistent with that length could be considered reasonable.

The issues raised in the preceding discussion require specific considerations in recommending appropriate insurance coverage. The considerations generally include:

a) Which is the better risk financing tool for the professional liability issues, the Performance Bond or E&O professional liability insurance? SSB 6439 requires that sureties not be responsible for design liability

b) Who should provide Commercial General Liability (CGL) insurance, the Design-Builder and/or subcontractors and suppliers at all levels?

c) Who should provide E&O professional liability insurance coverage, the Design-Builder and/or all tiers?

d) What insurance limits should be for the CGL and E&O?

e) What length should the completed operations tail for the CGL and the claims made tail for the E&O professional liability insurance coverage be?

f) What are the estimated contract price and the overall risk exposure of the design-build project?

Since WSDOT's design-build method of contracting includes both the project design and construction for a completed functional facility, the Design-Builder, as the single point of responsibility, assumes damages for these liabilities. Many indemnification and insurance requirements could exist between the Design-Builder and subcontractors, suppliers, and outside design consultants.

From WSDOT's standpoint, such liabilities that might result from design relationships are best afforded coverage through a project-specific Design-Builder design liability policy with limits for each claim and an aggregate per policy period, with tail coverage beginning after final payment, to provide coverage of defense and indemnity payments for:

- Wrongful acts arising out of the performance of professional services rendered by their in-house design staff who are legally qualified architects, engineers, land surveyors, landscape architects, and construction managers, and

- The contractor's vicarious liability for those design services provided by subcontracted Architects and Engineers.

To ensure that the appropriate risk financing tool is used for the risk, an E&O insurance policy is delineated in the contract specifications by specifically excluding errors and omissions in design, and warranty of design from the performance bond guarantee. A clear distinction is made between performance of design and construction services and the liabilities of design, allowing the penal sum of the performance bond to be based on the performance (completion of the work) of design and construction only. This would give WSDOT its usual surety guarantees for contract performance and also protect the surety from design negligence, errors, and omissions. Further delineation can be made in requiring primary E&O coverage under project-specific policies with prepaid coverage tails that properly mirror the long-tail nature of the exposures.

Project CGL insurance inclusive of claims for damages normally associated with such coverage, and to include completed operations coverage after final payment, should be provided with limits per occurrence and in aggregate per policy period.

Section 1-07.23 Public Convenience and Safety

This section contains significant project-specific requirements regarding public convenience restrictions. Two pilot project examples are contained in the generic Special Provisions for use in formulating the requirements for each new project.

1-08 Prosecution and Progress

Section 1-08.9 Liquidated Damages

This section of the Special Provisions has been modified to allow flexibility in the liquidated damages calculation. The definition of "T" has been modified to account for the Design-Builder's proposed time. In addition, substantial damages were added to the pilot project Special Provisions that are included in the Generic Special Provisions as examples.

This section was revised based on using a milestone in lieu of working days. An alternative to the milestone approach would be to use a working days approach. Rewording of this section, and others relating to the project schedule, would be required.

1-09 Measurement of Quantities

Measurement and payment procedures require significant modification in design-build contracting due to the lump sum nature of the submitted price. A Schedule of Values is requested of the Design-Builder to delineate how the proposed price will be distributed into the major work components. Guidebook Section 5.2.2.6 discusses Department expectations related to project cost tracking and cost accounting requirements for progress payments in design-build contracting.

SPECIAL PROVISIONS

SPECIAL PROVISIONS

The following Special Provisions are made a part of this contract and supersede any conflicting provisions of the [**1998**] Standard Specifications for Road, Bridge and Municipal Construction (Metric), and the foregoing Revisions to the Standard Specifications.

BID PROCEDURES AND CONDITIONS

Examination of Plans, Specifications, and Site of Work

General
Section 1-02.4(1) is supplemented with the following:

5. Has performed additional geotechnical investigations, or requested additional geotechnical investigations from WSDOT if provided for in the contract provisions.

The Proposer is solely responsible for all site conditions discoverable from a reasonable site examination. A reasonable site investigation includes all geotechnical investigation that the Proposer determines is necessary to properly design, price, and construct the Work. Proposal submission will be considered conclusive evidence that the Proposer has determined that it has performed a reasonable site investigation.

The actual locations, shape, and other geometrics of the project features will be determined by the Proposers within certain constraints set forth in the RFP and Contract. Therefore, it is the responsibility of each Proposer to conduct additional geotechnical investigation before submitting a Proposal as it deems necessary to familiarize itself completely with all pertinent existing subsurface conditions and thus allow the Proposer to properly design, price, and construct the Project.

It is the Proposer's responsibility to make interpretations and draw conclusions with respect to the character of the geotechnical materials encountered and their impact upon its work.

Subsurface Information
Section 1-02.4(2) is supplemented with the following:

The preliminary geotechnical investigation conducted by WSDOT shall not be interpreted as being thorough and/or complete. The Proposer shall determine the need for and acquire any supplementary geotechnical information required to determine a reasonable cost for the project Work.

Proposers are responsible for reviewing and analyzing the geotechnical information provided with the RFP. Soil samples and rock cores obtained to develop the project Baseline Geotechnical Report which were not consumed by testing are available for viewing at the FOSSC Materials Laboratory Geotechnical Branch, 1655 South Second Avenue, Tumwater, WA.

Soil conditions and groundwater conditions are only known at the boring locations at the time of the boring. Bedrock data is only known at the locations of rock cores obtained at boring locations. Interpretation and interpolation between boring locations shall be at the sole risk of the Proposer.

Supplemental Boring Program

Section 1-02.4 is supplemented with the following:

In order to aid the Proposers in partially fulfilling these responsibilities, WSDOT plans to provide an opportunity for each Proposer to obtain additional geotechnical information at WSDOT's expense pursuant to Section 1-02.4(2) below. The Department makes no representation as to whether said Supplemental Boring Program will be sufficient for the Proposer to discharge its responsibilities set forth in the preceding paragraph. Each Proposer must make this determination independently based upon its own independent judgment and experience.

Because the geotechnical information necessary for each Proposer varies with each Proposer's design, it is recognized that the subsurface information provided with the RFP may not provide all the geotechnical information that the Proposer may determine is necessary. Therefore, WSDOT will provide at its own cost additional geotechnical investigation as directed by the Proposers, subject to the limitations as provided herein, to be known as the "Supplemental Boring Program".

The Proposer is responsible for submitting to the Contract Representative, in writing, a Boring Program detailing the location (by station and offset) and highest bottom elevation of their requested borings by **$$$?$$$**. Late submittals will not be accepted. Failure to submit such a Boring Program by said date will constitute a conclusive presumption that the Proposer has determined that it does not require any additional geotechnical data to properly design, construct and price the work or that the Proposer intends to obtain such data at its expense. Each Proposer may submit up to [**two (2)]** boring locations. WSDOT will make every effort to locate the borings where requested. The borings will be performed at the locations requested, except that proposed boring locations within six (6) meters of another will be averaged to one proposed location. If a Proposer's boring is averaged with another Proposer's boring, neither Proposer will be allowed an additional boring. Soon after **$$$?$$$**, the locations of all borings will be distributed to all Proposers in writing. Whether or not the Proposer’s requested borings were located exactly where requested, the requirements of Section 1-2.4(1) will still apply.

The Supplemental Boring Program will be performed by WSDOT in-house staff or an independent, qualified, drilling contractor. The borings will be inspected by a qualified inspector working for WSDOT and boring locations and elevations will be established by survey personnel provided by WSDOT. At the option of the Proposer, the Proposer may have a maximum of one on-site person to witness the drilling, sampling, testing and coring. All such on-site persons shall not interfere with the operation of the drillers and inspector, and shall coordinate transportation to the drilling site with WSDOT.

The Department's drill crew or drilling contractor will be prepared to conduct the following sampling and testing procedures in the 1999 Supplemental Boring Program: split-spoon samples and Standard Penetration Tests at 1.5 meter intervals and every change in stratum, minimum NQ-size rock cores, minimum 3 meter rock cores with RQD; field vane shear tests in soft clays; electronic cone penetrometer testing, conventional laboratory classification testing on disturbed soil samples; conventional laboratory tests on rock samples. The Proposer is responsible for including in its Boring Program submittal: the frequency and depth of field vane tests, the locations of split spoon samples and SPT tests, and the length and diameter of rock cores. Furthermore, the Proposer is responsible for including in its Boring Program submittal the depth of disturbed samples, undisturbed

samples, and rock cores that they wish to obtain, and the corresponding tests to be conducted.

The state will perform the test borings in the order of its choice. Mobilization will take place on or about **$$$?$$$**. The Supplemental Boring Program Report, containing the final boring logs and laboratory test results, will be shared with all Proposers on or about **$$$?$$$**. Soil and rock samples that are not consumed by testing will be stored for inspection by the Proposers at the WSDOT Materials Laboratory. To examine these samples, refer to Section 1-03.4(2). Furthermore, all of the samples not consumed by testing, including disturbed samples, undisturbed samples, and rock cores, will be turned over to the Design-Builder immediately after the contract is awarded.

Additional Geotechnical Investigation and Analysis

If the Proposer determines, before or after the award of the contract, that additional geotechnical or subsurface investigation is necessary to properly design and construct the Work, it is the responsibility of the Proposer to perform such investigation and analysis at its expense. Such investigation may take place at any time before or after submission of the Proposal. All subsurface investigations, including sampling and laboratory testing, shall be performed in accordance with the 1988 AASHTO Manual on Subsurface Investigations, AASHTO standards, and ASTM standards.

AWARD AND EXECUTION OF CONTRACT

Execution Of Contract

Section 1-03.3 is supplemented with the following:

Escrowed Bid Documents

The purpose of this specification is to preserve the Proposer's bid documents for use by WSDOT in the resolution of any claim or dispute between WSDOT and Design-Builder either during or after construction.

Prior to execution of this Contract, Design-Builder shall have delivered into escrow one copy of all documentary information used in preparation of its Bid for the Project (the "Escrowed Bid Documents" or "EBD"). Concurrently with approval of each Change Order, if requested by WSDOT, one copy of all documentary information used in preparation of the Change Order shall be added to the Escrowed Bid Documents. The EBD will be held in escrow until all of the following have occurred: (a) 180 days have elapsed from the date of the final contract voucher certification, (b) all disputes regarding this Contract have been settled, and (c) final payment on this Contract has been made by WSDOT and accepted by Design-Builder.

The EBD shall be available during business hours for joint review by representatives of Design-Builder and WSDOT in connection with the resolution of disputes and as described in Section 1-04.5 below. The EBD are, and shall always remain, the property of Design-Builder, subject to WSDOT's right to review the EBD as provided herein. Copies of the EBD shall be provided to the courts of the State of Washington and other dispute resolvers upon request by WSDOT. Design-Builder shall have the right to seek a protective order governing the disclosure of the EBD to parties other than WSDOT.

Design-Builder represents and warrants that the EBD delivered into escrow prior to execution hereof constitute all of the information used in the preparation of its Bid and

agrees that no other Bid preparation information will be considered in resolving disputes or claims related thereto, including in any judicial proceeding to resolve such disputes or claims. Design-Builder also agrees that the EBD are not part of this Contract and that nothing in the EBD shall change or modify this Contract.

Design-Builder represents and warrants that:

(a) the EBD clearly itemize the estimated costs of performing the Work required by the Contract Provisions, all Work is separated into sub-items as required to present a complete and detailed estimate of all costs, and crews, equipment, quantities and rates of production are detailed;

(b) estimates of costs are divided into Design-Builder's usual cost categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials and subcontract costs as appropriate, plant and equipment and indirect costs are detailed in Design-Builder's usual format, and Design-Builder's allocation of plant and equipment, indirect costs, contingencies, markup and other items such as overhead and profit to each direct cost item shall be clearly identified;

(c) the EBD include all assumptions, quantity takeoffs, rates of production and progress calculations, quotes from Subcontractors and suppliers, memoranda, narratives and all other information used by Design-Builder to arrive at the Contract Price or Change Order.

It is not intended that Design-Builder perform any significant extra work in the preparation of the EBD prior to delivery thereof into escrow. However, Design-Builder represents and warrants that the EBD provided prior to execution of this Contract were personally examined prior to delivery to escrow by authorized officers of Design-Builder and that they meet the requirements of herein and are adequate to enable a complete understanding and interpretation of how Design-Builder arrived at its Bid Price. Design-Builder also represents and warrants that the EBD provided in connection with Change Orders will be personally examined prior to delivery to escrow by authorized officers of Design-Builder that they will meet the requirements herein and will be adequate to enable a complete understanding and interpretation of how Design-Builder arrived at its Change Order.

Prior to execution of this Contract representatives of WSDOT and Design-Builder shall jointly review the EBD to determine whether it is complete, and shall organize the EBD and label each page so that it is obvious that the page is a part of the EBD and so as to enable a person reviewing a page out of context to determine where it can be found within the EBD. The representatives shall also compile an index listing each document included in the EBD and briefly describing the document and its location in the EBD, which shall be kept with the EBD. In the event that, following the initial organization, WSDOT determines that the EBD is incomplete, WSDOT may request Design-Builder to supply data to make the EBD complete. Design-Builder shall provide all such data within three business days of the request, and at that time it will be date stamped, labeled to identify it as supplementary EBD information, and added to the EBD. Design-Builder shall have no right to add documents to the EBD except upon WSDOT's request. At WSDOT's option, which may be exercised at any time, the EBD associated with any Change Order shall be reviewed, organized and indexed in the same manner as set forth in Section 1-03.3.

The EBD shall at all times be treated as proprietary and confidential information and shall be used only for purposes described in Section 1-3.3.

Failure or refusal to provide bid documentation shall delay execution of the Contract.

The cost of the escrow will be borne by WSDOT. WSDOT will provide escrow instructions to the banking institution consistent with this specification.

Subcontractor Bid Documents
Design-Builder shall require each Subcontractor whose Subcontract price equals or exceeds **$$$?$$$** to submit to Design-Builder a copy of all documentary information used in preparing its sub-bid, immediately prior to executing the Subcontract, to be held by the same escrow depository which is holding the EBD and which shall be accessible by Design-Builder and its successors and assigns (WSDOT), the courts of the State of Washington and other dispute resolvers, on terms substantially similar to those contained herein. Each such Subcontract shall include a representation and warranty from the Subcontractor stating that its EBD constitute all the documentary information used in preparation of its sub-bid. Each Subcontract with a Subcontractor whose Subcontract price is less than **$$$?$$$** shall require the Subcontractor to preserve all documentary information used in preparing its sub-bid and to provide such documentation to Design-Builder and/or WSDOT in connection with any claim exceeding $250,000 made by such Subcontractor.

Remedies for Refusal or Failure to Provide Bid Documentation
Failure or refusal to provide bid documentation shall cause the Final Proposal to be deemed non-responsive.

Confidentiality of Bid Documentation
The bid documentation and affidavit in escrow are and will remain the property of the Design-Builder. WSDOT has no interest in or right to the bid documentation and affidavit other than to verify the contents and legibility of the bid documentation unless litigation ensues between WSDOT and Design-Builder over claims brought by the Design-Builder arising out of this contract. In the event of such litigation, the bid documentation and affidavit may become the property of WSDOT for use in the litigation as may be appropriate subject to the provisions of any court order limiting or restricting the use or dissemination of the bid documentation and affidavit as provided in the Section 1-03.3.

SCOPE OF WORK

Changes
Section 1-04.4 is deleted in its entirety and replaced by the following:

The Engineer reserves the right to make, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the Design-Builder agrees to perform the work as altered. Among others, these changes and alterations may include:

1. Deleting any part of the work,
2. Increasing or decreasing quantities,
3. Altering specifications, designs, or both,
4. Adding new work,

5. Altering facilities, equipment, materials, services, or sites, provided by WSDOT.

The Technical Proposal is a part of the complete contract and the concepts contained therein shall not be materially changed unless authorized by the Engineer. Interpretation and correct application of Contract Provisions are the responsibility of the Design-Builder. Changes in the design by the Design-Builder to meet contract requirements or correct defects or deficiencies, that do not materially change the Technical Proposal, are the responsibility of the Design-Builder and are not considered Changes in the Work and no adjustment will be allowed to contract price or time. Changes in Work to meet contract requirements, that materially change the concepts in the Technical Proposal, shall be reviewed by WSDOT. The Engineer will issue a written change order for any change unless the remainder of this section provides otherwise.

If the Engineer determines that the change increased or decreased the Design-Builder's costs or time to do any of the work including unchanged work, the Engineer will make an equitable adjustment to the contract. The equitable adjustment will be by agreement with the Design-Builder. However, if the parties are unable to agree, the Engineer will determine the amount of the equitable adjustment in accordance with Section 1-09.4 and adjust the time as the Engineer deems appropriate. Extensions of time will be evaluated in accordance with Section 1-08.8. The Engineer's decision concerning equitable adjustment and extension of time shall be final as provided in Section 1-05.1.

Contractor shall maintain concurrent time and materials records for all work performed which it believes constitutes extra work (including non-construction work), pending issuance of a Change Order or resolution of any dispute in accordance with Section 1-04.5 of the Special Provisions.

The Design-Builder shall proceed with the work upon receiving:

1. A written change order approved by the Engineer, or
2. An oral order from the Project Engineer before actually receiving the written change order.

The Design-Builder shall obtain written consent of the surety or sureties if: (1) changed work increases the total cost of the project by more than 25 percent of the original total contract price, or (2) the Engineer requests such consent.

Procedure And Protest By The Design-Builder

Section 1-04.5 is deleted in its entirety and replaced by the following:

The Design-Builder accepts all requirements of a change order by: (1) endorsing it, (2) writing a separate acceptance, or (3) not protesting in the way this section provides. A change order that is not protested as provided in this section shall be full payment and final settlement of all claims for contract time and for direct, indirect, and consequential costs, including costs of delays, related to any work either covered or affected by the change. By not protesting as this section provides, the Design-Builder also waives any additional entitlement and accepts from the Engineer any written or oral order (including directions, instructions, interpretations, and determinations).

If in disagreement with anything required in a change order, another written order, or oral order from the Engineer, including any direction, instruction, interpretation, or determination by the Engineer, the Design-Builder shall immediately give a signed written notice of

protest to the Project Engineer or the Project Engineer's field inspectors before doing the work. If this notice does not result in resolution of the protest within seven calendar days, the Design-Builder or WSDOT may pursue the Disputes Resolution procedures provided in this section.

In spite of any protest, dispute, or claim the Design-Builder shall proceed promptly and diligently with the work as the Engineer orders. The Design-Builder shall also proceed without delay to perform the work or to conform to the decision or order of the Engineer while waiting for written responses from the Engineer or recommendations from the Disputes Review Board.

Throughout any protested work, the Design-Builder shall keep complete records of extra costs and time incurred. The Design-Builder shall permit the Engineer access to these and any other records needed for evaluating the protest.

Disputes Resolution

In order to assist in the resolution of disputes or claims arising out of the work of this project, WSDOT has provided for the establishment of a Disputes Review Board, hereinafter called the "BOARD". The BOARD has been added to the disputes resolution process to be brought into play when normal WSDOT-Design-Builder dispute resolution is unsuccessful and prior to a formal adoption of position or filing of litigation by either party.

A. Disputes

Disputes, as used in this Section, will include disagreements, claims, counterclaims, matters in question, and differences of opinion between WSDOT and Design-Builder:

1. On matters related to the work and to change order work, including:
    a. Interpretation of the Contract.
    b. Costs.
    c. Time for performance.
2. And on other subjects mutually agreed by WSDOT and Design-Builder to be of concern of the BOARD.

B. Resolution Procedure

The following procedure shall be used for dispute resolution:

1. If seven calendar days have expired since the Design-Builder provided the signed written notice of protest provided above and the Design-Builder continues to object to any decision or order of the Engineer, the Design-Builder shall request, in writing, written instructions from the Engineer.
2. The Engineer shall respond, in writing, to the Design-Builder's written request within 15 calendar days.
3. Within 30 calendar days after receipt of the Engineer's written instructions, the Design-Builder shall, if the Design-Builder still objects to

such instructions, supplement the written protest to the Engineer with a written statement providing the following:

a. The date of the protested order,

b. The nature and circumstances which caused the protest,

c. The contract provisions that support the protest,

d. The estimated dollar cost, if any, of the protested work and how that estimate was determined, and

e. An analysis of the progress schedule showing the schedule change or disruption if the Design-Builder is asserting a schedule change or disruption.

4. The Engineer will consider the supplemented written protest and make a decision on the basis of the pertinent contract provisions and facts and circumstances involved in the dispute. The decision will be furnished in writing to the Design-Builder within 60 calendar days. This decision shall be final and conclusive on the subject unless a written appeal is filed by the Design-Builder. Should the Design-Builder appeal the Engineer's decision, the matter can be referred to the BOARD by either WSDOT or the Design-Builder.

5. The Design-Builder's appeal for review must be instituted within 30 calendar days of the date of receipt of the Engineer's decision.

6. The Design-Builder and WSDOT shall each be afforded an opportunity to be heard by the BOARD and to offer evidence. Either party furnishing any written evidence or documentation to the BOARD must furnish copies of such information to the other party a minimum of 15 calendar days prior to the date the BOARD sets to convene the hearing for the dispute. Either party shall produce such additional evidence as the BOARD may deem necessary to an understanding and determination of the dispute and furnish copies to the other party.

7. The BOARD's recommendations toward resolution of a dispute will be given in writing to both WSDOT and the Design-Builder. The recommendations will be based on the contract provisions and the actual costs and/or time incurred.

8. Within 30 calendar days of receiving the BOARD's recommendations, both WSDOT and the Design-Builder shall respond to the other in writing signifying that the dispute is either resolved or remains unresolved.

9. Although both parties should place weight upon the BOARD's recommendations, the recommendations are not binding. Either party may appeal a recommendation of the BOARD to them for reconsideration. However, reconsiderations shall only be allowed when there is new evidence to present.

10. If WSDOT and the Design-Builder are able to resolve their dispute with the aid of the BOARD's recommendations, WSDOT will promptly process any contract changes.

11. In the event the BOARD's recommendations do not resolve the dispute, all BOARD records, and written recommendations, including any minority reports, will be admissible as evidence in any subsequent litigation.

C. Litigation

1. Submittal of dispute to the BOARD shall be a condition precedent to filing for litigation in a court of law unless WSDOT and the Design-Builder have agreed to defaulting to Section 1-09.11(2), Claims.

2. Claims, counterclaims, disputes, and other matters in question between WSDOT and Design-Builder that are not resolved will be decided in the Superior Court of Thurston County, Washington, which shall have exclusive jurisdiction and venue over all matters in questions between WSDOT and the Design-Builder.

3. The Contract shall be interpreted and construed in accordance with the laws of the State of Washington.

D. Purpose and Function of the BOARD

The BOARD will be an advisory body created to assist in the resolution of claims, disputes, or controversy between the Design-Builder and WSDOT in order to prevent construction delay and possible litigation.

The BOARD will consider disputes referred to it, and furnish recommendations to WSDOT and Design-Builder to assist in the resolution of the differences between them. The BOARD will make nonbinding findings and recommendations and provide special expertise to assist and facilitate the resolution of disputes.

E. BOARD Members

The BOARD shall consist of one member selected by WSDOT and one member selected by the Design-Builder, with these two members to select the third member. The first two members shall be mutually acceptable to both WSDOT and the Design-Builder. If one or both of the two members selected are not acceptable to WSDOT or Design-Builder, another selection shall be made.

WSDOT and Design-Builder shall each select their member and negotiate an agreement with their respective BOARD members within the first 60 calendar days after award of the contract. These negotiated agreements shall include a clause that requires the respective selected members to immediately pursue selection of the third member in accordance with Section IIA of the DISPUTES REVIEW BOARD THREE PARTY AGREEMENT in the Appendix of these Special Provisions.

In the event of an impasse in selection of the third member, , the third member shall be appointed jointly by the WSDOT Project Engineer and a representative of the Design-Builder.. An impasse shall be considered to have been reached if the two members appointed by WSDOT and the Design-Builder for the BOARD have been unable to appoint the third member in a period of 60 calendar days after the approval of the last of such two members.

In case a member of the BOARD needs to be replaced, the replacement member will be appointed in the same manner as the replaced member was appointed.

The appointment of a replacement BOARD member will begin promptly upon determination of the need for replacement and shall be completed within 30 calendar days. The Three Party Agreement will be amended to reflect the change of a BOARD member.

Service of a BOARD member may be terminated at any time with not less than 30 calendar days notice as follows:

1. WSDOT may terminate service of the WSDOT appointed member.
2. The Design-Builder may terminate service of the Design-Builder appointed member.
3. The third member's services may be terminated only by agreement of the other two members.
4. By resignation of the member.
5. Termination of a member will be followed by appointment of a substitute as specified above.

No member shall have a financial interest in the contract, except for payments for services on the BOARD. No member shall have been employed by either party within a period of two years prior to award of this contract; except that, service as a member of other Disputes Review Boards on other contracts will not preclude a member from serving on the BOARD for this contract.

The BOARD members will be especially knowledgeable in the field of construction of the type covered by the Contract and shall discharge their responsibilities impartially and independently considering the facts and conditions related to the matters under consideration and the provisions of the Contract.

F. BOARD Operation

The BOARD will formulate its own rules of operation. In order to keep abreast of the construction development, the members shall regularly visit the project, keep a current file, and regularly meet with the other members of the BOARD and with representatives of WSDOT and the Design-Builder.

The frequency of these visits shall be as agreed between WSDOT, the Design-Builder, and the BOARD.

For further description of work, responsibilities and duties of the BOARD, and WSDOT's and Design-Builder's obligations and responsibilities with respect to each other and to the BOARD, see the DISPUTES REVIEW BOARD THREE PARTY AGREEMENT in Appendix G of these Special Provisions.

G. Service Agreements and Compensation

Service agreements with BOARD members appointed by WSDOT and Design-Builder shall be negotiated by WSDOT and Design-Builder, respectively. The service agreement with the third member shall be negotiated with the other two members.

All the service agreements, shall be executed in forms mutually acceptable to WSDOT and Design-Builder.

Compensation for the BOARD members, and the expenses of operation of the BOARD, shall be shared by WSDOT and Design-Builder in accordance with the following:

1. WSDOT shall compensate directly the wages and travel expense for their selected member.
2. The Design-Builder shall compensate directly the wages and travel expense for their selected member.
3. WSDOT and Design-Builder shall share equally in the third member's wages and travel, and all of the expenses of the BOARD. These equally shared expenses shall be billed to and paid by WSDOT. The Design-Builder's share will be deducted from monies due the Design-Builder.
4. WSDOT, through the Engineer, will provide administrative services, such as conference facilities and secretarial services, to the BOARD and WSDOT will bear the costs for this service.

H. Three Party Agreement

The Design-Builder, WSDOT, and all three members of the BOARD shall execute the DISPUTES REVIEW BOARD THREE PARTY AGREEMENT within 30 calendar days of the final selection of the third member. The form of the Three Party Agreement is included in Appendix C of these Special Provisions.

I. Guidelines

DISPUTES REVIEW BOARD GUIDELINES for the BOARD's operation are included in Appendix C of these Special Provisions.

These guidelines express in general terms the policy for the creation and operation of the BOARD and are intended to supplement the Three Party Agreement, the Special Provisions, and the Specifications to the extent that no conflict with such provisions is created.

The Engineer will evaluate all protests provided the procedures in this section are followed. If the Engineer determines that a protest is valid, the Engineer will adjust payment for work or time by an equitable adjustment in accordance with Section 1-09.4. Extension of time will be evaluated in accordance with Section 1-08.8. No adjustment will be made for an invalid protest.

By failing to follow the procedures of this section and Section 1-09.11, the Design-Builder completely waives any claim for protested work.

Differing Site Conditions (Changed Conditions)

Section 1-04.7 is deleted in its entirety and replaced the following:

Differing Site Conditions" shall mean (a) subsurface or latent physical conditions encountered at the Site differing materially from those indicated in the Baseline Geotechnical Report and supplementary geotechnical investigations performed by the

Design-Builder and which are not discoverable from a reasonable investigation and analysis of the site including subsurface conditions, (b) physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the type of work provided for in the Contract and the work site characteristics, provided in all cases that Design-Builder had no actual or constructive knowledge of such conditions as of the Proposal Date. Harmful/Hazardous Materials shall not be considered to be Differing Site Conditions if they are in a category for which unit prices were provided in the Proposal Documents. Harmful/Hazardous Materials in other categories may be considered to be Differing Site Conditions only if the work effort associated with remediation has a material adverse cost or delay impact.

Upon written notification, the Engineer will investigate the conditions and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Design-Builder of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Design-Builder will be allowed unless the Design-Builder has provided the required written notice.

The equitable adjustment will be by agreement with the Design-Builder. However, if the parties are unable to agree, the Engineer will determine the amount of the equitable adjustment in accordance with Section 1-09.4. Extensions of time will be evaluated in accordance with Section 1-08.8.

If the Engineer determines that different site conditions do not exist and no adjustment in costs or time is warranted, such determination shall be final as provided in Section 1-05.1.

If there is a decrease in the costs or time required to perform the work, failure of the Design-Builder to notify the Engineer of the differing site conditions shall not affect WSDOT's right to make an adjustment in the costs or time.

No claim by the Design-Builder shall be allowed unless the Design-Builder has followed the procedures provided in Section 1-04.5 and 1-09.11.

Burden of Proof

Design-Builder shall bear the burden of proving that a Differing Site Condition exists and that it could not reasonably have worked around the Differing Site Condition so as to avoid additional cost. Each request for a Change Order under this Section 1-04.7 shall be accompanied by a statement signed by a qualified professional setting forth all relevant assumptions made by Design-Builder with respect to the condition of the Site, justifying the basis for such assumptions and explaining exactly how the existing conditions differ from those assumptions, and stating the efforts undertaken by Design-Builder to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs. For Differing Site Conditions involving Utilities, Design-Builder shall describe the nature of the investigations undertaken under Section 1-02.4(1) hereof and explain why it could not have been expected to discover such Utility in the course of its investigations

Cooperation With Other Contractors

Section 1-05.14 is supplemented with the following:

Other Contracts Or Other Work
It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

WSDOT
$$$?$$$

Local Agency
$$$?$$$

[The following provisions were utilized by the pilot project and are provided as example]

"The Design-Builder shall coordinate a monthly meeting with the Project Manager for the Fourth Plain project whenever the construction of that project is occurring concurrently with the construction of the SR 500, Thurston Way Interchange project. The Design-Builder shall invite the County and WSDOT Project Engineers for each project to these meetings.

The Design-Builder shall coordinate a monthly meeting with the Project Engineer for the SR 500, 112th Ave. I/C project whenever the construction of that project is occurring concurrently with the construction of the SR 500, Thurston Way Interchange project. The Design-Builder shall invite the WSDOT Project Engineer for each project to these meetings.

These monthly meetings shall be utilized to share information on the planned construction work for the respective projects, as well as look for ways to coordinate the reduction in impacts to the traveling public."

CONTROL OF MATERIALS

Acceptance of Material
Section 1-06.2 is supplemented with the following:

Steel Reinforcing Bar
Section 1-06.2 is supplemented with the following:

Steel reinforcing bar manufacturers have changed the size designation stamped on their bars. The actual size of the bar remains the same, only the size designation has changed. The table below shows the new size designation for reinforcing steel referenced in the Standard Specifications and the Standard Plans.

Std. Specification Designation	Bar Diameter	New Size Designation
#3	(9.5 mm)	#10
#4	(12.7 mm)	#13
#5	(15.9 mm)	#16
#6	(19.1 mm)	#19
#7	(22.2 mm)	#22
#8	(25.4 mm)	#25

#9	(28.7 mm)	#29
#10	(32.3 mm)	#32
#11	(35.8 mm)	#36
#14	(43.0 mm)	#43
#18	(57.3 mm)	#57

Rebar stamped with either size designation may be used.

Foreign Made Materials

Section 1-06 is supplemented with the following:

The major quantities of steel and iron construction material that is permanently incorporated into the project shall consist of American-made materials only.

The Design-Builder may utilize minor amounts of foreign steel and iron in this project provided the cost of the foreign material used does not exceed one-tenth of one percent of the total construction cost or $2,500.00, whichever is greater.

American-made material is defined as material having all manufacturing processes occur in the United States. The action of applying a coating to steel or iron is deemed a manufacturing process. Coating includes epoxy coating, galvanizing, aluminizing, painting, and any other coating that protects or enhances the value of steel or iron. Any process from the original reduction from ore to the finished product constitutes a manufacturing process for iron. The following are considered to be steel manufacturing processes:

1. Production of steel by any of the following processes:
    a. Open hearth furnace.
    b. Basic oxygen.
    c. Electric furnace.
    d. Direct reduction.
2. Rolling, heat treating, and any other similar processing.
3. Fabrication of the products.
    a. Spinning wire into cable or strand.
    b. Corrugating and rolling into culverts.
    c. Shop fabrication.

A certification of materials origin will be required for any items comprised of, or containing, steel or iron construction materials prior to such items being incorporated into the permanent work. The certification shall be on DOT Form 350-109 provided by the Engineer, or such other form the Design-Builder chooses, provided it contains the same information as DOT Form 350-109.

LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

Laws To Be Observed

Section 1-07.1 is supplemented with the following:

Prevention Of Environmental Pollution And Preservation Of Public Natural Resources
The Design-Builder shall comply with the following environmental provisions which are made a part of the Contract Provisions. A copy of the environmental provisions are available to the Design-Builder at the Project Engineer's office.

If the Design-Builder's operations involve work outside the areas covered by the following environmental provisions, the Design-Builder shall advise the Engineer and request a list of all additional environmental provisions covering the area involved. A copy of all additional environmental provisions is also available to the Design-Builder at the Project Engineer's office.

[The following information was provided by a pilot project and is presented as example]

"Northwest Air Pollution Authority Regulations to be observed during the execution of the contract are NWAPA 300, 301, 322, 451.1, 501, 530, 535, and 550.

Northwest Air Pollution Authority Letter Concerning Recycled Asphalt

City of Bellingham Ordinance No. 8218 - Zoning Code
An ordinance dealing with moving of structures, inspection, excavation, water discharge, etc."

State Taxes

Section 1-07.2 is supplemented with the following:

The work on this contract is to be performed upon state lands.

Spill Prevention, Control and Countermeasures

Section 1-07 is supplemented with the following:

Description
This work shall consist of preparing a Spill Prevention, Control, and Countermeasures (SPCC) Plan and preparing for implementation of the plan.

SPCC Plan Requirements
The Contractor shall be responsible for the preparation of an SPCC plan to be used for the duration of the project. The plan shall be submitted to the Project Engineer prior to the commencement of any construction activities. A copy of the plan with any updates will be maintained at the work site by the Contractor.

The SPCC plan shall identify construction planning elements and recognize potential spill sources at the site. The Plan shall outline responsive actions in the event of a spill or release and shall identify notification and reporting procedures. The Plan shall also outline Contractor management elements such as personnel responsibilities, project site security, site inspections and training.

The Plan will outline what measures shall be taken by the Contractor to prevent the release or spread of the following:

A. An on site review has been completed and the following site(s) and materials have been identified and located and are described in the Contract Provisions:

Hazardous Material*	**Approximate Location**
*** 1 ***	*** 2 ***
*** 3 ***	*** 4 ***
*** 5 ***	*** 6 ***
*** 7 ***	*** 8 ***
*** 9 ***	*** 10 ***

B. Any hazardous material* found on site and encountered during construction but not identified in Contract Provisions.

C. Any hazardous materials* that the Contractor stores, uses, or generates on the construction site during construction activities. These items include, but are not limited to, gasoline, oils and chemicals.

*Hazardous material, as referred to within this specification, is defined in RCW 70.105.010 under "hazardous substance".

The SPCC plan shall also address, at a minimum, the following project-specific information:

1) Introduction
2) SPCC Plan Elements
3) Site Information
4) Management Approval
5) Site Description
6) Planning and Recognition
7) Spill Prevention and Containment
8) Spill Response
9) Reporting
10) Program Management
11) Attachments:
    a - Emergency Action Plan
    b - Site Plan
    c - Inspection and Incident Report Forms

Implementation Requirements

In the event that hazardous material is encountered during the course of the work, regardless of whether or not the material is shown in the Plans, the implementation of the Design-Builder's SPCC Plan shall be included in the scope of the contract and shall be carried out by the Design-Builder.

The Design-Builder shall maintain, at the job site, the applicable equipment and material designated in the SPCC Plan.

Payment
If the Contracting Agency is responsible for the cost of response, containment and any cleanup then payment shall be made through existing contract items or an Equitable Adjustment in accordance with Section 1-09.4.

If due to the Design-Builder's operations or negligence, nothing in this section shall be construed as relieving the Design-Builder of responsibility for damage and all cost of response, containment and any cleanup shall be borne by the Design-Builder.

Load Limits

The last sentence of the first paragraph of Section 1-07.7(1) is revised to read:

At the Engineer's request, the Design-Builder shall provide any facts needed to demonstrate that the equipment's weight on the project meets the requirements of 1-07.7(1 and 2).

Section 1-07.7 is supplemented with the following:

Except for the load limit restrictions specified in Section 1-07.7(2), the Design-Builder may operate vehicles which exceed the legal gross weight limitations without special permits or payment of additional fees provided such vehicles are employed in the construction and within the limits of this project.

Subparagraph 1 of the second paragraph of Section 1-07.7(1) is deleted.

If the sources of materials provided by the Design-Builder necessitates hauling over roads other than State Highways, the Design-Builder shall, at the Design-Builder's expense, make all arrangements for the use of the haul routes.

Wages

General
Section 1-07.9(1) is supplemented with the following:

The Federal wage rates incorporated in this contract have been established by the Secretary of Labor under United States Department of Labor General Decision No. WA980001.

Wage Rates For The Occupation Of Landscape Construction
The State Prevailing Wage Rates for Public Works Contracts included in the contract show a separate listing for Occupation: Landscape Construction, which includes several different Occupation Descriptions such as "Irrigation and Landscape Plumbers", "Irrigation and Landscape Power Equipment Operators", and "Landscaping or Planting Laborers". Federal Wage Rates may include Occupation Descriptions specifically identified with landscaping work in other Occupational Groups such as "Laborers" with the Occupation Description "Landscaping or Planting" or "Power Equipment Operators" with Occupation Description "Mulch Seeding Operator". Any Federal wage rates listed with the Occupation Descriptions that specifically identify landscape work must be considered and compared with the State Rate to determine which rate is higher, and therefore must be paid to workers performing that Occupation Description. If Federal Rates for landscape work are not shown anyplace in the contract, the Design-Builder, in preparing a bid for this project, shall assume the

Federal Rates to be the same as the State Rates for the Occupation of Landscape Construction.

If Federal Rates for landscape Occupation Descriptions are not listed in any Occupational Group in the contract, and at some future date the U.S. Department of Labor (USDOL) determines that the Federal Rates for those Occupation Descriptions should have been rates that are higher than the State Rates, the employees of the Design-Builder shall be paid no less than the rates so determined by USDOL for those workers, for all the hours worked in these Occupation Descriptions, retroactive to the beginning of the contract, and continuing until the end of the contract. A change order will be prepared with the intent to ensure that the Design-Builder's employees receive any required additional pay with no fiscal impact to the Design-Builder.

Accordingly, WSDOT will reimburse the Design-Builder for the actual costs, subject to the following conditions:

1. The Design-Builder relied upon the rates included in the contract to prepare their bid and certifies to that fact.
2. The allowable amount of reimbursement will be the difference between the actual rates paid on the certified payrolls or the State Rates listed (whichever of these are the highest) and the Federal Rates later determined to be correct by USDOL plus only appropriate payroll markups the employer must pay, such as, social security and other payments the employer must make to the Federal or State Government,
3. The allowable amount of reimbursement may also include some overhead cost, such as, the cost for making supplemental payrolls and new checks to the employees because of underpayment for previously performed work,
4. Profit will not be an allowable markup, and
5. Firms that anticipated, in the preparation of their bids, paying a rate equal to, or higher than, the correct rate as finally determined by the USDOL will not be eligible for reimbursement.

Equal Employment Opportunity Responsibilities

Section 1-07.11 is supplemented with the following:

<u>Requirement For Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)</u>

1. The Design-Builder's attention is called to the Equal Opportunity Clause and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth herein.
2. The goals and timetables for minority and female participation set by the Office of Federal Contract Compliance Programs, expressed in percentage terms for the Design-Builder's aggregate work force in each construction craft and in each trade on all construction work in the covered area, are as follows:

Women - Statewide

Timetable	Goal
Until further notice	6.9 percent

Minorities - by Standard Metropolitan Statistical Area (SMSA)

Spokane, WA:

SMSA Counties:	
Spokane, WA	2.8
WA Spokane.	
Non-SMSA Counties	3.0
WA Adams; WA Asotin; WA Columbia; WA Ferry; WA Garfield; WA Lincoln, WA Pend Oreille; WA Stevens; WA Whitman.	

Richland, WA

SMSA Counties:	
Richland Kennewick, WA	5.4
WA Benton; WA Franklin.	
Non-SMSA Counties	3.6
WA Walla Walla.	

Yakima, WA:

SMSA Counties:	
Yakima, WA	9.7
WA Yakima.	
Non-SMSA Counties	7.2
WA Chelan; WA Douglas; WA Grant; WA Kittitas; WA Okanogan.	

Seattle, WA:

SMSA Counties:	
Seattle Everett, WA	7.2
WA King; WA Snohomish.	
Tacoma, WA	6.2
WA Pierce.	
Non-SMSA Counties	6.1
WA Clallam; WA Grays Harbor; WA Island; WA Jefferson; WA Kitsap; WA Lewis; WA Mason; WA Pacific; WA San Juan; WA Skagit; WA Thurston; WA Whatcom.	

Portland, OR:

SMSA Counties:	
Portland, OR-WA	4.5
WA Clark.	
Non-SMSA Counties	3.8
WA Cowlitz; WA Klickitat; WA Skamania; WA Wahkiakum.	

These goals are applicable to each nonexempt Design-Builder's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related project, contract or subcontract until further notice. Compliance with these goals and time tables is enforced by the Office of Federal Contract Compliance Programs.

The Design-Builder's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause,

specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, in each construction craft and in each trade, and the Design-Builder shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Design-Builder to Design-Builder or from project to project for the sole purpose of meeting the Design-Builder's goal shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Design-Builder shall provide written notification to the Engineer within 10 business days of award of any construction subcontract in excess of $10,000 or more that are Federally funded, at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the Covered Area is as designated herein.

<u>Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)</u>

1. As used in these specifications:
    a. Covered Area means the geographical area described in the solicitation from which this contract resulted;
    b. Director means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
    c. Employer Identification Number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
    d. Minority includes:
        (1) Black, a person having origins in any of the Black Racial Groups of Africa.
        (2) Hispanic, a fluent Spanish speaking, Spanish surnamed person of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish origin.
        (3) Asian or Pacific Islander, a person having origins in any of the original peoples of the Pacific rim or the Pacific Islands, the Hawaiian Islands and Samoa.
        (4) American Indian or Alaskan Native, a person having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.
2. Whenever the Design-Builder, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each

subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Design-Builder is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Design-Builders must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Design-Builder or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Design-Builders or Subcontractors toward a goal in an approved Plan does not excuse any covered Design-Builder's or Subcontractor's failure to take good faith effort to achieve the Plan goals and timetables.

4. The Design-Builder shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of this Special Provision. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Design-Builder should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. The Design-Builder is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Design-Builder has a collective bargaining agreement, to refer either minorities or women shall excuse the Design-Builder's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Design-Builder during the training period, and the Design-Builder must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Design-Builder shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Design-Builder's compliance with these specifications shall be based upon its effort to achieve maximum results from its action. The Design-Builder shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

    a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Design-Builder's employees are assigned to work. The Design-Builder, where possible, will assign two or more women to each construction project. The Design-Builder shall specifically ensure that all foremen, superintendents, and other on-site

supervisory personnel are aware of and carry out the Design-Builder's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Design-Builder or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Design-Builder by the union or, if referred, not employed by the Design-Builder, this shall be documented in the file with the reason therefor, along with whatever additional actions the Design-Builder may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Design-Builder has a collective bargaining agreement has not referred to the Design-Builder a minority person or woman sent by the Design-Builder, or when the Design-Builder has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

e. Develop on-the-job training opportunity and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Design-Builder's employment needs, especially those programs funded or approved by the U.S. Department of Labor. The Design-Builder shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Design-Builder's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Design-Builder in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Design-Builder's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Design-

Builder's EEO policy with other Design-Builders and Subcontractors with whom the Design-Builder does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Design-Builder's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Design-Builder shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Design-Builder's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Design-Builder's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Design-Builder's EEO policies and affirmative action obligations.

8. Design-Builders are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Design-Builder is a member and participant, may be asserted as fulfilling any one or more of the obligations under 7a through 7p of this Special Provision provided that the Design-Builder actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensure that the concrete benefits of the program are reflected in the Design-Builder's minority and female work-force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrate the effectiveness of actions

taken on behalf of the Design-Builder. The obligation to comply, however, is the Design-Builder's and failure of such a group to fulfill an obligation shall not be a defense for the Design-Builder's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Design-Builder, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Design-Builder may be in violation of the Executive Order if a particular group is employed in substantially disparate manner (for example, even though the Design-Builder has achieved its goals for women generally, the Design-Builder may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Design-Builder shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Design-Builder shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Design-Builder shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspensions, terminations and cancellations of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Design-Builder who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Design-Builder, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of this Special Provision, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Design-Builder fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Design-Builder shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the government and to keep records. Records shall at least include, for each employee, their name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, the Design-Builders will not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Disadvantaged Business Enterprise Participation (DBE)

Policy And DBE Obligation

(1) *Policy:* It is the policy of the U.S. Department of Transportation that Disadvantaged Businesses as defined in 49 CFR part 26 shall have an equal opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently the Disadvantaged Business Enterprise (DBE) requirements of 49 CFR part 26 apply to this contract.

(2) *DBE Obligation:* The recipient or its Design-Builder shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The recipient or its Design/Builder shall carry out applicable requirements of 49 CFR part 26 in the award and administration of USDOT-assisted contracts. Failure by the recipient or its Design/Builder to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the WSDOT deems appropriate. The DBE Policy Statement and DBE Obligation cited above shall be made a part of all subcontracts and agreements entered into as a result of this contract.

Definitions

When referred to in this contract, the terms Disadvantaged Business Enterprise (DBE), will be construed to have the following meaning:

Disadvantaged business means a small business concern: (a) Which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and (b) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

Small business concern means a small business as defined pursuant to section 3 of the Small Business Act (15 U.S.C. 632) and relevant regulations promulgated pursuant thereto (see 13 CFR part 121), except that a small business concern shall not include any concern or group of concerns controlled by the same socially and economically disadvantaged individual(s) which has annual average gross receipts in excess of $16,600,000 over the business's previous three fiscal years.

Socially and economically disadvantaged individuals means those individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, or Asian-Indian Americans and any other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act. WSDOT shall make a rebuttable presumption that individuals in the following groups are socially and economically disadvantaged. WSDOT also may determine, on a case-by-case basis, that individuals who are not a member of one of the following groups are socially and economically disadvantaged.

(a) *Black Americans*, which includes persons having origins in any of the Black racial groups of Africa;

(b) *Hispanic Americans*, which includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;

(c) *Native Americans*, which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(d) *Asian-Pacific Americans*, which includes persons whose origins are from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and the Northern Marianas; and

(e) *Asian-Indian Americans*, which includes persons whose origins are from India, Pakistan, and Bangladesh.

Women shall be presumed to be socially and economically disadvantaged individuals.

DBE Eligibility

Disadvantaged Business Enterprises used on this project shall be shown as a DBE for federal purposes on the current list of firms accepted as certified by the Office of Minority and Women's Business Enterprises (OMWBE) or who can produce written proof from OMWBE showing they were accepted as certified as such prior to the date fixed for opening bids. Such certifications are made pursuant to authority granted by, chapter 39.19 RCW, title 326 WAC, 49 CFR, or any other applicable laws.

A consolidated list of firms accepted as certified by OMWBE is available at nominal cost from that office.

In addition to firms accepted as certified by OMWBE and appearing on the above referenced list, WSDOT will accept any firm determined by the Federal Small Business Administration to be owned and controlled by socially and economically disadvantaged individuals under section 8(a) of the Small Business Act, 13 CFR part 121, provided that OMWBE must have received a completed OMWBE DBE application form from such firms together with written proof of a current SBA 8(a) certification prior to the date fixed for opening bids and further provided that such firms do not exceed the size limits as contained herein under Definitions.

Firms not meeting the above requirements at the time fixed for the opening of bids will not be accepted by WSDOT for the purpose of meeting the goals as stated below.

In the event the highest scoring best and final Proposer proposes to use a firm that is certified at the time of the submission of the bid, and that firm is determined to be ineligible prior to execution of the contract, the apparent highest scoring Proposer will be required to substitute another certified firm to meet the goal, at no additional cost to WSDOT.

If, at the time of bid opening, a certified business is projected to perform work classified in a standard industrial classification (SIC) code not listed for the business in either the directory of certified businesses published by OMWBE, or the records of that office, WSDOT's determination, prior to award, that the business will perform a commercially useful function shall prevail over the listed SIC code(s) in determining whether the DBE participation goals established for the contract are met. The presence or absence of SIC codes shall not be a basis for protest of an award.

Firms with only MBE or WBE certification are ineligible for goal attainment and utilization of such firms for goal attainment will be rejected and may result in the Proposer's proposal being declared non-responsive.

Joint Venture Approval

Under authority of 49 CFR, money spent on contracts awarded to joint ventures can be counted toward goal attainment when the procedure outlined in this specification is followed.

a. Contents of joint venture agreement. The joint venture agreement must be in writing and signed under penalty of perjury by all of the joint venturers. Each joint venture agreement shall specify the contribution made by each joint venturer; the control each will exercise; the potential for profit or loss and the distribution thereof. Each of these elements must be allocated in proportion to their contribution. The joint venture agreement must also identify the commercially useful function the joint venture will perform and the part of the work each joint venturer will do. The agreement must also specify which participant(s) are DBEs and give documentation of DBE certification.

b. Requests for approval. Any joint venture may request approval by WSDOT. The request must be in writing, must include a written joint venture agreement and must contain a statement that gives WSDOT authority to audit the joint venture. A prospective Proposer will not be given a bid proposal unless the Proposer has submitted the joint venture agreement at least seven calendar days before the date of opening bids for a specified project. The agreement shall conform to the requirements of subsection (a) of this section. WSDOT will approve a joint venture which submits an agreement that contains each of these specified elements.

c. Time of request. A request for approval of a joint venture must be submitted and approved before the time fixed for bid opening.

d. Effect of approval. A joint venture is approved for only one specific contract.

e. Investigation. WSDOT may request additional information from an enterprise seeking approval as a joint venture. Failure to provide the requested information may result in the denial of the request for approval.

f. Complaints. Complaints regarding the opposition of validity of an approved joint venture shall be written and shall be made to WSDOT. WSDOT shall fully investigate each complaint and issue a written report of its findings. The report will be provided to the complainant and to the joint venture.

DBE Goals

In order to comply with the requirements of 49 CFR Part 26 , WSDOT has established a goal in the amount of:

Thirteen percent of the contract amount

WSDOT expects that the Proposer shall make every effort, through negotiations and/or written solicitations with the DBE firms, to meet the above specified goal.

Counting DBE Participation Toward Meeting The Goal

DBE participation shall be counted toward meeting the project goal in accordance with the following criteria:

a. Only the value of the work actually performed by the DBE toward a DBE contract goal may be counted. The entire amount of that portion of a construction contract that is performed by the DBE’s own forces will be

counted. The cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate), may be included.

b. The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, toward DBE goals will be counted, provided WSDOT determines the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.

c. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE subcontractor. Work that a DBE subcontracts with a non-DBE firm does not count toward DBE goals.

d. A portion of the total dollar value of a contract with an eligible joint venture equal to the percentage of the ownership and control of the DBE partner in the joint venture will be counted toward the DBE goal.

c. As described below, expenditures for materials and supplies obtained from approved DBE manufacturers and regular dealers are counted toward the DBE goal, provided that the DBE assumes the actual and contractual responsibility for the provision of the materials and supplies.

(1) Manufacturers. A Design-Builder may count toward its DBE goal 100 percent of its expenditures for materials and supplies required under a contract and obtained from a DBE manufacturer <u>only if the Office of Equal Opportunity (OEO), Washington State Department of Transportation (WSDOT) approves the description of the DBE's responsibilities for manufacturing the supplies in advance of the bid opening.</u> To obtain approval, the Proposer or manufacturing firm must submit a written request which must be received prior to firms participation describing the manufacturing process the DBE will perform. Once a firm's manufacturing process has been approved in writing it is not necessary to resubmit the firm for approval unless the manufacturing process has substantially changed. If WSDOT approval of the manufacturing process is not obtained prior to the firms participation, the expenditure to the proposed DBE manufacturer cannot be counted. Counting of the DBE amount may be allowed as a regular dealer or as a service provider where the requirements as described below are met.

For purposes of this section, a manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Design-Builder.

(2) Regular Dealers. A Design-Builder may count toward its DBE goal 60 percent of its expenditures for materials and supplies required under a contract and obtained from a DBE regular dealer <u>only if the Office of Equal Opportunity (OEO), Washington State Department of Transportation (WSDOT) approves the DBE regular dealer prior to the firms participation.</u> To obtain approval, the Proposer or regular dealer firm must submit a written request to WSDOT OEO prior to firms

participation. . Included in this request shall be a full description of the project, type of business operated by the DBE, and the manner in which the DBE will be utilized as a regular dealer on this specific contract. A firm's regular dealer status must be approved in writing for each contract. DBE firms that are approved as Regular Dealers for a contract will be listed on the WSDOT Internet Home Page. In addition, Proposers may request confirmation that a DBE firm has been approved as a Regular Dealer for a contract in writing from the Manager of the External Civil Rights Branch, Office of Equal Opportunity, Washington State Department of Transportation, PO Box 47314, Olympia, WA 98504-7314, or by phone at (360) 705-7085. If approval of regular dealer status is not obtained prior to the firms participation, the expenditure to the DBE regular dealer cannot be counted at 60 percent towards the contract goal. Partial counting of the DBE amount may be allowed as a service provider as described below. Use of a regular dealer that has not been approved prior to the firms participation, will result in the firm receiving only the net fees associated with that item of work.

For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which 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. To be a regular dealer, the firm must engage in, as its principal business and in its own name, the purchase and sale of the products in question. A regular dealer in such items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as regular dealers within the meaning of this section.

d. Service Providers: A Design-Builder may count toward its DBE goal the following expenditures to DBE firms:

(1) The fees or commissions charged for providing a BONA FIDE service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract, provided that the fee or commission is determined by WSDOT to be reasonable and not excessive as compared with fees customarily allowed for similar services.

(2) The fees charged for delivery of materials and supplies required on a job site (but not the cost of the materials and supplies themselves) when the hauler, trucker, or delivery service is not also the manufacturer of or a regular dealer in the materials and supplies, provided that the fee is determined by WSDOT to be reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) The fees or commissions charged for providing any bonds or insurance specifically required for the performance of the contract, provided that the fee or commission is determined by WSDOT to be

reasonable and not excessive as compared with fees customarily allowed for similar services.

If any of the aforementioned manufacturer or supply services are commercially unnecessary, such as the case when a firm acts only as a passive conduit in the supply process or duplicates a service provided by others in the same chain of supply from manufacturer to purchaser, no credit will be granted toward the DBE goal.

Proposer Meeting DBE Goal:
If the Proposer indicates it commits to meeting the DBE goal for the project, the "DBE Commitment Affidavit" must be submitted as described in the Technical Proposal General Requirement Section. A "DBE Commitment Affidavit" is furnished in Appendix **$$$?$$$** of the RFP. Submittals shall be in a sealed parcel and shall be clearly marked to identify the project and the Proposer. The parcels will be retained, unopened, until after the Price Proposals have been opened.

The affidavit must be complete in every detail and must be signed by an officer of the Design-Builder(s). The Design-Builder(s) must indicate the anticipated type of work that the DBE's will perform and the range of estimated dollar values of the work items. The work may be design related and/or construction related.

WSDOT and the Design-Builder recognize that the actual quantities of work may vary substantially from what is now anticipated because the design has not been completed. It is the Design-Builder's duty to assure that the goal will be met and to document how the goal is met using DBE Utilization Certification DOT Form 272-056A or 272-056. In the event work committed to a DBE does not materialize as anticipated, the Proposer will commit to increasing the work to listed DBE's or to add additional DBE's as needed to meet the contract goal.

The Proposer must determine DBE credit in accordance with the above section entitled "Counting DBE participation Towards Meeting Goals." The Civil Rights Office will review the affidavit.

Only those DBE firms certified by the Washington State Office of Minority and Women's Business Enterprises and approved by WSDOT shall be considered. It shall be the Design-Builder's responsibility to ascertain the certification status of designated DBE's.

Failure to submit the required information by the stated time and in the manner herein specified shall be cause for the Proposer to be found in noncompliance to this part. .

Selection of Successful Proposer
The successful Proposer shall be selected on the basis of having submitted the highest scoring proposal that commits to meet the DBE goal as indicated in the DBE Commitment Affidavit. Should the highest scoring and otherwise responsive Proposer fail to commit to the goal, responsiveness shall be determined on the basis of good faith efforts taken to attain the goal. WSDOT has established the following objective measurement of good faith.

Good faith shall be determined in light of the DBE participation attained by all Proposers and by comparing the DBE participation to the average DBE participation by all Proposers. For purposes of computing the average DBE participation, only that

amount of the DBE goal attainment which does not exceed the established goal shall be used. Should the highest scoring Proposer's DBE participation be lower than the average, the proposal shall be considered non-responsive and shall be rejected. If the highest scoring proposal is rejected, the next highest scoring proposal shall be examined under the foregoing criteria until the contract is awarded or all proposals rejected.

DBE Contract Compliance

WSDOT will notify the successful Proposer of the award of the contract in writing and include a request for a schedule of DBE participation during performance of the contract. The breakdown of DBE information for design related Work shall be submitted by the Design-Builder at the Pre-Contract Meeting as described in the Scope of Work Section 1027. The schedule of DBE participation for construction related Work shall be submitted by the Design-Builder at the Pre-Construction Conference as described in the Scope of Work Section 1080.

Work committed to DBEs by the Design-Builder must be performed by the designated DBE or a WSDOT-approved substitute. DBE contract work items shall not be performed by the Design-Builder in lieu of subcontracting, without approval of WSDOT.

Only expenditures to DBEs that perform a commercially useful function in the work of a contract will be counted toward the DBE goal. A DBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing, and supervising the work involved. To determine whether a DBE is performing a commercially useful function, WSDOT may evaluate the amount of work subcontracted, industry practices, and other relevant factors.

To ensure all obligations under contracts awarded to DBEs are met, WSDOT shall review the Design-Builder's DBE involvement efforts during the performance of the contract. The Design-Builder shall bring to the attention of WSDOT any situation in which regularly scheduled progress payments are not made to DBE subcontractors.

After execution and throughout the life of the contract, where DBE work is diminished or deleted by a Design-Builder proposed change order, or where the DBE becomes ineligible or is unable or unwilling to perform, other work of equivalent value shall be substituted by the Design-Builder. Substitution shall be to the same DBE, or to another certified DBE to perform equivalent value work, at no additional cost to WSDOT. Documentation of the Design-Builder's "good faith efforts" to provide a substitution may be accepted in lieu of an actual substitution of another firm.

In the event the DBE expects to share the resources of the prime contractor in the form of facilities, financial assistance, equipment or personnel, a written plan describing the facilities, financial assistance, equipment or personnel to be shared shall be submitted by the Design-Builder to the Engineer for approval by WSDOT External Civil Rights Branch before the DBE commences work to ensure that no violation to the performance of the commercially useful function occurs. If the DBE is sharing resources with other than the prime contractor, the above information shall be provided as requested by the Engineer.

This information will be used by WSDOT External Civil Rights Branch to determine compliance with the commercially useful function requirements.

Penalties for Noncompliance
In accordance with WAC 468-16-180, WSDOT may suspend the qualification of the Design-Builder and its constituents for up to six months for the continual failure to comply with DBE requirements.

In accordance with WAC 468-16-190, WSDOT may revoke the qualification of the Design-Builder and its constituents for up to two years if the Design-Builder or its constituents have been suspended two or more times within a two-year period.

If WSDOT contemplates suspension or revocation of the Design-Builder's and its constituents qualifications, the Design-Builder may request, in writing, that a hearing be held as provided under WAC 468-16-200.

If a person, firm, corporation, or business does not comply with any provision of this contract required under Chapter 39.19 RCW, WSDOT may withhold payment, debar the Design-Builder and its constituents, suspend or terminate the contract, and subject the Design-Builder to civil penalties of up to ten percent of the amount of the contract for each violation. Willful repeated violations, exceeding a single violation, may disqualify the Design-Builder and its constituents from further participation in state contracts for a period of up to three years. When the Design-Builder has been notified that it is to be assessed a penalty, the Design-Builder may request, in writing, that a hearing be held as provided under WAC 326-08-015.

Further Information
If further information is desired concerning Disadvantaged Business Enterprise participation, inquiry may be directed to:

External Civil Rights Branch
Office of Equal Opportunity
Washington State Department of Transportation
Transportation Bldg., PO Box 47314
Olympia, WA 98504-7314
or telephone - (360) 705-7085.
Fax (360) 705-6801

Special Training Provisions
Section 1-07.11(7) A is supplemented with the following:

The minimum number of trainees to be trained under this contract shall be **$$$?$$$** and the total number of training hours shall be **$$$?$$$.** The Design-Builder shall complete a training program form (DOT Form 272-049) and submit it to the Engineer at the preconstruction meeting. In accordance with this Section, the Design-Builder may call WSDOT's On-the-Job Training Supportive Services Consultant at 1 (800) 963-3277 or (206) 721-5981 in Western Washington, and 1 (800) 481-8774 or (509) 625-6699 in Eastern Washington, for assistance in filling a trainee position with a minority or woman.

Federal Agency Inspection

Section 1-07.12 is supplemented with the following:

Required Federal Aid Provisions

The Required Contract Provisions Federal Aid Construction Contracts (FHWA 1273) and the amendments thereto supersede any conflicting provisions of the Standard Specifications and are made a part of this contract; provided, however, that if any of the provisions of FHWA 1273, as amended, are less restrictive than Washington State Law, then the Washington State Law shall prevail.

The provisions of FHWA 1273, as amended, included in this contract require that the Design-Builder insert the FHWA 1273 and amendments thereto in each subcontract, together with the wage rates which are part of the FHWA 1273, as amended. Also, a clause shall be included in each subcontract requiring the subcontractors to insert the FHWA 1273 and amendments thereto in any lower tier subcontracts, together with the wage rates. The Design-Builder shall also ensure that this section, REQUIRED FEDERAL AID PROVISIONS, is inserted in each subcontract for subcontractors and lower tier subcontractors. For this purpose, upon request to the Project Engineer, the Design-Builder will be provided with extra copies of the FHWA 1273, the amendments thereto, the applicable wage rates, and this Special Provision.

Protection And Restoration Of Property

Section 1-07.16 is supplemented with the following:

Archaeological And Historical Objects

It is national and state policy to preserve, for public use, historical and prehistorical objects such as ruins, sites, buildings, artifacts, fossils, or other objects of antiquity that may have significance from a historical or scientific standpoint.

Archaeological or historical objects, which may be encountered by the Design-Builder, shall not be further disturbed. The Design-Builder shall immediately notify the Engineer of any such finds.

The Engineer will contact the archaeologist who will determine if the material is to be salvaged. The Design-Builder may be required to stop work in the vicinity of the discovery until such determination is made. If the archaeologist determines that the material is to be salvaged, the Engineer may require the Design-Builder to stop work in the vicinity of the discovery until the salvage is accomplished.

Loss of time suffered by the Design-Builder due to resulting delays will be adjusted in accordance with Section 1-08.8.

Utilities And Similar Facilities

Section 1-07.17 is supplemented with the following:

Locations and dimensions included in the Request for Proposal for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

Public and private utilities, or their contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the RFP or

these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project.

The Design-Builder shall call the Utility Location Request Center (One Call Center), for field location, not less than two nor more than ten business days before the scheduled date for commencement of excavation which may affect underground utility facilities, unless otherwise agreed upon by the parties involved. A business day is defined as any day other than Saturday, Sunday, or a legal local, State, or Federal holiday. The telephone number for the One Call Center for this project may be obtained from the Engineer. If no one-number locator service is available, notice shall be provided individually to those owners known to or suspected of having underground facilities within the area of proposed excavation.

The Design-Builder is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. Any cost to the Design-Builder incurred as a result of this law shall be at the Design-Builder's expense.

No excavation shall begin until all known facilities, in the vicinity of the excavation area, have been located and marked.

The following contact names, addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Design-Builder's convenience:

$$$?$$$

Public Liability And Property Damage Insurance

The first sentence of the first paragraph of Section 1-07.18 is revised to read:

The Design-Builder shall obtain and keep in force during the term of the contract and until 30 days after the Physical Completion date, unless otherwise indicated below, the following insurance with companies or through sources approved by the State Insurance Commissioner pursuant to Chapter 48.05, RCW.

Commercial General Liability Insurance

Item No. 2 of the first paragraph of Section 1-07.18 is revised to read:

2. Commercial General Liability Insurance written under ISO form CG0001 or its equivalent with minimum limits of [**$2,000,000]** per occurrence and [**$5,000,000]** in the aggregate for each policy year. Products and completed operations coverage shall be provided for a period of six years after final payment.

Professional Liability Insurance

The first paragraph of Section 1-07.18 is supplemented with the following:

4. Errors and Omissions Professional Liability Insurance with limits of at least [**$5,000,000]** each claim and [**$10,000,000]** in the aggregate per policy period, with a six year pre-paid tail after final payment, to provide coverage for cost over - runs, time delays and liquidated damages and including costs of correcting defects and deficiencies arising from or associated with design negligence, error or omission, and for defense and indemnity payments for:

a. Wrongful acts arising out of the performance of professional services rendered by the Design Builder's design staff who are legally qualified architects, engineers, land surveyors, landscape architects and construction managers, and

b. The Design Builder's vicarious liability for those design services provided by subcontractors of all tiers.

Order of Work

The Design-Builder shall construct the following as a first order of work.

1. $$$?$$$.

2. $$$?$$$.

Public Convenience And Safety

Construction Under Traffic

The second paragraph of Section 1-07.23(1) is revised to read:

To disrupt public traffic as little as possible, the Design-Builder shall permit traffic to pass through the work with the least possible inconvenience or delay. The Design-Builder shall maintain existing roads and streets within the project limits, keeping them open, and in good, clean, safe condition at all times. Deficiencies not caused by the Design-Builder's operations shall be repaired by the Design-Builder when directed by the Engineer, at WSDOT's expense. The Design-Builder shall also maintain roads and streets adjacent to the project limits when affected by the Design-Builder's operations. Snow and ice control will be performed by WSDOT on all projects. Cleanup of snow and ice control debris will be at WSDOT's expense. The Design-Builder shall perform the following:

1. Remove or repair any condition resulting from the work that might impede traffic or create a hazard,
2. Cleanup any debris including gravel and dead animals which might impede traffic or create a hazard,
3. Keep existing traffic signal and highway lighting systems in operation as the work proceeds. Transmit any changes to the existing systems to WSDOT (Mike Beck (360) 905-2244).
4. Maintain the striping on the roadway. The Design-Builder shall be responsible for scheduling when to renew striping. WSDOT will maintain the existing striping until the Design-Builder begins the construction work for the project. [**or**]
4. *Maintain the striping on the roadway at WSDOT's expense. The Design-Builder shall be responsible for scheduling when to renew striping, subject to the approval of the Engineer. When the scope of the project does not require work on the roadway, WSDOT will be responsible for maintaining the striping;*
5. Maintain existing permanent signing. Repair of signs will be at WSDOT's expense, except those damaged due to the Design-Builder's operations; and

6. Keep drainage structures clean to allow for free flow of water. Notify and coordinate a field review of the drainage system, one week prior to any construction shut down, with WSDOT Maintenance staff.

Section 1-07.23(1) is supplemented with the following:

The construction safety zone for this project is **11 meters** from the outside edge of the traveled way.

During nonworking hours equipment or materials shall not be within the safety zone unless it is protected by permanent guard rail or temporary concrete barrier. The use of temporary concrete barrier shall be permitted only if the Engineer approves the installation and location.

During the actual hours of work, unless protected as described above, only materials absolutely necessary to construction shall be within the safety zone and only construction vehicles absolutely necessary to construction shall be allowed within the safety zone or allowed to stop or park on the shoulder of the roadway.

The Design-Builder's nonessential vehicles and employees private vehicles shall not be permitted to park within the safety zone at any time unless protected as described above.

Deviation from the above requirements shall not occur unless the Design-Builder has requested the deviation in writing and the Engineer has provided written approval.

Construction vehicles using a closed traffic lane shall travel only in the normal direction of traffic flow unless expressly allowed in an approved traffic control plan. Construction vehicles shall be equipped with flashing or rotating amber lights.

Work over an open lane of traffic will not be allowed, unless a plan for the protection of the traveling public from debris falling onto the traveled way is approved by the Engineer. This protection shall remain in place during construction and meet minimum vertical clearance for the highway.

Controlled Access
No special access or egress will be allowed the Contractor other than normal legal movements or as shown in the Plans.

Hours of Darkness
The Contractor shall, at no additional cost to the Contracting Agency, make all arrangements for operations during hours of darkness. Flagger stations shall be illuminated using a minimum 150 watt floodlight.

Lane, Ramp, and Roadway Closures

[The following lane closure delineations from the SR 500, Thurston Way pilot project is provided as an example]

Lane Closures
"The following time periods specify the hours that two lanes of traffic in each direction shall be provided:

Westbound SR 500:

Monday through Friday	*6:00 a.m. to 10:00 p.m.*
Saturday and Sunday	*10:00 a.m. to 8:00 p.m.*

Eastbound SR 500:

Monday through Friday	*6:00 a.m. to 10:00 p.m.*
Saturday and Sunday	*11:00 a.m. to 8:00 p.m.*

Southbound Thurston Way:

Monday through Thursday	*11:00 a.m. to 8:00 p.m.*
Friday	*11:00 a.m. to 10:00 p.m.*
Saturday and Sunday	*11:00 a.m. to 8:00 p.m.*

Northbound Thurston Way:

Monday through Thursday	*11:00 a.m. to 8:00 p.m.*
Friday	*11:00 a.m. to 10:00 p.m.*
Saturday and Sunday	*11:00 a.m. to 8:00 p.m.*

Ramp Closures

Ramp closures at the Andresen Rd. interchange and the completed Thurston Way interchange will be allowed between the hours of 10:00 p.m. and 6:00 a.m.

Thurston Way Closures

Total closures of Thurston Way will be allowed for four hour periods between the hours of 10:00 p.m. and 6:00 a.m."

Staging

During the development of the project, staging of the traffic will be required. The temporary geometrics that shall be allowed is as follows:

A. *Temporary lane widths = 3.3 meter*

B. *Temporary shoulder widths = 0.6 meter*

C. *A reduction to one left turn lane in each direction on SR 500*

The Design-Builder shall stage their work so that the existing lane configuration is in place during the holiday season from November 1 through January 1.

[The following lane closure delineations from the SR 5, Pavement Rehabilitation pilot project is provided as an example]

Lane Closures

Single lane closure on northbound and southbound SR 5 will be permitted as follows:

Sunday to Monday	*8:00 p.m. to 7:00 a.m.*
Monday to Tuesday	*8:00 p.m. to 7:00 a.m.*
Tuesday to Wednesday	*8:00 p.m. to 7:00 a.m.*
Wednesday to Thursday	*8:00 p.m. to 7:00 a.m.*
Thursday to Friday	*8:00 p.m. to 7:00 a.m.*

24 hour Lane Closures

The Design Builder will be allowed to close no more than one lane on northbound and one lane on southbound SR 5 during any one 24 hour period. In addition, 24 hour lane closures will only be allowed between the hours of 7:00 a.m. Monday through 7:00 a.m. Friday. Each 24 hour lane closure shall be charged against the number of 24 hour lane closures submitted by the Design Builder in the Final Proposal*. The chargeable time will be assessed per direction. Liquidated Damages will be assessed for failure to complete work and open all lanes to traffic by the specified time. Liquidated Damages will also be assessed for any 24 hour lane closures in excess of the total number of 24 hour lane closures submitted by the Design Builder in the* Final Proposal*.*

SR 5 Total Roadway Closure (RR Bridge Demolition)

The Design Builder will be allowed to close all lanes of northbound or southbound SR 5 for RR Bridge Demolition. The Design Builder will be allowed a maximum of two closures per direction. Only one direction shall be closed at a time. The allowable hours of closure are from 11:00 p.m. to 5:00 a.m. Monday to Thursday. Signed detour routes shall be provided. . Liquidated Damages will be assessed for failure to complete work and open all lanes to traffic by the specified time.

City, County and Crossroad Closures

Lane closures will be permitted as follows:

Alabama St. Over SR 5 (one lane closed)

Sunday to Monday	*8:00 p.m. to 7:00 a.m.*
Monday to Tuesday	*8:00 p.m. to 7:00 a.m.*
Tuesday to Wednesday	*8:00 p.m. to 7:00 a.m.*
Wednesday to Thursday	*8:00 p.m. to 7:00 a.m.*
Thursday to Friday	*8:00 p.m. to 7:00 a.m.*

Lincoln St.

For construction of the retaining wall, the Design Builder will be allowed to close Lincoln St. between Iowa St. and Kentucky St. to through traffic. However, local access shall be allowed.

Iowa St. Under SR 5

For bridge widening work on SR 5, the Design Builder will be allowed to continuously close one lane in each direction on Iowa St. provided that at least one lane in each direction are open at all times. Each 24 hour lane closure shall be charged against the number of 24 hour lane closure submitted by the Design Builder in his Final Proposal*.*

Lakeway Drive Under SR 5

For bridge foundation work, the Design Builder will be allowed to continuously close one lane of traffic to work on one side of Lakeway drive at a time. Work on both sides of Lakeway Drive shall not occur at the same time. Pedestrian traffic shall be directed to the other side. Each 24 hour lane closure shall be charged against the number of 24 hour lane closure submitted by the Design Builder in his Final Proposal*.*

Ramp Closures

Ramp closures will be permitted as follows:

Sunday to Monday	*9:00 p.m. to 6:00 a.m.*

Monday to Tuesday	*9:00 p.m. to 6:00 a.m.*
Tuesday to Wednesday	*9:00 p.m. to 6:00 a.m.*
Wednesday to Thursday	*9:00 p.m. to 6:00 a.m.*
Thursday to Friday	*9:00 p.m. to 6:00 a.m.*

Ramp closures shall be limited to a maximum of 5 nightly closures per ramp. Detour routes shall be provided by the Design Builder. No two consecutive on-ramps and exits shall be closed at the same time. The Design Builder shall complete all ramp work within the specified closure time above prior to opening to traffic. Liquidated Damages will be assessed for failure to complete work and open the ramp to traffic by the specified time. Liquidated Damages will also be assessed for additional nighttime ramp closure in excess of the number of nights for each ramp as submitted by the Design Builder in the Final Proposal.

Minimum construction lane width shall be no less than 3.6 meters."

Night Work
Night work may be required for the project. The Design-Builder shall obtain any required noise variance or exemption for such work.

Signs and Traffic Control Devices
All signs and traffic control devices for lane, ramp and roadway closures shall only be installed during the hours specified above. The construction signs, if placed earlier than the specified hours of closure, shall be turned or covered so as not to be visible to motorists.

Advance Notification
The Design-Builder shall submit lane and sidewalk closure requests in writing to the Engineer a minimum of five calendar days in advance of the proposed closures. Roadway and ramp closure requests shall be submitted in writing a minimum of 10 calendar days in advance of the proposed closure.

Hour Adjustment
If the Engineer determines that the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly. The Engineer will notify the Design-Builder in writing of any change in the closure hours.

Other Closure Restrictions
Lane, ramp, or roadway closures will not be allowed during the following time periods:

Holidays - from noon the day prior to a holiday or holiday weekend through noon the day following a holiday or holiday weekend. Holidays that occur on Friday, Saturday, Sunday, or Monday are considered a holiday weekend.

Pedestrian Routes
The Contractor shall keep all sidewalks, crosswalks, and other pedestrian routes and access points open and clear at all times unless permitted otherwise by the Engineer in an approved traffic control plan.

Public Notification
The Contractor shall furnish and install information signs that provide advance notification of ramp and road closures a minimum of five calendar days prior to closure. The signs shall

have a black legend on a white reflective background. Sign locations, messages, letter sizes, and sign sizes are shown in the Plans. Also, the Design-Builder shall notify Washington State Patrol; local fire departments, police departments and city engineering, CTRAN and the affected school districts in writing a minimum of five business days prior to implementation. The Design-Builder shall furnish copies of these notifications to the Engineer.

Mast Arm Erection and Traffic Block Allowance
During erection of mast arm assemblies, the Design-Builder may, with the authorization of the Engineer, block all traffic for maximum a duration of five minutes between the hours of 10:00 p.m. and 6:00 a.m. These five-minute blockages shall be separated by an interval long enough to allow the delayed vehicles to clear.

Construction and Maintenance of Detours
This section 1-07.23(2) is revised as follows:

Delete the second paragraph beginning “Unit contract prices…”

Delete the second sentence of the third paragraph.

PROSECUTION AND PROGRESS

Subcontracting
Section 1-08.1 is supplemented with the following:

Prior to any subcontractor or lower tier subcontractor beginning work, the Design-Builder shall submit to the Engineer a certification (WSDOT Form 420-004) that a written agreement between the Design-Builder and the subcontractor or between the subcontractor and any lower tier subcontractor has been executed. This certification shall also guarantee that these subcontract agreements include all the documents required by the Special Provision **FEDERAL AGENCY INSPECTION**.

A subcontractor or lower tier subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

1. Request to Sublet Work (Form 421-012), and
2. Design-Builder and Subcontractor or Lower Tier Subcontractor Certification for Federal-aid Projects (Form 420-004).

The Design-Builder's records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of WSDOT during the life of the contract and for a period of not less than three years after the date of acceptance of the contract. The Design-Builder shall retain these records for that period. The Design-Builder shall also guarantee that these records of all subcontractors and lower tier subcontractors shall be available and open to similar inspection or audit for the same time period.

Time For Completion
Section 1-08.5 is supplemented with the following:

This project shall be physically completed on **$$$?$$$**.

Suspension Of Work

Section 1-08.6 is revised to read as follows:

The Engineer may order suspension of all or any part of the work if: The Design-Builder does not comply with the contract or the Engineer's orders.

When ordered by the Engineer to suspend or resume work, the Design-Builder shall do so immediately.

If the work is suspended for the reason above, the contract time for physical completion will not be extended. The lost work time shall not relieve the Design-Builder from any contract responsibilities.

If the performance of all or any portion of the work is suspended or delayed by the Engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Design-Builder believes that additional compensation and/or contract time is due as a result of such suspension or delay, the Design-Builder shall submit to the Engineer in writing a request for adjustment within seven calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment. Upon receipt, the Engineer will evaluate the Design-Builder's request. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Design-Builder, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. No contract adjustment will be allowed unless the Design-Builder has submitted the request for adjustment within the time prescribed. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract. The Design-Builder will be notified of the Engineer's determination whether or not an adjustment of the contract is warranted. Any disagreement with the Engineer's determination shall be pursued as provided in Section 1-04.5.

If the Engineer has not provided the Design-Builder with a written order to suspend or delay the work and if the Design-Builder believes that the performance of the work is suspended, delayed, or interrupted for an unreasonable period of time and such suspension, delay or interruption is the responsibility of WSDOT, the Design-Builder shall immediately submit a written notice of protest to the Engineer as provided in Section 1-04.5. If the Engineer agrees an adjustment is warranted considering all evaluation criteria stated above, the Engineer will make an adjustment (excluding profit) and modify the contract accordingly. However no adjustment shall be allowed for any costs incurred more than 10 calendar days before the date the Engineer receives the Design-Builder's written notice of protest.

No contract adjustment will be allowed unless all or any part of the work is suspended, delayed, or interrupted for an unreasonable period of time by an act of WSDOT in the administration of the contract, or by failure to act within the time specified in the contract (or if no time is specified, within a reasonable time).

The Engineer will determine if an equitable adjustment in cost or time is due as provided in this section. The equitable adjustment for increase in costs, if due, shall be subject to the

limitations provided in Section 1-09.4, provided that no profit of any kind will be allowed on any increase in cost necessarily caused by the suspension, delay, or interruption.

If the Design-Builder contends damages have been suffered as a result of any suspension, delay, or interruption, the Design-Builder shall keep full and complete records of the costs and additional time of such suspension, delay, or interruption and shall permit the Engineer to have access to those records and any other records as may be deemed necessary by the Engineer to assist in evaluating the Design-Builder's request for adjustment in cost or time and evaluating any protest.

Requests for extensions of time will be evaluated in accordance with Section 1-08.8.

The Engineer's determination as to whether or not an adjustment should be made will be final as provided in Section 1-05.1.

No claim by the Design-Builder under this clause shall be allowed unless the Design-Builder has followed the procedures provided in this section and in Sections 1-04.5 and 1-09.11.

Liquidated Damages

The definition of T is revised to read: T = the time indicated in the Design-Builders Final Proposal schedule or Special Provision Section 1-08.5 whichever occurs first.

Section 1-08.9 is supplemented as follows:

The closure of mainline lanes and ramps will result in substantial traffic impacts. These closures will cause delays to the traveling public, increase fuel consumption, vehicle operating cost, pollution, and other inconveniences and harm far in excess of those resulting from delay of most projects.

Accordingly, the Contractor agrees:

1. To pay $500.00 liquidated damages per 15 minutes for each 15 minute period prorated to the nearest 5 minutes that each lane is closed on mainline beyond the scheduled opening time specified in the Subsection **Public Convenience and Safety** of the Special Provision **LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**.
2. To pay $20,000.00 liquidated damages per day, prorated to the nearest hour, for additional 24 hour lane closure in excess of the total number of days submitted by the Design Builder in the Final Proposal.
3. To pay $150.00 liquidated damages per 15 minutes for each 15 minute period prorated to the nearest 5 minutes that a ramp is closed beyond the scheduled opening time specified in the Subsection **Public Convenience and Safety** of the Special Provision **LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**.
4. To pay $2,000.00 liquidated damages per day, non-prorated, for additional nighttime ramp closure in excess of the number of nights for each ramp as submitted by the Design Builder in his Final Proposal.
5. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

MEASUREMENT AND PAYMENT

Payments

The first three paragraphs of Section 1-09.9 are revised to read.

The Design-Builder shall submit, at least ten business days prior to submission of its first application for partial payment, a schedule of values ("Schedule of Values") for the contracted work. This schedule will provide a breakdown of values for the contracted work aggregating the contract price, and will be the basis for partial payments. The breakdown will demonstrate reasonable, identifiable, and measurable components of the work. The sum of all values listed for each element shall be equal to the lump sum price proposed for each element. Subdivide the work into component parts in sufficient detail to serve as the basis for progress payments and price adjustments, positive and negative. Prices will include a pro rata amount of overhead and profit applicable to each item. The Department may reject or approve a Schedule of Values if it fails to provide reasonable detail, any prices are excessively unbalanced, or fails to account for the entire contract fixed price.

The Schedule of Values shall be used as the basis for reviewing Design-Builder's application for payment. The Schedule of Values shall include, as a minimum, the following components of work:

A. Mobilization
B. Preparation
C. Grading
D. Drainage
E. Storm Sewer
F. Sanitary Sewer
G. Waterlines
H. Structure
I. Surfacing
J. Liquid Asphalt
K. Bituminous Surface Treatment
L. Asphalt Treated Base
M. Cement Concrete Pavement
N. Asphalt Concrete Pavement
O. Irrigation and Water Distribution
P. Erosion Control and Planting
Q. Traffic
R. Other Items
S. Building
T. Superstructure
U. Engineering Design
    1. Surveying
    2. Plans, Specifications and Estimate
V. QC/QA for Construction
    1. Inspection
    2. Testing
W. Drainage Treatment Facilities
X. Public Relations

The total for components A through T shall be based on WSDOT's Standard Bid Items.

WSDOT will make partial payment on the contract monthly as work progresses. Payments will be based upon estimates of work completed and the Schedule of Values. All payments shall be approved by the Engineer. In instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, WSDOT will so notify the Design-Builder within 15 days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. Corrections to the application for payment shall be incorporated in the following month's application for payment.

The Design-Builder shall submit to the Engineer an application for each payment and if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Design-Builder shall include, in its application for payment, a schedule of the percentages of the various parts of the work completed, based on the Schedule of Values which shall aggregate to the payment application total.

TEMPORARY TRAFFIC CONTROL

Traffic Control Management

General

Section 1-10.2(1) is supplemented with the following:

The Traffic Control Manager and Traffic Control Supervisor shall be certified by one of the following:

American Traffic Safety Services Association
5440 Jefferson Davis Hwy.
Fredericksberg, VA 22407
1-800-272-8772
Certification Ext. 127
Recertification Ext. 134

Sverdrup Civil, Inc.
c/o Traffic Control Supervisors Seminar
600 108th Ave. NE
Bellevue, WA 98004
(425) 452-8000

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035

Traffic Control Plans

The Design-Builder shall prepare final traffic control plans per the requirements of the Scope of Work. All flaggers are to be shown on the final traffic control plan except for emergency situations.

Conformance To Established Standards

Section 1-10.2(3) is supplemented with the following:

Flashing stop/slow paddles (FSSP) shall meet the requirements of the MUTCD, SHRP, Traffic Control Guidelines Book, and these specifications. The paddles shall incorporate on the stop face, two symmetrically positioned flashing white lights. The lights shall be visible from a minimum of 650 meters in average daytime conditions. The lamps shall flash in alternating sequence. The following (FSSP) meet these requirements:

Copper Country Safety Sales, Inc. 3422 West Wilshire Drive #19 Phoenix, AZ 85009 (602) 269-0026 1--800-578-6193	Detronics Model TES-336 4003 Bloomington Road Rural Route 4 Stouffville, Ontario L4A7X5 (905) 640-1216

Flagging, Signs, And All Other Traffic Control Devices

Rolling Slowdown or Rolling Blockade

For work operations which necessitate short-term roadway closures of 15 minutes or less, the Contractor shall implement a rolling slowdown. Rolling slowdowns will be permitted from **$$$?$$$** to **$$$?$$$** on any night of the week except Friday and Saturday nights, subject to approval of the Engineer.

A rolling slowdown is accomplished using a minimum of one Washington State Patrol (WSP) vehicle and a additional traffic control vehicle with flashing amber lights for each lane to be slowed down. The traffic control vehicles shall enter the roadway and form a moving blockade to reduce traffic speeds giving the Contractor a clear area in front of the moving blockade to accomplish the work without total stoppage of traffic.

The traffic control vehicles shall enter the roadway far enough upstream of the work operation site to allow a clear area in front of the traffic control vehicles that, when traveling at a fixed rate of speed, would accommodate the estimated time needed for closure. Another traffic control vehicle shall follow the slowest vehicle ahead of the blockade. When the last vehicle passes, the Contractor shall begin the work operation.

All ramps and entrances to the roadway between the moving blockade and work operation shall be temporarily closed using traffic control personnel as flaggers.

Radio communications between the work operation and the moving blockade are needed to adjust the speed of the blockade to accommodate the closure time needed.

Requests and plans for such slowdowns shall be submitted to the Engineer for review and approval two weeks prior to the rolling slowdown. The Engineer will arrange for WSP assistance.

The Contractor shall notify the Engineer a minimum of 24 hours in advance of a cancellation of work requiring WSP assistance. The Contractor shall bear all costs incurred by WSP troopers for failure to notify the Engineer of WSP cancellation as stated above. The Engineer will deduct these costs from any money due or coming due to the Contractor.

Traffic Control Labor

The last sentence of the second paragraph of Section 1-10.3(1) is revised to read:

The Contractor shall furnish the flashing stop/slow paddles for the flagging stations. The use of conventional flagging paddles will only be allowed in the case of an emergency, or temporary use while a failed FSSP is replaced or repaired.

Section 1-10.3(1) is supplemented with the following:

Flaggers shall be equipped with portable two-way radios, with a range suitable for the project. The radios shall be capable of having direct contact with project management (foremen, superintendents, etc.).

Construction Signs

Section 1-10.3(3) is revised to read:

All signs required by the traffic control plan(s) as well as any other appropriate signs prescribed by the Engineer shall be furnished by the Design-Builder. The Design-Builder shall provide the posts or supports and erect and maintain the signs in a clean, neat, and presentable condition until the necessity for them has ceased. All nonapplicable signs shall be removed or completely covered with metal, plywood, or a product specifically manufactured for sign covering during periods when they are not needed. When the need for these signs has ceased, the Design-Builder shall remove all signs, posts, and supports from the project and they shall remain the property of the Design-Builder.

All signs shall utilize materials, and be fabricated in accordance with, Section 9-28. All orange background signs shall be constructed of Type I or II, or fluorescent Type IV or VII reflective background sheeting, subject to the following requirements or as otherwise noted in the Plans.

1. Work zone signs fabricated with Type I or II sign sheeting may be used when available from existing sign inventories.
2. Work zone signs fabricated with Type IV or VII sheeting may also be used but shall not be intermixed with work zone signs fabricated with Type I or II sheeting, within a sign sequence.

All post mounted signs with Type IV or VII sheeting shall use a nylon washer between the twist fasteners (screw heads, bolts, or nuts) and the reflective sheeting.

Construction signs will be divided into two classes. Class A construction signs are those signs that remain in service throughout the construction or during a major phase of the work. They are mounted on posts, existing fixed structures, or substantial supports of a semi-permanent nature. Sign and support installation for Class A signs shall be in accordance with the Contract Plans or the Standard Plans. Class B construction signs are those signs that are placed and removed daily, or are used for short durations which may extend for one or more days. They are mounted on portable or temporary mountings. In the event of disputes, the Engineer will determine if a construction sign is considered as a Class A or B construction sign.

If it is necessary to add mass to signs for stability, only a bag of sand that will rupture on impact shall be used. The bag of sand shall: (1) be furnished by the Design-Builder, (2) have a maximum mass of 18 kilograms, and (3) be suspended no more than 0.3 meters from the ground.

Signs, posts, or supports that are lost, stolen, damaged, destroyed, or which the Engineer deems to be unacceptable while their use is required on the project, shall be replaced by the Design-Builder without additional compensation.

Unless otherwise specified, all warning signs used in construction shall be black on orange, and all diamond shaped signs shall be 1200 mm by 1200 mm in size.

Section 1-10.3(3) is supplemented with the following:

Wood Sign Posts
Use the below charts to determine post size for Class A construction signs.

One Post Installation

Post Size	Min. Sign m^2	Max. Sign m^2
4x4	-	1.44
4x6	1.53	1.80
6x6	1.89	2.25
6x8	2.34	2.79

Two Post Installation
(For signs greater than 1.5 meters in width)

Post Size	Min. Sign m^2	Max. Sign m^2
4x4	-	1.44
4x6	1.53	3.24
6x6	3.33	4.14
6x8	4.23	6.75 *

*The Design-Builder shall determine post size for signs greater than 6.75 square meters.

Warning Lights
Type A low-intensity flashing warning lights shall be used on all advance warning signs during the hours of darkness.

Temporary Traffic Control Devices
1-10.3(5) is supplemented with the following:

Temporary Concrete Barrier
The minimum allowable shy distance shall be 0.6 meters unless otherwise specified in the Plans or in an Engineer-approved traffic control plan. Shy distance is defined as the distance from the center of the edge stripe to the nearest edge of the concrete barrier. Exposed ends of temporary concrete barrier shall be protected using an Engineer-approved method or be located outside the clear zone and adequately flared at an 18:1 taper for a 113 kph speed, 17:1 taper for a 105 kph speed, 16:1 taper for a 97 kph speed, 14:1 taper for a 88 kph speed, and 10:1 taper for a 65 kph speed.

Traffic Cones
Traffic cones used on this contract shall be a minimum of 710 mm in height.

Section 1-10.3 is supplemented with the following:

Sequential Arrow Sign

The MUTCD requirements are supplemented with the following:

Sequential arrow signs furnished for this project shall be Type **$$$?$$$.**

The color of the light emitted shall be yellow.

The power source for the sign shall be capable of operating the lamps at their optimum light level for the entire period of operation. The power source will be subject to the approval of the Engineer prior to use.

A control panel, using solid-state circuitry, shall be enclosed in a ventilated, vandal-resistant box. A photoelectric control, with manual override, shall automatically dim the lights during hours of darkness. Arrow panels shall be capable of a minimum of 50 percent dimming from their rated lamp voltage.

Traffic Safety Drums

Traffic safety drums shall be manufactured specifically for traffic control purposes, and shall be fabricated from low density polyethylene that maintains its integrity upon impact.

The drums shall be of the following general specifications:

Overall Height	900 mm minimum
Overall Width	450 mm minimum in the direction(s) of traffic flow. If the front to back dimension is less than 450 mm, only those drums specifically approved by the Engineer will be permitted.
Shape	Rectangular, hexagonal, circular, or flat-sided semi-circular.
Color	The base color of the drum shall be fade resistant safety orange.
Reflective Stripes	The exterior vertical surface shall have at least two orange and two white circumferential stripes. Each stripe shall be 100 mm to 150 mm wide and shall be reflectorized. If there are nonreflectorized spaces between the horizontal orange and white stripes they shall be no more than 50 mm wide. Reflective stripes shall be 3-M flexible 3810, Reflexite PC 1000, 3-M Diamond Grade, or Stimsonite High Performance Grade.

The traffic safety drums shall be designed to accommodate at least one portable light unit. The method of attachment shall ensure that the light does not separate from the drum upon impact.

When recommended by the manufacturer, drums shall be treated to ensure proper adhesion of the reflective sheeting.

If approved by the Engineer, used drums with new reflective sheeting may be used, provided all drums used on the project are of essentially the same configuration.

The drums shall be designed to resist overturning by means of a lower unit that will separate from the drum when impacted by a vehicle. The lower unit shall be a maximum of 100 millimeters high and shall be designed to completely enclose the ballast. The lower unit, with ballast, shall have a minimum mass of 4.5 kilograms and maximum mass of 22 kilograms. The base shall be designed to resist movement or creeping from wind gusts or other external forces. The drums shall be designed to resist rolling if overturned.

Drums shall be regularly maintained to ensure that they are clean and that the drum and reflective material are in good condition. If the Engineer determines that a drum has been damaged beyond use, or provides inadequate reflectivity, a new drum shall be furnished.

When no longer required, as determined by the Engineer, the drums shall remain the property of the Design-Builder and shall be removed from the project.

Traffic safety drums shall be used on all lane closures.

During the hours of darkness, all traffic safety drums used on lane closures shall be equipped with Type C steady burning warning lights. Replacement batteries for warning lights shall be included in the cost of furnishing the drums.

Two traffic safety drums shall be provided across the closed lane approximately every 150 meters.

Truck Mounted Impact Attenuator (TMA)

The TMA shall be mounted on a vehicle with a minimum mass of 6800 kilograms and a maximum mass in accordance with the manufacturer's recommendations. Ballast used to obtain the minimum weight requirement, or any other object that is placed on the vehicle shall be anchored such that it will be retained on the vehicle during an impact. The Design-Builder shall provide certification that the unit complies with NCHRP 230 or 350 requirements.

The Design-Builder shall have a spare TMA and operator (if necessary) available to replace a damaged or disabled TMA. Replacement shall be accomplished as soon as the damaged TMA has been removed. The Design-Builder shall immediately repair to the manufacturer's specifications, all damage to a TMA not deemed extensive enough to warrant replacement as determined by the Engineer.

The TMA shall have an adjustable height so that it can be placed at the correct elevation during usage and to a safe height for transporting. If needed, the Design-Builder shall install additional lights to provide fully visible brake lights at all times.

The TMA unit shall have a chevron pattern on the rear of the unit. The standard chevron pattern shall consist of 100 mm yellow stripes, alternating non-reflective black and reflective yellow sheeting, slanted at 45 degrees in an inverted “V” with the “V” at the center of the unit.

The TMA shall be positioned to separate and protect construction zone work activities from normal traffic flow.

The attenuator shall be in the full down-and-locked position. For stationary operations, the truck's parking brake shall be set.

The TMA shall be used during traffic control placement and removal, advancing with the workers during the set up and removal of the traffic control devices unless otherwise ordered by the Engineer.

Each vehicle with TMA shall be equipped with a sequential arrow sign Type B. The color of the light emitted shall be yellow. Power for the sign shall be supplied by the truck. The sequential arrow sign shall be used during traffic control placement and removal. The vehicle with TMA shall not be used if the sequential arrow sign is damaged or disabled.

Each vehicle equipped with TMA shall have a sign mounted on its back, facing oncoming traffic, stating "WORK CREW AHEAD". The sign shall be 750 mm high, 1200 mm wide, and shall have black lettering on an orange background. The "WORK CREW AHEAD" sign shall be removed or covered when not applicable.

A TMA shall be used for each closed lane. The TMA shall be positioned to provide maximum protection for people in the work zone.

The TMA shall be able to be driven with the attenuator in the down position and at the correct elevation for usage.

Type III Barricade

The barricades shall be constructed in accordance with the details shown in the MUTCD and the Standard Plans. The barricade width shall be 2.4 meters, maximum. If it is necessary to add mass to barricades for stability, only bags of sand that will rupture on impact shall be used. The bags of sand shall:

1. Be furnished by the Contractor.
2. Have a maximum mass 18 kilograms.
3. Be placed no more than 0.3 meter above the ground.

As may be indicated in the Signing Plan or Traffic Control Plan, the Contractor may be required to install signs, warning lights, or both, on barricades.

Portable Changeable Message Sign (PCMS)

The PCMS shall meet the requirements of the MUTCD and the following:

The PCMS shall employ one of the following technologies:

1. Back-lighted split-flap
2. Fiber optic/shutter
3. Light emitting diode
4. Light emitting diode/shutter

5. Flip disk

Regardless of the technology, the PCMS shall meet the following general requirements:

1. Be light emitting and must not rely solely on reflected light.
2. Have a display consisting of individually controlled pixels no larger the 63 mm by 63 mm. If the display is composed of individual character modules, the space between modules must be minimized so alphanumeric characters of any size specified below can be displayed at any location within the matrix.
3. When activated, the pixels shall display a yellow or orange image. When not activated, the pixels shall display a flat black image that matches the background of the sign face.
4. Be capable of displaying alphanumeric characters that are a minimum of 450 mm in height. The width of alphanumeric characters shall be appropriate for the font. The PCMS shall be capable of displaying three lines of eight characters per line with a minimum of one pixel separation between each line.
5. The PCMS message, using 450 mm characters, shall be legible by a person with 20/20 corrected vision from a distance of not less than 240 meters centered around an axis perpendicular to the sign face.
6. The sign display shall be covered by a stable, impact resistant polycarbonate face. The sign face shall be non-glare from all angles and shall not degrade due to exposure to ultraviolet light.
7. Be capable of simultaneously activating all pixels for the purpose of pixel diagnostics. Any sign that employs flip disk or shutter technology shall be programmable to activate the disks/shutters once a day to clean the electrical components. This feature shall not occur when the sign is displaying an active message.
8. The light source shall be energized only when the sign is displaying an active message.
9. Be equipped with a redundant light source such that the sign will continue to emit light if one of the light sources fails.

The PCMS panels and related equipment shall be permanently mounted on a trailer with all controls and power generating equipment.

The PCMS shall be operated by an easy to use controller that provides the following functions:

1. Select any preprogrammed message by entering a code.
2. Sequence the display of at least five messages.
3. Blank the sign.
4. Program new message, which may include moving arrows and chevrons.
5. Mirror the message currently being displayed or programmed.

Portable changeable message signs(s) shall be available, on site, for the life of the project.

The Design-Builder shall operate the PCMS in accordance with the approved traffic control plans or as directed by the Engineer. The PCMS shall not be used in lieu of sequential arrow signs.

Measurement

Section 1-10.4 is deleted.

Payment

Section 1-10.5 is deleted.

APPENDIX 9

Responsibility Chart

WSDOT/DESIGN-BUILDER RESPONSIBILITY CHART				
ITEM	**SCOPE SECTION**	**DESIGN-BUILD**	**WSDOT**	**OTHERS**
A. AERIAL MAPPING				
Photogrammetric Control & Panels				
Aerial Photography				
Plotter Compilation				
• Planimetric Map				
• Contour				
• Topographic Map				
• Drainage Area Map				
• Right-of-Way Map				
B. CONTROL SURVEYS				
Horizontal				
Vertical				
Topographic Map				
Utility Locations				
Right-of-Way				
Roadway Cross Sections				
Drainage Cross Sections				
Structures Surveys				
C. ENVIRONMENTAL				
Environmental Analysis Document				
Air Quality Technical Report				
Noise Analysis Technical Report				
Cultural Resources Recovery				
Public Meeting				
• Advertisement				
• Presentation Materials				
• Moderator				
• Technical Questions				
• Transcript				
• Responses to Public Comments				

• Liability Insurance				
D. MATERIALS INVESTIGATION				
Provide Soil Survey				
• Roadway				
• Lateral Ditches				
• Earthwork				
• Retention/Detention Ponds				
Bridge Foundation Investigation				
Provide Testing and Analysis				
Provide Pavement Design				
Materials Memorandum				
E. DESIGN TRAFFIC DATA				
Gather Statistics				
• 2-Way ADT				
• Turning Movements				
• Cross Traffic				
Prepare Traffic Data Sheets				
Prepare Equivalent 18 Kips				
Prepare Traffic Analysis				
L.O.S. Analysis				
Composite Tfc Cont Device Plan				
F. RIGHT-OF-WAY				
Develop Requirements				
Secure Title Search				
Prepare R/W Plans and Legal Descriptions				
Prepare Transfer Documents				
Provide Appraisals				
Negotiate Right-of-Way				
Condemnation Proceedings				
Testify in Court				
R/W Cost Estimates				
Relocation Assistance				
Property Management				
Clearance Letter				
G. CONSTRUCTION PLANS				
Plot Design Survey				

Basic Roadway Plans Preparation				
Drainage Design				
Bridge Design				
Roadway Lighting Plans				
Traffic Signal Plans				
Signing & Pvmt. Marking Plans				
Utility Adjustment Plans				
Maintenance of Traffic Requirements				
Landscape Architectural Design				
H. SECTION 404 PERMIT				
Coordinate with Permitting Agencies				
Prepare Permit Application				
Forms				
Sketches				
Hydraulic Calculations				
Supporting Documents				
Process Permit Application				
I. UTILITY & RAILROAD				
Utilities Identification				
Submit Railroad Data				
Conduct Utility Pre-Design Conference				
Secure Utility Adjustment Plans				
Secure Utility Relocation Schedule				
Secure Utility Agreements				
Process Relocation Schedule & Agreement				
Clearance Letter				
J. CONSTRUCTION SPECIFICATIONS				
L. CONTRACT AND SPECIFICATIONS PROCESS				
Respond to questions on PS&E				
PS&E Revisions				
Addenda to PS&E, as required				
M. POST DESIGN SERVICES				

Respond to questions on final design				
Review and approve shop drawings				
Provide contact person				
Provide post construction design-build evaluation				
N. VALUE ANALYSIS				
Roadway Construction Plans Review				
Bridge Construction Plans Review				
R/W Plans Review				
P. REVIEWS AND SUBMITTALS				
Roadway Construction Plans Review				
Bridge Construction Plans Review				
Design Concept Report Submittal				
Environmental Reports				
Initial Design Submittal				
Preliminary Design Submittal				
Final Design Submittal				
As-Built Submittal				

APPENDIX 10

Dispute Resolution Board

DISPUTES REVIEW BOARD
THREE PARTY AGREEMENT

THIS THREE PARTY AGREEMENT, hereinafter called "AGREEMENT", made and entered into this ___ day of _____, 19__, between the State of Washington, acting through the Washington State Department of Transportation, which is WSDOT, and the Secretary of Transportation,

hereinafter called the "STATE"; the _____ _____, hereinafter called the "CONTRACTOR"; and the Disputes Review Board, hereinafter called the "BOARD", and consisting of three members: _____,_____, and _____,

I. RECITALS

1. The STATE is now engaged in the construction of *** $$1$$ ***; and

2. The *** $$1$$ *** contract provides for the establishment and operation of the BOARD to assist in resolving disputes and claims;

3. The BOARD is composed of three members, one selected by the STATE, one selected by the CONTRACTOR, and the third member selected by these two;

NOW THEREFORE, in consideration of the terms, conditions, covenants, and performance contained herein, or attached and incorporated and made a part hereof, the parties hereto agree as follows:

II DESCRIPTION OF WORK

In order to assist in the resolution of disputes and claims between the CONTRACTOR and the STATE, the parties have provided, in the *** $$1$$ *** contract, for the establishment of the BOARD. The intent of the BOARD is to fairly and impartially consider disputes placed before it and provide written recommendations for resolution of these disputes to both the STATE and the CONTRACTOR. The members of this BOARD, shall perform the engineering services necessary to participate in the BOARD's actions as designated in Section III, Scope of Work.

III SCOPE OF WORK

The Scope of Work of the BOARD includes, but is not limited to, the following items of work:

A. Third BOARD Member Selection

The first duty of the STATE and CONTRACTOR selected members of the BOARD is to select the third member. The third member shall not have had any previous financial or employment ties with either the CONTRACTOR or the STATE. The goal is to obtain a third BOARD member who will compliment the first two by furnishing a needed expertise that will facilitate the BOARD's operations. The first two BOARD members shall proceed with the selection of the third BOARD member upon receiving their

notices to proceed. Should the first two members be unable to select a third member within 60 calendar days of the latest notice to proceed, the third member will be selected jointly by the WSDOT Project Engineer and an authorized representative of the CONTRACTOR..

B. Procedures

After selection of the third BOARD member and prior to consideration of an appeal, the BOARD shall establish rules that will govern the conduct of its business and reporting procedures based on the Guidelines, attached as an Appendix to this AGREEMENT. The BOARD recommendations, resulting from their consideration of a dispute or claim, shall be furnished in writing to the STATE and the CONTRACTOR. The recommendations shall be based on and cite to the pertinent contract provisions, and the facts and circumstances involved in the dispute.

C. Furnishing Documents

The STATE shall furnish to the BOARD three copies of the Contract and other documents that are or may become pertinent to the activities of the BOARD. The CONTRACTOR shall furnish to the BOARD three sets of documents that are or may become pertinent to the activities of the BOARD, except documents furnished by STATE. The BOARD shall require that a party furnishing any written documentation to the BOARD must furnish copies of such information to the other party at least 15 days before the hearing begins.

D. Construction Site Visits

The BOARD members shall visit the project site to keep abreast of construction activities and to develop a familiarity of the work in progress. The frequency, exact time, and duration of these visits shall be as mutually agreed between the STATE, the CONTRACTOR, and the BOARD.

E. BOARD Consideration of Disputes or Claims

Upon receipt by the BOARD of a written appeal of a dispute, from either the CONTRACTOR or the STATE, the BOARD shall convene to review and consider the appeal. The time and location of BOARD meetings shall be determined by the STATE, the CONTRACTOR, and the BOARD. Both the STATE and CONTRACTOR shall be given the opportunity to present their evidence at these meetings. It is expressly understood that the BOARD members are to act impartially and independently in the consideration of the contract provisions, and the facts and conditions surrounding any written appeal presented by the STATE or the CONTRACTOR, and that the recommendations concerning any such appeal are advisory.

Either the STATE or the CONTRACTOR may appeal a recommendation to the BOARD for reconsideration. However, reconsideration will only be allowed when there is new evidence to present.

F. BOARD Member Replacement

Should the need arise to appoint a replacement BOARD member, the replacement BOARD member shall be appointed in the same manner as the original BOARD members were appointed. The selection of replacement BOARD member shall begin promptly upon notification of the necessity for a replacement and shall be completed

within 30 calendar days. The AGREEMENT will be supplemented to indicate change in BOARD membership.

IV DESIGN-BUILDER RESPONSIBILITY

The DESIGN-BUILDER shall furnish to each BOARD member, one copy of all pertinent documents which are or may become necessary for the BOARD to perform their function. Pertinent documents are any drawings or sketches, calculations, procedures, schedules, estimates, or other documents which are used in the performance of the work or in justifying or substantiating the DESIGN-BUILDER's position. A copy of such pertinent documents must also be furnished to the STATE.

V STATE RESPONSIBILITIES

The STATE shall furnish the following services and items:

A. Contract Related Documents

The STATE shall furnish the BOARD three copies of the *** $$1$$ *** contract, change orders, written instructions issued by the STATE to the CONTRACTOR, or other documents pertinent to the performance of the contract and therefore, necessary for the BOARD to perform their function.

B. Coordination and Services

The STATE's Project Engineer for the *** $$1$$ *** project will, in cooperation with the CONTRACTOR, coordinate the operations of the BOARD. The STATE, through the Project Engineer, will arrange or provide conference facilities at or near the contract site and provide secretarial and copying services.

C. BOARD Cost Records

The STATE will maintain complete cost records for the STATE and CONTRACTOR shared expenses of the BOARD and these records will be available for inspection by the CONTRACTOR. These expenses include the third member's wages and travel expense, local lodging and subsistence for all BOARD members, and direct costs associated with BOARD operations. Excluded from these records are the wages and travel expenses of the STATE and CONTRACTOR selected members of the BOARD.

VI TIME FOR BEGINNING AND COMPLETION

The BOARD is to be in operation throughout the life of the *** $$1$$ *** construction contract. To establish a firm completion date, *** $$2$$ *** is the date for completion of all work of this AGREEMENT. Should the construction contract end earlier, this AGREEMENT may be terminated under terms of Section VIII, Termination of Agreement, elsewhere herein. Should the construction contract continue beyond *** $$2$$ *** or the work anticipated for the BOARD by this AGREEMENT not be completed by that date, a Supplemental Agreement will be negotiated and executed to extend the completion date.

The BOARD members shall not begin any work under the terms of this AGREEMENT until authorized in writing by the STATE.

VII PAYMENT

The BOARD members shall be paid by the STATE and the CONTRACTOR for services rendered under this AGREEMENT as provided hereinafter. Such payments shall be full compensation for work performed or services rendered, and for all labor, materials, supplies, equipment, and incidentals necessary to the operation of the BOARD. The BOARD members shall comply with all applicable portions of 48 CFR 31.

A. All Inclusive Rate Payment

1. Fee - STATE and CONTRACTOR Appointed Members

   Payment for services rendered as STATE and CONTRACTOR members of the BOARD, will be at the respective rates agreed to between the STATE and CONTRACTOR and their respective BOARD members. Payment shall be made under separate agreement between the respective parties and shall include travel expense from the BOARD member's point-of-origin to the initial local point of arrival, such as, *** $$3$$ ***.

2. Fee - Third Appointed Member

   Payment for services rendered as a member of the BOARD shall be at the daily billing rate of $___ including travel time. This daily rate includes all direct labor costs, overhead, and profit. Subsequent changes in the billing rate must be authorized by a Supplemental Agreement.

3. Direct Non-Salary Costs

   Direct non-salary costs will be reimbursed at the actual cost to the BOARD members, except for the non-local travel by the STATE and CONTRACTOR appointed members, which is separately compensated. Direct non-salary charges may include, but are not limited to; travel, subsistence, lodging, printing, long distance telephone, supplies, etc. Automobile mileage will be reimbursed at the rate in effect at the time the trip is taken and shall be supported by the date and time of each trip with origin and destination of such trips. The current rate is *** $$4$$ *** cents per mile which will remain in effect until changed in writing by the STATE.

   Subsistence and lodging expenses will be reimbursed at the same rate as for STATE employees, which is the actual cost but not to exceed *** $$5$$ *** per day. The meetings will take place in *** $$6$$ ***.

   The billing for non-salary cost, directly identifiable with the project, shall be an itemized listing of the charges supported by the original bills, invoices, expense accounts, and miscellaneous supporting data retained by the BOARD member.

   Copies of the original supporting documents shall be supplied to the STATE upon request.

4. Maximum Total Amount Payable

   The maximum total amount payable under this AGREEMENT, for the third member's fee and travel costs and the BOARD's direct nonsalary costs shall not

exceed ___ Dollars ($___), unless a prior Supplemental Agreement has been negotiated and executed by the STATE.

B. Payments

The BOARD members may submit invoices to the STATE for partial payment for work completed not more often than once per month during the progress of the work. Such invoices shall be in a format approved by the STATE and accompanied by a general description of activities performed during that billing period. The value of the work accomplished for partial payment shall be established by the billing from the BOARD member, itemizing direct payroll for the third BOARD member, and direct non-salary costs for all three BOARD members.

C. Inspection of Costs Records

The BOARD members shall keep available for inspection by representatives of the STATE and the United States, for a period of three years after final payment, the cost records and accounts pertaining to this AGREEMENT. If any litigation, claim, or audit arising out of, in connection with, or related to this contract is initiated before the expiration of the three-year period, the cost records and accounts shall be retained until such litigation, claim, or audit involving the records is completed.

VIII ASSIGNMENT OF TASKS OF WORK

The BOARD members shall not assign any of the work of this AGREEMENT.

IX TERMINATION OF AGREEMENT

The parties to this AGREEMENT mutually agree that this AGREEMENT may be terminated at any time upon not less than 30 calendar days written notice to the other parties. BOARD members may withdraw from the BOARD by providing such notice. BOARD members may be terminated for cause only by their original appointor, therefore, the STATE may only terminate the STATE appointed member, the CONTRACTOR may only terminate the CONTRACTOR appointed member, and the first two members must agree to terminate the third member.

X LEGAL RELATIONS

The parties hereto mutually understand and agree that the BOARD member in the performance of duties on the BOARD, is acting in the capacity of an independent agent and not as an employee of either the STATE or the CONTRACTOR.

No party to this AGREEMENT shall bear a greater responsibility for damages or personal injury than is normally provided by Federal and/or State of Washington Law.

The STATE and CONTRACTOR shall indemnify and hold harmless the BOARD members from and against all claims, damages, losses, and expenses, including but not limited to attorney's fees arising out of and resulting from the actions and recommendations of the BOARD.

XI DISPUTES

Any dispute between the parties hereto, arising out of the work or other terms of this AGREEMENT, which cannot be resolved by negotiation and mutual concurrence between the

parties, shall be referred to the Superior Court of the State of Washington in Thurston County as provided in Section XI, Venue, Applicable Law, and Personal Jurisdiction.

XII VENUE, APPLICABLE LAW, AND PERSONAL JURISDICTION

In the event that any party deems it necessary to institute legal action or proceedings to enforce any right or obligation under this AGREEMENT, the parties hereto agree that any such action shall be initiated in the Superior Court of the State of Washington, situated in Thurston County. The parties hereto agree that all questions shall be resolved by application of Washington law and that the parties to such action shall have the right of appeal from such decisions of the Superior Court in accordance with the laws of the State of Washington. The BOARD member hereby consents to the personal jurisdiction of the Superior Court of the State of Washington, situated in Thurston County.

XIII FEDERAL REVIEW

The Federal Highway Administration shall have the right to review the work in progress.

XIV CERTIFICATION OF THE BOARD MEMBERS AND THE STATE

Attached hereto as Exhibit "A" is the "CERTIFICATION OF THE CONTRACTOR/BOARD MEMBERS", the "CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION", and the "CERTIFICATION OF BOARD MEMBERS".

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as of the day and year first above written.

BOARD MEMBER

By: _____

Title: _____

BOARD MEMBER

By: _____

Title: _____

BOARD MEMBER

By: _____

Title: _____

CONTRACTOR

By: _____

Title: _____

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

By: _____

Title: _____

Approved as to Form Only this

____ day of _____, 19__

_____

Assistant Attorney General

EXHIBIT A (Page 1)

CERTIFICATION OF CONTRACTOR/BOARD MEMBERS

The undersigned hereby certify that they represent the firm located at the indicated address and that neither the undersigned nor the firm represented has:

(a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the firm indicated below) to solicit or secure this AGREEMENT; or

(b) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out this AGREEMENT; or

(c) paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the firm indicated below) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out this AGREEMENT; except as here expressly stated (if any):

I acknowledge that this certification is to be furnished to the State Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation, in connection with this agreement involving participation of Federal-aid highway funds, and is subject to applicable State and Federal laws, both criminal and civil.

Name	Name
Firm Represented	Firm Represented
Firm Address	Firm Address
Signature Date	Signature Date
Name	Name
Firm Represented	Firm Represented
Firm Address	Firm Address
Signature Date	Signature Date

EXHIBIT A (Page 2)
CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION

I hereby certify that I am the _____ of the Department of Transportation of the State of Washington, and that the above consulting firm or the representative of the consulting firm has not been required, directly or indirectly as an express or implied condition in connection with obtaining or carrying out this AGREEMENT to:

(a) employ or retain, or agree to employ or retain, any firm or person; or

(b) pay, or agree to pay, to any firm, person, or organization, any fee, contribution, donation, or consideration of any kind;

except as here expressly stated (if any):

I acknowledge that this certificate is to be furnished the Federal Highway Administration, U.S. Department of Transportation, in connection with this AGREEMENT involving participation of Federal-aid highway funds, and is subject to applicable State and Federal laws, both criminal and civil.

_____ (Date)

_____ (Signature)

EXHIBIT A (Page 3)
CERTIFICATION OF BOARD MEMBERS

The undersigned hereby certify that they represent the firm located at the indicated address and that the undersigned and the firm represented, being duly sworn or under penalty of perjury under the laws of the United States, certify that, except as noted below, the firm, association or corporation or any person in a controlling capacity associated therewith or any position involving the administration of federal funds:

(a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;

(b) has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;

(c) does not have a proposed debarment pending: and

(d) has not been indicted, convicted, or had a civil judgment rendered against said person, firm, association or corporation by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

(Insert Exceptions)

Exceptions will not necessarily result in denial of award, but will be considered in determining Proposer responsibility. For any exception noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

I acknowledge that this certification is to be furnished to the State Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation, in connection with this agreement involving participation of Federal-aid highway funds, and is subject to applicable State and Federal laws, both criminal and civil.

_____	_____
Name	Name
_____	_____
Firm Represented	Firm Represented
_____	_____
Firm Address	Firm Address
_____	_____
Signature Date	Signature Date
_____	
Name	
_____	
Firm Represented	
_____	
Firm Address	
_____	
Signature _____ Date	

EXHIBIT B DISPUTES REVIEW BOARD GUIDELINES

OBJECTIVE

The principal objective of the BOARD is to assist in the resolution of disputes which would otherwise be likely submitted to litigation processes. If this objective is achieved, such disputes can be resolved promptly; with minimum expense, and with minimum disruption to the administration and performance of the work. It is not intended for WSDOT or the CONTRACTOR to default on their normal responsibility to amicably and fairly settle their differences by indiscriminately assigning them to the BOARD. It is intended that the mere existence of the BOARD will encourage WSDOT and the CONTRACTOR to resolve potential disputes without resorting to this appeal procedure. But when a dispute which is serious enough to warrant the BOARD's review does develop, the machinery for prompt and efficient action will already be in place.

RESPONSIBILITY OF THE BOARD

Render findings and recommendations on claims or disputes between the CONTRACTOR and WSDOT arising from the construction contract. Primarily, the BOARD will consider claims and disputes involving interpretation of the Plans and Specifications, delays, acceleration of the work, scheduling, classification of extra work, changed conditions, design changes, and the like. During its regular visits to the job site, the BOARD will encourage the settlement of differences at the job level.

The BOARD will refrain from officially giving any advice or consultative services to either party. The individual members will act in a completely independent manner and will have no consultative or business connections with either party.

During routine meetings of the BOARD as well as during formal hearings, BOARD members should refrain from expressing opinions on the merits of statements on matters under dispute or potential dispute. Opinions of BOARD members expressed in private sessions should be kept strictly confidential.

Normally, the BOARD member selected by the first two will act as Chairman for all activities, however, this post may be delegated to another member from time to time.

REGULAR CONSTRUCTION PROGRESS MEETINGS

All regular meetings will be held at or near the job site. The frequency of regular meetings will be set by the BOARD from time to time, consistent with the construction activities and the matters under consideration and dispute. Each meeting will consist of a round table discussion and a field inspection of the work being performed on that contract. The round table discussion will be conducted by a member of WSDOT's staff and will be attended by selected personnel from WSDOT and the DESIGN-BUILDER. The agenda will generally be as follows:

a. Meeting opened by the Chairman of the BOARD.

b. Remarks by WSDOT's field representative.

c. A description by the DESIGN-BUILDER's field representative of work accomplished since the last meeting; the current status of the work, schedule-wise; and a forecast for the coming period.

d. An outline by the DESIGN-BUILDER's field representative of potential problems and a description of proposed solutions.

e. An outline by WSDOT's Project Engineer of the status of the work as the Project Engineer views it.

f. A brief description by the DESIGN-BUILDER or WSDOT of potential claims or disputes which have surfaced since the last meeting.

g. A summary by WSDOT, the DESIGN-BUILDER, or the BOARD of the status of past disputes and claims.

WSDOT will prepare minutes of all regular meetings and circulate them for revision and approval by all concerned.

The field inspection will cover all active segments of the work, the BOARD being accompanied by both WSDOT and DESIGN-BUILDER personnel.

HANDLING OF WRITTEN APPEALS

When a written appeal is referred to the BOARD, it shall, first, decide when to conduct the hearings. The decision shall be tempered by the desires and needs of WSDOT and the DESIGN-BUILDER. If the matter is not urgent, it may be scheduled for the time of the next regular visitation to the project. For an urgent matter, the BOARD should meet at its earliest convenience.

The BOARD may also request that written documentation and arguments from both parties be sent to each individual member for study before the hearing begins. A party furnishing any written documentation to the BOARD must furnish copies of such information to the other party before the hearing begins.

Normally, the hearings would be conducted at the job site. However, any location which would be more convenient and still provide all required facilities and access to necessary documentation would be satisfactory. Private sessions of the BOARD may also be held at a location other than the job site.

For hearing on disputes, the third member or one of the other members designated by the third member of the BOARD will act as Chairman. WSDOT and the DESIGN-BUILDER shall have a representative at all hearings who has authority to resolve the claim. The claimant will discuss the dispute followed by the other party. Each party will then be allowed one or more rebuttals until all aspects are thoroughly covered. Each time a person testifies, the BOARD members may ask questions, seek clarification, or request further data. The BOARD may request from either party documents or information that would assist the BOARD in making its findings and recommendations including, but not limited to, documents used by the DESIGN-BUILDER in preparing the bid for this project. A refusal by a party to provide information requested by the BOARD may be considered by the BOARD in making it findings and recommendations. In large or complex cases, one or more additional hearings may be necessary in order to consider all the evidence presented by both parties.

During open hearings, no BOARD member should express an opinion concerning the merit of any facet of the case. By the same token, all BOARD deliberations should be conducted in private, with all interim individual views kept strictly confidential.

After the hearings are concluded, the BOARD shall meet in private and reach a conclusion supported by two or more members. Its findings and recommendations, together with its reasons shall then be submitted as a written report to both parties. The recommendations shall be based on the pertinent contract provisions and facts and circumstances involved in the dispute.

The BOARD should make every effort to reach a unanimous decision. If this proves impossible, the dissenting member may prepare a minority report.

Although both parties should place weight upon the BOARD's recommendations, they are not binding. Either party may appeal a recommendation to the BOARD for reconsideration. However, reconsiderations should only be allowed when there is new evidence to present. If the BOARD's recommendations do not resolve the dispute, all records, and written recommendations, including any minority reports, may be admissible as evidence in any subsequent litigation.

MISCELLANEOUS

It is not desirable to adopt hard and fast rules for the functioning of the BOARD. The entire procedure should be kept flexible so that it can adapt to changing situations. The BOARD should initiate, with the other parties' concurrence, new rules or modifications to old ones whenever this is deemed necessary.

APPENDIX 11

Frequently Asked Questions

Design-Build Stakeholder Input,
Stakeholders Meeting
November 12, 1998

WSDOT hosted a stakeholders meeting on the draft process on November 12, 1998.

Stakeholder Comments, Questions, and Concerns

The following notes are formatted with stakeholder comments and questions delineated with a bullet and the DOT response following in italics.

The first group of questions was solicited prior to the presentation and was posted for consideration during the presentation and subsequent question and answer period. Answers were offered to two of the questions immediately.

- What will be the process to get under contract after the Design-Builder is selected?
- How soon after award can the Design-Builder start construction activities "at-risk?"
- What does the sequential process schedule look like, the D-B Process Chart shows activities that are performed concurrently? *The D-B Process Chart is not meant to represent the sequence of tasks but rather the relative position of the tasks and the potential allocation of the responsibility. Many of the tasks are conducted concurrently and some are repetitive.*
- How will WSDOT organize itself to manage the execution of the contract?
- What does the term "Engineer" mean in the Appendices of the Report? *The term "Engineer" always refers to the WSDOT Engineer.*
- How will involvement by local Cities and Counties be handled in the process for projects that cross jurisdictions?

The remaining questions and comments were fielded during the presentation and during the question and answer portion.

- What will be the timeline for the selection process? *It is estimated that WSDOT will require a couple of weeks to evaluate the proposal. We believe a couple of months will be required by the Proposer to prepare the proposal.*
- Could you provide an example or definition of work that is outside the Scope of Work or Contract Document? *A deviation from Standards is an example. Should the submitted design not meet the geometry Standards, a correction would be required. A deviation could be requested to the Department during the proposal preparation or design.*
- Would WSDOT have a process in place to obtain design deviations prior to requesting proposals? *Any known required design deviations would be obtained prior to requesting proposals and they would be described in the Scope of Work. If deviations arise during the selection process we will approve or deny them as part of accepting the winning proposal.*

- What will be the role of WSDOT after award of the contract? How will a mistake in the proposal be handled, can it be resolved after selection? *WSDOT is expecting a proposed project that meets the design criteria and can be further developed for construction. Changes to the contract due to a design error during the proposal phase would have to be negotiated into the contract. WSDOT is expecting to be available in a matter of hours or days, not days or weeks, to answer questions and provide feedback during the process. We would like to operate under a partnering environment with over-the-shoulder reviews, if possible. WSDOT will not be approving the design or construction, the Design-Builder will have the responsibility for ensuring the project proposal is correct. The Design-Builder will likewise have the responsibility for correcting any mistakes made in the proposal process, unless the mistakes are the result of an unclear RFP.*

- This is a good time to answer my previous question regarding when the Design-Builder can proceed with construction "at-risk." *We have had limited discussion regarding at-risk construction but there is a good possibility that it would be allowed. WSDOT is asking for witness points and/or hold points on selected components, and they would have to be honored.*

- Will WSDOT develop durability criteria for the project as a means to measure performance? *Warranties will be asked for on a project-specific basis. The generic process described has a warranty provision, but every project will have its own needs for the use of warranty clauses.*

- What will be the nature of a warranty? *We have not finally decided that. Warranties will be project-specific—that is, we may ask for different types of warranties for different types of projects. Through our investigations we have heard of warranty periods ranging from 1 to 10 years. Conditions of rideability have been used to measure the performance of pavement. Utah used a "maintenance agreement" that we recognize as a form of warranty for degradation of major project components.*

- Who will be responsible for permits? *WSDOT will obtain permits for which we are required to be the responsible party (most environmental permits), with the Design-Builder doing the necessary research and preparation of application data. The Design-Builder will be responsible for all other permits.*

- The QC/QA Plan is described as being approved after the proposal is selected; that may have significant impact on the price submitted. *The QC/QA plan has numerous requirements that need to be discussed to ensure WSDOT and the Design-Builder are on the same track. The RFP will be very specific about elements required in a QC/QA plan. Major issues that are not addressed in the proposal may be recognized as being non-responsive. After the selection of a Design-Builder, but before the approval of a QC/QA plan, we expect to be dealing with minor points that do not affect cost. WSDOT doesn't want selection to be hinged on an accurate QC/QA Plan being submitted with the proposal but would rather negotiate the fine points prior to starting work.*

- If you are going to allow discussion of minor points for the QC/QA Plan, why not other aspects of the project? A deficiency list could be provided to each Proposer of areas that need to be improved to be acceptable. *What you are alluding to is a BAFO (Best and Final Offer) process where discussions are opened up during the selection process to fine tune the proposals and adjust the prices. WSDOT is not interested in pursuing a BAFO process, and contractors have indicated they are not interested either.*

- Could the QC/QA Plan be submitted after the proposal, with just a summary provided with the proposal to eliminate having a proposal that is part of the contract that does not meet

the requirements? *This hasn't been defined in enough detail yet, but that concept is indeed a possibility.*

- The QC/QA Plan requires an independent Cost Center; does that require a separate company or can it be the same company? *It needs to be a separate entity, within the same company, or a separate company. We don't want cost and schedule to influence the quality control measuring of the product.*
- Will federal funds be used in the pilot projects, and will federal documentation be required? *Yes, federal funds will be used on the projects and documentation will be required.*
- Proposers need some communication during the process to remain on track.
- New Jersey Transit requested a proposal with the Technical element submitted months prior to the price element. Deficiencies were presented to each Proposer to help in the preparation of the proposal.
- Is the Price Evaluation meant to be a proposal leveling measure? *No.*
- Will the project schedule be requested in the proposal? *Yes.*
- The QC/QA Plan requirements should list the expected or minimal level of inspection and testing in order to balance the expectations of the Proposers.
- When agencies use lump sum bidding, they usually take out the penalties for materials, as there is no basis for formulating the penalty price. They become hard to negotiate. *WSDOT has identified this difficulty and may set up material quality penalties using a pre-determined basis.*
- A schedule is being requested with the proposal. Will it be fixed or will differences be measured as part of the selection process? *WSDOT will set a finish date for the project. The importance of schedule and possible improved schedules will be indicated in the scoring outline for proposals. If schedule improvements are highly desirable, that will be indicated in the RFP, and scoring for schedule improvements will be more heavily weighted. WSDOT will also set interim milestones. The effects of lane closures on the project will also be considered, and taken into account as a scoring item if important.*
- If that type of evaluation is to be conducted, the evaluation criteria need to be very objective and published in the RFP so the Design-Builder can measure the impacts of various construction staging on the price and the score. *They will be.*
- Will there be a timeline established for payments during the execution of the project? *Yes. Progress payments will be part of the contract. Progress estimates will be provided by the Design-Builder, and verified by WSDOT.*
- Timely payments to the Design-Builder can reduce costs. On Utah I-15, payment is made within 7 days of invoice, and discrepancies are evaluated and adjusted in subsequent payments. As a result, the Design-Builder does not have to finance a cash "float" and it is estimated that $35 million was saved through this process. *WSDOT is aware of this, and has not ruled it out.*
- What disincentives is WSDOT contemplating? *We are looking at maintaining our current material penalties and penalties for lane closure restrictions and completion.*

- How many items are being contemplated for progress payments? *Not resolved in detail yet. It will be project-specific but most likely a much smaller list than for current projects.*
- How will mobilization be paid for? *This is another item that we have discussed in detail but haven't resolved into a set policy. It will be evaluated on a project basis and most likely will be need-based.*
- Will there be liquidated damages assessed for circumstances "beyond the contractor's control" or will time extension be given? *These issues will be handled through the normal change order process.* (Following added for this document): Force Majeure items will be explicitly defined in the RFP and contract, and there will be explicit methods for deciding who is responsible.
- When will the Design-Builder submit the traffic maintenance plan? *As part of the proposal.*
- Who will be conducting public involvement? *WSDOT will be conducting all required public involvement for the NEPA/SEPA process. The Design-Builder will conduct the public involvement process during design and construction.*
- Will WSDOT public involvement capabilities be available to the Design-Builder on a contract basis? *This is a possibility.*
- The impacts to the public can be fairly severe in a staged paving project. Will the selection criteria differentiate the public impacts? A balance must be made between an efficient paving process with severe impacts compared to a more publicly compatible process at a higher cost. The criteria used to evaluate these two extremes must be clearly defined through the scoring criteria so Proposers can evaluate what is most important to WSDOT. *Agreed.*
- The proposal is typically written in non-binding terms that could be detrimental to the integrity of the rest of the contract. Typically, specific technical components of the proposal are tied to the contract such as schedule, scope, price, etc. Will the proposal be part of the contract? *Yes we are thinking of making the proposal a binding part of the contract.* (Following added later): WSDOT will require that the proposal be written in a specific and explicit manner that allows it to be incorporated as part of the contract.
- Can a model contract be put out for review so we can determine how this process is going to look? *A model contract is very difficult to compile; project-specific variances prevent standard language from being developed. A project-specific contract will be produced prior to the RFQ so interested parties can evaluate prior to submitting an SOQ.*
- WSDOT should consider some innovative incentive programs rather than disincentives. They have worked pretty successfully elsewhere. *WSDOT is interested in determining the benefits of Design-Build and doesn't want to cloud the evaluation with too many other tests, such as incentive programs.*
- How will the ideas of unsuccessful Proposers be incorporated? *Most likely on future projects. It would be hard to change a submitted (and accepted) proposal to incorporate the changes submitted by another. The cost reduction alternative provisions could be used to incorporate a different idea.*

- WSDOT needs an efficient process for evaluating and incorporating desired proposed changes by the Design-Builder. An equal or better solution would be lost due to an inefficient process. Sometimes the best ideas don't come out until the final design process.
- WSDOT should have process identified in the selection process for evaluating substandard designs that cost significantly less. The design may meet criteria through a design exception. Perhaps alternative designs could be entertained with separate prices and scores.
- Will there be M/W/DBE requirements? *Yes, we will be using standard percentages; there is no reason to deviate. The exact percentage will be project-dependent.*
- What will be the WSDOT representation in the field aside from the QA involvement? *It will be very minimal. The witness points will define the specific areas of interest; other than that, observations will be to determine contract compliance. If the contract has provisions for specific measurement elements like lane closures and penalties, involvement will be needed.*
- Typically, the industry talks about designs being taken to 25 to 30 percent prior to requesting proposals. It looks like WSDOT is less than that. *We identified that percent complete had an ambiguous definition. Our process is set up to take each project component to the level required to identify the risks associated with it.*
- What type of insurance coverage is WSDOT looking for? If project-specific is desired, the insurance rate will be project-specific and dependent on the tail. Would you be looking for E&O insurance and warranties for latent defects only? *Yes.*
- Will WSDOT be looking for direct or consequential damages? *Haven't decided.*
- Will WSDOT indemnify the Design-Builder beyond the contract period? *Don't know.*
- Will the performance bond cover the warranty or will there be a separate warranty bond? *It will depend on the length of the warranty.*
- Specific products could be warrantied and bonded by the manufacturer.
- When will the contract be entered into? *Right after award. The bond would be put into effect at that time.*
- How long a warranty period are you looking at? *The warranty period is dependent on project specifics.*
- Will major subcontractors be required in the proposal? The contractor needs some flexibility to get the best price after selection. *Yes, key subcontractors will be requested specifically in the RFP. They will tend to be specialty or major subcontractors. Changing them after acceptance of the proposal would require WSDOT approval.*
- Will there be a debriefing for the unsuccessful Proposers? *Yes.*
- Has an evaluation plan been prepared yet? *Not finished yet; we have started preliminary discussions related to the metrics to use. Cost, schedule time, staff time, state involvement, quality of product are things being discussed. We are looking for an outside evaluator, such as a university.*
- The scoring system for best value allows the worst qualified team with the lowest price to win. This isn't the most desirable of circumstances. *That is true. However, we are selecting the*

top 3 to 5 teams, which sets the criteria a little higher than the worst qualified. There will be minimum qualification and proposal criteria that must be met to be responsive. Having met those, all responsive bids will be qualified.

- Using the alternative proposal idea mentioned earlier would allow for several breakdowns of the proposed project. Many good ideas are not presented because of ambiguity in the evaluation criteria. Multiple proposals may be tough to evaluate.
- Simplicity in the process is also highly desirable. The simpler the process the better, especially for the pilot projects. A number of the project components could be addressed after selection.
- Is there any thought to having the proposal requirements less for smaller projects? *The complexity of the proposal is dependent on the complexity of the project, not the size. We would be interested in the minimum necessary to make a good selection.*
- What will WSDOT be interested in pertaining to the agreement between the contractor and designer? *We are not interested in becoming involved in the process of linking the contractor to the designer. We are interested in who you are and how your organization is structured.*
- With a 2- to 3-year evaluation period for the pilot projects, will WSDOT be coming out with other Design-Build projects? *The Program is for two projects; we want to complete the evaluation and determine the benefits of the process. Other influences during the pilot project term may change this.*
- Will there be updates to the process as it continues to evolve? *Yes. The information will be updated on the website.*
- Are the other projects that WSDOT looked at and rejected available? *No, the list is not available. The list of criteria used to select the two pilots is in the report and posted on the website.*
- With R49 passing, would it be possible to swap out the selected projects for two that are larger? *Probably not, the projects to be funded by R49 are not completely identified and the timing may not work.*
- Are there going to be any more meetings since all these issues have come out in this meeting? *The next meeting would be the pre-RFQ meeting for one of the pilot projects. Another general stakeholder meeting is not in the plans now but could be entertained if there is enough interest.*
- What will be the state's value between QC/QA and warranty? The value or amount of emphasis on each would be project specific. *Each project will have that emphasis clearly defined. Warranty periods will be clearly specified for each project and component.*
- What is the surety input regarding their reviewing QC/QA Plans and requirements? (Answered by a surety company attendee) *Project-specific.*
- What is WSDOT's intent with E&O insurance? *We will be asking for coverage; it will be between the contractor and designer on how it is provided. Some coverages are available allowing the contractor to provide coverage. If a design error presents itself during construction, the problem lies between the designer and contractor, not the DOT.*

- When will the final report (on the D-B process) be available? *Within a few weeks,(it will be mailed to all attendees).*
- How much design is necessary during the proposal stage? *It will depend on the project and the amount of design done by WSDOT prior to the RFP. Will need enough design to describe the proposed process and product so the evaluation team can assess the "technical value."*
- What is the definition of 30 percent design? *About the same point as (what was formerly known as) a Design Report. However, the amount of design proposed before handing off a Design-Build project is not yet decided upon and could vary from project to project.*
- Who does the 30 percent design on the pilot projects? *Depends on the project and what is underway at this time. It could be WSDOT or a design firm.*
- Would a design firm that prepared a 30 percent design be excluded from participating on a Design-Build team for the project? *Not yet decided.*
- Consider "paralleling" the two pilot projects: perform a complete design in-house and compare with the design from the Design-Build team; would take additional time and money but there would be a straight comparison; this works only up to construction because you can't build it twice.
- If time saving is the real issue, other delivery methods might accomplish the same thing; e.g., a "fast track" project may be faster, or internal process improvements may substantially shorten delivery times.
- What is WSDOT's position on QA/QC? *This is still under discussion, but a way to decide must be included in the process and a position must be established for each project. The nature of the QA/QC responsibilities could vary from project to project.*
- Will a warranty of some type be required? *Don't know yet.*
- Will WSDOT do the geotech work? It affects the cost of preparing proposals and increases the risk to the contractor. Lack of good geotechnical data may be the Number One risk factor. *WSDOT will perform the intial soil investigation based on the preliminary design. WSDOT will also provide additional soil borings, subject to the limitations specified in the RFP, to the design-builders to establish a baseline for geotechnical design.*
- How will M/WBE requirements be handled? *Unknown—May or may not be like standard projects.*
- Will prevailing wages apply to Design-Build projects? *Design-Build projects will conform to the same rules as conventional projects.*
- The pilot projects must be $10 million or greater. Is this a reasonable minimum size? *It is in the new law. Small contractors did not want to lose access to the smaller projects. Other states have generally found the larger projects to be more conducive to Design-Build benefits.*
- What will WSDOT's role be in the review of products? Should consider internal priorities and timeliness. The details need to be in the project specifications.
- Consider flexibility in design standards and specifications to allow more innovation. *Would require more review time and effort to ensure that the minimum industry criteria are met.*

- Will WSDOT be communicating with other agencies that have done/are doing Design-Build contracting? *There has been communication and it will continue. The process and specifications may be similar but that is not the primary goal.*
- Will WSDOT's Design-Build process move to the European model, where the selection of the Design-Build team is based on innovation (and not on cost)? Conventional Design-Build may limit innovation. *The current legislation requires certain elements in the selection process, including price. The future beyond that is unknown.*
- How can risk to the Design-Build teams be reduced? *A good description of the project's requirements, limits, and outcomes is needed in the RFP.*
- The design engineer's greatest risk is at the early part of the design process. The contractor needs good details upon which to base a bid.
- A more complete Owner design (say 50 percent) may lead to more innovation later in the design process.
- Design firms must have a good relationship and good business terms with their contractor teammates to minimize risk to both parties.
- What has the experience of other states shown as to the preferred type of Design-Build projects? *No consistency or trends—projects are all over the board. States have done the very large and the very small, as well as a variety in between, but have not finished enough projects to have an established trend.*
- Consider looking at Private Sector Design-Build experience. *WSDOT is currently reviewing many selection and contracting processes and products. Funding may drive (or limit) the selection of projects for Design-Build contracting.*
- What is the funding issue? *With a typical WSDOT project, the design budget is included in one biennium and the construction budget in the next. A Design-Build contract must have funding for both phases at award of contract.*
- How will the success of Design-Build projects be measured? *The new legislation has a few requirements, but the real goal is to "test" the method.*
- Is WSDOT also looking at other ways to improve the delivery process? *Yes. As a state agency that has pioneered in continuous improvement, WSDOT has numerous process improvements underway.*
- What criteria will be used for selection of Design-Build teams? *Cost will be a factor, along with qualifications and technical approach. Weighting of factors will depend on the project.*
- What is the expectation—Lump sum, guaranteed maximum price, or? Lump sum can result in more innovation. *Not yet decided—what would you like to see?*
- Consider allowing partial payments and methods to calculate. Provide a method for an early payment to get the Design-Build team started.
- Will the two pilot projects be conducted in parallel? *It depends on the projects, but probably not. There is no end date set for completion of the projects, so they could string out. There are actually some reasons to stagger the projects by a month or two to permit some sequential learning.*

- Do many Design-Build projects include financial incentives for early delivery or excellent products? *A number of methods have been tried in other states and will be considered here.*
- Will WSDOT hold discussions with other state agencies that are using alternative project delivery methods? General Services has delivered several projects (buildings) by Design-Build contracting and had a process developed to do it. *Will discuss Design-Build contracting with them.*
- Here are three items of direct input: Provide big stipends, make short shortlists, and share the cost of the Design-Build teams' proposal costs.
- Eliminate audit requirements for design firms. *This could be the case on Design-Build projects, since the actual design contract is between the contractor and designer, not between the designer and WSDOT. However, this process still involves the expenditure of public money and all firms receiving public money are subject to audit requirements.*
- Will there be specific M/WBE goals for the pilot projects? *Probably, but not sure yet.*
- Permitting could be a big problem on certain projects. Would introduce large unknown risks. The timing of permits is typically unknown, as is the effort required to get them. Delays associated with permits could result in large cost impacts.
- Will teams be prequalified for Design-Build projects in general, or will they need to submit on each project? *At this time, it is expected that D-B teams would have to submit qualifications for each project.*
- Will local firms automatically receive some credit for being local/Washington firms? *Not necessarily, but they might score higher in some categories because of their location or local knowledge.*
- Won't a 30 percent design for Design-Build delivery be different than for a conventionally delivered project? *Yes, the project description could be very different. This emphasizes the need to identify a project as a Design-Build candidate early in the development process.*
- What have contractors said about Design-Build? *A lot of the same issues and concerns as stated here. Also, that contractors must have responsibility for the QC process and that the Design-Build team selection process be as objective as possible.*
- Will the Design-Build team's liability be limited in some way; e.g., tied to a specific time period or dollar amount? *This will be considered but the outcome is unknown at this time.*
- Are stipends for buying ideas or paying for effort? *The legislation says stipends are to "generate meaningful competition." It is also likely that Design-Build teams will be asked to forfeit their ideas if they accept a stipend, which might lead some teams to reject the stipend.*
- Also need to monitor the use of other teams' proposed methods by the "winning" Design-Build team.
- How will performance specifications be developed? How specific will they be? *Performance specs will speak to outcomes and will be developed to overlay the existing specification package. They will be as specific as they need to be to ensure the intended result, but as broad as possible to allow innovation and creativity.*

- To what point in the current project delivery process will WSDOT develop the project before releasing as a Design-Build project; e.g., will the design report be complete? *The projects will be developed as far as necessary to explain what is expected of the Design-Build Team. Going too far may limit innovation.*
- Will standard products and review processes be required during the design process? *That is not the intent. It is expected to be easier and faster, but design standards are expected to be adhered to unless deviations are approved.*
- What types of projects will be selected for the pilot projects? *Type still not determined. They must be greater than $10 million in cost and must be highway projects. Other than that we have no preconceived notions.*
- Can design firms be prime contractors for Design-Build projects? *At this point, that is not ruled out.*
- Will design firms be allowed to look at both pilot projects? *That has not been decided yet, but should be okay if the projects are staggered out by a month or more.*
- Consider what is being evaluated by the test projects, then hold other things in steady state.
- We like the $10 million minimum size. What drove the decision to adopt this limit? *Previous legislation, experience at other state DOTs, and input from smaller contractors.*
- Design firms typically don't have many financial reserves to expend on these major pursuits. This may limit competition. Also, the cost of pursuing this type of project needs to be considered as an auditable overhead item.