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**INTRODUCTION**

The following Amendments and Special Provisions shall be used in conjunction with the 2000 Standard Specifications for Road, Bridge, and Municipal Construction (Metric).

**AMENDMENTS TO THE STANDARD SPECIFICATIONS**

The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications. For informational purposes, the date following each Amendment title indicates the implementation date of the Amendment or the latest date of revision.

Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project.

**SECTION 1-01, DEFINITIONS AND TERMS**  
**June 26, 2000**

**1-01.2(1) Associations and Miscellaneous**

This section is supplemented with the following:

FOP	Field Operating Procedure
WAQTC	Western Alliance for Quality Transportation Construction
SOP	Standard Operating Procedure

**SECTION 1-04, SCOPE OF THE WORK**  
**March 6, 2000**

**1-04.4 Changes**

This section is supplemented with the following:

**1-04.4(1) Minor Changes**

Payments or credits for changes amounting to \$5,000 or less may be made under the bid item "Minor Change". At the discretion of the Contracting Agency, this procedure for Minor Changes may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes.

The Contractor will be provided a copy of the completed order for Minor Change. The agreement for the Minor Change will be documented by signature of the Contractor, or notation of verbal agreement. If the Contractor is in disagreement with anything required by the order for Minor Change, the Contractor may protest the order as provided in Section 1-04.5.

Payments or credits will be determined in accordance with Section 1-09.4. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for "Minor Change" in the Proposal to become a part of the total bid by the Contractor.

**SECTION 1-06, CONTROL OF MATERIAL**  
**June 26, 2000**

**1-06.2(1) Samples and Tests for Acceptance**

In the first paragraph, the last sentence is revised to read as follows:

Samples not taken by or in the presence of the Engineer Qualified Tester will not be accepted for test, unless the Engineer permits otherwise.

In the fifth paragraph, the first and second sentences are revised to read as follows:

1 All field and laboratory and materials testing by the Engineer will follow methods  
2 described in the contract documents or in the Washington State Department of  
3 Transportation Materials Manual, using qualified testing personnel and calibrated or  
4 verified equipment. The following provisions will apply when the Contracting Agency  
5 uses the specifications or methods from the sources named below:  
6  
7

8 The fifth paragraph is supplemented with the following:  
9

10 WAQTC - Western Alliance for Quality Transportation Construction. The WAQTC  
11 designation number refers to this alliance's latest adopted or tentative standard. The  
12 standard or tentative standard in effect on the bid advertising date will apply in each  
13 case. The Contracting Agency will consider them as in effect 60 calendar days after  
14 publication.  
15

16 Copies of any separate WAQTC testing method may be obtained from: The WSDOT  
17 Quality Systems Manager, Field Operations Support Service Center, Materials  
18 Laboratory, PO Box 47365, Olympia, Washington, 98504-7365.  
19

## 20 **SECTION 1-07, LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC** 21 **June 26, 2000**

### 22 **1-07.8 High Visibility Apparel**

23 In the second paragraph, (1) is revised to read as follows:  
24

25 (1) when personnel are out of view of, or not exposed to traffic,  
26

### 27 **1-07.11 Requirements For Non-discrimination**

28 This section is supplemented with the following:  
29

#### 30 **1-07.11(2)A Equal Employment Opportunity Responsibilities**

##### 31 ***Title VI Responsibilities***

32 During the performance of this contract, the Contractor, for itself, its assignees and  
33 successors in interest (hereinafter referred to as the "Contractor") agrees as follows:  
34  
35

#### 36 **1. Compliance With Regulations**

37 The Contractor shall comply with the Regulations relative to nondiscrimination  
38 in federally assisted programs of the Department of Transportation (hereinafter  
39 DOT), Title 49, Code of Federal Regulations, part 21, as they may be  
40 amended from time to time, (hereinafter referred to as the Regulations), which  
41 are herein incorporated by reference and made a part of this contract.  
42

#### 43 **2. Nondiscrimination**

44 The Contractor, with regard to the work performed by it during the contract,  
45 shall not discriminate on the grounds of race, color, sex, or national origin in  
46 the selection and retention of subcontractors, including procurement of  
47 materials and leases of equipment. The Contractor shall not participate either  
48 directly or indirectly in the discrimination prohibited by Section 21.5 of the  
49 Regulations, including employment practices when the contract covers a  
50 program set forth in Appendix B of the Regulations.  
51

#### 52 **3. Solicitations for Subcontracts, Including Procurement of Materials and 53 Equipment**

54 In all solicitations either by competitive bidding or negotiations made by the  
55 Contractor for work to be performed under a subcontract, including  
56 procurement of materials or leases of equipment, each potential subcontractor  
57 or supplier shall be notified by the Contractor of the Contractor's obligations  
58 under this contract and the Regulations relative to nondiscrimination on the  
59 ground of race, color, sex, or national origin.

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**4. Information and Reports**

The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Washington State Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Washington State Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

**5. Sanctions for Noncompliance**

In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, the Washington State Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

1. Withholding of payments to the Contractor under the contract until the Contractor complies, and/or;
2. Cancellation, termination, or suspension of the contract, in whole or in part.

**6. Incorporation of Provisions**

The Contractor shall include the provisions of paragraphs (1) through (5) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontractor or procurement as the Washington State Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance.

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Washington State Department of Transportation enter into such litigation to protect the interests of the state and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**1-07.11(6) Incorporation of Provisions**

The first sentence is revised to read as follows:

The Contractor shall include the provisions of Section 1-07.11(2) Contractual Requirements (1) through (4) and the Section 1-07.11(5) Sanctions in every subcontract including procurement of materials and leases of equipment.

**1-07.22 Use of Explosives**

In the second paragraph, the reference to "WAC 295-52" is revised to "WAC 296-52".

**SECTION 1-08, PROSECUTION AND PROGRESS  
(March 6, 2000)**

**1-08.1 Subcontracting**

The 7th paragraph is supplemented with the following:

When required by the Contract, the Contractor shall submit a "Quarterly Report of Amounts Credited as DBE Participation" form in lieu of DOT form 412-023 "Affidavit of Amounts Paid MBE/WBE Participants".

1  
2 This section is supplemented with the following:  
3

4 ***Subcontract Completion and Return of Retainage Withheld***

5 The following procedure shall apply to all subcontracts entered into as a part of this  
6 Contract:  
7

8 **Requirements**

- 9 1. The subcontractor shall make a written request to the Contractor for the  
10 release of the subcontractor's retainage or retainage bond.  
11  
12 2. Within ten (10) working days of the request, the Contractor shall determine if  
13 the subcontract has been satisfactorily completed and shall inform the  
14 subcontractor, in writing, of the Contractor's determination.  
15  
16 3. If the Contractor determines that the subcontract has been satisfactorily  
17 completed, the subcontractor's retainage or retainage bond shall be released  
18 by the Contractor within ten (10) working days from the date of the written  
19 notice.  
20  
21 4. If the Contractor determines that the subcontractor has not achieved  
22 satisfactory completion of the subcontract, the Contractor must provide the  
23 subcontractor with written notice, stating specifically why the subcontract work  
24 is not satisfactorily completed and what has to be done to achieve completion.  
25 The Contractor shall release the subcontractor's retainage or retainage bond  
26 within eight (8) working days after the subcontractor has satisfactorily  
27 completed the work identified in the notice.  
28  
29 5. In determining whether satisfactory completion has been achieved , the  
30 Contractor may require the subcontractor to provide documentation such as  
31 certifications and releases, showing that all laborers, lower-tiered  
32 subcontractors, suppliers of material and equipment, and others involved in  
33 the subcontractor's work have been paid in full. The Contractor may also  
34 require any documentation from the subcontractor that is required by the  
35 subcontract or by the Contract between the Contractor and Contracting  
36 Agency or by law such as affidavits of wages paid, material acceptance  
37 certifications and releases from applicable governmental agencies to the  
38 extent that they relate to the subcontractor's work.  
39  
40 6. If the Contractor fails to comply with the requirements of the specification and  
41 the subcontractor's retainage or retainage bond is wrongfully withheld, the  
42 subcontractor may seek recovery against the Contractor under applicable  
43 prompt pay statutes in addition to any other remedies provided for by the  
44 subcontract or by law.  
45

46 **Conditions**

- 47 1. This clause does not create a contractual relationship between the Contracting  
48 Agency and any subcontractor as stated in Section 1-08.1. Also, it is not  
49 intended to bestow upon any subcontractor, the status of a third-party  
50 beneficiary to the Contract between the Contracting Agency and the  
51 Contractor.  
52  
53 2. This section of the Contract does not apply to retainage withheld by the  
54 Contracting Agency from monies earned by the Contractor. The Contracting  
55 Agency shall continue to process the release of that retainage based upon the  
56 completion date of the project as defined in 1-08.5 Time for Completion and in  
57 accordance with the requirements and procedures set forth in chapter 60.28  
58 RCW.  
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**Payment**

The Contractor will be solely responsible for any additional costs involved in paying retainage to the subcontractors prior to total project completion. Those costs shall be incidental to the respective bid items.

**SECTION 1-09, MEASUREMENT AND PAYMENT**  
**June 26, 2000**

**1-09.6 Force Account**

This section is revised to read as follows:

The terms of the contract or of a change order may call for work or material to be paid for by force account. If so, then the objective of this specification is to reimburse the contractor for all costs associated with the work, including costs of labor, small tools, supplies, equipment, specialized services, materials, applicable taxes and overhead and to include a profit commensurate with those costs. The amount to be paid shall be determined as shown below:

1. For Labor: Labor reimbursement calculations shall be based on a "Project Labor List" (List,) prepared and submitted by the contractor and by any subcontractor before that firm commences force account work. Once a List is approved by the Engineer, it shall be used to calculate force account labor payment until a new List is submitted and approved. The Engineer may compare the List to payrolls and other documents and may, at any time, require the Contractor to submit a new List. The Contractor may submit a new List at any time without such a requirement. Prior payment calculations shall not be adjusted as a result of a new List.

To be approved, the List must be accurate and meet the requirements of this section. It shall include regular time and overtime rates for all employees (or work classifications) expected to participate in force account work. The rates shall include the basic wage and fringe benefits, the current rates for Federal Insurance Compensation (FICA), Federal Unemployment Tax Act (FUTA) and State Unemployment Tax Act (SUTA), the company's present rates for Medical Aid and Industrial Insurance premiums and the planned payments for travel and per diem compensation. The rates may also include an allocation of costs of safety and health testing. This allocation shall assure that the amount included for force account is reasonably proportional to the total costs applied to all work.

In the event that an acceptable initial List or requested revised List is not received by the time that force account calculations are begun, the Engineer will develop a List unilaterally, utilizing the best data available, that will be used until a Contractor's List is received and approved. Again, prior calculations, prepared using the Engineer's List, will not be revised as a result of differences with the Contractor's List.

The hourly rates established in the current "Project Labor List" shall be applied to the hours of work recorded by the Engineer. The hours of work shall include all hours that are contractual obligations of the Contractor or are customary payments by the Contractor to all employees.

In addition to compensation for direct labor costs defined above, the Contracting Agency will pay the Contractor 26 percent of the sum of the costs calculated for labor reimbursement to cover project overhead, general company overhead, profit, bonding, insurance, Business & Occupation tax, and any other costs incurred.

2. For Materials: The Contracting Agency will reimburse invoice cost for Contractor-supplied materials. For the purpose of this provision, "Materials" shall include those items incorporated into the work, supplies used during the work and items consumed. This cost shall include freight and handling charges and applicable taxes. Before work is started, the Engineer may require the Contractor to obtain

1 multiple quotations for the materials to be utilized and select the vendor with prices  
2 and terms most advantageous to the Contracting Agency.

3  
4 The Contracting Agency will provide a list of the types and quantities of Contractor-  
5 supplied materials witnessed by the Contracting Agency as being utilized in force  
6 account work. The list will be furnished promptly after the material is incorporated,  
7 on a daily basis unless agreed otherwise. The Contractor may propose corrections  
8 to the list and will supply prices for the materials and other costs and return the list  
9 to the Contracting Agency. To support the prices, the Contractor shall attach valid  
10 copies of vendor invoices. If invoices are not available for materials from the  
11 Contractor's stocks, the Contractor shall certify actual costs (at a reasonable level)  
12 by affidavit. The Engineer will review the prices and any Contractor-proposed  
13 corrections and, if reasonable, approve the completed list. Once approved, the  
14 prices will be utilized in the calculation of force account reimbursement for  
15 materials.

16  
17 If, in the case of non-invoiced materials supported by Contractor affidavit, the price  
18 appears to be unreasonable, the Engineer will determine the cost for all or part of  
19 those materials, utilizing the best data available.

20  
21 The Contracting Agency reserves the right to provide materials. In this case, the  
22 Contractor will receive no payment for any costs, overhead, or profit arising from  
23 the value of the materials themselves. Additional costs to handle and place the  
24 Agency-furnished material shall be compensated as described in this specification.

25  
26 In addition to compensation for direct materials cost, the Contracting Agency will  
27 pay the Contractor 21 percent of the sum of the costs calculated for materials  
28 reimbursement to cover project overhead, general company overhead, profit,  
29 bonding, insurance, Business & Occupation tax, and any other costs incurred.

- 30  
31 3. For Equipment: The Contracting Agency will reimburse the Contractor for the cost  
32 of equipment utilized in the work. The equipment provided by the Contractor shall  
33 be of modern design and in good working condition. For the purpose of this  
34 provision, "provided" shall mean that the equipment is owned (either through  
35 outright ownership or through a long-term lease) and operated by the Contractor or  
36 Subcontractor or that the equipment is rented and operated by the Contractor or  
37 Subcontractor. Equipment that is rented with operator shall not be included here,  
38 but shall be considered a service and addressed according to section 4 of this  
39 provision.

40  
41 The amount of payment for any Contractor-owned equipment that is utilized shall  
42 be determined according to the version of the AGC/WSDOT Equipment Rental  
43 Agreement which is in effect at the time the force account is authorized. The rates  
44 listed in the Rental Rate Blue Book (as modified by the current AGC/WSDOT  
45 Equipment Rental Agreement) shall be full compensation for all fuel, oil, lubrication,  
46 ordinary repairs, maintenance, and all other costs incidental to furnishing and  
47 operating the equipment except labor for operation.

48  
49 Payment for rented equipment will be made on the basis of a valid invoice,  
50 covering the time period of the work. Before work is started, the Engineer may  
51 require the Contractor to obtain multiple quotations for the rental of equipment to  
52 be utilized and select the vendor with prices and terms most advantageous to the  
53 Contracting Agency

54  
55 In addition to the payments for Contractor-owned and rented equipment, one or  
56 more lump-sum payments may be made for small tools. The amount to be paid  
57 shall be determined as outlined in the AGC/WSDOT Equipment Rental Agreement.

58  
59 The Contracting Agency will add 21 percent to equipment costs to cover project  
60 overhead, general company overhead, profit, bonding, insurance, Business &

1 Occupation tax, and any other costs incurred. This markup will be over and above  
2 those equipment costs and will not be adjusted for any equipment overhead  
3 amounts included in the Blue Book rates.  
4

5 Current copies of the Rental Rate Blue Book and the AGC/WSDOT Equipment  
6 Rental Agreement will be maintained at each Region office of the Department of  
7 Transportation (Compact Disk Version) and at each of the offices of the Associated  
8 General Contractors of America (in Seattle, Spokane, Tacoma, and Wilsonville,  
9 Oregon) where they are available for inspection.  
10

- 11 4. For Services: Compensation under force account for specialized services shall be  
12 made on the basis of an invoice from the providing entity. A "specialized service"  
13 shall be one which is typically billed through invoice in standard industry practice.  
14 Before work is started, the Engineer may require the Contractor to obtain multiple  
15 quotations for the service to be utilized and select the provider with prices and  
16 terms most advantageous to the Contracting Agency.  
17

18 Except as noted below, the Contracting Agency will pay the Contractor an  
19 additional 21 percent of the sum of the costs included on invoices for specialized  
20 services to cover project overhead, general company overhead, profit, bonding,  
21 insurance, Business & Occupation tax, and any other costs incurred.  
22

23 When a supplier of services is compensated through invoice, but acts in the  
24 manner of a subcontractor, as described in Section 6 of this provision, then markup  
25 for that invoice shall be according to Section 6. "Contractor Markup on  
26 Subcontractors' Work".  
27

- 28 5. For Mobilization: Force account mobilization is defined as the preparatory work  
29 performed by the Contractor including procurement, loading and transportation of  
30 tools and equipment, and personal travel time (when such travel time is a  
31 contractual obligation of the Contractor or a customary payment for the Contractor  
32 to all employees). Mobilization also includes the costs incurred during  
33 demobilization. Pro-rata adjustments may be made when the mobilization applies  
34 to both force account and other contract work. The Contracting Agency will pay for  
35 mobilization for off-site preparatory work for force account items provided that  
36 notice has been provided sufficiently in advance to allow the Engineer to witness  
37 the activity, if desired.  
38

39 Any costs experienced during mobilization activities for labor, equipment, materials  
40 or services shall be listed in those sections of the force account summary and paid  
41 accordingly.  
42

- 43 6. For Contractor Markup on Subcontractor's Work: When work is performed on a  
44 force account basis by one or more approved subcontractors, by lower-tier  
45 subcontractors or suppliers, or through invoice by firm(s) acting in the manner of a  
46 subcontractor, the Contractor will be allowed an additional markup, from the table  
47 below, applied to the costs computed for work done by each subcontractor through  
48 Sections 1, 2, 3, and 4, to compensate for all administrative costs, including project  
49 overhead, general company overhead, profit, bonding, insurance, Business &  
50 Occupation tax, and any other costs incurred.  
51

52 A firm may be considered to be acting as a subcontractor when the Engineer  
53 observes one or more of the following characteristics:  
54

- 55 • The person in charge of the firm's activities takes an active role in  
56 managing the overall project, including extensive coordination,  
57 interpretation of plans, interaction with the Contracting Agency or  
58 management of a complex and inter-related operation.  
59

- Rented equipment is provided fueled, operated and maintained by the firm. Operators of rented equipment are supervised directly by the firm's representative. There is little interaction between the Contractor and the employees of the firm.
- The firm appears to be holding the risk of performance and quality of the work.
- The firm appears to be responsible for liability arising from the work.

Markups on Work Performed by Subcontractor(s):

- |   |                          |     |
|---|--------------------------|-----|
| 1. On amounts paid for work performed by each Subcontractor on each force account and calculated through Sections 1-4 | up to \$25,000           | 12% |
| 2. On amounts greater than  | \$25,000 up to \$100,000 | 10% |
| 3. On amounts greater than  | \$100,000                | 7%  |

The amounts and markup rates shall be calculated separately for each subcontractor on each force account item established.

The payments provided above shall be full payment for all work done on a force account basis. The calculated payment shall cover all expenses of every nature, kind, and description, including those listed above and any others incurred on the work being paid through force account. Nothing in this provision shall preclude the Contractor from seeking an extension of time or time-related damages to unchanged work arising as a result of the force account work. The amount and costs of any work to be paid by force account shall be computed by the Engineer, and the result shall be final as provided in Section 1-05.1.

An item which has been bid at a unit price or lump sum in the Proposal will not be paid as force account unless a change as defined in Section 1-04.4 has occurred and the provisions require a payment adjustment. Items which are included in the Proposal as Force Account or which are added by change order as Force Account may, by agreement of the parties at any time, be converted to agreed unit prices or lump sums applicable to the remaining work.

**1-09.7 Mobilization**

This section is revised to read as follows:

Mobilization consists of preconstruction expenses and the costs of preparatory work and operations performed by the Contractor which occur before 10 percent of the total original contract amount is earned from other contract items. Items which are not to be included in the item of Mobilization include but are not limited to:

1. Any portion of the work covered by the specific contract item or incidental work which is to be included in a contract item or items.
2. Profit, interest on borrowed money, overhead, or management costs.
3. Any costs of mobilizing equipment for force account work.

Based on the lump sum contract price for "Mobilization," partial payments will be made as follows:

1. When 5 percent of the total original contract amount is earned from other contract items, excluding amounts paid for materials on hand, 50 percent of

- 1 the amount bid for mobilization, or 5 percent of the total original contract  
2 amount, whichever is the least, will be paid.  
3  
4 2. When 10 percent of the total original contract amount is earned from other  
5 contract items, excluding amounts paid for materials on hand, 100 percent of  
6 the amount bid for mobilization, or 10 percent of the total original contract  
7 amount, whichever is the least, will be paid.  
8  
9 3. When the physical completion date has been established for the project,  
10 payment of any amount bid for mobilization in excess of 10 percent of the total  
11 original contract amount will be paid.

12  
13 Nothing herein shall be construed to limit or preclude partial payments otherwise  
14 provided by the contract.

15  
16 **SECTION 2-01, CLEARING, GRUBBING, AND ROADSIDE CLEANUP**  
17 **June 26, 2000**

18 **2-01.4 Measurement**  
19 In the fourth paragraph the reference to "per acre" is revised to "per hectare".  
20

21 **SECTION 2-03, ROADWAY EXCAVATION AND EMBANKMENT**  
22 **June 26, 2000**

23 **2-03.3(14)D Compaction and Moisture Control Tests**  
24 This section is revised to read as follows:

25  
26 Maximum density for materials with 30 percent or more, by weight retained on the U.S.  
27 No. 4 sieve shall be determined using WSDOT Test Method No. 606. The maximum  
28 density and optimum moisture for materials with less than 30 percent, by mass,  
29 retained on the U.S. No. 4 sieve shall be determined using WAQTC FOP for AASHTO T  
30 99.

31  
32 In place density will be determined using WAQTC FOP for TM 7 and WSDOT SOP for  
33 T 615. The moisture content will be determined using WSDOT FOP for AASHTO Test  
34 Method T 217, or WSDOT FOP for AASHTO Test Method T 255.  
35

36 **SECTION 2-09, STRUCTURE EXCAVATION**  
37 **June 26, 2000**

38 **2-09.3(2) Classification of Structure Excavation**  
39 This section is revised to read as follows:

- 40  
41 1. **Class A.** Structure excavation required for bridge and retaining wall footings, pile  
42 caps, seals, and wingwalls shall be classified as structure excavation Class A. If  
43 the excavation requires a cofferdam, structural shoring, or extra excavation, the  
44 work outside the neat lines of the structure excavation Class A shall be classified  
45 as shoring or extra excavation Class A.  
46  
47 2. **Class B.** All other structure excavation shall be Class B. If this excavation  
48 requires cofferdams, shoring, or extra excavation, the work outside the neat lines  
49 of the structure excavation Class B shall be classified as shoring or extra  
50 excavation Class B.  
51

52 **2-09.3(3)D Shoring and Cofferdams**  
53 This section is revised to read as follows:

54  
55 **Definitions**  
56 Structural shoring is defined as a shoring system that is installed prior to excavation.  
57 Structural shoring shall provide lateral support of soils and limit lateral movement of

1 soils supporting structures, utilities, railroads, etc., such that these items are not  
2 damaged as a result of the lateral movement of the supporting soils.

3  
4 Structural shoring systems includes driven cantilever sheet piles, sheet piles with  
5 tiebacks, sheet pile cofferdams with wale rings or struts, prestressed spud piles,  
6 cantilever soldier piles with lagging, soldier piles with lagging and tiebacks, and multiple  
7 tier tieback systems.

8  
9 Trench boxes, sliding trench shields, jacked shores, and shoring systems which are  
10 installed after excavation are not allowed as structural shoring.

11  
12 A cofferdam is any watertight enclosure, sealed at the bottom and designed for the  
13 dewatering operation, that surrounds the excavated area of a structure. The Contractor  
14 shall use steel sheet pile or interlocking steel pile cofferdams in all excavation that is  
15 under water or affected by ground water.

### 16 **Submittals and Design Requirements**

17  
18 The Contractor shall submit working drawings and calculations showing the proposed  
19 methods and construction details of structural shoring or cofferdams in accordance with  
20 Sections 6-01.9 and 6-02.3(16). The Contractor shall not begin construction of  
21 structural shoring or cofferdams, nor begin excavation operations, until approval of the  
22 structural shoring submittal has been given by the Project Engineer.

23  
24 Structural shoring and cofferdams shall be designed for conditions stated in this Section  
25 using methods shown in the USS *Steel Sheet Piling Design Manuals*, published by  
26 United States Steel, and Division I Section 5 of the *AASHTO Standard Specifications*  
27 *for Highway Bridges Sixteenth Edition - 1996* and current interims, and as described in  
28 the *Foundations and Earth Structures - Design Manual 7.2 May 1982* published by the  
29 Department of the Navy. Allowable stresses for materials shall not exceed stresses and  
30 conditions allowed by Section 6-02.3(17)B.

31  
32 The structural shoring system shall be designed for site specified conditions which shall  
33 be shown and described in the working drawings. Examples of such items that shall be  
34 shown on the structural shoring submittal and supported by calculations include, but are  
35 not limited to, the following:

- 36  
37 1. Soil properties; heights; soil slopes; soil benches; water tables; and controlling  
38 cross sections showing adjacent existing foundations and utilities.
- 39  
40 2. Location and weight of construction equipment adjacent to the excavation;  
41 location of adjacent traffic; and structural shoring system material properties,  
42 spacing, size, connection details, weld sizes, and embedment depths.
- 43  
44 3. Structural shoring installation and construction sequence, procedure, length of  
45 time for procedure and time between operations; proof load testing procedure  
46 if any; deadman anchor design and geometry; no load zones; grouting  
47 material and strengths; and a list of all assumptions.
- 48  
49 4. Methods and materials to be used to fill voids behind lagging, when soldier  
50 piles with lagging are used as structural shoring.

### 51 **Construction Requirements**

52  
53 Structural shoring or cofferdams shall be provided for all excavations near completed  
54 structures (foundations of bridges, walls, or buildings), near utilities, and near railroads.  
55 In addition, structural shoring or cofferdams shall be provided for all excavations 1.22  
56 meters or more in depth which are adjacent to a roadway if the excavation is to be left  
57 open more than 48 hours. Alternatively, the excavation shall meet the open-pit  
58 requirements of Section 2-09.3(3)B.  
59

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Existing foundations shall be supported with structural shoring if the excavation is within the limits defined by a plane which extends out from the nearest edge of the existing footing a level distance of 1/2 the width of the existing footing and then down a slope of 1-1/2 horizontal to 1 vertical.

When structural shoring or cofferdams are utilized, all excavation and structural shoring shall be constructed in accordance with the approved structural shoring submittal, including any required construction sequence noted in the working drawings. The Contractor shall remain responsible for satisfactory results.

If soldier piles are placed in drilled holes, then the hole shall be filled to the top of the soldier pile either with controlled density fill, if water is not present in the hole, or lean concrete. Backfilling soldier pile drilled holes with pea gravel or sand is not allowed.

If lagging is used, void space behind the lagging shall be minimized. If the Engineer determines that the voids present could result in damage or serviceability problems for the structural shoring system or any structures or facilities adjacent to the structural shoring system, the Contractor shall cease excavation and lagging installation, and shall fill the voids specified by the Engineer in accordance with the approved structural shoring submittal. Further excavation and lagging placement shall not continue until the specified voids are filled to the satisfaction of the Engineer.

Excavation shall not proceed ahead of lagging installation by more than 1.22 meters or by the height that the soil will safely stand, whichever is least. For tieback shoring systems, excavation shall not proceed ahead by more than 1.22 meters of the tie installation and proof testing.

In using cofferdams or structural shoring, the Contractor shall:

1. Extend cofferdams well below the bottom of the excavation, and embed structural shoring as shown in the structural shoring submittal as approved by the Engineer.
2. Provide enough clearance for constructing forms, inspecting concrete exteriors, and pumping water that collects outside the forms. If cofferdams tilt or move laterally during placement, the Contractor, at no expense to the Contracting Agency, shall straighten or enlarge them to provide the required clearance.
3. Secure the cofferdam in place to prevent tipping or movement.
4. Place structural shoring or cofferdams so that they will not interfere with any pile driving required.
5. Not place any shoring, braces, or kickers inside the cofferdams and structural shoring which will induce stress, shock, or vibration to the permanent structure.
6. Vent cofferdams at the elevation commensurate with seal weight design, or as shown in the Plans.
7. Remove all bracing extending into the concrete being placed.

When the work is completed, the Contractor shall:

1. Remove all structural shoring to at least 0.5 meter below the finished ground line.
2. Remove all cofferdams to the natural bed of the waterway.

1 **SECTION 3-02, STOCKPILING AGGREGATES**  
2 **June 26, 2000**

3 **3-02.3(1) Asphalt Concrete Aggregates**  
4 This section is deleted.

5  
6 **SECTION 4-06, ASPHALT TREATED BASE**  
7 **June 26, 2000**

8 **4-06.3(7) Density**  
9 The first sentence is revised to read as follows:

10  
11 The asphalt treated base shall be compacted to a density of not less than 80 percent of  
12 the maximum theoretical density established for the mix by WSDOT FOP for AASHTO  
13 T 209.

14  
15 **SECTION 5-04, ASPHALT CONCRETE PAVEMENT**  
16 **June 26, 2000**

17 **5-04.3(8) Mixing**  
18 In the second paragraph, the last sentence is deleted.

19  
20 **5-04.3(8)A Acceptance Sampling and Testing**  
21 Section 3.A.(2) the reference to "WSDOT Test Method 712" is revised to "WAQTC FOP  
22 for AASHTO T 168".

23  
24 Section 3.D is revised to read as follows:

25  
26 Test Methods. Acceptance testing for compliance of asphalt content will be WSDOT  
27 FOP for AASHTO Test Method T 308.

28  
29 Acceptance testing for compliance of gradation will be WAQTC FOP for ASHTO T 30.

30  
31 **5-04.3(10)B Control**  
32 In the first paragraph, the reference to "AASHTO T 209." is revised to "WSDOT FOP for  
33 AASHTO T 209."

34  
35 In the first paragraph, the reference to "WSDOT Test Method 715" is revised to "WAQTC  
36 FOP TM 8 and WSDOT SOP T 729".

37  
38 **SECTION 5-05, CEMENT CONCRETE PAVEMENT**  
39 **June 26, 2000**

40 **5-05.3(4)A Acceptance of Portland Cement Concrete Pavement**  
41 In the first paragraph the second sentence is revised to read as follows:

42  
43 The point of acceptance will be per WAQTC FOP for TM 2 or at the point of discharge  
44 when a pump is used.

45  
46 The fifth paragraph is revised to read as follows:

47  
48 Acceptance testing for compliance of air content and 28 day compressive strength shall  
49 be conducted from samples prepared according to WAQTC FOP for TM 2. Air content  
50 shall be determined by conducting WAQTC FOP for AASHTO T 152. If the Contractor  
51 fails to provide the Aggregate Correction Factor per WAQTC FOP for AASHTO T 152  
52 with the mix design, one will not be applied. Compressive Strength shall be determine  
53 by WSDOT FOP for AASHTO T 23 and AASHTO Test Method T 22.  
54



1 **SECTION 6-01, GENERAL REQUIREMENTS**  
2 **June 26, 2000**

3 This section heading is revised to read as follows:  
4

5 **6-01 GENERAL REQUIREMENTS FOR STRUCTURES**  
6

7 **6-01.12 Final Cleanup**

8 The first sentence of the second paragraph is revised to read as follows:  
9

10 The Contractor is advised that after the structure is complete, a representative(s) of the  
11 WSDOT Bridge Preservation Office may perform an Inventory Inspection of the  
12 structure.  
13

14 **SECTION 6-02, CONCRETE STRUCTURES**  
15 **June 26, 2000**

16 **6-02.3(1) Classification of Structural Concrete**

17 In the first paragraph the second sentence is revised to read as follows:  
18

19 The numerical class of concrete defines the specified minimum compressive strength in  
20 Mpa at 28 days in accordance with AASHTO T 22.  
21

22 **6-02.3(2)A Contractor Mix Design**

23 In the second paragraph the reference to "AASHTO T 152." is revised to "WAQTC FOP for  
24 AASHTO T 152."  
25

26 **6-02.3(5)A General**

27 The fifth paragraph, section 1.a is revised to read as follows:  
28

- 29 a. The Contractor's test results are obtained from testing cylinders fabricated,  
30 handled, and stored for 28 days in accordance with WSDOT FOP for AASHTO T  
31 23 and tested in accordance with AASHTO T 22. The test cylinders shall be the  
32 same size cylinders as those cast by the Contracting Agency.  
33

34 **6-02.3(5)D Test Methods**

35 This section is revised to read as follows:  
36

37 Acceptance testing will be performed by the Contracting Agency in accordance with the  
38 WSDOT Materials Manual. The test methods to be used with this specification are:  
39

40 AASHTO Test Method T 22	Compressive Strength of Cylindrical Concrete Specimens
41 WSDOT FOP for AASHTO T 23	Making and Curing Concrete Test Specimens in the Field
42 WSDOT FOP for AASHTO 43 Test Method T 119	Slump of Hydraulic Cement Concrete
44 WAQTC FOP for TM 2	Sampling Freshly Mixed Concrete
45 WAQTC FOP for AASHTO T 152	Air Content of Freshly Mixed Concrete by the Pressure Method
46 AASHTO Test Method T 231	Capping Cylindrical Concrete Specimens
47 WSDOT FOP for AASHTO 48 Test Method T 309	Temperature of Freshly Mixed Portland Cement Concrete

49  
50  
51  
52  
53  
54  
55  
56 **6-02.3(5)G Sampling and Testing Frequency for Temperature, Consistency,  
57 and Air Content**

58 In the first paragraph, the eighth sentence is revised to read as follows:

1  
2 Loads to be sampled will be selected in accordance with the random selection process  
3 as outlined in WAQTC FOP for TM 2.  
4

5 **6-02.3(17)M Restricted Overhead Clearance Sign**

6 In the last sentence of the second paragraph the reference to "1-07.23(3)F" is revised to "1-  
7 10.3(3)".  
8

9 **6-02.3(17)N Removal of Falsework and Forms**

10 The fourth paragraph is revised to read as follows:  
11

12 The Contractor may remove side forms, traffic barrier forms, and pedestrian barrier  
13 forms after 24 hours if these forms are made of steel or dense plywood, an approved  
14 water reducing additive is used, and the concrete reaches a compressive strength of 10  
15 megapascals before form removal. This strength shall be proved by test cylinders made  
16 from the last concrete placed into the form. The cylinders shall be cured according to  
17 WSDOT FOP for AASHTO T 23.  
18

19  
20 **6-02.3(17)O Early Concrete Test Cylinder Breaks**

21 The second and third paragraphs are revised to read as follows:  
22

23 The concrete cylinders shall be molded in accordance with WSDOT FOP for AASHTO  
24 T 23 from concrete last placed in the forms and representative of the quality of concrete  
25 placed in that pour.  
26

27 The cylinders shall be cured in accordance with WSDOT FOP for AASHTO T 23. The  
28 Engineer may approve the use of cure boxes meeting the requirements of this test  
29 method. Special cure boxes to enhance cylinder strength will not be allowed.  
30

31 **6-02.3(20) Grout for Anchor Bolts and Bridge Bearings**

32 The second paragraph is revised to read as follows:  
33

34 Grout shall meet the following requirements:  
35

36 Requirement	Compressive Strength
37 Test Method	AASHTO Test Method T 106
38 Values	28 Mpa @ 7 days

39  
40 The seventh paragraph is revised to read as follows:  
41

42 Field grout cubes shall be made in accordance with AASHTO Test Method T106 for  
43 either prepackaged grout or a contractor provided mix when requested by the Engineer,  
44 but not less than one per bridge pier or one per day.  
45

46 **6-02.3(25)A Shop Plans**

47 In the last paragraph the first sentence is revised to read as follows:  
48

49 The Contractor shall provide five copies of the shop plans to the Engineer for approval.  
50

51 **6-02.3(25)B Casting**

52 In the sixth paragraph, number 3, is revised to read as follows:  
53

- 54 3. Be located 75 millimeters or more from the outside edge of the top flange on Series  
55 W42MG, W50MG and W58MG girders, 150 millimeters or more for Series W74MG  
56 girders, and 175 millimeters or more for Series W83MG and W95MG girders; and  
57

58 **6-02.3(25)E Contractors Control Strength**

59 In the third paragraph the first sentence is revised to read as follows:  
60

1 Test cylinders may be cured in a moist room or water tank in accordance with WSDOT  
2 FOP for AASHTO T-23 after the girder concrete has obtained the required release  
3 strength.  
4

#### 5 **6-02.3(25)M Shipping**

6 The third paragraph is revised to read as follows:  
7

8 No precast prestressed slab or precast prestressed ribbed section shall be shipped for  
9 at least three days after concrete placement. No deck bulb tee girder shall be shipped  
10 for at least seven days after concrete placement. No other girder shall be shipped for  
11 at least ten days after concrete placement.  
12

13 In the sixth paragraph under "Type of Girder", series W42G, W50G, W58G, and W74G are  
14 revised to read W42MG, W50MG, W58MG, and W74MG.  
15

16 In the seventh paragraph, the reference to Series W83G and W95G is revised to read  
17 W83MG and W95MG.  
18

#### 19 **6-02.3(25)N Prestressed Concrete Girder Erection**

20 In the seventh paragraph the fourth sentence is revised to read as follows:  
21

22 Grout compressive strength will be determined by fabricating and testing cubes in  
23 accordance with AASHTO Test Method T-106.  
24

#### 25 **6-02.3(25)O Deck Bulb Tee Girder Flange Connection**

26 In the second paragraph the fourth sentence is revised to read as follows:  
27

28 Compressive strength will be determined by fabricating and testing cubes in  
29 accordance with AASHTO Test Method T-106.  
30

#### 31 **6-02.3(26)F Grouting**

32 In the seventh paragraph the third sentence is revised to read as follows:  
33

34 Cubes shall be made in accordance with AASHTO Test Method T-106 and stored in  
35 accordance with WSDOT FOP for AASHTO T 23.  
36

#### 37 **6-02.3(27) Concrete for Precast Units**

38 This section is revised to read as follows:  
39

40 Precast units shall not be removed from forms until the concrete has attained a  
41 minimum compressive strength of 70 percent of the specified design strength as  
42 verified by rebound number determined in accordance with WSDOT FOP for ASTM C  
43 805.  
44

45 Precast units shall not be shipped until the concrete has reached the specified design  
46 strength as determined by testing cylinders made from the same concrete as the  
47 precast units. The cylinders shall be made, handled, and stored in accordance with  
48 WSDOT FOP for AASHTO T 23 and compression tested in accordance with AASHTO  
49 Test Method T 22 and AASHTO Test Method T 231.  
50

#### 51 **6-02.3(28)D Contractors Control Strength**

52 In the first paragraph the second sentence is revised to read as follows:  
53

54 The cylinders shall be made, handled, and stored in accordance with WSDOT FOP for  
55 AASHTO T 23 and compression tested in accordance with AASHTO Test Method T 22  
56 and AASHTO Test Method T 231.  
57

58 In the fourth paragraph the first sentence is revised to read as follows:  
59

1 Test cylinders may be cured in a moist room or water tank in accordance with WSDOT  
2 FOP for AASHTO T-23 after the unit concrete has obtained the required release  
3 strength.  
4

5 **SECTION 6-07, PAINTING**  
6 **June 26, 2000**

7 **6-07.3(1) Painting New Steel Structures**

8 In the fourth paragraph the reference to "1982 Edition" is revised to "current edition".  
9

10 **SECTION 6-10, CONCRETE BARRIER**  
11 **June 26, 2000**

12 **6-10.1 Description**

13 This section is supplemented with the following:  
14

15 This work may also include the removal, storage and resetting of permanent barrier at  
16 the locations shown in the Plans or as approved by the Engineer.  
17

18 **6-10.2 Materials**

19 The third paragraph is deleted.  
20

21 The fourth paragraph is revised to read as follows:  
22

23 Connecting pins shall conform to Section 9-06.5(4) and be galvanized in accordance  
24 with AASHTO M 232, except that testing for embrittlement after galvanizing is not  
25 required. All other hardware shall conform to Section 9-06.5(1) and be galvanized in  
26 accordance with AASHTO M 232.  
27

28 **6-10.3(1) Precast Concrete Barrier**

29 This section is revised to read as follows:  
30

31 The fabrication plant for precast concrete barriers shall be approved by Contracting  
32 Agency prior to the use of barrier and the plant shall perform quality control testing and  
33 inspection on all barrier used by the Contracting Agency. The Contractor shall advise  
34 the Engineer of the production schedule for the fabrication of barrier.  
35

36 Test results from the fabricators QC testing shall demonstrate compliance with sections  
37 6-02.3(4)C consistency, 6-02.3(4)D temperature and time of placement, 6-02.3(2)A air  
38 content, and compressive strength. All tests will be conducted per section 6-02.3(5)D  
39

40 The fabricators QC tester conducting the sampling and testing shall be qualified by  
41 ACI, Grade I to perform this work. The equipment used shall be calibrated/certified  
42 annually.  
43

44 All test results and certifications shall be kept at the fabricator's facility for review by the  
45 Contracting Agency.  
46

47 The Contracting Agency intends to perform Quality Assurance Inspection. This  
48 inspection is for the qualification of the plant QC process. This inspection shall not  
49 relieve the Contractor of any responsibility for identifying and replacing defective  
50 material and workmanship.  
51

52 The concrete in precast barrier shall be Class 28 and comply with the provisions of  
53 Section 6-02.3. No concrete barrier shall be shipped until test cylinders made of the  
54 same concrete and cured under the same conditions show the concrete has reached  
55 28 Mpa.  
56

57 The Contractor may use Type III Portland cement, but shall bear any added cost.  
58

1 Precast barrier shall be cast in steel forms. After release, the barrier shall be finished to  
2 an even, smooth, dense surface, free from any rock pockets or holes larger than 6  
3 millimeters across. Trowelling shall remove all projecting concrete from the bearing  
4 surface.  
5  
6 Precast concrete barrier shall be cured in accordance with Section 6-02.3(25)D except  
7 that the barrier shall be cured in the forms until a rebound number test, or test cylinders  
8 which have been cured under the same conditions as the barrier, indicate the concrete  
9 has reached a compressive strength of a least 17.2 megapascals. No additional curing  
10 is required once the barrier is removed from the forms.  
11  
12 The barrier shall be precast in sections as the Standard Plans require. All barrier in the  
13 same project (except end sections and variable length units needed for closure) shall  
14 be the same length. All barrier shall be new and unused. It shall be true to plan  
15 dimensions. The manufacturer shall be responsible for any damage or distortion that  
16 results from manufacturing.  
17  
18 Only one section less than 3 meters long may be used in any single run of precast  
19 barrier, and it must be at least 2.4 meters long. It may be precast or cast-in-place.  
20 Hardware identical to that used with other sections shall interlock such a section with  
21 adjacent precast sections.  
22  
23 Barrier connection voids for permanent installations of precast single slope barrier shall  
24 be filled with grout.  
25  
26 **6-10.3(3) Resetting Concrete Barrier**  
27 The section title is revised to read as follows:  
28  
29 **6-10.3(3) Removing and Resetting Permanent Concrete Barrier**  
30  
31 **6-10.3(5) Temporary Concrete Barrier**  
32 This section is revised to read as follows:  
33  
34 For temporary concrete barrier, the Contractor may use new or used precast barrier.  
35 This barrier shall comply with Standard Plan requirements and cross-sectional  
36 dimensions, except that: (1) it may be made in other lengths than those shown in the  
37 Standard Plan, and (2) it may have permanent lifting holes no larger than 100  
38 millimeters in diameter or lifting loops. The word "temporary" shall be visibly stamped or  
39 stencil painted on each barrier segment.  
40  
41 If the contract calls for the removal and resetting of permanent barrier, and the  
42 permanent barrier is not required to remain in place until reset, the permanent barrier  
43 may be substituted for temporary concrete barrier and will not be stamped or stenciled  
44 "temporary". Any of the permanent barrier damaged during its use as temporary barrier  
45 will become the property of the contractor and be replaced with permanent barrier at no  
46 expense to the Contracting Agency when the permanent barrier is reset to its  
47 permanent location.  
48  
49 All barrier shall be in good condition, without cracks, chips, spalls, dirt, or traffic  
50 marks. If any barrier segment is damaged during or after placement, the Contractor, at  
51 no expense to the Contracting Agency, shall immediately repair it to the Engineer's  
52 satisfaction or replace it with an undamaged section.  
53  
54 As soon as the temporary barrier is no longer needed, the Contractor shall remove it  
55 from the project. Contracting Agency furnished barrier shall remain Contracting Agency  
56 property, and the Contractor shall deliver it to a stockpile site noted in the contract or to  
57 locations as approved by the Engineer. Contractor furnished barrier shall remain the  
58 property of the Contractor.  
59

1 **6-10.4 Measurement**

2 This section is supplemented with the following:

3  
4 Removing and resetting existing permanent barrier will be measured by the meter and  
5 will be measured one time only for removing, storage, and resetting. No measure will  
6 be made for barrier that has been removed and reset for the convenience of the  
7 Contractor.

8  
9 **6-10.5 Payment**

10 This section is supplemented with the following:

11  
12 "Removing and Resetting Existing Permanent Barrier", per meter.

13  
14 **SECTION 6-11, PRECAST CONCRETE RETAINING WALL STEMS**  
15 **June 26, 2000**

16 **6-11.2 Materials**

17 In the second paragraph the reference to "Class 28LS" is revised to "Class 28".

18  
19 **SECTION 7-02, CULVERTS**  
20 **June 26, 2000**

21 **7-02.2 Materials**

22 In the chart "Culvert Pipe Schedules" the reference to "Diameter in Inches" is revised to  
23 "Diameter in mm".

24  
25 **SECTION 7-04, STORM SEWERS**  
26 **March 6, 2000**

27 **7-04.5 Payment**

28 The bid item "Schedule \_\_\_ Storm Sewer Pipe \_\_\_ mm Diam.", per linear foot is revised to  
29 read "Schedule \_\_\_ Storm Sewer Pipe \_\_\_ mm Diam.", per meter.

30  
31 **SECTION 7-08, GENERAL PIPE INSTALLATION REQUIREMENTS**  
32 **March 6, 2000**

33 **7-08.5 Payment**

34 In the last paragraph, the reference to "per foot" is revised to "per meter".

35  
36 **SECTION 9-00, DEFINITIONS AND TESTS**  
37 **June 26, 2000**

38 **9-00.4 Sieve Analysis of Aggregates**

39 This section is revised to read as follows:

40  
41 Sieve analysis for acceptance of aggregate gradation shall be performed by procedures  
42 described in the WAQTC FOP for AASHTO T 27/11.

43  
44 **9-00.8 Sand Equivalent**

45 This section is revised to read as follows:

46  
47 The sand equivalent will be the average of duplicate determinations from a single  
48 sample. The sand equivalent sample will be prepared in accordance with the WSDOT  
49 Field Operating Procedure (FOP) for AASHTO T 176, Alternate Method 2, the pre-wet  
50 condition.

51  
52 **9-00.9 Field Test Procedures**

53 This section is revised to read as follows:

1 Field test procedures may be either a WSDOT procedure or a Field Operating  
 2 Procedure (FOP) for an AASHTO, ASTM, or WAQTC test procedure. A Field Operating  
 3 Procedure is a technically equivalent abridged version of an AASHTO, ASTM, or  
 4 WAQTC test procedure for use in field conditions.  
 5

6 **SECTION 9-02, BITUMINOUS MATERIALS**  
 7 **June 26, 2000**

8 **9-02.1(1) Vacant**

9 This section is revised to read as follows:

10  
 11 **9-02.1(1) Test Methods**

12 The following WSDOT test methods have been converted to the listed AASHTO test  
 13 methods.

14	15	16	17	18
	Characteristics	WSDOT Test Method	AASHTO Test Methods	
19	Penetration	201	T 49	
20	Kinematic Viscosity	202	T 201	
21	Absolute viscosity	203	T 202	
22	Cleveland Open Cup	206	T 48	
23	Tag Open Cup	207	T 79	
24	RTFC Procedure	208	T 240	
25	Distillation	211	T 78	
26	Emulsified Asphalts	212	T 59	
27	Ductility	213	T 51	
28	Solubility	214	T 44	
29	Water Content	217	T 55	

30  
 31 **9-02.1(5) Recycling Agent**

32 This section is revised to read as follows:

33  
 34 Recycling agents shall conform to the following requirements:

35	36 HOT Mix Recycling Agents Note 1					
37	Test	RA 5		RA 25		
38	Test Method	Min.	Max.	Min.	Max.	
39	Original Test					
40	Viscosity at 60°C, mm <sup>2</sup> /s	AASHTO T 201	200	800	1,000 4,000	
41		or				
42		AASHTO T 202				
43	Flashpoint COC, °C	AASHTO T 48	204	---	218 ---	
44	Saturates, Wt. %	ASTM D2007	---	30	---	
45	Specific Gravity	AASHTO T 228	Report		Report	
46		or				
47		ASTM D1298				
48	Residue Test from RTFC	AASHTO T 240				
49	Viscosity Ratio Note 2	---	---	3	---	
50	Mass Change ± %	---	---	4	---	

51  
 52 Note 1: The final acceptance of recycling agents meeting this specification is  
 53 subject to the compliance of the reconstituted asphalt blends with current  
 54 asphalt specifications.  
 55

56 Note2: Viscosity Ratio =  $\frac{\text{RTFC Viscosity at } 60^{\circ}\text{C, mm}^2/\text{s}}{\text{Original Viscosity at } 60^{\circ}\text{C, mm}^2/\text{s}}$   
 57  
 58

59 HOT Mix Recycling Agents Note 1

Original Test	ASTM	RA 75		RA 250		RA 500	
	Test Method	Min.	Max.	Min.	Max.	Min.	Max.
Viscosity at 60°C, mm <sup>2</sup> /s	AASHTO T 201 or AASHTO T 202	5,000	10,000	15,000	35,000	40,000	60,000
Flashpoint COC, °C	AASHTO T 48	232	---	232	---	232	---
Saturates, Wt. %	ASTM D2007	---	30	---	30	---	30
Specific Gravity	AASHTO T 228 or ASTM D1298	Report		Report		Report	
Residue Test from RTFC	AASHTO T 240						
Viscosity Ratio Note 2	---		3	---	3	---	3
Weight Change + %	---		2	---	2	---	2

Note 1 The final acceptance of recycling agents meeting this specification is subject to the compliance of the reconstituted asphalt blends with current asphalt specifications.

Note2: Viscosity Ratio =  $\frac{\text{RTFC Viscosity at } 60^{\circ}\text{C, mm}^2/\text{s}}{\text{Original Viscosity at } 60^{\circ}\text{C, mm}^2/\text{s}}$

### 9-02.1(8) Hot Melt Traffic Button Adhesive

This section is revised to read as follows:

The bitumen adhesive material shall conform to the following requirements:

Specification	Test Method	Requirement
Flash Point, COC °C	AASHTO T 48	288 Min.
Softening Point, °C	AASHTO T 53	93 Min.
Brookfield Viscosity, 204 °C	ASTM D 2196	7.5 Pa-s, Max.
Penetration, 100g, 5 sec, 25 °C	AASHTO T 49	10-20 dmm
Filler Content, % by weight (Insoluble in 1,1,1 Trichloroethane)	ASTM D 2371	50-75

Filler material shall be calcium carbonate and shall conform to the following fineness:

Sieve Size	Percent Passing
0.15 mm	100
0.075 mm	95
0.045 mm	75

Hot melt bitumen adhesive shall develop bond pull-off strength greater than 690 kPa between -18°C and 49°C.

## SECTION 9-03, AGGREGATES June 26, 2000

### 9-03.1(1) General Requirements

This section is revised to read as follows:

Portland cement concrete aggregates shall be manufactured from ledge rock, talus, or sand and gravel in accordance with the provisions of Section 3-01.



1 Aggregates found to be potentially reactive per AASHTO T 303 or ASTM C 1260 shall  
2 require mitigating measures. Aggregates for use in Commercial Concrete as defined in  
3 6-02.3(2)B shall not require mitigation. Expansions greater than 0.10 percent  
4 determined according to AASHTO T 303 or ASTM C 1260 will be considered to be  
5 potentially reactive. The Contracting Agency will conduct AASHTO T 303 in order to  
6 determine the potential reactivity of the aggregates, all other testing is the responsibility  
7 of the Contractor.  
8

9 Mitigating measures shall include the use of low alkali cement per 9-01.2(3) and may  
10 include the use of fly ash, lithium compound admixtures, or other material as approved  
11 by the Engineer. The Contractor shall submit evidence in the form of test results from  
12 ASTM C 1260 or AASHTO T 303 that demonstrate the proposed mitigation when used  
13 with the aggregates proposed will control the potential expansion before the aggregate  
14 source may be used in concrete. If fly ash is used, the Contractor shall provide test  
15 results from ASTM C 441 that show the fly ash does not cause an expansion reaction  
16 greater than that of the comparison control mixture prepared with cement of alkali  
17 between 0.40 and 0.60 percent.  
18

19 Mitigating measures will not be required if the Contractor provides test results from  
20 ASTM C 1293 or ASTM C 295 that indicate the aggregate is not reactive. An expansion  
21 of less than 0.04 percent per ASTM C 1293 or an aggregate composition containing  
22 less than the following materials per ASTM C 295 will be considered evidence that the  
23 aggregates are not reactive.  
24

25	Mineral	Limit
26	Optically strained, microfractured, or	
27	microcrystalline quartz	5.0% (max.)
28	Chert or chalcedony	3.0% (max.)
29	Tridymite or cristobalite	1.0% (max.)
30	Opal	0.5% (max.)
31	Natural volcanic glass	3.0% (max.)

32 All these mineral limits are based on the total aggregate sample.  
33  
34

### 35 9-03.1(4)A Deleterious Substances

36 In the second paragraph the reference to "WSDOT Method 103" is revised to "WAQTC FOP  
37 for TM 1".  
38

### 39 9-03.14(3) Common Borrow

40 In the third paragraph the reference to "Standard Test Designation" is revised to "Test  
41 Method".  
42

### 43 9-03.20 Test Methods for Aggregates

44 This section is revised to read as follows:  
45

46 The properties enumerated in these Specifications shall be determined in accordance  
47 with the following methods of test:  
48

49	Title	Test Method
50	Sampling	WSDOT FOP for AASHTO T 2
51	Organic Impurities	AASHTO T 21
52	Clay Lumps in Aggregates	AASHTO T 112
53	Abrasion of Coarse Aggregates	
54	by Use of the Los Angeles Machine	AASHTO T 96
55	Material Finer than U.S. No. 200 Sieve	
56	in Aggregates	AASHTO T 11
57	Percent of Fracture in Aggregates	WAQTC FOP for TM 1
58	Sieve Analysis of Fine and Coarse	
59	Aggregates	AASHTO T 27
60	Sand Equivalent Test for Surfacing	

1	Materials	WSDOT FOP for AASHTO T 176
2		Alternate Method 2, the pre-wet
3		condition
4	Determination of Degradation Value	WSDOT T 113
5	Determination of Fineness Modulus	AASHTO T 27
6	Particle Size Analysis of Soils	AASHTO T 88
7	Stabilometer R Value, Untreated	
8	Materials	WSDOT T 611
9	Swell Pressure and Permeability	WSDOT T 611
10	Stabilometer S Value, Treated Materials	WSDOT T 703
11	Gradation of Aggregates in ACP	WAQTC FOP for AASHTO T 30
12	Determining Stripping of Asphalt	
13	Concrete	WSDOT T 718
14	Compressive Strength of Concrete	AASHTO T T 22
15	Flexural Strength of Concrete	WSDOT-T 802

**9-03.21(2) Recycled Glass Aggregate**

In the second paragraph the second sentence is revised to read as follows:

Sieve analysis shall be conducted according to WAQTC FOP for AASHTO T 27/11 on at least a quarterly basis by the product supplier.

In the fourth paragraph the third sentence is revised to read as follows:

Sample collection shall be conducted according to WSDOT FOP for AASHTO T 2.

**SECTION 9-04, JOINT AND CRACK SEALING MATERIALS  
June 26, 2000**

**9-04.5 Flexible Plastic Gaskets**

This section is revised to read as follows:

The gasket material shall be produced from blends of refined hydro-carbon resins and plasticizing materials reinforced with inert mineral filler and shall contain no solvents. It shall not depend on oxidizing, evaporating, or chemical action for adhesive or cohesive strength. It shall be supplied in extruded rope-form of such cross-section and size as to adequately fill spaces between the precast sections.

The gasket material shall be protected by a suitable removable two-piece wrapper so designed as to permit removing one half, longitudinally, without disturbing the other. Its composition and properties shall conform to those set forth below.

	<b>Test Method</b>	<b>Min.</b>	<b>Max.</b>	
43	Bitumen (Petroleum plastic content)	ASTM D 4	50	70
44	Ash-inert Mineral Matter	AASHTO T 111	30	50
45	Penetration	ASTM D 217		
46	0°C (300gm) 60 sec		75	---
47	25°C (150gm) 5 sec		50	120
48	46°C (150gm) 5 sec		---	150
49	Softening Point	AASHTO T 53	160°C	---
50	Specific Gravity at 25°C	AASHTO T 229	1.20	1.35
51	Mass per liter, kg		1.25	1.35
52	Ductility at 25°C (cm)	ASTM D 113	5.0	---
53	Flash Point COC, °C	AASHTO T 73	316	---
54	Fire Point COC, °C	AASHTO T 48	329	---
55	Volatile Matter	AASHTO T 47	---	2.0

1 **SECTION 9-05, DRAINAGE STRUCTURES, CULVERTS, AND CONDUITS**  
2 **March 6, 2000**

3 **9-05.16 Grate Inlets and Drop Inlets**

4 The second paragraph is revised to read:

5

6 Steel grating shall be fabricated by weld connections. Welds, welding procedures, and  
7 welding materials shall conform with the AWS D1.1, latest edition, Structural Welding  
8 Code.

9

10 **SECTION 9-06, STRUCTURAL STEEL AND RELATED MATERIALS**  
11 **March 6, 2000**

12 **9-06.16 Roadside Sign Structures**

13 The first paragraph is revised to read:

14

15 All bolts, nuts, washers, cap screws, and coupling bolts shall conform to AASHTO M  
16 164M and Section 9-06.5(3). All connecting hardware shall be galvanized after  
17 fabrication in accordance with AASHTO M 232.

18

19 The sixth paragraph is revised to read:

20

21 Base connectors for multiple directional steel breakaway posts shall conform to the  
22 following:

23

24 Brackets	Aluminum Alloy 6061-T6
25 Bosses for Type 2B Brackets	ASTM A 582
26 Anchor Ferrules	Type 304 stainless steel for threaded 27 portion. AISI 1038 steel rod and 28 AISI 1008 coil for cage portion.
29	

30 **SECTION 9-23, CONCRETE CURING MATERIALS AND ADMIXTURES**  
31 **June 26, 2000**

32 **9-23.9 Fly Ash**

33 The reference to "Table 2" is revised to "Table 1A".

34

35 **SECTION 9-25, WATER**  
36 **June 26, 2000**

37 **9-25.1 Water for Concrete**

38 This section is revised to read as follows:

39

40 Water for mortar or concrete shall be clear and apparently clean. If the water contains  
41 substances that cause discoloration, unusual or objectionable smell or taste, or other  
42 suspicious content, the Engineer may require the Contractor to provide test results  
43 documenting that the water meets the physical test requirements and chemical limits  
44 described in ASTM C94M Section 5.1.3, Tables 2 and 3.

45

46 Water from mixer washout operations may be used in concrete provided it meets or  
47 exceeds the above criteria as well as the following additional requirements:

48

49 1. Concrete with water from mixer washout operations shall not be used in bridge  
50 roadway deck slabs, flat slab bridge superstructures, modified concrete  
51 overlays, or prestressed concrete.

52

53 2. Specific Gravity shall not exceed 1.07.

54

55 3. Alkalies, expressed as  $[Na_2O + 0.658 K_2O]$ , shall not exceed 600 ppm.

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4. Shall be free of coloring agents.
  5. If the wash water contains admixtures from different manufacturers, the Contractor shall provide evidence that the combination of admixtures are compatible and do not adversely affect the air void system of the hardened concrete as per Section 6-02.3(3).
  6. All tests to verify that the physical and chemical requirements are met, shall be conducted on the following schedule:
    - a. The physical requirements shall be tested on weekly intervals for four weeks and thereafter on monthly intervals.
    - b. The chemical requirements shall be tested on monthly intervals.
    - c. The specific gravity shall be determined daily in accordance with ASTM D 1429, Test Method D.

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The Contractor shall use the services of a Laboratory that has a equipment calibration/ verification system, and a technician training and evaluation process per AASHTO R-18 to conduct all tests. The laboratory shall use testing equipment that has been calibrated/ verified at least once within the past 12 months to meet the requirements of each test procedure in accordance with the appropriate section of AASHTO R-18. Documentation of tester qualifications and equipment verification records shall be maintained and available for review by the Contracting Agency upon request. Agency reviews of the laboratory facility, testing equipment, personnel, and all qualification, calibration, and verification records will be conducted at the Contracting Agency's discretion.

31  
32

## **SECTION 9-28, SIGNING MATERIALS AND FABRICATION**

**June 26, 2000**

33

### **9-28.1(1) Basis for Acceptance**

34  
35

The first paragraph is revised to read as follows:

36  
37  
38  
39  
40  
41

Reflective sheeting shall be accepted on the basis of inclusion of the material/product on the Qualified Product List or by approval of a Request for Approval of Materials. The sign fabricator shall have available for inspection a copy of the Manufacturer's Certificate of Compliance for each lot of reflective sheeting. This certificate shall verify that the reflective sheeting meets all the requirements of Section 9-28.12.

42

### **9-28.11 Hardware**

43  
44

The first sentence of the first paragraph is revised to read as follows:

45  
46  
47  
48

Bolts, nuts, and washers shall be of the same material for each attachment, except for signs mounted on Overhead Sign Structures (i.e. sign bridges, cantilevers, and bridge mounted) all bolts, u-bolts, washers, nuts, and locknuts shall be stainless steel only.

49  
50

In the first paragraph, the Specification for "Strap and Mounting Bracket" is revised to read:

51  
52

ASTM A 666, Type 201 Stainless Steel

53  
54

The last paragraph is revised to read as follows:

55  
56  
57

All steel parts shall be galvanized per AASHTO M 111. Steel bolts and related connecting hardware shall be galvanized per AASHTO M 232.

58

### **9-28.14(2) Steel Structures and Posts**

59

The first paragraph is revised to read as follows:

1  
2 Anchor rods and washers for sign bridge and cantilever sign structure foundations shall  
3 conform to Section 9-06.5(4). Anchor rods shall be galvanized after fabrication a  
4 minimum of 305 millimeters at the exposed end in accordance with AASHTO M 232.  
5 Nuts and washers shall be galvanized after fabrication in accordance with AASHTO M  
6 232. Anchor rod templates shall conform to AASHTO M 183M, but need not be  
7 galvanized.  
8

9 **SECTION 9-29, ILLUMINATION, SIGNALS, ELECTRICAL**  
10 **July 10, 2000**

11 **9-29.13 Traffic Signal Controllers**

12 The last paragraph is revised to read as follows:  
13

14 The Contractor, Subcontractor, or controller manufacture shall be required to perform  
15 quality control inspections based on their QC program annually submitted and approved  
16 by WSDOT. The Contractor, Subcontractor, or controller manufacturer shall certify that  
17 the controller meets all requirements of the Standard Specifications and Special  
18 Provisions for the specific application.  
19

20 The QC program shall include, but not be limited to, the following:  
21

- 22 A) Quality Statement
- 23 B) individual responsible for quality (organizational chart)
- 24 C) fabrication procedures
- 25 D) test procedures
- 26 E) documented inspection reports
- 27 F) documented test reports
- 28 G) certification package  
29

30 **SECTION 9-31, ELASTOMERIC BEARING PADS**  
31 **March 6, 2000**

32 **9-31.1 Requirements**

33 The third paragraph is revised to read as follows:  
34

35 Shims contained in laminated bearing pads shall be mill rolled steel sheets not less  
36 than 20 gage in thickness with a minimum cover of elastomer on all edges of:  
37

- 38 3 millimeters for pads less than or equal to 75 millimeters thick.
- 39 6 millimeters for pads greater than 75 millimeters and less than or equal to 180
- 40 millimeters thick, and
- 41 13 millimeters for pads greater than 180 millimeters thick.  
42

43 Steel shims shall conform to ASTM A 570M, Grade 250, unless otherwise noted.  
44

45 **SECTION 9-33, CONSTRUCTION GEOTEXTILE**  
46 **June 26, 2000**

47 **9-33.2 Geotextile Properties**

48 In tables 1 and 3 the value "<50%/ 50%" is revised to "<50%/≥50%".  
49



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## SPECIAL PROVISIONS

The following Special Provisions are made a part of this contract and supersede any conflicting provisions of the 2000 Standard Specifications for Road, Bridge and Municipal Construction (Metric), and the foregoing Amendments to the Standard Specifications.

### DESCRIPTION OF WORK

(March 13, 1995)

This contract provides for the improvement of \*\*\* SR 5 in Pierce County, MP 131.50 to MP 132.10, 38<sup>th</sup> Street Interchange Undercrossing Bridge 5/430 and 37<sup>th</sup> Street Pedestrian Undercrossing Bridge, by total closure and removal of the existing 38<sup>th</sup> Street bridge, constructing two pre-stressed, post-tensioned concrete box girder bridges, removing asphalt concrete pavement, concrete curb, gutter and sidewalk, grading, surfacing, paving, drainage, constructing three detention ponds, constructing two cantilever sign structures, installing two signal systems, installing SC&DI, pavement markings, signing, \*\*\* and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

### DEFINITION OF TERMS

#### Abbreviations

##### *Associations and Miscellaneous*

Section 1-01.2(1) is supplemented with the following:

(\*\*\*\*\*)

Bits/s	Bits Per Second of Serial Data
CAM	Camera
dB	Decibel
dBm	Decibel referenced to 1 milliwatt
DEM	Demodulator
DS-1	Digital Signal Level 1 (1.544 Mbits/s)
DS-2	Digital Signal Level 2 (6.3 Mbits/s)
DS-3	Digital Signal Level 3 (44.736 Mbits/s)
FM	Frequency Modulation
Kbits/s	Thousands of Bits Per Second of Serial Data
Mbits/s	Millions of Bits Per Second of Serial Data
MOD	Modulator
MP	Mile Post
nm	Nanometer (10 <sup>-9</sup> meter)
PTZ	Pan, Tilt, Zoom (for camera control)
RMS	Rack Mounting Space (44 millimeters)
SC&DI	Surveillance, Control and Driver Information
STS-1	Synchronous Transport Signal Level 1 (electrical 50.84 Mbits/s)
SW	Switch
T1See	DS-1
T2See	DS-2
T3See	DS-3
TMS	Traffic Management System
TMC	Traffic Management Center
TWP	Twisted Pair copper wire
UPS	Uninterruptable Power Supply
VAC	Volts AC
VF	Voice Frequency

### BID PROCEDURES AND CONDITIONS

(March 13, 1995)

#### Examination Of Plans, Specifications And Site Of Work

Section 1-02.4, is supplemented with the following:

SR 5  
38<sup>th</sup> STREET INTERCHANGE





1  
2 The soils information used for study and design of this project is available for review by  
3 the bidder at the following address:  
4

5 Project Engineer Office  
6 7912 Martin Way, Suite E  
7 Lacey, WA 98516-7448  
8

9 **Preparation Of Proposal**

10  
11 (March 13, 1995)

12 The sixth paragraph of Section 1-02.6 is supplemented with the following:  
13

14 A minimum bid of \*\*\* \$25.00 \*\*\* per hour has been established for the item "Traffic  
15 Control Labor". If the Contractor's bid is less than the minimum specified amount, the  
16 Contracting Agency will unilaterally revise the bid amount to the minimum specified  
17 amount and recalculate the Contractor's total bid amount. The corrected total bid  
18 amount will be used by the Contracting Agency for award purposes and to fix the  
19 amount of the contract bond.  
20

21 **(October 25, 1999)**

22 **Public Opening Of Proposal**

23 Section 1-02.12 is supplemented with the following:  
24

25 ***Date Of Opening Bids***

26 Sealed bids will be received at one of the following locations before the specified time:  
27

- 28 1. At the Post Office Box #7360, Olympia, Washington 98504-7360 until 10:00  
29 A.M. of the bid opening date. Notification by the Post Office will be considered  
30 as actual receipt of the bid by the Department of Transportation.  
31  
32 2. In the Department of Transportation Bid (Commission) Room, located on the  
33 first floor of the Transportation Building, 310 Maple Park Drive SE, Olympia,  
34 WA 98504-7360, until 10:00 A.M. of the bid opening date. Bids delivered in  
35 person will be received only in the Bid Room on the bid opening date.  
36

37 The bid opening date for this project shall be Wednesday, August 23, 2000. The  
38 bids will be publicly opened and read after 10:00 A.M. on this date.  
39

40 **SCOPE OF THE WORK**

41  
42 **(May 28, 1996)**

43 **Differing Site Conditions (Changed Conditions)**

44 Section 1-04.7 is deleted in its entirety and replaced the following:  
45

46 During the progress of the work, if preexisting subsurface or latent physical conditions  
47 are encountered at the site, differing materially from those indicated in the contract, or if  
48 preexisting unknown physical conditions of an unusual nature, differing materially from  
49 those ordinarily encountered and generally recognized as inherent in the work provided  
50 for in the contract, are encountered at the site, the party discovering such conditions  
51 shall promptly notify the other party in writing of the specific differing site conditions  
52 before they are disturbed and before the affected work is performed.  
53

54 Upon written notification, the Engineer will investigate the conditions and if he/she  
55 determines that the conditions materially differ and cause an increase or decrease in  
56 the cost or time required for the performance of any work under the contract, an  
57 adjustment, excluding loss of anticipated profits, will be made and the contract modified  
58 in writing accordingly. The Engineer will notify the Contractor of his/her determination  
59 whether or not an adjustment of the contract is warranted.  
60

1 No contract adjustment which results in a benefit to the Contractor will be allowed  
2 unless the Contractor has provided the required written notice.

3  
4 The equitable adjustment will be by agreement with the Contractor. However, if the  
5 parties are unable to agree, the Engineer will determine the amount of the equitable  
6 adjustment in accordance with Section 1-09.4. Extensions of time will be evaluated in  
7 accordance with Section 1-08.8.

8  
9 If the Engineer determines that different site conditions do not exist and no adjustment  
10 in costs or time is warranted, such determination shall be final as provided in Section 1-  
11 05.1.

12  
13 If there is a decrease in the costs or time required to perform the work, failure of the  
14 Contractor to notify the Engineer of the differing site conditions shall not affect the  
15 Contracting Agency's right to make an adjustment in the costs or time.

16  
17 No claim by the Contractor shall be allowed unless the Contractor has followed the  
18 procedures provided in Section 1-04.5 and 1-09.11.

## 19 20 **CONTROL OF WORK**

### 21 22 **Plans and Working Drawings**

23 The fifth sentence of the third paragraph of Section 1-05.3 is revised to read as follows:

24  
25 (\*\*\*\*\*)

26 Provided that the Contractor submits an itemized schedule of working drawing submittal  
27 dates as specified in Section 6-01.9 as supplemented in these Special Provisions, the  
28 Engineer will require up to 21 calendar days from the date working drawing submittals  
29 are received until they are returned to the Contractor.

30  
31 The fourth paragraph of Section 1-05.3 is revised to read as follows:

32  
33 (\*\*\*\*\*)

34 If more than 21 calendar days are required for the Engineer's review of any individual  
35 submittal or resubmittal, an extension of time will be considered in accordance with  
36 Section 1-08.8, provided that the Contractor has complied with the requirements of  
37 Section 6-01.9 as supplemented in these Special Provisions.

### 38 39 **Conformity With And Deviations From Plans And Stakes**

40 Section 1-05.4 is supplemented with the following:

41  
42 ***(October 25, 1999)***

#### 43 ***Contractor Surveying - Structure***

44 Copies of the Contracting Agency provided primary survey control data are available for  
45 the bidder's inspection at the office of the Project Engineer.

46  
47 The Contractor shall be responsible for setting, maintaining, and resetting all alignment  
48 stakes, slope stakes, and grades necessary for the construction of bridges, noise walls,  
49 and retaining walls. Except for the survey control data to be furnished by the  
50 Contracting Agency, calculations, surveying, and measuring required for setting and  
51 maintaining the necessary lines and grades shall be the Contractor's responsibility.

52  
53 Detailed survey records shall be maintained, including a description of the work  
54 performed on each shift, the methods utilized, and the control points used. The record  
55 shall be adequate to allow the survey to be reproduced. A copy of each day's record  
56 shall be provided to the Engineer within three working days after the end of the shift.

57  
58 The meaning of words and terms used in this provision shall be as listed in "Definitions  
59 of Surveying and Associated Terms" current edition, published by the American  
60 Congress on Surveying and Mapping and the American Society of Civil Engineers.

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The survey work by the Contractor shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, 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 the Contracting Agency.
2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.
3. Establish offsets to footing centerline of bearing for structure excavation.
4. Establish offsets to footing centerline of bearing for footing forms.
5. Establish wing wall, retaining wall, and noise wall horizontal alignment.
6. Establish retaining wall top of wall profile grade.
7. Establish elevation benchmarks for all substructure formwork.
8. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.
9. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.
10. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.
11. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.
12. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.
13. Establish grout pad locations and elevations.
14. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.
15. Establish box girder bottom slab grades and locations.
16. Establish girder and/or web wall profiles and locations.
17. Establish diaphragm locations and centerline of bearing.
18. Establish roadway slab grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.
19. Establish traffic barrier and curb profile and alignment on roadway slab.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Contracting Agency will provide the Contractor with the following primary survey and control information:

1. Descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described by reference to the project

1 alignment and the coordinate system and elevation datum utilized by the  
2 project. In addition, the Contracting Agency will supply horizontal coordinates  
3 for the beginning and ending points and for each Point of Intersection (PI) on  
4 each alignment included in the project.

- 5  
6 2. Horizontal coordinates for the centerline of each bridge pier.  
7  
8 3. Computed elevations at top of bridge roadway decks at one-tenth points along  
9 centerline of each girder web. All form grades and other working grades shall  
10 be calculated by the Contractor.

11  
12 The Contractor shall give the Contracting Agency three weeks notification to allow  
13 adequate time to provide the data outlined in Items 2 and 3 above. The Contractor  
14 shall ensure a surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
15		
16		
17 1. Stationing on structures		±5 millimeters
18 2. Alignment on structures		±5 millimeters
19 3. Superstructure elevations	±3 millimeters	variation from 20 plan elevation
21		
22 4. Substructure	±5 millimeters	variation from 23 Plan grades.
24		
25		

26 The Contracting Agency may spot-check the Contractor's surveying. These spot-  
27 checks will not change the requirements for normal checking by the Contractor.

28  
29 When staking the following items, the Contractor shall perform independent checks  
30 from different secondary control to ensure that the points staked for these items are  
31 within the specified survey accuracy tolerances:

32  
33 Piles  
34 Shafts  
35 Footings  
36 columns  
37

38 The Contractor shall calculate coordinates for the points associated with piles, shafts,  
39 footings and columns. The Contracting Agency will verify these coordinates prior to  
40 issuing approval to the Contractor for commencing with the survey work. The  
41 Contracting Agency will require up to seven calendar days from the date the data is  
42 received to issuing approval.

43  
44 Contract work to be performed using contractor-provided stakes shall not begin until the  
45 stakes are approved by the Contracting Agency. Such approval shall not relieve the  
46 Contractor of responsibility for the accuracy of the stakes.

#### 47 **Payment**

48 Payment will be made in accordance with Section 1-04.1 for the following bid item when  
49 included in the proposal:

50  
51 "Structure Surveying", lump sum.

52  
53 The lump sum contract price for "Structure Surveying" shall be full pay for all labor,  
54 equipment, materials, and supervision utilized to perform the work specified, including  
55 any resurveying, checking, correction of errors, replacement of missing or damaged  
56 stakes, and coordination efforts.  
57  
58

1 (June 26, 2000)

2 **Contractor Surveying - Roadway**

3 Copies of the Contracting Agency provided primary survey control data are available for  
4 the bidder's inspection at the office of the Project Engineer.  
5

6 The Contractor shall be responsible for setting, maintaining, and resetting all alignment  
7 stakes, slope stakes, and grades necessary for the construction of the roadbed,  
8 drainage, surfacing, paving, channelization and pavement marking, illumination and  
9 signals, guardrails and barriers, and signing. Except for the survey control data to be  
10 furnished by the Contracting Agency, calculations, surveying, and measuring required  
11 for setting and maintaining the necessary lines and grades shall be the Contractor's  
12 responsibility.  
13

14 Detailed survey records shall be maintained, including a description of the work  
15 performed on each shift, the methods utilized, and the control points used. The record  
16 shall be adequate to allow the survey to be reproduced. A copy of each day's record  
17 shall be provided to the Engineer within three working days after the end of the shift.  
18

19 The meaning of words and terms used in this provision shall be as listed in "Definitions  
20 of Surveying and Associated Terms" current edition, published by the American  
21 Congress on Surveying and Mapping and the American Society of Civil Engineers.  
22

23 The survey work shall include but not be limited to the following:  
24

- 25 1. Verify the primary horizontal and vertical control furnished by the Contracting  
26 Agency, and expand into secondary control by adding stakes and hubs as well  
27 as additional survey control needed for the project. Provide descriptions of  
28 secondary control to the Contracting Agency.  
29
- 30 2. Establish the centerlines of all alignments, by placing hubs, stakes, or marks  
31 on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs)  
32 and at points on the alignments spaced no further than 20 meters.  
33
- 34 3. Establish clearing limits, placing stakes at all angle points and at intermediate  
35 points not more than 20 meters apart.  
36
- 37 4. Establish grading limits, placing slope stakes at centerline increments not  
38 more than 20 meters apart. Establish offset reference to all slope stakes.  
39
- 40 5. Establish the horizontal and vertical location of all drainage features, placing  
41 offset stakes to all drainage structures and to pipes at a horizontal interval not  
42 greater than 10 meters.  
43
- 44 6. Establish roadbed and surfacing elevations by placing stakes at the top of  
45 subgrade and at the top of each course of surfacing. Subgrade and surfacing  
46 stakes shall be set at horizontal intervals not greater than 20 meters in tangent  
47 sections, 10 meters in curve sections with a radius less than 100 meters, and  
48 at 3-meter intervals in intersection radii with a radius less than 3 meters.  
49 Transversely, stakes shall be placed at all locations where the roadway slope  
50 changes and at additional points such that the transverse spacing of stakes is  
51 not more than 4 meters.  
52
- 53 7. Establish intermediate elevation benchmarks as needed to check work  
54 throughout the project.  
55
- 56 8. Provide references for paving pins at 10 meter intervals or provide  
57 simultaneous surveying to establish location and elevation of paving pins as  
58 they are being placed.  
59

- 1 9. For all other types of construction included in this provision, (including but not  
 2 limited to channelization and pavement marking, illumination and signals,  
 3 guardrails and barriers, and signing) provide staking and layout as necessary  
 4 to adequately locate, construct, and check the specific construction activity.  
 5

6 The Contractor shall provide the Contracting Agency copies of any calculations and  
 7 staking data when requested by the Engineer.  
 8

9 To facilitate the establishment of these lines and elevations, the Contracting Agency will  
 10 provide the Contractor with primary survey control information consisting of descriptions  
 11 of two primary control points used for the horizontal and vertical control, and  
 12 descriptions of two additional primary control points for every additional 5 kilometers of  
 13 project length. Primary control points will be described by reference to the project  
 14 alignment and the coordinate system and elevation datum utilized by the project. In  
 15 addition, the Contracting Agency will supply horizontal coordinates for the beginning  
 16 and ending points and for each Point of Intersection (PI) on each alignment included in  
 17 the project.  
 18

19 The Contractor shall ensure a surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
Slope stakes	±60 millimeters	±300 millimeters
Subgrade grade stakes set 15 millimeters below grade	0 high 15 millimeters low	±150 millimeters (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)

28 The Contracting Agency may spot-check the Contractor's surveying. These spot-  
 29 checks will not change the requirements for normal checking by the Contractor.  
 30

31 When staking roadway alignment and stationing, the Contractor shall perform  
 32 independent checks from different secondary control to ensure that the points staked  
 33 are within the specified survey accuracy tolerances.  
 34

35 The Contractor shall calculate coordinates for the alignment. The Contracting Agency  
 36 will verify these coordinates prior to issuing approval to the Contractor for commencing  
 37 with the work. The Contracting Agency will require up to seven calendar days from the  
 38 date the data is received.  
 39

40 Contract work to be performed using contractor-provided stakes shall not begin until the  
 41 stakes are approved by the Contracting Agency. Such approval shall not relieve the  
 42 Contractor of responsibility for the accuracy of the stakes.  
 43

44 Stakes shall be marked in accordance with Standard Plan H-14. When stakes are  
 45 needed that are not described in the Plans, then those stakes shall be marked as  
 46 directed by the Engineer.  
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**Payment**

Payment will be made in accordance with Section 1-04.1 for the following bid item when included in the proposal:

"Roadway Surveying", lump sum.

The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

**Equipment**

Section 1-05.9 is supplemented with the following:

(\*\*\*\*\*)  
**Hauling Equipment Spill Kit**

Hauling equipment shall be equipped with a spill kit as specified in the Contractor's Spill Prevention, Control, and Countermeasures (SPCC) Plan.

**(March 13, 1995)  
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:

- SR 5  
Gravelly Lake to Puyallup River Br.  
MP 124.19 to MP 135.19  
10/00 Estimated Completion
- SR 16  
Sprague Ave. I/C to Snake Lake-HOV  
MP 0.72 to MP 1.57  
10/00 Ad
- Puget Sound Energy  
Vicinity Station 38<sup>th</sup> 1+600  
Replacing gas line  
Summer 2001
- City of Tacoma-Water  
Intersection of S. 37<sup>th</sup> St. & Hosmer Street  
Relocating Hydrant and Water Meter  
Spring 2001
- City of Tacoma-Power  
Intersection of S. 37<sup>th</sup> St. & Hosmer Street  
Relocating Distribution Pole  
Spring 2001

**CONTROL OF MATERIAL**

**Acceptance of Materials**

Section 1-06.2 is supplemented with the following:

**(June 8, 1998)  
Steel Reinforcing Bar**

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.

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<b>Std. Specification Designation</b>	<b>Bar Diameter</b>	<b>New Size Designation</b>
#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.

## **LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**

### **Laws To Be Observed**

Section 1-07.1 is supplemented with the following:

*(May 28, 1996)*

#### ***Prevention Of Environmental Pollution And Preservation Of Public Natural Resources***

The Contractor shall comply with the following environmental provisions which are made a part of the contract documents. A copy of the environmental provisions are available to the Contractor at the Project Engineer's office.

If the Contractor's operations involve work outside the areas covered by the following environmental provisions, the Contractor 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 Contractor at the Project Engineer's office.

Puget Sound Air Pollution Control Agency  
Regulations I, II, III

### **State Taxes**

Section 1-07.2 is supplemented with the following:

*(March 13, 1995)*

The work on this contract is to be performed upon lands whose ownership obligates the Contractor to collect State sales tax from the Contracting Agency. The provisions of Section 1-07.2(2) apply.

### **Fish And Wildlife and Ecology Regulations**

#### ***State Department of Ecology***

Section 1-07.5(3) is supplemented with the following:

*(\*\*\*\*\*)*

The Contractor shall comply with all applicable requirements and conditions of the "Implementing Agreement Between the Washington State Department of Ecology and the Washington State Department of Transportation Regarding Compliance with the State of Washington Surface Water Quality Standards". A copy of the Agreement is attached as an appendix and made a part of this contract.



1 All costs to comply with the requirements and conditions of the Agreements, shall  
2 be included in the applicable bid items for the work involved.  
3

4 **Air Quality**

5 Section 1-07.5(4) is supplemented with the following:  
6

7 (\*\*\*\*\*)

8 **Fugitive Dust**

9 The Puget Sound Clean Air Agency and the Washington State Department of  
10 Transportation recognize that fugitive dust from construction projects can become an air  
11 pollution problem. Both organizations share a common goal of controlling fugitive dust.  
12

13 Fugitive Dust control planning is a partnership between the Contracting Agency,  
14 Contractor, subcontractors and any other party whose activities during the project may  
15 lead to the generation of Fugitive Dust. This partnership extends to legal  
16 responsibilities as well in that all parties can be held liable for non-compliance and  
17 subsequent regulatory actions, including monetary penalties.  
18

19 The Contractor shall incorporate as a part of the Water Pollution Prevention Plan  
20 (WPPP), a Fugitive Dust Control Plan (FDCP). This plan should reflect conditions  
21 specific to the Contractor's operations and schedule of work. The Contractor should  
22 base the FDCP on Best Management Practices (CMP's) set forth in the pamphlet,  
23 "Guide To Handling Fugitive Dust From Construction Projects".  
24

25 **Permits and Licenses**

26 Section 1-07.6 is supplemented with the following:  
27

28 (\*\*\*\*\*)

29 The Contracting Agency has obtained the below-listed permit(s) for this project. A copy  
30 of the permit(s) is attached as an appendix and made a part of this contract. All  
31 contacts with the permitting agency concerning the below-listed permit(s) shall be  
32 through the Engineer. The Contractor shall comply with all requirements and conditions  
33 of the permit(s) in the construction of this project and shall obtain additional permits as  
34 necessary.  
35

36 All costs to comply with the requirements of the permit(s), as well as costs to obtain and  
37 comply with additional permits, shall be included in the applicable bid items for the work  
38 involved.  
39  
40

NAME OF PERMIT	PERMITTING AGENCY	PERMIT REFERENCE NO.
NPDES Industrial Stormwater Permit for Construction Activities	Department of Ecology	S03003947

41  
42  
43 **Load Limits**

44 Section 1-07.7 is supplemented with the following:  
45

46 (March 13, 1995)

47 If the sources of materials provided by the Contractor necessitates hauling over roads  
48 other than State Highways, the Contractor shall, at the Contractor's expense, make all  
49 arrangements for the use of the haul routes.  
50

51 **Equal Employment Opportunity Responsibilities**

52 Section 1-07.11 is supplemented with the following:  
53

1 (February 16, 1999)

2 **Minority And women's Business Enterprise (MWBE) Participation**

3 **General Statement**

4 In accordance with the legislative findings and policies set forth in Chapter 39.19  
5 RCW the State of Washington encourages participation in all of its contracts by  
6 MWBE firms certified by the office of Minority and Women's Business Enterprises  
7 (OMWBE). Participation may be either on a direct basis in response to a  
8 solicitation/invitation or as a subcontractor to a Bidder/Proposer. No preference will  
9 be included in the evaluation of bids/proposals, no minimum level of MWBE  
10 participation shall be required as a condition for receiving an award and  
11 bids/proposals will not be rejected or considered non-responsive on that basis.  
12

13 **Voluntary MWBE Goals**

14 Voluntary numerical MWBE participation goals shall be established for all  
15 solicitation/invitations where applicable. These goals are voluntary, but  
16 achievement of the goals is encouraged. No preference will be included in the  
17 evaluation of bids/proposals, no minimum level of MWBE participation shall be  
18 required as a condition of award or completion of the contract work, and  
19 bids/proposals will not be rejected or considered non-responsive on that basis.  
20 Bidders may contact OMWBE at 360-753-9693 to obtain information on certified  
21 firms.  
22

23 **Affirmative Efforts To Increase Participation By MWBE's**

24 **Voluntary Efforts**

25 Bidders/Proposers/Contractors are encouraged to:

- 26
- 27 1. Advertise opportunities for subcontractors or suppliers in a manner  
28 reasonably designed to provide MWBEs capable of performing the  
29 work with timely notice of such opportunities and all advertisements  
30 should include a provision encouraging participation by MWBE firms.  
31 Advertising may be done through general advertisements (e.g.,  
32 newspapers, journals, etc.) or by soliciting bids/proposals directly  
33 from MWBEs.  
34
- 35 2. Provide MWBEs that express interest with adequate and timely  
36 information about plans, specifications, and requirements of the  
37 contract. Break down total requirements into smaller tasks or  
38 quantities, where economically feasible, in order to permit maximum  
39 opportunity for participation by MWBEs and other small businesses.  
40
- 41 3. Utilize the services of available minority community organizations,  
42 minority contractor groups, local minority assistance offices and  
43 organizations that provide assistance in the recruitment and  
44 placement of MWBEs and other small businesses.  
45
- 46 4. Establish delivery schedules, where requirements of the contract  
47 permit, that encourage participation by MWBEs and other small  
48 businesses.  
49

50 The actions described in this section should supplemented efforts to provide  
51 information to all qualified firms, and nothing in this section is intended to  
52 prevent or discourage the Bidders/Proposers/Contractors from inviting  
53 proposals for participation from non-MWBE firms as well as MWBE firms.  
54

55 **Non-discrimination**

56 Contractors, Bidders, and Proposers shall not create barriers to open and fair  
57 opportunities for all businesses including MWBEs to participate in all State  
58 contracts and to obtain or compete for contracts and subcontracts as sources of  
59 supplies, equipment, construction and services. In considering offers from and  
60 doing business with subcontractors and suppliers, the Contractor shall not

1 discriminate on the basis of race, color, creed, religion, national origin, sex, age,  
2 nationality, marital status, or the presence of any mental or physical disability in an  
3 otherwise qualified disabled person.  
4

5 The Contractor shall make the MWBE Participation General Statement cited  
6 previously in this Special Provision a part of all subcontracts and agreements  
7 entered into as a result of this contract.  
8

9 **Definitions**

10 When referred to in this contract, the terms Minority, Minority Business Enterprise  
11 (MBE), and Women's Business Enterprise (WBE) will be construed to have the  
12 following meanings:  
13

14 Minority means a person who is a citizen or lawful permanent resident of the  
15 United States and who is:

- 16 (a) Black: having origins in any of the black racial groups of Africa;  
17  
18 (b) Hispanic: of Mexican, Puerto Rican, Cuban, Central or South  
19 American, or other Spanish or Portuguese culture or origin,  
20 regardless of race;  
21  
22 (c) Asian American: having origins in any of the original peoples of the  
23 Far East, Southeast Asia, the Indian subcontinent, or the Pacific  
24 Islands; or  
25  
26 (d) American Indian or Alaskan Native: having origins in any of the  
27 original peoples of North America.  
28  
29

30 Minority Business Enterprise, Minority-owned Business Enterprise, or MBE  
31 means a business organized for profit, performing a commercially useful  
32 function, which is owned and controlled by one or more minority individuals or  
33 minority business enterprises. Owned and controlled means a business in  
34 which one or more minorities or MBE's own at least fifty-one percent (51%), or  
35 in the case of a corporation at least fifty-one percent (51%) of the voting stock,  
36 and control at least fifty-one percent (51%) of the management and daily  
37 business operations of the business.  
38

39 MWBE means a minority owned business enterprise, a women-owned  
40 business enterprise, and/or a combination minority and women's business  
41 enterprise certified by the Office of Minority and Women's Business  
42 Enterprises (OMWBE) of the State of Washington.  
43

44 Women's Business Enterprise, Women-owned Business Enterprise, or WBE  
45 means a business organized for profit, performing a commercially useful  
46 function, which is owned and controlled by one or more women or women's  
47 business enterprises. Owned and controlled means a business in which one  
48 or more women or WBE's own at least fifty-one percent (51%) or in the case  
49 of a corporation at least fifty-one percent (51%) of the voting stock, and control  
50 at least fifty-one percent (51%) of the management and daily business  
51 operations of the business. The women owners must be United States  
52 citizens or lawful permanent residents.  
53

54 Minority/Women's Business Enterprise means a minority owned business  
55 enterprise, a women-owned business enterprise; and/or a combination  
56 minority and women's business enterprise certified by the OMWBE of the  
57 State of Washington.  
58

1 **MBE/WBE Status**

2 A consolidated list of firms accepted as certified by OMWBE is available via the  
3 WSDOT Home Page, (WWW.WSDOT.WA.GOV) and a hard copy is available at  
4 nominal cost from the OMWBE.  
5

6 **MBE/WBE Goals**

7 The Contracting Agency has established a voluntary goal in the amount of:

8  
9 \*\*\*MBE Goal \$1,500,000.00

10  
11 WBE Goal \$ 900,000.00 \*\*\*  
12

13 **Further Information**

14 If further information is desired concerning Minority Business Enterprise/Women's  
15 Business Enterprise participation, inquiry may be directed to:

16  
17 External Civil Rights Branch  
18 Office of Equal Opportunity  
19 Washington State Department of Transportation  
20 Transportation Bldg., PO Box 47314  
21 Olympia, WA 98504-7314  
22 or telephone - (360) 705-7085  
23 Fax (360) 705-6801  
24

25 **Contractor's Responsibility for Work**

26  
27 *(March 3, 1997)*

28 ***Repair of Damage***

29 The first paragraph of Section 1-07.13(4) is revised to read:

30  
31 The Contractor shall promptly repair all damage to either temporary or permanent  
32 work as directed by the Engineer. For damage qualifying for relief under Sections  
33 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with  
34 Section 1-04.4 using the estimated bid item "Reimbursement for Third Party  
35 Damage". Payment will be limited to repair of damaged work only. No payment  
36 will be made for delay or disruption of work. For the purpose of providing a  
37 common proposal for all bidders, the Contracting Agency has entered an amount  
38 for "Reimbursement For Third Party Damage" in the proposal to become a part of  
39 the total bid by the Contractor.  
40

41 **Temporary Water Pollution/Erosion Control**

42 Section 1-07.15 is supplemented with the following:

43  
44 *(July 12, 1999)*

45 ***Spill Prevention, Control and Countermeasures***

46 **Description**

47 This work shall consist of preparing a Spill Prevention, Control, and  
48 Countermeasures (SPCC) Plan and preparing for implementation of the plan.  
49

50 **SPCC Plan Requirements**

51 The Contractor shall be responsible for the preparation of an SPCC plan to be  
52 used for the duration of the project. The plan shall be submitted to the Project  
53 Engineer prior to the commencement of any construction activities. A copy of the  
54 plan with any updates will be maintained at the work site by the Contractor.  
55

56 The SPCC plan shall identify construction planning elements and recognize  
57 potential spill sources at the site. The Plan shall outline responsive actions in the  
58 event of a spill or release and shall identify notification and reporting procedures.  
59 The Plan shall also outline Contractor management elements such as personnel  
60 responsibilities, project site security, site inspections and training.

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The Plan will outline what measures shall be taken by the Contractor to prevent the release or spread of the following:

- Any hazardous material\* found on site and encountered during construction but not identified in contract documents.
- 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:

- Introduction
- SPCC Plan Elements
- Site Information
- Management Approval
- Site Description
- Planning and Recognition
- Spill Prevention and Containment
- Spill Response
- Reporting
- Program Management
- 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 Contractor's SPCC Plan shall be included in the scope of the contract and shall be carried out by the Contractor.

The Contractor shall maintain, at the job site, the applicable equipment and material designated in the SPCC Plan.

**Payment**

The lump sum contract price for the "Spill Prevention Plan" shall be full pay for all labor, equipment, material and overhead costs associated with the preparation of the SPCC Plan and any coordination and preparation needed prior to implementation.

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. Assignment of responsibility for payment shall be defined elsewhere in the Contract.

If due to the Contractor's operations or negligence nothing in this section shall be construed as relieving the Contractor of responsibility for damage and all cost of response, containment and any cleanup shall be borne by the Contractor.

**(\*\*\*\*\*)  
Spill Prevention, Control and Countermeasures (SPCC) Lead**

The Contractor shall designate at least one individual readily available to the work site as the Spill Prevention, Control and Countermeasures (SPCC) Lead. This may be the

1 same person(s) designated as the Erosion Control Lead. The SPCC Lead shall be  
2 identified by the Contractor at the pre-construction meeting. During nonwork periods,  
3 the SPCC Lead shall be able to be on the job site within a 45 minute time period after  
4 notification by the Engineer.  
5

6 Duties of the SPCC Lead shall include, but are not limited to:  
7

- 8 1. Making Contracting Agency initiated revisions to the approved SPCC Plan as  
9 part of the Contractor's water pollution prevention planning.
- 10 2. Ensuring the spill kit(s), as specified in the Contractor's SPCC Plan, are on the  
11 project site during all working hours.
- 12 3. Coordinating spill response and oversight of control measures.
- 13 4. Functioning as the Contractor's designated reporter for spills.
- 14 5. Preparing, implementing, and updating a SPCC Plan and maintaining a SPCC  
15 File.. The SPCC File shall also include reporting of any preventative planning  
16 measures and responses to an event. The current SPCC plan and File shall  
17 be made available to the Engineer for review upon request.
- 18 6. Coordination with the Erosion Control Lead (if a different person) to oversee  
19 implementation of the SPCC Plan and WPPP/FDCP.  
20

21 (\*\*\*\*\*)  
22 **Erosion Control Lead**

23 The Contractor shall designate at least one individual readily available to the project site  
24 as the Erosion Control Lead. This may be the same person(s) designated as the Spill  
25 Prevention Control and Countermeasures (SPCC) Lead. The Erosion Control Lead  
26 shall have, for the life of the contract, a current Certificate of Training in Construction  
27 Site Erosion and Spill Control signed by the WSDOT Water Quality Program Manager.  
28 The Certificate of Training is valid for 3 years from the issue date on the certificate. The  
29 Erosion Control Specialist shall be identified by the Contractor at the pre-construction  
30 meeting.  
31

32 For Certification of Training, contact:  
33

34 Statewide Erosion Control Coordinator  
35 WSDOT Environmental Affairs Office  
36 PO Box 47331  
37 Olympia, WA 98504  
38 (360)705-7479  
39

40 Duties of the Erosion Control Lead shall include, but are not limited to:  
41

- 42 1. Making Contracting Agency initiated revisions to the approved Water Pollution  
43 Prevention Plan (WPPP) and Fugitive Dust Control Plan (FDCP).
- 44 2. Coordinating with the SPCC Lead (if a different person) to oversee  
45 implementation of the SPCC Plan and WPPP.
- 46 3. Implementing the WPPP and FDCP and inspecting the Best Management  
47 Practices (BMPs) for proper location and installation.
- 48 4. Inspecting BMPs for proper operation and overseeing maintenance and repair.  
49 Inspections shall be made weekly and in the case of WPPP, after each  
50 significant precipitation event.
- 51 5. Preparing a WPPP and FDCP Inspection Report for each inspection. The  
52 inspection reports shall be included in the WPPP/FDCP File maintained by the  
53 Contractor's Erosion Control Lead. The inspection reports shall be made  
54 available to the Engineer upon request and shall include, but not be limited to  
55 the following:  
56
  - 57 a. The date and time BMPs are installed, removed, or changed;
  - 58 b. The date and time maintenance is needed and performed;
  - 59 c. The date, time, and person who performs inspection and  
60 maintenance, and what, if any maintenance is done;

- d. Observations of BMP effectiveness and proper placement;
- e. Recommendations for improving performance of BMPs.

(\*\*\*\*\*)  
**Fugitive Dust Control**

**Description**

This work shall consist of preparing a Fugitive Dust Control Plan (FDCP) in conjunction with the Water Pollution Prevention Plan and preparing for implementation of the plan.

**FDCP Requirements**

The Contractor shall be responsible for the preparation of the FDCP to be used for the duration of the project. The plan shall be submitted to the Project Engineer prior to commencement of any construction activities. A copy of the plan with any updates will be maintained at the work site by the Contractor.

The FDCP shall outline what measures shall be taken by the Contractor to prevent fugitive dust from being released into the air at the work site.

The FDCP shall also address at a minimum, the following project specific information:

- Introduction
- Site Information
- Management Information, such as identification of Contractor personnel responsible for the FDCP, and contact person in case of a complaint
- Identification of all fugitive dust sources
- Fugitive Dust control methods to be used for each fugitive dust source
- Source and availability of materials to be used for controlling the fugitive dust
- A schedule, rate of application, or calculations identifying how often, how much, and when the control method is to be used

The second paragraph of Section 1-07.15 is supplemented with the following:

- (\*\*\*\*\*)  
5. Preparing, implementing, and updating a Water Pollution Prevention Plan (WPPP), a Fugitive Dust Control Plan (FDCP) and maintaining a WPPP/FDCP File.

The first sentence of the third paragraph of Section 1-07.15 is replaced with the following:

(\*\*\*\*\*)  
Prior to commencing any work activities, the Contractor shall obtain the Engineer's approval on a Water Pollution Prevention Plan (WPPP). The plan shall reflect conditions specific to the Contractor's operation and schedule of work. The plan shall also include revisions (if any) to the Engineer's Temporary Erosion and Sedimentation Control (TESC) Plan when included in the Plans, and the hazardous material Spill Prevention, Control, and Countermeasures (SPCC) Plan specific to the Contractor's methods of operation and materials utilized to carry out the work.

The fourteenth paragraph of Section 1-07.15 is replaced with the following:

(\*\*\*\*\*)  
If done according to the approved plan or the Engineer's orders, temporary water pollution/erosion control work will be measured and paid as follows:

1. At unit contract prices included in the proposal, or
2. By force account in accordance with Section 1-09.6 if not covered by contract items.

1  
2 For the purpose of providing a common proposal for all bidders, the  
3 Contracting Agency has entered an amount for the item "Temporary Water  
4 Pollution/Erosion Control" in the bid proposal to become a part of the total bid  
5 by the Contractor  
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3. Work described under this Section that is performed by the Erosion Control Lead or the Spill Prevention, Control and Countermeasures (SPCC) Lead will be covered by the items "Erosion Control Lead" or "SPCC Lead", per hour.
  4. The lump sum contract price for the "Water Pollution Prevention Plan (WPPP)", which includes the "Fugitive Dust Control Plan (FDCCP)", shall be full pay for all labor, equipment, material and overhead costs associated with the preparation of the WPPP and FDCCP and any coordination and preparation needed prior to implementation.
  5. There shall be no other payment for Dust Control Measures other than what is provided for in Section 2-07.
  6. The lump sum contract price for the "Spill Prevention Plan" shall be full pay for all labor, equipment, material and overhead costs associated with the preparation of the SPCC Plan and any coordination and preparation needed prior to implementation.

25 If the Contracting Agency is responsible for the cost of response, containment  
26 and any cleanup then payment shall be made through existing contract items  
27 or an Equitable Adjustment in accordance with Section 1-09.4.  
28

29 If the spill is due to the Contractor's operations or negligence nothing in this  
30 section shall be construed as relieving the Contractor of responsibility for  
31 damage and all cost of response, containment and any cleanup shall be borne  
32 by the Contractor.  
33

### 34 **Protection And Restoration Of Property**

35 Section 1-07.16 is supplemented with the following:  
36

37 ***(March 13, 1995)***

#### 38 ***Archaeological And Historical Objects***

39 It is national and state policy to preserve, for public use, historical and prehistorical  
40 objects such as ruins, sites, buildings, artifacts, fossils, or other objects of antiquity that  
41 may have significance from a historical or scientific standpoint.  
42

43 Archaeological or historical objects, which may be encountered by the Contractor, shall  
44 not be further disturbed. The Contractor shall immediately notify the Engineer of any  
45 such finds.  
46

47 The Engineer will contact the archaeologist who will determine if the material is to be  
48 salvaged. The Contractor may be required to stop work in the vicinity of the discovery  
49 until such determination is made. If the archaeologist determines that the material is to  
50 be salvaged, the Engineer may require the Contractor to stop work in the vicinity of the  
51 discovery until the salvage is accomplished.  
52

53 Loss of time suffered by the Contractor due to resulting delays will be adjusted in  
54 accordance with Section 1-08.8.  
55

56 ***(March 13, 1995)***

#### 57 ***Utilities And Similar Facilities***

58 Section 1-07.17 is supplemented with the following:  
59



1 Locations and dimensions shown in the Plans for existing facilities are in accordance  
2 with available information obtained without uncovering, measuring, or other verification.  
3  
4 Public and private utilities, or their contractors, will furnish all work necessary to adjust,  
5 relocate, replace, or construct their facilities unless otherwise provided for in the Plans  
6 or these Special Provisions. Such adjustment, relocation, replacement, or construction  
7 will be done during the prosecution of the work for this project.  
8  
9 The Contractor shall call the Utility Location Request Center (One Call Center), for field  
10 location, not less than two nor more than ten business days before the scheduled date  
11 for commencement of excavation which may affect underground utility facilities, unless  
12 otherwise agreed upon by the parties involved. A business day is defined as any day  
13 other than Saturday, Sunday, or a legal local, State, or Federal holiday. The telephone  
14 number for the One Call Center for this project may be obtained from the Engineer. If  
15 no one-number locator service is available, notice shall be provided individually to those  
16 owners known to or suspected of having underground facilities within the area of  
17 proposed excavation.  
18  
19 The Contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to  
20 underground utilities. Any cost to the Contractor incurred as a result of this law shall be  
21 at the Contractor's expense.  
22  
23 No excavation shall begin until all known facilities, in the vicinity of the excavation area,  
24 have been located and marked.  
25  
26 The following addresses and telephone numbers of utility companies known or  
27 suspected of having facilities within the project limits are supplied for the Contractor's  
28 convenience:  
29  
30 Puget Sound Energy  
31 P.O. Box 11066  
32 Tacoma, WA 98411  
33 Attn: Andy Markos  
34 (253) 476-6295  
35  
36 Tacoma Water  
37 P.O. Box 11007  
38 Tacoma, WA 98411  
39 Attn: Juris Pudists  
40 (253) 502-8742  
41  
42 Tacoma Power  
43 P.O. Box 11007  
44 Tacoma, WA 98411  
45 Attn: Thad Glassy  
46 (253) 502-8704  
47  
48 City of Tacoma Dept. of Public Works  
49 Utility Services Division  
50 2201 Portland Ave.  
51 Tacoma, WA 98421-2711  
52 Attn: John Stetson  
53 (253) 591-5588  
54  
55 US West Communications, Inc.  
56 7850-B S. Trafton  
57 Tacoma, WA 98409  
58 Attn: Sue Bellante  
59 (253) 597-5331  
60

1 TCI Cablevision of Washington, Inc.  
2 2316 So. State St.  
3 Tacoma, WA 98405  
4 Attn: David Lee  
5 (253) 597-7800  
6

7 WSDOT-Olympic Region  
8 P.O. Box 47440  
9 Tumwater, WA 98504-7440  
10 ATTN: Don Anders  
11 (360) 357-2616  
12

## 13 **Public Convenience And Safety**

### 14 ***Construction Under Traffic***

15 Section 1-07.23(1) is supplemented with the following:  
16

17 (\*\*\*\*\*)

18 The 38<sup>th</sup> Street bridge and the four loop ramps of the interchange will be  
19 temporarily closed in accordance to the Special Provision **Time for Completion**.  
20

21 There shall be no restrictions or interruptions to traffic on SR 5 the day prior to a  
22 holiday or holiday weekend through the last day of the holiday or holiday weekend.  
23

24 Lane restrictions shall be held to a minimum time and length needed for each  
25 operation. If the Engineer determines that the lane restrictions are causing  
26 congestion, the Contractor will be required to open all lanes to traffic until the  
27 congestion is eliminated.  
28

29 When the Contractors construction operations are actually in progress, lanes may  
30 be restricted subject to the following specifications.  
31

#### 32 **SINGLE LANE CLOSURES NORTHBOUND SR 5**

33 9:00PM Sunday to 5:00AM Monday  
34 8:00PM Monday to 5:00AM Tuesday  
35 8:00PM Tuesday to 5:00AM Wednesday  
36 8:00PM Wednesday to 5:00AM Thursday  
37 8:00PM Thursday to 5:00AM Friday  
38 10:00PM Friday to 8:00AM Saturday  
39 10:00PM Saturday to 9:00AM Sunday  
40

#### 41 **SINGLE LANE CLOSURES SOUTHBOUND SR 5**

42 8:00PM Sunday to 6:00AM Monday  
43 9:00PM Monday to 6:00AM Tuesday  
44 9:00PM Tuesday to 6:00AM Wednesday  
45 9:00PM Wednesday to 6:00AM Thursday  
46 9:30PM Thursday to 6:00AM Friday  
47 10:30PM Friday to 7:00AM Saturday  
48 10:30PM Saturday to 9:30AM Sunday  
49

#### 50 **DOUBLE LANE CLOSURES NORTHBOUND SR 5**

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11:00PM Sunday to 5:00AM Monday  
11:00PM Monday to 5:00AM Tuesday  
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11:00PM Wednesday to 5:00AM Thursday  
11:00PM Thursday to 5:00AM Friday  
12:00AM Saturday to 6:00AM Saturday  
12:00AM Sunday to 7:30AM Sunday

**DOUBLE LANE CLOSURES SOUTHBOUND SR 5**

11:00PM Sunday to 5:00AM Monday  
11:00PM Monday to 5:00AM Tuesday  
11:00PM Tuesday to 5:00AM Wednesday  
11:00PM Wednesday to 5:00AM Thursday  
11:00PM Thursday to 5:00AM Friday  
12:00AM Saturday to 6:00AM Saturday  
12:00AM Sunday to 7:30AM Sunday

**TRIPLE LANE CLOSURES SOUTHBOUND SR 5**

11:00PM Sunday to 5:00AM Monday  
12:00AM Tuesday to 5:00AM Tuesday  
12:00AM Wednesday to 5:00AM Wednesday  
12:00AM Thursday to 5:00AM Thursday  
12:00AM Friday to 5:00AM Friday  
1:00AM Saturday to 5:00AM Saturday  
1:00AM Sunday to 7:00AM Sunday

During triple lane closures, one lane of southbound SR 5 or one lane of the collector-distributor(C-D) lanes at 38<sup>th</sup> Street interchange shall remain open at all times.

**C-D SHORT TERM TRAFFIC CLOSURES**

Short term traffic stops of ten(10) minutes each will be allowed during the hours allowed for triple lane closures on southbound SR 5 for the southbound C-D and during the hours allowed for double lane closures on northbound SR 5 for the northbound C-D. Adequate time shall be allowed to clear all traffic backups between each closure.

**C-D LANE RESTRICTIONS**

Lane restrictions and closures for both the northbound and southbound collector-distributor lanes will be limited to between the hours of 9:00 PM to 5:00 AM.

**RAMP RESTRICTIONS**

The existing NW', WS', EN' and SE' ramp closures will be limited to between the hours of 9:00 PM to 5:00 AM.

**38<sup>th</sup> STREET RESTRICTIONS**

Lane restrictions on 38<sup>th</sup> Street will be limited to between the hours of 10:00 PM to 6:00 AM.

Should high volume hours differ from those specified, as determined by the Engineer, the Contractor will be required to adjust the hours of work accordingly.

1 Exceptions to these restrictions may be considered by the Engineer on a case by  
2 case basis following a written request by the Contractor.

3  
4 Special events that generate increased traffic volumes through the work area may  
5 occur during the life of this project. Lane restrictions may be denied if severe traffic  
6 congestion is expected.

7  
8 There shall be no delay to medical, fire, police, or other emergency vehicles with  
9 flashing lights or sirens. The Contractor shall alert personnel of this requirement.

10  
11  
12 (March 13, 1995)

13 The construction safety zone for this project is \*\*\* 10 \*\*\* meters from the outside  
14 edge of the traveled way.

15  
16 During nonworking hours equipment or materials shall not be within the safety zone  
17 unless it is protected by permanent guardrail or temporary concrete barrier. The  
18 use of temporary concrete barrier shall be permitted only if the Engineer approves  
19 the installation and location.

20  
21 During the actual hours of work, unless protected as described above, only  
22 materials absolutely necessary to construction shall be within the safety zone and  
23 only construction vehicles absolutely necessary to construction shall be allowed  
24 within the safety zone or allowed to stop or park on the shoulder of the roadway.

25  
26 The Contractor's nonessential vehicles and employees private vehicles shall not be  
27 permitted to park within the safety zone at any time unless protected as described  
28 above.

29  
30 Deviation from the above requirements shall not occur unless the Contractor has  
31 requested the deviation in writing and the Engineer has provided written approval.

32  
33  
34 **(March 13, 1995)**  
35 **Rights Of Way**

36 Section 1-07.24 is supplemented with the following:

37  
38 The Contracting Agency has not completed the acquisition of title to the following  
39 described property:

40  
41 Parcel Number 3-08753  
42 WS 8+043.286(12.192 RT) to WS 8+092.099(13.716 RT)

43  
44  
45 The Contractor shall not perform any work within these limits until ordered to do so by  
46 the Engineer. The Contracting Agency has estimated that the above described  
47 property will be available \*\*\* April 1, 2001 \*\*\*.

48  
49 **PROSECUTION AND PROGRESS**

50  
51 **Progress Schedule**

52 Section 1-08.3 is supplemented with the following:

53  
54 (\*\*\*\*\*)

55 The Contractor shall attend a mutually agreed upon time and location for weekly  
56 meetings with the Project Engineer's office. The intent of the meeting is to discuss  
57 changes in the proposed order of work, construction delays, or conditions that may  
58 affect the progress of the work.

1 The attendees shall include but not limited to, Project Manager(s)/Superintendent(s),  
2 key personnel, and when necessary, subcontractor personnel.  
3

4 The second paragraph of Section 1-08.3 is supplemented with the following:  
5

6 (\*\*\*\*\*)

7 The progress schedule shall be a precedence time scaled logic diagram (TSLD)  
8 which shows the critical path. The TSLD shall show for each activity: the node or  
9 activity code(s), description, duration, and float. The Contractor shall also submit  
10 an activity listing which shall include for each activity: node or activity code(s),  
11 description, duration, early and late start and finish dates, predecessors and  
12 successors, and float. Fixed start or end dates shall be identified on the activity  
13 listing and a written explanation of their use provided. A written explanation shall  
14 also be provided for each lead and lag time used. Activity durations shall be in  
15 working days. The progress schedule shall be in sufficient detail that progress of  
16 the work can be evaluated accurately at any time during the performance of the  
17 contract. The Contractor shall further subdivide activities with durations longer than  
18 30 working days to facilitate evaluation of progress. The schedule shall portray the  
19 Contractor's proposed sequence of construction and completion of work as  
20 required to meet intermediate and final contract completion times.  
21

22 In addition, potentially critical items shall be incorporated into the schedule,  
23 including but not limited to the following:  
24

- 25 1. Procurement of materials
  - 26 2. Equipment availability
  - 27 3. Submittals requiring the Engineer's approval
- 28

29 The third paragraph of Section 1-08.3 is supplemented with the following:  
30

31 (\*\*\*\*\*)

32 Monthly Progress Reports: The Contractor shall submit a monthly progress report  
33 to the Engineer within 7 calendar days after the scheduled end date for each  
34 monthly progress payment period. The monthly Progress Report shall include a  
35 narrative. The narrative shall discuss the progress of the project during the past  
36 month, the number of days the project is ahead of or behind schedule as of the end  
37 date of the pay period and the Contractor's plan to get back on schedule.  
38

39 The Contractor shall also submit a written weekly activity schedule to the Engineer.  
40 The schedule shall indicate the Contractor's proposed activities for the forthcoming  
41 two week period. This two week schedule shall be submitted to the Engineer and  
42 discussed at a mutually agreed upon time on the Thursday preceding the weeks  
43 covered by the schedule. This schedule meeting is intended to aid in scheduling  
44 and coordinating workforce.  
45

46 (\*\*\*\*\*)

#### 47 **Order of Work**

48

49 Unless otherwise approved by the Engineer, the Contractor shall perform all work outlined in  
50 the Plans in accordance with the following:  
51

#### 52 **Video Detection System**

53 Prior to beginning 38<sup>th</sup> Street undercrossing bridge demolition, the existing video  
54 detection camera, located adjacent the 38<sup>th</sup> Street Undercrossing Bridge 5/430, shall be  
55 relocated to existing poles adjacent to 48<sup>th</sup> Street Undercrossing bridge 5/429. See  
56 Special Provision VIDEO DETECTION SYSTEM.  
57

1 **Roadway Excavation and Embankment Construction Staging**

2 The Contractor shall stage the roadway excavation and embankment compaction  
3 operation such that the available material on site shall be used and made readily  
4 available for the duration of the contract.

5  
6 **Existing 36<sup>th</sup> Street Pedestrian Undercrossing Bridge**

7 Closure of the existing 36<sup>th</sup> Street pedestrian bridge by removal of the cement concrete  
8 ramp and installing fence across both entrances, shall occur after the 37<sup>th</sup> Street  
9 Pedestrian Undercrossing bridge is complete.

10  
11 **Mainline Traffic Control Staging**

12 During construction of Pier 2 footing and column for 38<sup>th</sup> Street Undercrossing bridge  
13 and Pier 3 footing and column for 37<sup>th</sup> Street Pedestrian Undercrossing bridge, the  
14 Contractor shall use the SR 5 mainline detour and traffic control staging to construct  
15 both bridges simultaneously.

16  
17 **Time For Completion**

18  
19 Section 1-08.5 is supplemented with the following:

20  
21 (\*\*\*\*\*)

22 This project shall be physically completed within \*\*\* 227 \*\*\* working days. Temporary  
23 closure of 38<sup>th</sup> Street and all existing loop ramps (WN', ES', SW' and NE') shall occur  
24 after January 2, 2001. The new ramps (NW, WN, SE, ES, WS, SW, NE, EN) and 38<sup>th</sup>  
25 Street shall be open to traffic by midnight September 15, 2001.

26  
27 The Contractor shall furnish the Engineer with a report on the status of material delivery  
28 and shall receive written permission before closing the roadway.

29  
30 Contract time will start on January 3, 2001. The Contractor shall not perform any  
31 physical work on the project prior to January 3, 2001. Saturday will be defined as a  
32 working day throughout the life of the project and no unworkable days, as defined in this  
33 Section, will be granted by the Engineer prior to September 15, 2001. After September  
34 15, 2001, unworkable days due to weather conditions, caused by weather, or other  
35 conditions beyond the control of the Contractor will be determined by the Engineer.

36  
37 **Liquidated Damages**

38  
39 Section 1-08.9 is supplemented with the following:

40  
41 (\*\*\*\*\*)

42 In addition to the liquidated damages assessed for failure to complete the physical work  
43 of the project within the time set forth in the Special Provision, **Time For Completion**,  
44 the Contracting Agency will assess liquidated damages in the following amounts:

45  
46 Eight Thousand Dollars (\$8,000) per day for failure to open all lanes of traffic in  
47 each direction of the 38<sup>th</sup> Street Undercrossing Bridge 5/340, and all lanes of traffic  
48 of the SE Ramp, the EN Ramp, the WN Ramp, the SW Ramp, the NE Ramp, the  
49 NW Ramp, the WS Ramp, and the ES Ramp, by 12:01AM, September 15, 2001.

50  
51 Otherwise, according to the Special Provision, **Construction Under Traffic**, the  
52 Contractor also agrees:

- 53  
54 1. To pay \$300 liquidated damages per 15 minutes prorated to the nearest 5  
55 minutes that the NW' ramp (southbound off ramp to 38<sup>th</sup> Street) is closed  
56 beyond the scheduled opening time;
- 57  
58 2. To pay \$100 liquidated damages per 15 minutes prorated to the nearest 5  
59 minutes that the SW' ramp (northbound off ramp to 38<sup>th</sup> Street) is closed  
60 beyond the scheduled opening time specified;

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- 3. To pay \$50 liquidated damages per 15 minutes prorated to the nearest 5 minutes that other ramps are closed beyond the scheduled opening time;
- 4. To pay \$2500 liquidated damages per 15 minutes prorated to the nearest 5 minutes for single and double lane closures on northbound mainline SR 5 for lanes that are closed beyond the schedule opening time;
- 5. To pay \$1100 liquidated damages per 15 minutes prorated to the nearest 5 minutes for single, double and triple lane closures on southbound mainline SR 5 for lanes that are closed beyond the scheduled opening time;

as specified in the Subsection, **Public Convenience and Safety** of the Special Provision, **LEGAL RELATIONS AND RESPONSIBILITES TO THE PUBLIC.**

**MEASUREMENT AND PAYMENT**

**(April 28, 1997)  
Payment For Material On Hand**

The last paragraph of Section 1-09.8 is revised to read:

The Contracting Agency will not pay for any individual item on hand with a cost of less than \$2,000. As materials are used in the work, credits equaling the partial payments for them will be taken on future estimates. Each month, no later than the estimate due date, the Contractor shall submit a letter to the Project Engineer that clearly states: 1) the amount originally paid on the invoice (or other record of production cost) for the items on hand, 2) the dollar amount of the material incorporated into each of the various work items for the month, and 3) the amount that should be retained in material on hand items. If work is performed on the items and the Contractor does not submit a letter, all of the previous material on hand payment will be deducted on the estimate. Partial payment for materials on hand shall not constitute acceptance. Any material will be rejected if found to be faulty even if partial payment for it has been made.

**(March 13, 1995)  
Payments**

Section 1-09.9 is supplemented with the following:

The quantity of the following items to be paid for on this project shall be the quantity shown in the Proposal, unless changes are made in accordance with Section 1-04.4 which affect this quantity. The quantity shown in the Proposal will be adjusted by the amount of the change and will be paid for as specified in Section 1-04.4.

- "St. Reinf. Bar For Bridge"
- "St. Reinf. Bar For Retaining Wall"
- "St. Reinf. Bar For Ped Bridge Approach"
- "Conc. Class 28 For Bridge"
- "Conc. Class 28 For Retaining Wall"
- "Conc. Class 28 For Ped Bridge Approach"

The quantities in the Proposal are listed only for the convenience of the Contractor in determining the volume of work involved and are not guaranteed to be accurate. The prospective bidders shall verify these quantities before submitting a bid. No adjustments other than for approved changes will be made in the quantity even though the actual quantities required may deviate from those listed.

The unit contract price for these items shall be full pay to construct and complete this portion of the work.

**TEMPORARY TRAFFIC CONTROL**

1 **General**

2 Section 1-10.1 is supplemented with the following:

3  
4 (\*\*\*\*\*)

5 The Contractor's work vehicle movements shall be conducted as normal and legal  
6 traffic movements. The Contractors ingress and egress of the work area shall be  
7 accomplished with as little disruption to traffic as possible. Traffic control devices shall  
8 be removed in reverse order by picking up the devices in a reverse sequence to that  
9 used for installation. This may require moving backwards through the workzone.

10 **Traffic Control Management**

11  
12 Section 1-10.2 is supplemented with the following:

13  
14  
15 (\*\*\*\*\*)

16 **Traffic Patroller**

17 The Contractor shall provide a person for patrolling and maintaining in position all the  
18 construction signs and traffic control devices in this project.

19  
20 The traffic patroller's sole duty shall be the patrolling and maintaining in position, the  
21 construction signs and traffic control devices. During those times that the person  
22 designated as traffic patroller is on duty in the capacity of traffic patroller, no other  
23 duties shall be assigned to that person by the Contractor. Such assignment of other  
24 duties shall constitute cause for excluding measurement or payment for the time spent  
25 on such duties. During those times that the Engineer determines that a traffic patroller  
26 is not needed on the project, no measurement or payment will be made.

27  
28 The vehicle used by the traffic patroller shall be equipped with a roof or post mounted  
29 flashing or rotating amber light visible for 360 degrees.

30  
31 **General**

32  
33 (August 9, 1999)

34 Section 1-10.2(1) is supplemented with the following:

35  
36 The Traffic Control Manager and Traffic Control Supervisor shall be certified by one  
37 of the following:

38  
39 American Traffic Safety Services Association  
40 15 Riverside Parkway, Suite 100  
41 Fredericksburg, VA 22406-1022  
42 (540) 368-1711  
43 Certification Ext. 127  
44 Recertification Ext. 134

45  
46 Sverdrup Civil, Inc.  
47 c/o Traffic Control Supervisors Seminar  
48 600 108th Ave. N.E.  
49 Bellevue, WA 98004  
50 (425) 452-8000

51  
52 The Northwest Laborers-Employers Training Trust  
53 27055 Ohio Ave.  
54 Kingston, WA 98346  
55 (360) 297-3035

56  
57 Evergreen Safety Council  
58 401 Pontius Ave. N.  
59 Seattle, WA 98109  
60 1-800-521-0778 or



1 (206) 382-4090  
2

3 Transportation Consulting NW  
4 1607 E. Main  
5 Auburn, WA 98002  
6 (253) 931-0506  
7

8 **Traffic Control Plans**  
9

10 (September 30, 1996)

11 The last sentence of Section 1-10.2(2) is revised to read:  
12

13 The Contractor's letter designating and adopting the specific traffic control plan(s)  
14 or any proposed modified plan(s) shall be submitted to the Engineer for approval at  
15 least ten calendar days in advance of the time the new plan will be implemented.  
16

17 **Flagging, Signs, And All Other Traffic Control Devices**  
18

19 **Traffic Control Labor**  
20

21 The last sentence of the second paragraph of Section 1-10.3(1) is revised to read:  
22

23 (\*\*\*\*\*)

24 The Contractor shall furnish conventional Stop/Slow paddles (650 millimeters wide,  
25 letters 200 millimeters high and reflectorized) for flagging operations.  
26

27 (September 30, 1996)

28 Section 1-10.3(1) is supplemented with the following:  
29

30 Flaggers shall be equipped with portable two-way radios, with a range suitable for  
31 the project. The radios shall be capable of having direct contact with project  
32 management (foremen, superintendents, etc.).  
33

34 **Construction Signs**  
35

36 (June 26, 2000)

37 Section 1-10.3(3) is revised to read:  
38

39 All signs required by the approved traffic control plan(s) as well as any other  
40 appropriate signs prescribed by the Engineer shall be furnished by the Contractor.  
41 The Contractor shall provide the posts or supports and erect and maintain the  
42 signs in a clean, neat, and presentable condition until the necessity for them has  
43 ceased. All nonapplicable signs shall be removed or completely covered with  
44 metal, plywood, or an Engineer approved product specifically manufactured for  
45 sign covering during periods when they are not needed. When the need for these  
46 signs has ceased, the Contractor, upon approval of the Engineer, shall remove all  
47 signs, posts, and supports from the project and they shall remain the property of  
48 the Contractor.  
49

50 All signs shall utilize materials, and be fabricated in accordance with, Section 9-28.  
51 All W20-7a "Flagger Ahead" signs shall be fabricated with Type IV or Type VII  
52 fluorescent orange sign sheeting. All other orange background signs shall be  
53 constructed of Type I or II, or fluorescent Type IV or VII reflective background  
54 sheeting, subject to the following requirement or as otherwise noted in the Plans.  
55

56 Work zone signs fabricated with Type I or II sign sheeting may be used when  
57 available from existing sign inventories.  
58

1 All post mounted signs with Type IV or VII sheeting shall use a nylon washer  
2 between the twist fasteners (screw heads, bolts, or nuts) and the reflective  
3 sheeting.

4  
5 Construction signs will be divided into two classes. Class A construction signs are  
6 those signs that remain in service throughout the construction or during a major  
7 phase of the work. They are mounted on posts, existing fixed structures, or  
8 substantial supports of a semi-permanent nature. Sign and support installation for  
9 Class A signs shall be in accordance with the Contract Plans or the Standard  
10 Plans. Class B construction signs are those signs that are placed and removed  
11 daily, or are used for short durations which may extend for one or more days. They  
12 are mounted on portable or temporary mountings. In the event of disputes, the  
13 Engineer will determine if a construction sign is considered as a Class A or B  
14 construction sign.

15  
16 If it is necessary to add mass to signs for stability, only a bag of sand that will  
17 rupture on impact shall be used. The bag of sand shall: (1) be furnished by the  
18 Contractor, (2) have a maximum mass of 18 kilograms, and (3) be suspended no  
19 more than 0.3 meters from the ground.

20  
21 Payment for setup and take down of Class B signs will be limited to the labor cost  
22 to do the work described in Section 1-10.3(1), and for transportation described in  
23 Section 1-10.3(2).

24  
25 Signs, posts, or supports that are lost, stolen, damaged, destroyed, or which the  
26 Engineer deems to be unacceptable while their use is required on the project, shall  
27 be replaced by the Contractor without additional compensation.

28  
29 (April 28, 1997)

30 Section 1-10.3(3) is supplemented with the following:

31  
32 **Wood Sign Posts**

33 Use the below charts to determine post size for Class A construction signs.

34  
35 **One Post Installation**

36

<u>Post Size</u>	<u>Min. Sign m<sup>2</sup></u>	<u>Max. Sign m<sup>2</sup></u>
4x4	-	1.44
4x6	1.53	1.80
6x6	1.89	2.25
6x8	2.34	2.79

37  
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42  
43 **Two Post Installation**  
44 **(For signs greater than 1.5 meters in width)**

45

<u>Post Size</u>	<u>Min. Sign m<sup>2</sup></u>	<u>Max. Sign m<sup>2</sup></u>
4x4	-	1.44
4x6	1.53	3.24
6x6	3.33	4.14
6x8	4.23	6.75 *

46  
47  
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51  
52 \* The Engineer shall determine post size for signs greater than 6.75 square  
53 meters.

54  
55 **Temporary Traffic Control Devices**

56  
57 (March 3, 1997)

58 The first sentence of Section 1-10.3(5) is revised to read:  
59

1 When the bid proposal includes an item for "Temporary Traffic Control Devices",  
2 the work required for this item shall be furnishing Class B construction signs,  
3 barricades, flashers, cones, traffic safety drums, and other temporary traffic control  
4 devices, unless the contract provides for furnishing a specific temporary traffic  
5 device under another item.  
6

7 Section 1-10.3(5) is supplemented with the following:  
8

9 **(June 03, 1996)**

10 **Sequential Arrow Sign**

11 The MUTCD requirements are supplemented with the following:  
12

13 Sequential arrow signs furnished for this project shall be Type \*\*\*C\*\*\*.  
14

15 The color of the light emitted shall be yellow.  
16

17 The power source for the sign shall be capable of operating the lamps at their  
18 optimum light level for the entire period of operation. The power source will be  
19 subject to the approval of the Engineer prior to use.  
20

21 A control panel, using solid-state circuitry, shall be enclosed in a ventilated,  
22 vandal-resistant box. A photoelectric control, with manual override, shall  
23 automatically dim the lights during hours of darkness. Arrow panels shall be  
24 capable of a minimum of 50 percent dimming from their rated lamp voltage.  
25

26 **(June 8, 1998)**

27 **Traffic Safety Drums**

28 Traffic safety drums shall be manufactured specifically for traffic control purposes,  
29 and shall be fabricated from low density polyethylene that maintains its integrity  
30 upon impact.  
31

32 The drums shall be of the following general specifications:  
33

34 Overall Height	900 mm minimum
35 Overall Width	450 mm minimum in the direction(s) 36 of traffic flow. If the front to 37 back dimension is less than 450 38 mm, only those drums 39 specifically approved by the 40 Engineer will be permitted. 41
42 Shape	Rectangular, hexagonal, circular, or 43 flat-sided semi-circular. 44
45 Color	The base color of the drum shall be 46 fade resistant safety orange. 47
48 Reflective Stripes	The exterior vertical surface shall 49 have at least two orange and two 50 white circumferential stripes. Each 51 stripe shall be 100 mm to 150 mm wide 52 and shall be reflectorized. If there 53 are nonreflectorized spaces between 54 the horizontal orange and white 55 stripes they shall be no more than 50 56 mm wide. Reflective stripes 57 shall be 3-M flexible 3810, 58 Reflexite PC 1000, 3-M Diamond 59 Grade, or Stimsonite High 60

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 Contractor and shall be removed from the project.

**(March 3, 1997)**

**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 Contractor shall provide certification that the unit complies with NCHRP 230 or 350 requirements.

The Contractor 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 Contractor 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 Contractor 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.

(\*\*\*\*\*)

1 One TMA unit shall have a sequential arrow sign type B mounted so that it is  
2 clearly visible to traffic approaching from behind the TMA.  
3

4 **(November 17, 1997)**

5 **Type III Barricade**

6 The barricades shall be constructed in accordance with the details shown in the  
7 MUTCD and the Standard Plans. The barricade width shall be \*\*\* 3 meters\*\*\*. If it  
8 is necessary to add mass to barricades for stability, only bags of sand that will  
9 rupture on impact shall be used. The bags of sand shall:

- 10 1. Be furnished by the Contractor.
- 11 2. Have a maximum mass 18 kilograms.
- 12 3. Be placed no more than 0.3 meter above the ground.

13 As may be indicated in the Signing Plan or Traffic Control Plan, the Contractor may  
14 be required to install signs, warning lights, or both, on barricades.

15 **(February 17, 1998)**

16 **Portable Changeable Message Sign (PCMS)**

17 The PCMS shall meet the requirements of the MUTCD and the following:

18 The PCMS shall employ one of the following technologies:

- 19 1. Back-lighted split-flap
- 20 2. Fiber optic/shutter
- 21 3. Light emitting diode
- 22 4. Light emitting diode/shutter
- 23 5. Flip disk

24 Regardless of the technology, the PCMS shall meet the following general  
25 requirements:

- 26 1. Be light emitting and must not rely solely on reflected light.
- 27 2. Have a display consisting of individually controlled pixels no larger  
28 than 63 mm by 63 mm. If the display is composed of individual  
29 character modules, the space between modules must be minimized  
30 so alphanumeric characters of any size specified below can be  
31 displayed at any location within the matrix.
- 32 3. When activated, the pixels shall display a yellow or orange image.  
33 When not activated, the pixels shall display a flat black image that  
34 matches the background of the sign face.
- 35 4. Be capable of displaying alphanumeric characters that are a  
36 minimum of 450 mm in height. The width of alphanumeric characters  
37 shall be appropriate for the font. The PCMS shall be capable of  
38 displaying three lines of eight characters per line with a minimum of  
39 one pixel separation between each line.
- 40 5. The PCMS message, using 450 mm characters, shall be legible by a  
41 person with 20/20 corrected vision from a distance of not less than  
42 240 meters centered around an axis perpendicular to the sign face.
- 43 6. The sign display shall be covered by a stable, impact resistant  
44 polycarbonate face. The sign face shall be non-glare from all angles  
45 and shall not degrade due to exposure to ultraviolet light.
- 46 7. Be capable of simultaneously activating all pixels for the purpose of  
47 pixel diagnostics. Any sign that employs flip disk or shutter  
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1 technology shall be programmable to activate the disks/shutters once  
2 a day to clean the electrical components. This feature shall not occur  
3 when the sign is displaying an active message.

- 4
- 5 8. The light source shall be energized only when the sign is displaying  
6 an active message.
  - 7
  - 8 9. Be equipped with a redundant light source such that the sign will  
9 continue to emit light if one of the light sources fails.

10 The PCMS panels and related equipment shall be permanently mounted on a  
11 trailer with all controls and power generating equipment.

12 The PCMS shall be operated by an easy to use controller that provides the  
13 following functions:

- 14 1. Select any preprogrammed message by entering a code.
- 15 2. Sequence the display of at least five messages.
- 16 3. Blank the sign.
- 17 4. Program new message, which may include moving arrows and  
18 chevrons.
- 19 5. Mirror the message currently being displayed or programmed.

20 Portable changeable message signs(s) shall be available, on site, for the life of  
21 the project.

22 The Contractor shall operate the PCMS in accordance with the approved  
23 traffic control plans or as directed by the Engineer. The PCMS shall not be  
24 used in lieu of sequential arrow signs.

25  
26  
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30  
31 **(June 8, 1998)**

32 **Barrier Drums**

33 Barrier drums shall be manufactured specifically for traffic control purposes, and  
34 shall be fabricated from impact resistant, UV stable, low density polyethylene that  
35 will maintain its integrity upon impact.

36 The barrier drums shall meet the following general specifications:

37	Total height	550 mm, $\pm$ 25 mm
38	Cross-section	hollow oval 39 250 mm X 350 mm, $\pm$ 25 mm
40	Formed support legs 41 length.	330 mm, $\pm$ 25 mm
42	Space between legs 43 (taper to fit conc. barrier)	158 mm min.
44	Mass	15 kg $\pm$ 2 kg 45 with legs filled with sand.
46	Color	Fade resistant safety 47 orange.

48 Barrier drums shall have three 100-mm reflective white stripes, (one complete and  
49 two partial), of either 3M flexible 3810, Reflexite PC 1000, 3M Diamond Grade, or  
50 Stimsonite High Performance Grade.

Barrier drums shall be placed on temporary concrete barrier at the following approximate spacings and as shown in the plans:

<b>Concrete Barrier Placement</b>	<b>Barrier Drum Spacing in Meters</b>
Tangents 1 Kilometer or less <sup>1</sup>	0.6 times posted speed limit
Tangents greater than 1 km <sup>1</sup>	1.2 times posted speed limit
Tapers and Curves <sup>2</sup>	0.3 times posted speed limit

1 A minimum of 3 barrier drums should be used.

2 A minimum of 5 barrier drums should be used.

Temporary concrete barrier reflectors and lateral clearance markers may be excluded from use when using barrier drums.

Both legs of the barrier drums shall be completely filled with sand. The top oval should not be filled.

When recommended by the manufacturer, barrier drums shall be treated to ensure proper adhesion of the reflective sheeting.

If approved by the Engineer, used barrier drums with new reflective sheeting may be used, provided all barrier drums used on the project are of essentially the same configuration.

Barrier drums shall be regularly maintained to ensure that they are clean and that the barrier drum and reflective material are in good condition. If the Engineer determines that a barrier drum has been damaged beyond use, or provides inadequate reflectivity, a new barrier drum shall be furnished.

When no longer required, as determined by the Engineer, barrier drums shall remain the property of the Contractor and shall be removed from the project.

(\*\*\*\*\*)

#### **Tubular Markers**

Tubular markers used for traffic control on this project shall meet the requirements of Part VI, Section 6c of the Manual of Uniform Traffic Control Devices (MUTCD), unless otherwise shown in the Plans.

Tubular Markers shall be orange reflectorized, flexible plastic, tubular devices, a minimum of 700 mm in height and contain two 75 mm wide reflectorized white bands placed a maximum of 50 mm from the top with a maximum of 150 mm between the bands, and at the Engineer's option, the devices shall be either the glue down type or the standard pedestal type.

The Contractor shall securely attach the glue down type tubular markers to the pavement surface with an adhesive consisting of a bituminous material having a melting point between 85 and 93 degrees celsius. The adhesive shall be approved by the Engineer prior to use.

The reflectorized bands shall be either 3M flexible 3810, Reflexite PC 100, 3M Diamond Grade, or Stimsonite High Performance Grade.

Any tubular marker damaged due to the Contractor's operations shall be repaired or replaced by the Contractor at no expense to the State.

When ordered by the Engineer the Contractor shall remove the Tubular markers. The Contractor's removal process shall not damage the pavement surface. Any damage resulting from the removal shall be repaired by the Contractor at no expense to the State.

1 At the completion of the project, the Tubular markers shall remain the property of  
2 the Contractor for disposal off the State right of way.  
3

## 4 **Measurement**

5  
6  
7 (June 3, 1996)

8 The third paragraph of Section 1-10.4 is revised to read:  
9

10 Class A construction signs will be measured by the square meter of panel area. A  
11 Class A construction sign may be used in more than one location and will be measured  
12 for payment for each new installation. Sign posts or supports will not be measured for  
13 payment.  
14

15 Section 1-10.4 is supplemented with the following:  
16

17 (September 30, 1996)

18 Measurement will be by the hour of operation for sequential arrow sign. The hours of  
19 operation will be determined by the Engineer. Operation over and above those hours  
20 shall be at the Contractor's expense.  
21

22 (September 30, 1996)

23 Truck mounted impact attenuators will be measured per each one time only for each  
24 truck with mounted impact attenuator used on the project. The final pay quantity shall  
25 be the maximum number of TMAs in place at any one time.  
26

27 Operation of truck mounted impact attenuator will be measured by the hour when  
28 manned and operated. Manned and operated shall be when the TMA has an operator  
29 and is required to move, in operating position, with the construction operation or when  
30 moving the TMA from one position to another on the project.  
31

32 (January 5, 1998)

33 Portable changeable message signs will be measured per each one time only for each  
34 PCMS used on the project. The final pay quantity shall be the maximum number of  
35 PCMSs in place at any one time as approved by the Engineer.  
36

37 Operation of portable changeable message sign will be measured by the hour for each  
38 hour of operation. The hours of operation will be determined by the Engineer. Hours of  
39 operation in excess of those determined by the Engineer will be at the Contractors  
40 expense.  
41

42 (June 8, 1998)

43 Barrier drums will be measured per each, for the maximum number of drums in place at  
44 any one time plus the number of drums replaced due to damage by traffic.  
45

46 (\*\*\*\*\*)

47 Tubular Markers will be measured per each for each device furnished and installed on  
48 the project.  
49

50 The final pay quantity of Tubular Markers will be the maximum number of devices in  
51 place at any one time. The final pay quantity will also include any Tubular Markers  
52 replaced due to damage by traffic.  
53

54 (\*\*\*\*\*)

55 Traffic patroller will be measured by the hour for the actual number of hours involved in  
56 activities as specified for each traffic patroller and vehicle combination.  
57

## 58 **Payment**

59 (June 3, 1996)  
60



1 Payment for construction signs Class A in Section 1-10.5 is revised to read:  
2

3 "Construction Signs Class A", per square meter of panel area.  
4

5 The unit contract price per square meter of panel area shall be full pay for all costs to  
6 furnish and install the Class A construction signs in accordance with Sections 1-10.3(3)  
7 and 1-10.3(4). This payment will include all signs, labor, equipment, and vehicles  
8 necessary for the installation of Class A signs. Payment will not be made for signs  
9 delivered to the project without the approval of the Engineer.  
10

11 Section 1-10.5 is supplemented with the following:  
12

13 (September 30, 1996)  
14 "Sequential Arrow Sign", per hour.  
15

16 (September 30, 1996)  
17 "Truck Mounted Impact Attenuator", per each.  
18 The unit contract price per each for "Truck Mounted Impact Attenuator" shall be full pay  
19 for furnishing a truck with impact attenuator attached (TMA), transporting the TMA to  
20 and from the project, and when the TMA is in use but not manned.  
21

22 "Operation of Truck Mounted Impact Attenuator", per hour.  
23 The unit contract price per hour for "Operation of Truck Mounted Impact Attenuator"  
24 shall be full pay for each hour the TMA is manned and operated.  
25

26 "Repair Impact Attenuator", by force account.  
27 All costs of repairing or replacing TMA's damaged by the motoring public will be paid for  
28 by force account as specified in Section 1-09.6. To provide a common proposal for all  
29 bidders, the Contracting Agency has estimated the amount of force account for "Repair  
30 Impact Attenuator" and has entered the amount in the Proposal to become a part of the  
31 total bid by the Contractor. TMA's damaged due to the Contractor's operation shall be  
32 repaired or replaced by the Contractor at no expense to the Contracting Agency.  
33

34 (October 12, 1998)  
35 "Portable Changeable Message Sign", per each.  
36 The unit contract price per each for "Portable Changeable Message Sign" will be full  
37 pay for furnishing the PCMS, including transporting the PCMS to and from the project.  
38

39 "Operation of Portable Changeable Message Sign" per hour.  
40 The unit contract price per hour for "Operation of Portable Changeable Message Sign"  
41 will be full pay for each hour the PCMS is in operation at an approved location,  
42 including all maintenance costs. Relocation of the PCMS within the project limits will be  
43 paid in accordance with Section 1-10.3(1) and 1-10.3(2).  
44

45 (June 8, 1998)  
46 "Barrier Drum", per each.  
47 The unit contract price per each for "Barrier Drum" shall be full pay for furnishing,  
48 transporting, filling with sand, placing and removing in accordance with the approved  
49 traffic control plans, or as ordered by the Engineer.  
50

51 Barrier drums damaged due to the Contractor's operations shall be repaired or replaced  
52 by the Contractor to the satisfaction of the Engineer, at no expense to the Contracting  
53 Agency.  
54

55 All labor required to perform the work described in Section 1-10.3(1) for the barrier  
56 drums, will be paid for as "Traffic Control Labor".  
57

58 (\*\*\*\*\*)  
59 The unit contract price per each for "Tubular Markers" shall be full pay for performing  
60 the work as specified.

1  
2 All labor required for relocating tubular markers to a new location in accordance with the  
3 Plans, approved Traffic Control Plan(s), or as ordered by the Engineer, or moving  
4 devices to or from temporary storage, as approved by the Engineer, shall be paid for as  
5 "Traffic Control Labor".  
6

7 (\*\*\*\*\*)

8 "Traffic patroller", per hour.

9 The unit contract price per hour for "Traffic Patroller" shall be full pay for all costs to  
10 perform the work as specified for each traffic patroller combination.  
11

## 12 **CLEARING, GRUBBING, AND ROADSIDE CLEANUP**

### 13 **Description**

14 Section 2-01.1 is supplemented with the following:  
15

16 (March 13, 1995)

17 Clearing and grubbing on this project shall be performed within the following limits:  
18

19 The interior area of the four, existing loop ramps(SW', ES', NE', WN')  
20 approximately 2.2 hectares;  
21

22 The interchange areas between the existing loop ramp(WN' and ES') and the  
23 existing north and southbound off ramp(NW' and SE'), approximately 0.6 hectares;  
24

25 The interchange areas between the existing loop ramp(SW' and NE') and the  
26 existing north and southbound on ramp(EN' and WS'), approximately 0.6 hectares;  
27

28 The exterior areas between both existing, northbound off and on ramps(SE' and  
29 EN') to the right of way fence, approximately 1.0 hectares;  
30

31 The exterior areas between both existing, southbound off and on ramps(NW' and  
32 WS') to the right of way fence, approximately 1.3 hectares;  
33

34 The interchange area between the existing, northbound off ramp(NW') and the  
35 southbound collector-distributor lanes, approximately 0.6 hectares;  
36

37 The interchange area between the northbound collector-distributor lanes and the  
38 existing, northbound on ramp(EN'), approximately 0.5 hectares.  
39  
40

### 41 **Construction Requirements**

42 Section 2-01.2, paragraph 3, is revised to read:  
43

44 (\*\*\*\*\*)

45 The Contractor shall dispose of all debris by Disposal Method No. 2, Waste Site and  
46 Disposal Method No. 3, Chipping, as described below.  
47

## 48 **REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

### 49 **Description**

50 Section 2-02.1 is supplemented with the following:  
51

52 (March 13, 1995)

53 This work shall consist of removing miscellaneous traffic items.  
54

55 Approx. 105 Guide Posts

56 Approx. 80 m Beam Guardrail

57 One(1) Beam Guardrail Anchor

58 Approx. 4400 Raised Pavement Markers

59 Three(3) Impact Attenuators (including foundations)  
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(\*\*\*\*\*)

The Contractor shall remove the following as part of the lump sum bid item "Removal of Structure and Obstruction":

- Approx. 5 cubic meters of Cement Conc. Ramp
- Approx. 35 meters of Cement Conc. Retaining Wall

Approximate locations are shown in the Plans.

(\*\*\*\*\*)

This work shall also consist of:

- Removing Chain Link Fence
- Removing Drainage Structure

**Construction Requirements**

Section 2-02.3 is supplemented with the following:

(\*\*\*\*\*)

***Removing Raised Pavement Marker***

Removal of raised pavement markers shall be limited to that area which is to be restriped for traffic control that same working day.

No portions of the raised pavement markers are to remain. Epoxy buildup, if existing, shall be removed by grinding, bush hammering, or other methods as approved by the Engineer. Any damage caused to the underlying pavement by the Contractor's removal operation shall be repaired to the satisfaction of the Engineer at no cost to the Contracting Agency.

***Removing Cement Conc. Ramp***

The Contractor shall remove the existing, west approach ramp, (approximately 10m length, 1.5m wide, 0-1m high) from the 36th St. pedestrian undercrossing bridge 5/431. See Special Provision **ORDER OF WORK**.

***Removing Cement Conc. Retaining Wall***

The Contractor shall remove approximately 35 meters of the existing cement concrete retaining wall, Station WS 8+049.107 to WS 8+082.1, as shown in the plans.

***Removing Impact Attenuator***

The Contractor shall remove three impact attenuators in their entirety within the project limits. The removal shall include all associated mounting hardware, including embedded angle-iron anchors.

***Removing Drainage Structure***

The Contractor shall remove concrete inlets and catch basins where shown in the plans. The existing drainage system shall be maintained until the new drainage system is functioning.

The Contractor shall minimize the damage due to sawcutting to the surrounding pavement that is to remain when removing the catch basin or inlet.

Prior to backfilling, inlet and outlet pipes being abandoned shall be plugged with concrete in accordance with Section 7-08.3(4). Backfill material for voids created by structure removal shall be granular material.

***Removing Chain Link Fence***

The Contractor shall remove approximately 1600 meters of chain link fence. Removal of chain link fence shall include end, corner and pull posts, gates and all associated hardware. No fence line shall be left open for more than 24 hours.

1  
2 **Removal of Bridges, Box Culverts, and other Drainage Structures**

3 Section 2-02.3(2) is supplemented with the following:  
4

5 (\*\*\*\*\*)

6 The Contractor shall completely remove existing Bridge No. 5/430, including the metal  
7 railing, attached sign brackets and adjacent concrete retaining walls, as shown and  
8 noted in the Plans, except as otherwise noted. The existing VDS camera, detection  
9 equipment, poles, and mounting hardware, shall be removed and relocated as specified  
10 in Section 8-20.3 as supplemented in these Special Provisions.

11 Plans of the existing structures are available at the Project Engineer's office for the  
12 prospective bidders review.  
13

14 The Contractor shall submit a demolition plan with working drawings to the Engineer for  
15 approval in accordance with Section 6-01.9, showing the method of removing the  
16 specified portions of the existing structures. The demolition plan shall show support  
17 bents, bracing, guys, lifting devices, lifting attachments, the sequence of demolition, the  
18 type of equipment to be used, the location of cranes, the location of support or lifting  
19 points, and the weights of the structure parts being removed. The plan shall include a  
20 crane stability analysis and crane load calculations based on the controlling crane picks  
21 of the Contractor's plan. The plan shall also detail how debris is controlled, and how  
22 traffic and the Interstate 5 roadway surface are protected during removal operations.  
23 The plan shall show all stages of demolition work.  
24

25 The demolition plan details for removing the Pier 1 and Span 1, and the Span 4 and  
26 Pier 5, portions of Bridge No. 5/430 shall include the abutment restraint system for  
27 Piers 1 and 5 during the removal of the superstructure portion of the bridge. The  
28 Contractor shall design the abutment restraint system to support the earth pressure  
29 load as shown in the Plans.  
30

31 Explosives shall not be used in the demolition. A crane suspended demolition ball shall  
32 not be used in the demolition of Bridge No. 5/430.  
33

34 The superstructure spans of Bridge No. 5/430 shall not be demolished in place. The  
35 superstructure spans of Bridge No. 5/430 shall be separated from the existing bridge in  
36 large sections or pieces and relocated to a separate location for further breakup into  
37 transportable pieces for final disposal.  
38

39 The Contractor shall not begin removal operations until receiving the Engineer's  
40 approval of the demolition plan.  
41

42 The Contractor shall not begin demolition of Bridge No. 5/430 until the existing VDS  
43 cameras and detection equipment, and existing VDS camera poles and mounting  
44 hardware, are removed and relocated by the Contracting Agency and the Contractor,  
45 respectively, as specified in Section 8-20.3 as supplemented in these Special  
46 Provisions.  
47

48 (\*\*\*\*\*)

49 **Removal of Pavement, Sidewalks and Curbs**

50 Section 2-02.3(3) is supplemented by the following:  
51

52 (\*\*\*\*\*)

53 **Removing Asphalt Concrete Pavement**

54 The Contractor shall remove approximately 3,800 square meters of asphalt concrete  
55 pavement from the existing WN' and ES' loop ramps and the NW' southbound off ramp  
56 to W. 38<sup>th</sup> Street. See Special Provision ROADWAY EXCAVATION AND  
57 EMBANKMENT for additional asphalt concrete pavement removal.  
58  
59

1 The approximate thickness of the \*\*\*asphalt concrete\*\*\* pavement is \*\*\*90 to 150  
2 mm\*\*\*.  
3

4 **Measurement**

5 Section 2-02.4 is revised to read:  
6

7 (September 8, 1997)  
8 Pavement removal will be measured by the square meter.  
9

10 (\*\*\*\*\*)

11 Removing drainage structure will be measured per each structure removed.  
12 Removing impact attenuator will be measured per each attenuator removed.  
13 Prior to removal, chain link fence will be measured by the meter in place.  
14

15 **Payment**

16  
17 Section 2-02.5 is supplemented with the following:  
18

19 (June 26, 2000)  
20 "Removing Existing Bridge \_\_\_\_\_", lump sum.  
21

22 (September 30, 1996)  
23 "Removing \*\*\*Asphalt Conc.\*\*\* Pavement", per square meter.  
24

25 (\*\*\*\*\*)  
26 "Removing Miscellaneous Traffic Items", lump sum.  
27 "Removing Drainage Structure", per each.  
28 "Removing Impact Attenuator", per each.  
29 "Removing Chain Link Fence", per meter.  
30

31 All costs to furnish, place and compact materials used to backfill voids created by the  
32 removals shall be included in the contract prices for the various removal items of work.  
33

34 **ROADWAY EXCAVATION AND EMBANKMENT**

35  
36 **Description**

37 Section 2-03.1 is supplemented with the following:  
38

39 (\*\*\*\*\*)  
40 This work shall consist of excavating, grading and constructing embankments for the  
41 NW, WN, ES, SE and SW detention ponds as detailed in the plans.  
42

43 There is approximately 26,000 square meters of asphalt concrete pavement removal,  
44 1,700 square meters of cement concrete sidewalk and 1,350 meters of cement  
45 concrete curb and gutter that is included in the bid quantity for the item Roadway  
46 Excavation Incl. Haul.  
47

48 **Measurement**

49 Section 2-03.4 is supplemented with the following:  
50

51 (March 13, 1995)  
52 Only one determination of the original ground elevation will be made on this project.  
53 Measurement for roadway excavation and embankment will be based on the original  
54 ground elevations recorded previous to the award of this contract.  
55

56 If discrepancies are discovered in the ground elevations which will materially affect the  
57 quantities of earthwork, the original computations of earthwork quantities will be  
58 adjusted accordingly.  
59

1 Earthwork quantities will be computed, either manually or by means of electronic data  
2 processing equipment, by use of the average end area method or by the finite element  
3 analysis method utilizing digital terrain modeling techniques.

4  
5 Copies of the ground cross-section notes will be available for the bidder's inspection,  
6 before the opening of bids, at the Project Engineer's office.

7  
8 Upon award of the contract, copies of the original ground cross-sections will be  
9 furnished to the successful bidder on request to the Project Engineer.

10  
11 **Payment**

12 Section 2-03.5 is supplemented with the following:

13  
14 (\*\*\*\*\*)  
15 The unit contract price per cubic meter for "Roadway Excavation Incl. Haul" shall be full  
16 pay for excavating, grading and constructing embankments for detention ponds.

17  
18 **STRUCTURE EXCAVATION**

19  
20 **Construction Requirements**

21  
22 **General Requirements**

23 **Removal of Unstable Base Material**

24 Section 2-09.3(1)C is supplemented with the following:

25  
26 (\*\*\*\*\*)  
27 The Contractor shall remove the loose soil in the vicinity of the Pier 3 footing  
28 for Bridge No. 5/430 Replacement, and the adjacent planter box walls and  
29 retaining walls, to the limits shown in the Plans.

30  
31 **Measurement**

32 Section 2-09.4 is supplemented with the following:

33  
34 (\*\*\*\*\*)  
35 **Measurement Limits at Pier 2 and Pier 3 Footings of Bridge No. 5/430**  
36 **Replacement**

37 The horizontal limits normal to the centerline of pier for structure excavation Class A  
38 incl. haul at the Pier 2 footing of Bridge No. 5/430 Replacement shall be as shown in  
39 the Plans.

40  
41 The horizontal and lower limits for structure excavation Class A incl. haul at the Pier 3  
42 footing of Bridge No. 5/430 Replacement shall be as shown in the Plans.

43  
44 **ASPHALT CONCRETE PAVEMENT**

45  
46 **Materials**

47 Section 5-04.2 is supplemented with the following:

48  
49 (November 23, 1998)  
50 In lieu of using asphalt cement meeting the requirements of Section 9-02.1(4), the  
51 Contractor shall use PG \*\*\*58-22 \*\*\* asphalt cement meeting the requirements of  
52 AASHTO MP1 in the production of asphalt concrete pavement \*\*\* Class A and Class E  
53 \*\*\*.

54  
55 The use of RAP in the asphalt concrete mixture is limited to a maximum of 20%.

56  
57 **Construction Requirements**

58  
59 The second paragraph of Section 5-04.3(5)A is supplemented with the following:

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(\*\*\*\*\*)  
**Tack Coat Spill Kit**

Tack coat spreading equipment shall be equipped with a spill kit as specified in the Contractor's Spill Prevention, Control, and Countermeasures (SPCC) Plan.

**Surface Smoothness**

(March 13, 1995)

The second sentence of Section 5-04.3(13) is revised to read as follows:

The completed surface of the wearing course shall not vary more than 6 millimeters from the lower edge of a 3 meter straightedge placed on the surface parallel to centerline.

**CEMENT CONCRETE PAVEMENT**

**Construction Requirements**

**Reinforced Concrete Bridge Approach Slabs**

Section 5-05.3(19) is supplemented with the following:

(\*\*\*\*\*)

The Contractor shall cut and bend the approach slab compression seal for installation as shown in the Plans where the compression seal and approach slab joint pass between the adjacent sections of bridge and curtain wall traffic barrier.

(March 13, 1995)

The pavement end of the approach slab shall be constructed parallel to the pavement seat.

(September 30, 1996)

The compression seal shall be D.S. Brown, CV-2502; Watson Bowman Acme, WA-250; ESCO, X-2500; Structural Accessories Inc., SA-2500, Evazote 50, or approved equal.

**GENERAL REQUIREMENTS FOR STRUCTURES**

**Foundation Data**

Section 6-01.2 is supplemented with the following:

(June 26, 2000)

The attached log of test boring pages are reproductions of the original Log of Test Boring for the test holes shown in the Plans.

The Contractor should review the geotechnical recommendations report prepared for this project. Copies of the geotechnical recommendations report are available for review by prospective bidders at the location specified in Section 1-02.4 as supplemented in these Special Provisions.

(June 26, 2000)

The Contractor should also review the Summary of Geotechnical Conditions in Appendix \*\*\* B \*\*\*.

**Working Drawings**

The seventh sentence of the first paragraph of Section 6-01.9 is revised to read as follows:

(\*\*\*\*\*)

Provided that the Contractor submits an itemized schedule of working drawing submittal dates as specified, the Engineer will require up to 21 calendar days from the date working drawing submittals are received until they are sent to the Contractor.

1  
2 Section 6-01.9 is supplemented with the following:  
3

4 (\*\*\*\*\*)

5 Due to the large number and complexity of the working drawing submittals required for  
6 this project, the Engineer will not guarantee response within the 21 calendar day  
7 response period, unless the Contractor submits an itemized schedule of working  
8 drawing submittal dates.

9  
10 The Contractor shall submit the submittal schedule within 30 calendar days after  
11 contract execution to the Project Engineer, and to the Bridge and Structures Office,  
12 Construction Support Engineer, P. O. Box 47340, Olympia, WA 98504-7340. The  
13 submittal schedule shall include the return date each specific working drawing, shop  
14 drawing, and calculation set is required, conforming to the Contractor's progress  
15 schedule submitted in accordance with Section 1-08.3. The Contractor shall keep this  
16 submittal schedule current throughout the contract and shall submit supplemental  
17 submittal schedules to the Project Engineer and the Bridge and Structures Office in  
18 accordance with Section 1-08.3.

19  
20 If the Contractor does not provide a submittal schedule as specified, the 21 calendar  
21 day response period specified in Sections 1-05.3 and 6-01.9 as supplemented in these  
22 Special Provisions will be deleted, and delays to the Contractor related to the  
23 Engineer's review time on all working drawing submittals shall not be grounds for  
24 additional compensation or extension of time to the Contractor in accordance with  
25 Section 1-08.8.

## 26 27 **CONCRETE STRUCTURES**

### 28 29 **Materials**

30 Section 6-02.2 is supplemented with the following:  
31

32 (\*\*\*\*\*)

#### 33 ***Bridge Mounted Camera and Luminaire Pole Anchorages***

34 Embedded anchor plates for bridge mounted camera and luminaire pole anchorages  
35 shall conform to AASHTO M 183M, and shall be galvanized after fabrication in  
36 accordance with AASHTO M 111.

37  
38 Anchor bolts and hardened washers shall be the type and size specified in the Plans,  
39 and shall be galvanized after fabrication in accordance with AASHTO M 232.

40  
41 ***(January 11, 1999)***

#### 42 ***Resin Bonded Anchors***

43 The resin bonded anchor system shall include the nut, washer, and threaded anchor  
44 rod which is installed into hardened concrete with a resin bonding material. The resin  
45 bonded anchor system shall be one of the systems specified in the current Qualified  
46 Products List or, if not specified in the current QPL, shall meet the following  
47 requirements:

- 48  
49 1. Threaded Anchor Rod and Nuts  
50 Threaded anchor rods shall conform to ASTM A 193M Grade B7M or ASTM A  
51 449 and be fully threaded. Nuts shall conform to AASHTO M 291M, Grade 10  
52 F. Washers shall conform to ASTM F 436M. Nuts and threaded anchor rods  
53 shall be galvanized in accordance with AASHTO M 232. Galvanized threaded  
54 anchor rods shall be tested for embrittlement after galvanizing, in accordance  
55 with ASTM F 606, Section 7. Threaded anchor rods used with resin capsules  
56 shall have the tip of the rod chiseled in accordance with the resin capsule  
57 manufacturer's recommendations prior to galvanizing.
- 58  
59 2. Resin Bonding Material  
60 Resin bonding material shall be one of the following:



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- a. Vinylester resin.
  - b. Polyester resin.
  - c. Methacrylate resin.
  - d. A two component epoxy resin which meets the requirements of ASTM C 881, Type IV. The grade and class of the epoxy resin shall be as recommended by the epoxy resin manufacturer and as approved by the Engineer.
3. Ultimate Anchor Tensile Capacity  
Resin bonded anchors shall each have the following minimum ultimate tensile load capacity when installed in concrete having a maximum compressive strength of 28 megapascals:

Anchor Diameter (mm)	Tensile Capacity (kN)	Embedment (mm)
M10	40.5	90
M12	55.2	110
M16	84.5	145
M20	121	180
M22	142	200
M24	182	215
M32	400	290

**(June 26, 2000)**  
**Fractured Fin Finish**

The fractured fin effect shall be accomplished by the use of either an elastomeric form liner or an ABS or plastic form liner.

Elastomeric form liners shall be selected from the approved products listed in the WSDOT Qualified Products List, latest edition.

ABS or plastic form liners may be used to produce the required texture provided that the fractured fin surface is equal to or less than the height of the full length form liner and that the form liner is selected from the approved products listed in the WSDOT Qualified Products List, latest edition.

**(June 26, 2000)**  
**Pigmented Sealer**

The pigmented sealer shall be a semi-opaque colored toner containing only methyl methacrylate-ethyl acrylate copolymer resins, toning pigments suspended in solution at all times by a chemical suspension agent, and solvent. Toning pigments shall be laminar silicates, titanium dioxide and inorganic oxides only. There shall be no settling or color variation. Use of vegetable or marine oils, paraffin materials, stearates or organic pigments in any part of coating formulation will not be permitted.

The color shall match the color chip Washington Gray (Revised) which is available at the source specified in Section 9-08.4(7). A special color may be required to match adjacent work, in which case the Contractor shall submit a color chip and a wet sample to the Engineer for approval.

The pigmented sealer shall be selected from the approved products listed in the WSDOT Qualified Products List, latest edition.

1 (June 26, 2000)

2 **Strip Seal Expansion Joint System**

3 The metal components shall conform to AASHTO M 183M or M 222M, and shall be  
4 protected against corrosion by one of the following methods:

- 5
- 6 1. Zinc metallized in accordance with the Special Provision **METALLIC**  
7 **COATINGS**.
  - 8
  - 9 2. Hot-dip galvanized in accordance with AASHTO M 111.
  - 10
  - 11 3. Paint in accordance with Section 6-03.3(30) as supplemented in these Special  
12 Provisions. The color of the final coat shall be Washington Gray (Revised).  
13 The surfaces embedded in concrete shall be painted only with a shop coat of  
14 inorganic zinc silicate paint.

15  
16 The strip seal gland shall be continuous for the full length of the joint with no splices  
17 permitted, unless otherwise shown in the Plans.

18  
19 (June 26, 2000)

20 **Fabric Pad Bearing**

21 **Pre-formed Fabric Pads**

22 Pre-formed fabric pads shall be composed of multiple layers of duck, impregnated  
23 and bound with high quality oil resistant synthetic rubber, compressed into resilient  
24 pads of uniform thickness. The duck shall be of highest quality cotton or cotton-  
25 polyester 50-50 blend, and shall have a minimum mass of 272 grams per square  
26 meter. The cotton warp and the filling yarn shall be 2-ply. The cotton-polyester  
27 warp and fill shall be single yarn, with a minimum breaking strength by grab  
28 method of 1.03 megapascals warp, and 0.97 megapascals fill. The filling count of  
29 the duck shall be  $40 \pm 2$  threads per 25.4 millimeters and the warp count shall be  $50$   
30  $\pm 1$  threads per 25.4 millimeters. The number of piles shall be sufficient produce  
31 the specified thickness, after compression and vulcanizing.

32  
33 The finished pads shall withstand compression loads perpendicular to the plane of  
34 the laminations of not less than 68.95 megapascals without any sign of failure after  
35 the load is removed. Failure is defined as any breakdown of the component  
36 materials or laminations.

37  
38 The pre-formed fabric pad shall have a shore A hardness of  $90 \pm 5$ .

39 **Polytetrafluorethylene (TFE) Sheet**

40 TFE self-lubricating bearing sheet shall be 3.18 millimeters thick unless otherwise  
41 noted in the Plans. TFE sheet shall be composed of 100 percent virgin (unfilled)  
42 polytetrafluorethylene polymer except where filled TFE is specified in the Plans.  
43 TFE sheet shall be recessed and bonded to a depth of one half the TFE sheet  
44 thickness into the steel backing plate. The exposed height of the TFE shall not be  
45 less than 1.19 millimeters. The substrate shall limit the flow (elongation) of the  
46 confined TFE to not more than 0.2286 millimeters under a pressure of 13.79  
47 megapascals for 15 minutes at 25C for a 50.8 millimeter by 76.2 millimeter test  
48 sample. Dimpled TFE, if shown in the Plans, shall be unfilled and have a minimum  
49 thickness of 4.76 millimeters. Dimples shall be placed in a 12.7 millimeter grid and  
50 shall have a depth of 1.59 millimeters.

51  
52 Unfilled TFE shall conform to the following requirements:

53

54 <u>Requirement</u>	55 <u>Test Methods</u>	56 <u>Value</u>
57 Hardness at 25C	ASTM D 2240	50-65 Durometer D
58 Tensile Strength	ASTM D 1457	19.31 MPa (Min. Avg.)
59 Elongation %	ASTM D 1457	200 (Min. Avg.)
60 Specific Gravity	ASTM D 792	2.14 to 2.21

1  
2 Filled TFE sheet shall be made from virgin TFE resin uniformly blended with inert  
3 filler material (15% glass fiber). Filled TFE shall conform to the following  
4 requirements:  
5

<u>Requirement</u>	<u>Test Methods</u>	<u>Value</u>
Tensile Strength	ASTM D 1457	15.2 MPa (Min. Avg.)
Elongation %	ASTM D 1457	150% (Min. Avg.)
Specific Gravity	ASTM D 792	2.2
Melting Point	ASTM D 1457	327C ± 10C

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13 **Stainless Steel Sheet**

14 Stainless steel sheet shall be no less than 14 gage meeting ASTM A 240 Type  
15 304L specifications. Stainless steel in contact with the TFE shall polished to a  
16 Number 8 mirror finish.  
17

18 **Structural Carbon Steel**

19 Sole plates and steel backing plates, and masonry plates if shown in the Plans,  
20 shall conform to AASHTO M 183M and the dimensions shall conform to the details  
21 shown in the Plans. The surface of the recess of the steel backing plate shall have  
22 an average surface roughness of 6.35 micrometers. The surface of the sole plate  
23 in contact with the stainless steel sheet shall have an average surface roughness  
24 of 3.175 micrometers.  
25

26 **Welded Shear Connectors**

27 Welded shear connectors shall conform to Section 9-06.15.  
28

29 **Bolts and Washers**

30 Bolts and washers shall conform to Section 9-06.5(3), and shall be galvanized after  
31 fabrication in accordance with AASHTO M 232.  
32

33 **Anchor Bolts, Nuts and Washers**

34 Anchor bolts, nuts and washers, if shown in the Plans, shall conform to Section 9-  
35 06.5(4). The top 300 millimeters of the exposed end of the anchor bolts, and the  
36 associated nuts and washers, shall be galvanized after fabrication in accordance  
37 with AASHTO M 232.  
38

39 **Concrete Inserts**

40 Concrete inserts shall be as specified in the Plans.  
41

42 **Silicone Grease and Epoxy Gel**

43 Silicone grease shall conform to Military Specification MIL-S-8660.  
44

45 Epoxy gel shall conform to the requirements of Section 9-26.1, Type I, Grade 3,  
46 Class A, B, or C.  
47

48 **Submittals of Test Reports, Certifications, and Samples**

49 The Contractor shall submit to the Engineer the following test reports, certifications,  
50 and samples for review, testing and approval, prior to installing the fabric pad  
51 bearings:  
52

- 53 1. Manufacturer's certificate of compliance for the polytetrafluorethylene  
54 (TFE) sheeting, fabric, and elastomer, the pre-formed fabric pad duck, the  
55 silicone grease, and the epoxy gel.
- 56 2. Certified mill test reports for all steel and stainless steel in the bearing  
57 assemblies.  
58  
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3. Certified test reports confirming that the pre-formed fabric pads meet the specified requirements of proof load.
  4. Samples of the pre-formed fabric pads, size 150mm by 150mm by 25.4mm, and TFE sheet, size 50mm by 75mm by 3.18mm, from the production material.

The Engineer will require 15 calendar days to review and test the submitted certificates, test reports, and samples. If all or a portion of the submittal fail to meet the specified requirements, the Contractor shall correct the deficiencies and resubmit to the Engineer. An additional 15 calendar days may be required by the Engineer for review of each resubmittal.

### ***Bridge Supported Utilities***

14  
15  
16 (June 26, 2000)

17 Inserts shall be of the type and model specified in the Plans. Inserts shall be  
18 galvanized in accordance with AASHTO M 111.

19  
20 (June 26, 2000)

21 Hanger rods, and associated nuts and washers, shall conform to Section 9-06.5(1), and  
22 shall be galvanized in accordance with AASHTO M 232.

23  
24 Steel bars and plates shall conform to AASHTO M 183M and shall be galvanized in  
25 accordance with AASHTO M 111.

26  
27 (\*\*\*\*\*)

### ***Prestressed Deck Panels***

28 Concrete shall be Class 35, and shall attain a minimum compressive strength of 28.0  
29 MPa before release of the prestressing reinforcement.

30  
31 Steel reinforcing bar shall conform to Section 9-07 and as specified in the Plans.

32  
33 Prestressing reinforcement shall conform to Section 9-07.10 as supplemented in these  
34 Special Provisions.

35  
36 Grout shall conform to Section 6-02.3(20).

37  
38 Leveling bolts shall conform to Section 9-06.5(1), and shall be galvanized after  
39 fabrication in accordance with AASHTO M 232.

40  
41 Backer rod shall be closed cell expanded polyethylene foam.

### ***Prestressing Reinforcement***

42  
43 The first paragraph of Section 9-07.10 is revised to read as follows:

44  
45 (\*\*\*\*\*)

46  
47 Prestressing reinforcement shall be 11.11-millimeter diameter for prestressed deck  
48 panels, 12.70-millimeter diameter for precast-prestressed concrete piles and  
49 precast segments, and shall be either 12.70-millimeter or 15.24-millimeter diameter  
50 for pretensioned concrete girders, post-tensioned precast segments, post-  
51 tensioned segmental precast concrete girders, or cast-in-place prestressed  
52 concrete.

### **Construction Requirements**

53  
54  
55 Section 6-02.3 is supplemented with the following:

### ***Bridge Supported Utilities***

1 (June 26, 2000)

2 The Contractor shall furnish and install inserts for the bridge utility supports as shown in  
3 the Plans. The Contractor shall verify that the hanger rods freely hang plumb in their  
4 inserts, and shall make adjustments to the inserts as necessary and as approved by the  
5 Engineer prior to utility installation.  
6

7 (June 26, 2000)

8 The Contractor shall furnish and install the bridge utility supports, and the utility pipe or  
9 conduit pipe, as shown in the Plans.  
10

11 **Proportioning Materials**

12 **Contractor-Provided Mix Design**

13 Section 6-02.3(2)A is supplemented with the following:  
14

15 (\*\*\*\*\*)

16 The Contractor-provided mix for concrete Class 35 used for the bridge  
17 roadway slab of South 38th Street U'xing 5/430 Replacement, and the top slab  
18 of South 37th Street Pedestrian U'xing, shall include a minimum fly ash  
19 content of 45 kilograms per cubic meter.  
20

21 **Vibration of Concrete**

22 The list included in the second paragraph of Section 6-02.3(9) is supplemented with the  
23 following:  
24

25 (\*\*\*\*\*)

- 26 9. Ensure that the roadway deck concrete fully encapsulates the prestressed  
27 deck panels of S 38th Street U'xing 5/430 Replacement without forming  
28 honeycombs and voids. The Contractor shall submit the procedures and  
29 methods used to place roadway deck concrete atop and beside the  
30 prestressed deck panels as specified.  
31

32 **Roadway Slabs**

33 Section 6-02.3(10) is supplemented with the following:  
34

35 (\*\*\*\*\*)

36 The preconcreting conference for S 38th Street U'xing 5/430 Replacement shall  
37 include discussion of the following items:  
38

- 39 1. Prestressed deck panel erection procedure, including adjustment of the  
40 panels with the leveling bolts.  
41 2. Placement of the grout pad beneath the prestressed deck panels, and  
42 closed cell foam on the exposed grout pad surface.  
43 3. Preparing the surface of the prestressed deck panels for placement of the  
44 roadway deck concrete.  
45 4. Placing and vibrating the roadway deck concrete to fully encapsulate the  
46 prestressed deck panels without formation of honeycombs and voids.  
47

48 **Curing Concrete**

49 Items 1 and 2 in the first paragraph of Section 6-02.3(11) are revised to read as follows:  
50

51 (\*\*\*\*\*)

- 52 1. Bridge roadway slabs (except for the top slab of South 37th Street Pedestrian  
53 U'xing, the bridge roadway slab of South 38th Street U'xing 5/430  
54 Replacement, and those slabs made of concrete Class 28D), bridge approach  
55 slabs, flat slab bridge superstructures, bridge sidewalks, box culvert tops,  
56 roofs of cut and cover tunnels - curing compound covered by white, reflective  
57 type sheeting or continuous wet curing for at least 10 days.  
58  
59 2. Class 28D concrete (regardless of structure type), the top slab of South 37th  
60 Street Pedestrian U'xing, and the bridge roadway slab of South 38th Street

1 U'xing 5/430 Replacement - two coats of curing compound and continuous wet  
2 cure using heavy quilted blankets or burlap for 14 days.  
3

4 **Expansion Joints**

5 Section 6-02.3(13) is supplemented with the following:  
6

7 **(June 26, 2000)**

8 **Strip Seal Expansion Joint System**

9 The Contractor shall submit working drawings of the expansion joint system to the  
10 Engineer for approval in accordance with Section 6-03.3(7). These plans shall  
11 include but not be limited to the following:  
12

- 13 1. Plan, elevation, and sections of the joint system and all components, with  
14 dimensions and tolerances.
- 15 2. All material designations.
- 16 3. Manufacturer's written installation procedure.
- 17 4. Corrosion protection system used on the metal components.
- 18 5. Locations of welded shear studs, lifting mechanisms, temperature setting  
19 devices, and construction adjustment devices.
- 20 6. Method of sealing the system to prevent leakage of water through the  
21 joint.  
22  
23  
24  
25  
26  
27

28 The strip seal shall be removable and replaceable.  
29

30 Other than items shown in the Plans, threaded studs used for construction  
31 adjustments are the only items that may be welded to the steel shapes provided  
32 they are removed by grinding after use, and the area repaired by application of an  
33 approved corrosion protection system.  
34

35 If the opening between the steel shapes is anticipated to be less than 38  
36 millimeters at the time of seal installation, the seal may be installed prior to  
37 encasement of the steel shapes in concrete.  
38

39 After the joint system is installed, the joint shall be flooded with water and  
40 inspected, from below the joint, for leakage. If leakage is observed, the joint  
41 system shall be repaired by the Contractor, as recommended by the manufacturer  
42 and approved by the Engineer, at no additional cost to the Contracting Agency.  
43

44 **Finishing Concrete Surfaces**

45 Section 6-02.3(14) is supplemented with the following:  
46

47 **(June 26, 2000)**

48 **General Requirements for Concrete Surface Finishes Produced by Form  
49 Liners**

50 Horizontal and vertical joints shall be spliced in accordance with the manufacturer's  
51 printed instructions. A copy of these printed instructions shall be submitted to the  
52 Engineer prior to placement of the form liners. The Contractor shall not place  
53 concrete against the form liners until receiving the Engineer's approval of the forms  
54 and splices.  
55

56 Horizontal splicing of ABS and plastic form liners to achieve the required height is  
57 not permitted and there shall be no horizontal joints. The concrete formed with  
58 ABS and plastic form liners shall be given a light sandblast to remove the glossy  
59 finish.  
60

1 Side forms, traffic barrier forms, and pedestrian barrier forms using these form  
2 liners may be removed after 24 hours provided a water reducing admixture  
3 approved by the Engineer is used in the concrete, and the concrete reaches 9.65  
4 MPa minimum compressive strength before form removal. Concrete in load  
5 supporting forms utilizing these form liners shall be cured in accordance with  
6 Section 6-02.3(17)N. Once the forms are removed, the Contractor shall treat the  
7 joint areas by patching or light sandblasting as required by the Engineer to ensure  
8 that the joints are not visible.  
9

10 Form liners shall be cleaned, reconditioned, and repaired before each use. Form  
11 liners with repairs, patches, or defects which, in the opinion of the Engineer, would  
12 result in adverse effects to the concrete finish shall not be used.

13 Care shall be taken to ensure uniformity of color throughout the textured surface.  
14 A change in form release agent will not be allowed.

15 All surfaces formed by the form liner shall also receive a Class 2 surface finish.  
16 Form ties shall be a type that leaves a clean hole when removed. All spalls and  
17 form tie holes shall be filled as specified for a Class 2 surface finish.

18  
19  
20  
21 **(June 26, 2000)**

22 **Fractured Fin Finish**

23 Form liners shall be placed with fins and joints normal to grade for barrier  
24 applications and vertical (or as shown in the Plans) for other applications.  
25 Horizontal joints in the elastomeric form liners are permitted on surfaces greater  
26 than 2.44 meters in height provided that the minimum form liner panel dimension is  
27 2.44 meters.  
28

29 **(June 26, 2000)**

30 **Random Board Finish**

31 The 20 millimeter random board finish for concrete surfaces specified in the Plans  
32 to receive such a finish shall be achieved with reusable wooden forms conforming  
33 to Section 6-02.3(17)J and the texture pattern shown in the Plans. ABS, plastic, or  
34 elastomeric form liners shall not be used.  
35

36 The texture pattern shall be accomplished with 20 millimeter thick battens in  
37 varying widths applied to the surface of the forms. The edge of all battens shall be  
38 sloped 15 degrees to facilitate form removal.  
39

40 The Contractor shall submit a concrete panel test section, with the 20 millimeter  
41 random board texture to be used, to the Engineer for approval. The test section  
42 shall be constructed using the forms and materials intended to construct the  
43 permanent structures. The test section shall be composed of two ten foot by ten  
44 foot form sections which shall be assembled to make a three meter by six meter  
45 concrete surface section, and shall include the wall top treatment, and one  
46 horizontal joint treatment. The Contractor shall not form any concrete elements  
47 specified to receive 20 millimeter random board finish until receiving the Engineer's  
48 approval of the test section.  
49

50 All cracks, holes, slits, gaps, and apertures in forms shall be plugged and caulked  
51 with molding plaster to remain completely watertight and withstand the pressures  
52 of concrete placement. Joints between the form units shall be sealed with silicone  
53 or latex caulking compound. Butt joints may be sealed with non-absorptive sponge  
54 tape. Construction joints and expansion joints shall be incorporated into the pattern  
55 of the face treatment.  
56

57 Forms and form ties shall be designed to permit removal without damaging the  
58 finish. Prying against the face of the concrete will not be allowed. After removing  
59 the forms, the Contractor shall treat the joint areas by patching or light sandblasting  
60 as required by the Engineer to ensure that the joints are not visible.

1  
2 Storage of formwork and form materials shall be in a manner to prevent damage or  
3 distortion. Any damage to formwork during placing, removal, or storage shall be  
4 repaired by the Contractor as no additional expense to the Contracting Agency.  
5

6 Form liners shall be cleaned, reconditioned, and repaired before each use. Form  
7 liners with repairs, patches, or defects which, in the opinion of the Engineer, would  
8 result in adverse effects to the concrete finish shall not be used.  
9

10 Care shall be taken to ensure uniformity of color throughout the textured surface.  
11 A change in form release agent will not be allowed.  
12

13 All surfaces with the 20 millimeter random board finish shall also receive a Class 2  
14 surface finish. Form ties shall be a type that leaves a clean hole when removed.  
15 All spalls and form tie holes shall be filled as specified for a Class 2 surface finish.  
16

17 **(June 26, 2000)**  
18 **Pigmented Sealer**

19 All surfaces to be sealed shall receive a Class 2 finish and shall receive a light  
20 brush sandblasting in order that complete neutralization of the surface and  
21 subsequent penetration of the pigmented sealer is achieved. All curing agents and  
22 form release agents shall be removed. The surface shall be dry, clean and  
23 prepared in accordance with manufacturer's written instructions. The Contractor  
24 shall submit four copies of the manufacturer's written instructions.  
25

26 The pigmented sealer shall be spray applied in accordance with the manufacturer's  
27 written instructions for application, qualification of applicator, rate of application,  
28 and number of coats to apply. Sealer shall be applied only when the air  
29 temperature is at or above 10C. It shall not be applied upon damp surfaces, nor  
30 shall it be applied when the air is misty, or otherwise unsatisfactory for the work, in  
31 the opinion of the manufacturer or the Engineer. The final appearance shall have  
32 an even and uniform color acceptable to the Engineer.  
33

34 For concrete surfaces such as columns, retaining walls and abutments, the  
35 pigmented sealer shall extend to 300 millimeters below the finish ground line,  
36 unless otherwise shown in the Plans.  
37

38 **(January 11, 1999)**  
39 **Placing Anchor Bolts**

40 Section 6-02.3(18) is supplemented with the following:  
41

42 **Resin Bonded Anchors**

43 The Contractor shall submit item 1 and 2 to the Engineer for all resin bonded  
44 anchor systems. If the resin bonded anchor system is not specified in the current  
45 Qualified Products List, the Contractor shall also submit item 3 to the Engineer.  
46

- 47 1. The resin manufacturer's written installation procedure for the anchors.  
48 Resin bonding material used in overhead and horizontal application shall  
49 be specifically recommended by the resin manufacturer for those  
50 applications.  
51
- 52 2. The manufacturer's certificate of compliance for the threaded anchor rod  
53 certifying that the anchor rod meets the requirements of this Special  
54 Provision.  
55
- 56 3. Test results by an independent laboratory certifying that the threaded  
57 anchor rod system meets the ultimate anchor tensile load capacity  
58 specified in Section 6-02.2. The tests shall be performed in accordance  
59 with ASTM E 488.  
60



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The length of the anchors shall be as specified in the Plans. If the length of the anchor is not specified in the Plans then the length shall be as recommended by the manufacturer of the resin bonding materials.

The anchors shall be installed in accordance with the resin manufacturer's written procedure.

Holes shall be drilled as specified in the Plans. Holes may be drilled with a rotary hammer drill when core drilling is not specified in the Plans. If holes are core drilled, the sides of the holes shall be roughened with a rotary hammer drill after core drilling.

Holes shall be prepared in accordance with the resin manufacturer's recommendations and shall meet the minimum requirements as specified herein. Holes drilled into concrete shall be thoroughly cleaned of debris, dust, and laitance prior to installing the threaded rod and resin bonding material. Holes shall not have any standing liquid at the time of installation of the threaded anchor rod.

Threaded anchors shall not be installed in submerged liquid environments unless specifically recommended by the resin manufacturer. The Contractor shall submit tests performed by an independent laboratory which certifies that anchors installed in a submerged environment meet the strength requirements specified in Section 6-02.2.

The anchor nuts shall be tightened to the following torques when the embedment equals or exceeds the minimum embedment specified.

Anchor Diameter (mm)	Minimum Torque (N.m)	Maximum Torque (N.m)	Minimum Embedment (mm)
M10	16.3	24.4	90
M12	29.8	47.5	110
M16	74.6	108	145
M20	144	190	180
M22	224	258	200
M24	264	305	215
M32	502	712	290

When the anchor embedment depth is less than the minimum values specified, the anchor nuts shall be tightened to the torque values specified in the Plans, or as specified by the Engineer.

**Bridge Bearings**

**Bridge Bearing Assemblies**

Section 6-02.3(19)B is supplemented with the following:

**(June 26, 2000)**

**Fabric Pad Bearing**

The fabric pad bearing consists of an upper unit and a lower unit. The upper unit includes a stainless steel sheet and either a single sole plate or upper and lower sole plates, as shown in the Plans. The lower unit includes a polytetrafluorethylene (TFE) sheet, a steel backing plate, and a preformed fabric pad, and may also include a masonry plate, as shown in the Plans. Lower unit components of transverse restrainer bearings shall be as shown in the Plans. The upper and lower units shall be supplied by a single bearing manufacturer.

1 **Shop Drawings**

2 The Contractor shall submit shop drawings to the Engineer for approval in  
3 accordance with Section 6-03.3(7). These drawings shall include but not  
4 be limited to the following information:  
5

- 6
- 7 1. Plan and elevation of the bearing showing dimensions and  
8 tolerances.
  - 9 2. Complete details of all components and sections showing all  
10 materials incorporated into the bearing.
  - 11 3. All AASHTO, ASTM or other material designations.
  - 12 4. Bearing manufacturer's recommendations and procedures for  
13 bearing assembly shipment and storage.  
14  
15  
16

17 The Contractor shall not begin fabricating the fabric pad bearings until  
18 receiving the Engineer's approval of the shop drawings.  
19

20 **Flatness and Manufacturing Tolerances**

21 Flatness of bearing surfaces shall be determined by the following method:  
22

- 23 1. A precision straightedge, longer than the nominal dimension to  
24 be measured shall be placed in contact with the surface to be  
25 measured as parallel to it as possible.
- 26 2. A feeler gauge having an accuracy equal to the tolerance  
27 allowed  $\pm 0.0254$  millimeters, shall be selected and inserted  
28 under the straightedge.  
29
- 30 3. Surfaces are acceptable for flatness if the feeler gauge does not  
31 pass under the straightedge.  
32
- 33 4. In determining the flatness, the straightedge may be located in  
34 any position on the surface being measured.  
35  
36

37 Flatness tolerances shall be defined as follows:  
38

- 39 1. Class A tolerance =  $0.0005 \times$  nominal dimension
- 40 2. Class B tolerance =  $0.001 \times$  nominal dimension
- 41 3. Class C tolerance =  $0.01 \times$  nominal dimension  
42  
43  
44

45 (Nominal dimension shall be taken as the actual dimension of the  
46 plate or sheet under the straightedge, in inches.)  
47

48 Manufacturing tolerances for the bearings are as follows:  
49

50 TFE Sheet  
51 Plan dimensions: Total nominal design area -0, +3mm  
52 Thickness: -0, +0.397mm  
53 Flatness: Class B tolerance, both surfaces  
54

55 Stainless Steel Sheet  
56 Plan dimensions: -0, +4.76mm  
57 Flatness: Class B tolerance, both surfaces  
58

59 Sole Plate  
60 Plan dimensions: -0, +4.76mm

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Thickness: -1.59mm, +4.76mm  
Flatness: Class B tolerance, side in contact with the Stainless Steel or sole plate  
Class C tolerance, side in contact with epoxy gel, grout, or concrete

**Steel Backing Plate**  
Plan dimensions: -0, +4.76mm  
Thickness: -0, +4.76mm  
Width and length of recess: -0, +1.59mm, of TFE sheet size  
Flatness: Class B tolerance, both surfaces

**Fabric Pad**  
Plan dimension: -0, +4.76mm  
Thickness: -1.59mm, +4.76mm  
Surface finish: For preformed fabric pads fabricated from multiple layers, the vertical face shall be free of visible horizontal displacement between the individual layers.

**Masonry Plate & Bars**  
Plan dimension: -0, +4.76mm  
Thickness: -0, +4.76mm  
Flatness: Class B Tolerance, side in contact with masonry plate or bars.  
Class C tolerance, free side or side in contact with grout.

**Overall Height**  
Total thickness: -0, +10 percent

**Bearing Component Assembly, Shipping, and Storage**

The stainless steel sheet shall be seal welded all around to the sole plates using the gas tungsten-arc welding process (GTAW) in accordance with applicable AWS recommended practices. The seal weld shall not protrude beyond the surface of the stainless steel. The stainless steel sheet shall be clamped down to have full contact with the sole plate during welding.

The lower contact surface of the TFE sheet shall be bonded to the steel backing plate with epoxy specified by the TFE manufacturer.

All exposed steel plate surfaces, including the stainless steel sheet to sole plate weld but excluding stainless steel surfaces, shall be painted in accordance with Section 6-03.3(30) as supplemented in these Special Provisions.

The Contractor shall protect the bearing assemblies from all damage, and exposure to the elements, during shipment and storage prior to installation in accordance with the manufacturer's recommendations and procedures listed in the shop drawings as approved by the Engineer.

**Bearing Assembly Field Inspection and Installation**

Field inspection of a representative number of bearing assemblies will be performed by the Engineer. The Contractor shall provide a clean, dry, and enclosed area at the site, spacious enough for the field inspection activities. The Engineer will identify the bearing assemblies to be inspected and the Contractor shall do all the necessary work to allow the Engineer to inspect the bearing assemblies.

1  
2 The sliding surfaces shall be finished true, lubricated and installed level,  
3 or installed as shown in the Plans for transverse restrainer bearings.  
4

5 A thin uniform film of silicone grease shall be applied to the entire TFE  
6 sheet before installation.  
7

8 For cast-in-place concrete superstructures, the fabric pad bearing upper  
9 unit shall be anchored to the structure as shown in the Plans. For precast  
10 concrete superstructures with fabric pad bearing upper units with upper  
11 and lower sole plates, the upper sole plate shall be cast into and anchored  
12 to the precast concrete member as shown in the Plans.  
13

14 The upper units of fabric pad bearings for steel superstructures, and the  
15 lower sole plate assemblies for precast concrete superstructures shall be  
16 set with epoxy gel as specified below just before setting the  
17 superstructure in place.  
18

19 The sole plate top surface in contact with the epoxy gel shall receive a  
20 thin uniform film of silicone grease, to prevent bonding to the epoxy gel.  
21 The anchor bolts and insert threads shall be greased to prevent bonding  
22 and allow future removal. The Contractor shall apply the epoxy gel by  
23 troweling it into the concrete recess, or onto the bottom of the steel  
24 superstructure or upper sole plate surface, and immediately bolt the upper  
25 unit of the bearing in place to obtain a level surface. Before the epoxy gel  
26 has cured, the superstructure shall be set in place, squeezing out excess  
27 epoxy gel while filling the entire recess. Excess epoxy and grease shall  
28 be removed immediately. Special care shall be exercised at all times to  
29 ensure protection of the stainless steel and TFE surfaces from coming in  
30 contact with concrete or any other foreign matter. After the epoxy gel has  
31 cured, the anchor bolts shall be tightened to snug tight.  
32

33 The grout pad, and masonry plate (when shown in the Plans), shall be  
34 installed level. When shown with a masonry plate, the grout pad shall be  
35 pressure installed starting at the middle of the masonry plate.  
36

37 All forms and debris that tend to interfere with the free action of the  
38 bearing assemblies shall be removed at the time falsework and forms are  
39 removed.  
40

#### 41 ***Grout for Anchor Bolts and Bridge Bearings***

42 Section 6-02.3(20) is supplemented with the following:  
43

44 (June 26, 2000)

45 Grout placed at the following locations shall conform to the requirements of this  
46 section.  
47

48 \*\*\* Grout pads for fabric pad bearings of South 38th Street U'xing 5/430  
49 Replacement and South 37th Street Pedestrian U'xing, as shown in the Plans.  
50

51 Grout pads for prestressed deck panels of South 38th Street U'xing 5/430  
52 Replacement.  
53

54 Grout pads for Bridge Railing Type Chain Link Fence of South 37th Street  
55 Pedestrian U'xing. \*\*\*  
56

#### 57 ***Prestressed Concrete Girders***

58 The list in the fourth paragraph of Section 6-02.3(25) is supplemented with the  
59 following:  
60

1 (\*\*\*\*\*)  
2 **Precast Segment** – Refers to a precast concrete segment with a bathtub or box  
3 girder shape.  
4

5 **Shop Plans**

6 The sixth paragraph of Section 6-02.3(25)A is revised to read as follows:  
7

8 (\*\*\*\*\*)

9 The Contractor shall provide four copies of the shop plans to the Engineer for  
10 approval. Only steel forms will be approved, except plywood forms are  
11 acceptable on the end bulkheads, and on the interior of precast segments.  
12 Approval of shop plans means only that the Engineer accepts the methods  
13 and materials. Approval does not imply correct dimensions.  
14

15 Shop plan details for the precast segments shall include all details related to  
16 the post-tensioning operations in the field, including details of hardware  
17 required, tendon geometry, and blockout details.  
18

19 **Contractors Control Strength**

20 Section 6-02.3(25)E is supplemented with the following:  
21

22 (\*\*\*\*\*)

23 If too few concrete test cylinders were molded to carry out all required tests on  
24 a precast segment, four cores measuring 100 millimeters in diameter by 305  
25 millimeters in height shall be taken from each web of the precast segment at  
26 approximately one meter to the left and to the right of the precast segment  
27 midpoint.  
28

29 The cores shall be tested as they are removed from the precast segment  
30 without any additional conditioning, except for capping. The Engineer may  
31 accept the precast segment if the average compressive strength of four cores  
32 is at least 85 percent of the specified compressive strength with no one core  
33 less than 75 percent of specified compressive strength.  
34

35 The holes created by coring shall be coated with epoxy resin as specified, and  
36 shall be patched using the same type concrete as that used in the precast  
37 segment.  
38

39 **Finishing**

40 Section 6-02.3(25)H is supplemented with the following:  
41

42 (\*\*\*\*\*)

43 All exterior surfaces of precast segments shall receive a Class 2 finish.  
44

45 **Tolerances**

46 The itemized list in Section 6-02.3(25)I is supplemented with the following:  
47

48 (\*\*\*\*\*)

- 49 19. Post-tensioning Duct Position at End of Precast Segment:  $\pm 3$  mm  
50 20. Alignment Tolerance between Successive Precast Segments at Closures:  
51  $\pm 3$  mm  
52 21. Deviation from Smooth Curve for Post-tensioning Duct at Closures based  
53 on Sum Total of Duct Placement and Alignment Tolerances:  $\pm 10$  mm  
54

55 **Horizontal Alignment**

56 Section 6-02.3(25)J is supplemented with the following:  
57

58 (\*\*\*\*\*)

59 Precast segments shall not be out of line horizontally by more than three  
60 millimeters per three meters of segment length.

1  
2 The precast segment ends shall be in a plumb upright position. No external  
3 force shall be applied to the precast segment during the final alignment check  
4 which shall be performed within three days prior to shipment to the jobsite.  
5

6 All precast segments which exceed the specified horizontal alignment  
7 tolerance will be subject to rejection.  
8

### 9 **Girder Deflection**

10 Section 6-02.3(25)K is supplemented with the following:  
11

12 (\*\*\*\*\*)

#### 13 **Precast Segment Camber Control**

14 The Contractor shall control the camber of the precast segment such that the  
15 actual precast segment camber at the centerline of the bridge span at the time  
16 of placing roadway slab concrete for that span shall not exceed the value "C"  
17 as specified in the Plans. The method used by the Contractor to control the  
18 precast segment camber shall not cause the precast segment to sustain any  
19 overstress or damage. In the event that the precast segment camber is in  
20 excess of "C" at the time of placing the roadway slab concrete, the Contractor  
21 shall make the necessary adjustments to the slab depth as approved or  
22 directed by the Engineer.  
23

24 All costs, including all additional Contracting Agency engineering expenses, in  
25 connection with controlling the precast segment camber or adjusting the slab  
26 depth as specified shall be borne by the Contractor.  
27

### 28 **Handling and Storage**

29 Section 6-02.3(25)L is supplemented with the following:  
30

31 (\*\*\*\*\*)

32 During handling and storage, each precast segment shall always be kept in  
33 the horizontal position shown in the Plans. After prestressing, all precast  
34 segments shall be supported at points 460 millimeters from the precast  
35 segment ends.  
36

### 37 **Shipping**

38 The fourth paragraph of Section 6-02.3(25)M is revised to read as follows:  
39

40 (\*\*\*\*\*)

41 Girder support during shipping shall be located as follows unless otherwise  
42 shown in the Plans:  
43

44	45 <b>Type of Girder</b>	46 <b>Centerline Support This Distance From Both Ends</b>
47	Series W42MG and W50MG and 48 all bulb tee girders	0.9 meters
49	Series W58MG	1.2 meters
50	Series W74MG	1.5 meters
51	Series W83MG and W95MG	2.44 meters
52	Precast Segments	0.46 meters from ends and sides

### 53 **Precast Panels**

#### 54 **Shop Drawings**

55 The list included in the third paragraph of Section 6-02.3(28)A is supplemented with  
56 the following:  
57

58 (\*\*\*\*\*)

59 7. Construction sequence and method of forming the panels.  
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8. Details of additional reinforcement, if any, provided at lifting and support locations.
9. Method and equipment used to support the panels during storage, transporting, and erection.
10. Method used to calculate and adjust the placement of the bridge utility (SC&DI) support inserts in each prestressed deck panel with inserts such that the insert is placed plumb relative to the prestressed deck panel's erection position accounting for profile grade and transverse slope.
11. Method used to identify the prestressed deck panel's location for calculating it's position accounting for profile grade and transverse slope, and for ensuring correct placement during erection.
12. Erection sequence, including the method of lifting the panels, placing and adjusting the panels to proper alignment and grade, and supporting the panels during leveling and grouting operations.

**Casting**

Section 6-02.3(28)B is supplemented with the following:

(\*\*\*\*\*)

Strand slippage (withdrawal) in excess of 1.5 millimeters at each end of prestressed deck panels for S 38th Street U'xing 5/430 Replacement will be cause for rejection of that deck panel. The Contractor shall, with at least one deck panel for each lot of ten production deck panels, cut all strands flush with the panel immediately upon removing the panel from the forms, and shall visibly mark the panel for periodic inspection by the Engineer.

The Contractor shall cast a sufficient number of prestressed deck panels to cover 105 percent of the deck area shown in the Plans and specified in the approximate quantities listed under Section 6-02.4 as supplemented in these Special Provisions. The additional prestressed deck panels shall be available for use as replacement panels for panels damaged during handling, storage, and erection. All panels not incorporated into the bridge deck, including additional panels cast but not used, and all damaged panels, shall remain property of the Contractor and be disposed of in accordance with Section 2-02.3.

**Finishing**

Section 6-02.3(28)E is supplemented with the following:

(\*\*\*\*\*)

The Contractor shall furnish a Class 2 surface finish, as specified in Section 6-02.3(14)B, on all surfaces of the prestressed deck panels of S 38th Street U'xing 5/430 Replacement except as otherwise noted. The top surface of all deck panels shall receive a textured finish in accordance with Section 6-02.3(10), except that the depth of striations shall be 6 millimeters, and shall be spaced 20 to 25 millimeters apart. Areas of mortar buildup more than 6 millimeters above the top surface of the deck panel shall be removed.

**Tolerances**

Section 6-02.3(28)F is supplemented with the following:

(\*\*\*\*\*)

The prestressed deck panels for S 38th Street U'xing 5/430 Replacement shall not exceed the following scalar tolerances:

Length and Width:  $\pm 3$  millimeters.

Thickness: + 3, -0 millimeters.

1 Location of strands (measured from centerline of panel to centerline of  
2 strand):  $\pm 1.6$  millimeters.  
3

4 Prestressed deck panels with excessive camber, or with hairline cracks visibly  
5 apparent radiating from the strand at the end of the panel and extending more  
6 than 75 millimeters along the panel will be subject to evaluation by the  
7 Engineer.  
8

### 9 Handling and Storage

10 Section 6-02.3(28)G is supplemented with the following:

11 (\*\*\*\*\*)

12 Prestressed deck panels for S 38th Street U'xing 5/430 Replacement shall be  
13 maintained in a flat position, without twisting, at all times and shall be  
14 supported at approximately 380 millimeters from the panel ends and  
15 transverse to the prestressed strands. The supports shall extend the full width  
16 of the panel.  
17

18 Unloading and reloading at a site other than the bridge site will be permitted  
19 only under the direct supervision of the Engineer. The panels shall not be  
20 stacked, unless otherwise approved by the Engineer. If such permission is  
21 granted, the panel supports shall be in the same vertical plane and shall be of  
22 sufficient height to prevent damage to the lifting bar loops. The Contractor  
23 shall not stack panels on top of adjacent girders of the bridge structure.  
24  
25

### 26 Erection

27 Section 6-02.3(28)I is supplemented with the following:

28 (\*\*\*\*\*)

29 The prestressed deck panels shall be at least 60 days old at the time of  
30 placing roadway deck concrete for S 38th Street U'xing 5/430 Replacement.  
31 The Contractor shall place the prestressed deck panels atop the precast  
32 segments as shown in the Plans, adjusting the leveling bolts as required to  
33 match the level of adjacent prestressed deck panels and accommodate  
34 camber.  
35  
36

37 The grout pad shall be placed after the prestressed deck panels have been  
38 fully adjusted for grade and camber. The Contractor shall conceal the  
39 exposed portion of the grout pad by attaching closed cell foam, tinted to match  
40 the color of the adjacent concrete surfaces, to the exterior grout pad face with  
41 an approved adhesive.  
42

43 Prior to placing the roadway deck steel reinforcing bars and concrete, the  
44 Contractor shall place a backer rod at the intersection between prestressed  
45 deck panels as shown in the Plans. Prior to placing the roadway deck  
46 concrete, the surface of the prestressed deck panels shall be cleaned of all  
47 foreign materials and fully saturated with water.  
48

### 49 Measurement

50 Section 6-02.4 is supplemented with the following:

51 (June 26, 2000)

52 \*\*\* Superstructure - \_\_\_ \*\*\* contains the following approximate quantities of materials  
53 and work:  
54

#### 55 \*\*\* S 38th Street U'xing 5/430 Replacement

56 Epoxy-Coated St. Reinf. Bar	80,900	kg
57 St. Reinf. Bar	142,700	kg
58 Conc. Class 35	745	m <sup>3</sup>



1	Precast Segment	550	m
2	Prestressed Deck Panel	2,330	m2
3	Post-Tensioning Reinforcement	74,900	kg
4	Elastomeric Stop Pad	28	each
5	Br. Mounted Luminarie Pole Anchorage	200	kg
6	Br. Utility (SC&DI) Support Inserts	200	kg

7  
8 S 37th Street Pedestrian U'xing

9			
10	Epoxy-Coated St. Reinf. Bar		
11	(Incl. Railbase)	13,400	kg
12	St. Reinf. Bar (Incl. Railbase)	53,500	kg
13	Conc. Class 35	132	m3
14	Conc. Class 28 (Railbase)	32	m3
15	Precast Segment	167	m
16	Post-Tensioning Reinforcement	18,700	kg
17	Elastomeric Stop Pad	8	each
18	Bridge Railing Type Chain Link Fence	364	m
19	Strip Seal Expansion Joint System	8	m ***

20  
21 The quantities are listed only for the convenience of the Contractor in determining the  
22 volume of work involved and are not guaranteed to be accurate. The prospective  
23 bidders shall verify these quantities before submitting a bid. No adjustments other than  
24 for approved changes will be made in the lump sum contract price for \*\*\*  
25 "Superstructure - \_\_\_\_" \*\*\* even though the actual quantities required may deviate from  
26 those listed.

27  
28 (June 26, 2000)  
29 \*\*\* Fabric pad \*\*\* bearing - superstr. will be measured per each for each bearing  
30 assembly furnished and installed.

31  
32 **Payment**

33  
34 The first bid item under Section 6-02.5 is supplemented with the following:

35  
36 (June 26, 2000)  
37 All costs in connection with producing \*\*\* fractured fin finish and random board \*\*\* finish  
38 on concrete surfaces as specified shall be included in the unit contract price per cubic  
39 meter for "Conc. Class \_\_\_\_". If the concrete is to be paid for other than by class of  
40 concrete then the costs shall be included in the applicable adjacent item of work.

41  
42 (June 26, 2000)  
43 All costs in connection with furnishing and applying pigmented sealer on concrete  
44 surfaces as specified shall be included in the unit contract price per cubic meter for  
45 "Conc. Class \_\_\_\_". If the concrete is to be paid for other than by class of concrete  
46 then the costs shall be included in the applicable adjacent item of work.

47  
48 Section 6-02.5 is supplemented with the following:

49  
50 (June 26, 2000)  
51 "\_\_\_\_ Bearing - Superstr.", per each.

52  
53 **(June 26, 2000)**  
54 ***Bridge and Structures Minor Items***

55 For the purpose of payment, such bridge and structures items as \*\*\* adhesive, backer  
56 rod, butyl rubber sheeting, closed cell foam, coil loop concrete insert, concrete inserts,  
57 elastomeric expansion joint seal, epoxy resin, grout, lifting loops, mechanical splice,  
58 premolded joint filler, PVC sleeve, rubber cement, synethetic closed cell expanded  
59 rubber joint filler, \*\*\* etc., for which there is no pay item included in the proposal, are  
60 considered as bridge and structures minor items. All costs in connection with furnishing

1 and installing these bridge and structures minor items as shown and noted in the Plans  
2 and as outlined in these specifications and in the Standard Specifications shall be  
3 included in the \*\*\* applicable adjacent item of work. \*\*\*  
4

5 **(June 26, 2000)**

6 **Bridge Supported Utilities**

7 All costs in connection with placing \*\*\* the SC&DI conduit pipe \*\*\* through the  
8 superstructure of \*\*\* Bridge No. 5/430 Replacement \*\*\* as shown in the Plans, including  
9 all \*\*\* supports but excluding all concrete inserts \*\*\* , shall be included in the \*\*\* lump  
10 sum contract price for "Communication System". \*\*\*

11 **STEEL STRUCTURES**

12 **Construction Requirements**

13 **Painting**

14 Section 6-03.3(30) is supplemented with the following:

15 (March 6, 2000)

16 Paint for the new steel shall be applied in accordance with Section 6-07.3(1). The  
17 color of the third coat, when dry, shall match \*\*\* Washington Gray (Revised) \*\*\*.  
18 Color chips are available from the source specified in Section 9-08.4(7).  
19

20 **BRIDGE RAILINGS**

21 **Materials**

22 Section 6-06.2 is supplemented with the following:

23 **(\*\*\*\*\*)**

24 **Bridge Railing Type B**

25 Epoxy resin shall be Type II conforming to Section 9-26.1. The grade and class shall  
26 be as recommended by the manufacturer and as approved by the Engineer.  
27

28 **(\*\*\*\*\*)**

29 **Bridge Railing Type Chain Link Fence**

30 Pipe for posts shall be as specified in the Plans.  
31

32 Pipe for longitudinal members shall conform to ASTM A 53, Grade B, Type E or S,  
33 galvanized, and shall be Schedule 40 unless otherwise specified in the Plans.  
34

35 Steel bars, plates, and shapes for base plates, decorative posts, and raised metal  
36 adornments shall conform to AASHTO M 183M, and be galvanized after fabrication in  
37 accordance with AASHTO M 111.  
38

39 Anchor bolts, bolts, nuts, and washers shall conform to Section 9-06.5(3), and shall be  
40 galvanized after fabrication in accordance with AASHTO M 232. Resin bonded anchors  
41 shall conform to Section 6-02.2 as supplemented in these Special Provisions.  
42

43 Chain link fence fabric shall conform to the Section 9-16.1 requirements for Class 1  
44 material, except that the fabric shall be hot-dip galvanized to a minimum of 240 grams  
45 per square meter of surface area.  
46

47 Fittings, fabric bands, stretcher bars, tension and tie wire, and other fence hardware,  
48 shall conform to Section 9-16.1.  
49

50 Chain link fence fabric, fittings, fabric bands, stretcher bars, tension and tie wires, and  
51 other fence hardware shall be coated with an ultraviolet-insensitive plastic or other inert  
52 material at least 50 micrometers in thickness. Any pretreatment or coating shall be  
53 applied in accordance with the manufacturer's written instructions. The Contractor shall  
54 provide the Engineer with the manufacturer's written specifications detailing the product  
55  
56  
57  
58  
59

1 and method of fabrication. The color shall match Federal Standard 595B Color No.  
2 20045. Samples of the coated fencing materials shall be approved by the Engineer  
3 prior to installation on the project.  
4

5 The Contractor shall supply the Engineer with 10 aerosol spray cans containing a  
6 minimum of 410 milliliters each of paint of the color specified above. The touch-up paint  
7 shall be compatible with the coating system used.  
8

## 9 **Construction Requirements**

### 10 ***Metal Railings***

11 Section 6-06.3(2) is supplemented with the following:  
12

13 (\*\*\*\*\*)

#### 14 **Bridge Railing Type Chain Link Fence**

15 The Contractor shall install anchor bolts in the railbase as shown in the Plans. The  
16 Contractor shall set the anchor bolts in place with templates to maintain the  
17 specified bolt arrangement and spacing during concrete placement. Alternatively,  
18 the Contractor may use resin bonded anchors for the anchorages in accordance  
19 with Section 6-02 as supplemented in these Special Provisions.  
20

21 The Contractor shall install the chain link fence fabric in accordance with Section 8-  
22 12.3(1)D, except as otherwise noted. The Contractor shall fasten the chain link  
23 fence fabric to all steel posts and longitudinal members at a maximum spacing of  
24 355 millimeters.  
25

26 The Contractor shall furnish and install the raised metal adornment on the  
27 decorative block of the concrete railbase as shown in the Plans.  
28

29 (\*\*\*\*\*)

#### 30 **Bridge Railing Type B**

31 The Contractor shall form the post blockouts for Bridge Railing Type B with a steel  
32 sleeve of the diameter and thickness specified in the Plans. The steel sleeve shall  
33 be galvanized after fabrication in accordance with AASHTO M 111. The Contractor  
34 shall fill the bottom portion of the railing post with expanded polystyrene as shown  
35 in the Plans, and shall set the railing posts in the blockouts with epoxy resin. The  
36 railing posts shall be braced to maintain the vertical position until the epoxy resin  
37 hardens.  
38

39 The portions of handrail attached to concrete shall be mounted with resin bonded  
40 anchors installed in accordance with Section 6-02 as supplemented in these  
41 Special Provisions.  
42

43 (\*\*\*\*\*)

#### 44 **Painting Galvanized Surfaces of Bridge Railing Types B, BP, and Chain Link 45 Fence, and Associated Handrail and Raised Metal Adornments**

46 After erecting the metal railing components, but prior to installing the chain link  
47 fabric for Bridge Railing Type Chain Link Fence, the Contractor shall clean,  
48 prepare, and paint all exposed galvanized surfaces in accordance with Section 6-  
49 07.3(4).  
50

51 The color of the finish coat, when dry, shall be as follows:  
52

53 The paint color for all components of the decorative posts, all raised metal  
54 adornments, the handrail, and the handrail to post connecting members,  
55 shall be Federal Standard 595B Color No. 30166. The paint color for the  
56 standard posts, and all horizontal top and bottom members, shall be  
57 Federal Standard 595B Color No. 20045.  
58

## 59 **Payment**

60 Section 6-06.5 is supplemented with the following:

1  
2 (\*\*\*\*\*)  
3 All costs in connection with furnishing and installing the handrail on S 37th Street  
4 Pedestrian U'xing, including handrail attached to concrete, shall be included in the unit  
5 contract price per meter for "Bridge Railing Type B" and the lump sum contract prices  
6 for "Superstructure - S 37th Street Pedestrian U'xing" and "Cement Conc. Stairway".  
7

8 All costs in connection with furnishing and installing Bridge Railing Type Chain Link  
9 Fence, including decorative posts and raised metal adornments, shall be included in the  
10 lump sum contract price for "Superstructure - S 37th Street Pedestrian U'xing".  
11

12 **METALLIC COATINGS**  
13 **March 13, 1995**

14 **General Requirements**

15 1.01 Description

- 16  
17 A. This specification covers the requirements for thermal spray metallic coatings, with  
18 and without topcoats, as a means to prevent corrosion.  
19  
20 B. The coating system consists of surface preparation by wash cleaning and abrasive  
21 blast cleaning, application of metallic coating, and, where specified, shop coat  
22 and/or shop coat plus topcoat. The system also includes inspection and  
23 acceptance requirements.  
24

25 1.02 Definitions

- 26  
27 A. See "Thermal Spraying: Practice, Theory, and Application" prepared by AWS  
28 Committee on Thermal Spraying.  
29

30 1.03 Reference Standards

- 31  
32 A. The standards referenced in this specification form a part of this specification.  
33  
34 B. Steel Structures Painting Council (SSPC) Specifications  
35  
36           SSPC-SP 5                           White Metal Blast Cleaning  
37           SSPC-SP 10                        Near-White Blast Cleaning  
38  
39 C. Other Standards  
40  
41           ASTM-C-633                        Test Method for Adhesive or Cohesive Strengths of  
42    Flame-Sprayed Coatings  
43           ASTM D4417                        Standard Test Methods for Field Measurement of  
44    Surface Profile of Blast-Cleaned Steel  
45           ASTM D2092                        Primer Pretreatment  
46

47 1.04 Quality Assurance

- 48  
49 A. A representative sample of each lot of the coating material used shall be submitted  
50 to the Engineer for analysis prior to use.  
51  
52 B. The Thermal sprayed coating shall have a uniform appearance. The coating shall  
53 not contain any blisters, cracks, chips or loosely adhering particles, oil or other  
54 surface contaminants, nodules, or pits exposing the substrate.  
55  
56 C. The Engineer may cut through the coating with a knife or chisel. If upon doing so,  
57 any part of the coating lifts away from the base metal 6 millimeters or more ahead  
58 of the cutting blade without cutting the metal, then the bond is considered not  
59 effective and is rejected.

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- D. Coated areas which have been rejected or damaged in the inspection procedure described shall have the defective sections blast cleaned to remove all of the thermal sprayed coating and shall then be recoated. Before resubmittal and inspection, those sections where coating has not reached the required thickness shall be sprayed with additional metal until that thickness is achieved.

1.05 Submittals

- A. The Contractor shall submit to the Engineer, prior to abrasive blast cleaning, a 300 millimeter by 300 millimeter steel plate, of the same material and approximate thickness of the steel to be coated, blasted clean to meet the requirements of Paragraph 3.01 C below. The sample plate will be checked for specified angular surface pattern, the abrasive grit size and type used, and the procedure used. This plate shall be used as the visual standard to determine the acceptability of the cleaned surface. In the event the Contractor's cleaning operation is inferior to the sample plate, the Contractor shall be required to correct the cleaning operation to do a job comparable to the specimen submitted.

**Materials**

2.01 Metallic Coatings

- A. The material used for spraying shall be made especially for that purpose. Zinc shall have a minimum purity of 99.9 percent.

2.02 Shop Coats and Field Coats

- A. Shop coats and field coats shall be as specified in the Contract Provisions.

**Construction Requirements**

3.01 Surface Preparation

- A. Surface irregularities (e.g., sharp edges and/or carburized edges, cracks, delaminations, pits, etc.) interfering with the application of the coating shall be removed or repaired, prior to wash cleaning. Thermal cut edges shall be ground to reduce hardness to attain the surface profile required from abrasive blast cleaning.
- B. All dirt, oil, scaling, etc. shall be removed prior to blast cleaning. All surfaces shall be wash cleaned with either clean water at 55 megapascals or water and detergent at 14 megapascals with two rinses with clean water.
- C. The surface shall be abrasive blast cleaned to white metal (SSPC-SP 5). The surface profile will be measured using a surface profile comparator, replica tape, or other method suitable for the abrasive being used in accordance with ASTM D4417.
- D. Where zinc coatings up to and including 0.25 mm thick are to be applied, one of the following abrasive grits shall be used with pressure blast equipment to produce a 75 micrometer AA anchor tooth pattern.
  - (1) Aluminum oxide or silicon carbide  
mesh size: SAE G-25 to SAE G-40
  - (2) Hardened steel grit  
mesh size: SAE G-25 to SAE G-40
  - (3) Garnet, flint, or crushed nickel slag  
mesh size: SAE G-25 to SAE G-50

1 Where zinc coatings greater than 0.25 mm thick are to be applied, one of the  
2 following abrasive grits shall be used with pressure blast equipment to produce a  
3 130 micrometer AA anchor tooth pattern.  
4

- 5 (1) Aluminum oxide or silicon carbide  
6 mesh size: SAE G-18 to SAE G-25  
7  
8 (2) Hardened steel grit  
9 mesh size: SAE G-18 to SAE G-25  
10  
11 (3) Garnet, flint, or crushed nickel slag  
12 mesh size: SAE G-18 to SAE G-25  
13

14 E. The pressure of the blast nozzle, as measured with a needle probe gauge, with  
15 pressure type blasting equipment shall be as follows:  
16

- 17 1. With aluminum oxide, silicon carbide, flint, or slag - 345 kilopascals  
18 minimum and 414 kilopascals maximum.  
19  
20 2. With garnet or steel grit - 517 kilopascals minimum.  
21

22 The pressure at the blast nozzle, with syphon blasting (suction blasting), shall  
23 be as follows:  
24

- 25 1. With aluminum oxide, silicon carbide, flint, or slag - 517 kilopascals  
26 maximum.  
27  
28 2. With garnet or steel grit - 621 kilopascals maximum.  
29

30 F. The abrasive blast stream shall be directed onto the substrate surface at a spray  
31 angle of 75 to 90 degrees, and moved side to side. The nozzle to substrate  
32 distance shall be 100 to 300 millimeters.  
33

### 34 3.02 Application of Metallic Coating 35

- 36 A. No surface shall be sprayed which shows any sign of condensed moisture or which  
37 does not comply with the requirements of Paragraph 3.01 C above. Thermal  
38 spraying must not take place when the relative humidity is 90% or greater, when  
39 the steel temperature is less than 3 degrees C above the dew point, or when the  
40 air or steel temperature is less than 5 degrees C.  
41  
42 B. Clean, dry air shall be used with not less than 345 kilopascal air pressure at the air  
43 regulator. Not more than 15 meters of 9.5 millimeter ID hose shall be used  
44 between the air regulator and the metallizing gun. The metallizing gun shall be  
45 started and adjusted with the spray directed away from the work. During the  
46 spraying operation and depending upon the equipment being used, the gun shall  
47 be held from 75 to 250 millimeters from the surface of the work.  
48  
49 C. Manual spraying shall be done in a block pattern, typically 0.6 meters square. The  
50 sprayed metal shall overlap on each pass to ensure uniform coverage. The  
51 specified thickness of the coating shall be applied in multiple layers. In no case are  
52 fewer than two passes of thermal spraying, overlapping at right angles, acceptable.  
53  
54 D. At least one single layer of coating shall be applied within 4 hours of blasting and  
55 the surface shall be completely coated to the specified thickness within 8 hours of  
56 blasting.  
57  
58 E. The minimum coating thickness shall be 0.152 millimeters unless otherwise shown  
59 in the Plans.  
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3.03 Applications of Shop Coats and Field Coats

- A. The surface shall be wiped clean with solvent immediately before applying the wash primer. The wash primer, dry film thickness shall not exceed 13 micrometers or be less than 8 micrometers. It shall be applied using an appropriate spray gun except in those areas where brush or roller application is necessary. The subsequent shop or field coats shall be applied no less than one-half hour after a wash primer.
- B. The shop coat shall be applied according to Section 6-07, ASTM D2092 and the paint manufacturer's recommendations.
- C. All field coats shall be applied according to Section 6-07 and the paint manufacturer's recommendations.

**Payment**

All costs in connection with producing the metallic coatings as specified shall be included in the unit contract price for the applicable item or items of work.

**CONCRETE BARRIER**

**Construction Requirements**

***Cast-In-Place Concrete Barrier***

Section 6-10.3(2) is supplemented with the following:

(March 6, 2000)

\*\*\* Traffic \*\*\* barrier shall be constructed in accordance with the requirements for cast-in-place concrete barrier, and shall be cured and finished in accordance with Sections 6-02.3(11)A and 6-02.3(14) respectively.

***Temporary Concrete Barrier***

Section 6-10.3(5) is supplemented with the following:

(\*\*\*\*\*)

The Contractor shall remove approximately 500 meters of existing concrete barrier from 38<sup>th</sup> Street for use as temporary barrier on the project. The removal shall include all associated hardware, including connecting pins, drift pins, nuts and washers.

Damage caused to the concrete barrier due to the Contractor's removal or transporting operation shall be repaired or replaced by the Contractor, to the satisfaction of the Engineer and at no additional cost to the Contracting Agency.

After the work is complete, the temporary concrete barrier and associated hardware shall remain the property of the Contracting Agency. The Contractor shall deliver and unload the removed concrete barrier as designated by the Engineer at the following location:

WSDOT Tacoma Maintenance  
11211 41<sup>st</sup> Avenue SW  
Lakewood, WA 98499-4694  
Contact: Casey McGill  
Telephone: (253)589-7255

Notice of delivery shall be provided through the Engineer a minimum of three days prior to delivery.

1  
2 (March 13, 1995)

3 Delineators shall be placed on the traffic face of the barrier 150 millimeters from  
4 the top and spaced a maximum of 12 meters on tangents and 6 meters through  
5 curves.

6  
7 Reflector color shall be white on the right of traffic and yellow on the left of traffic.

8  
9 The Contractor shall maintain, replace, and clean the delineators when ordered by  
10 the Engineer.

11  
12 **Measurement**

13 Section 6-10.4 is supplemented with the following:

14  
15 (March 6, 2000)

16 \*\*\* Traffic \*\*\* barrier will be measured by the meter along the its completed line and  
17 slope.

18  
19 **Payment**

20 Section 6-10.5 is supplemented with the following:

21  
22 (March 6, 2000)

23 "\*\*\*\* Traffic \*\*\* Barrier", per meter.

24  
25 The unit contract price per meter for "\*\*\*\* Traffic \*\*\* Barrier" shall be full pay for  
26 performing the work as specified, excluding the steel reinforcing bars that extend from  
27 the \*\*\* wingwalls, retaining walls, curtain walls, and bridge roadway deck \*\*\*.

28  
29 (June 03, 1996)

30 The following paragraph is added immediately following the bid item, "Temporary Conc.  
31 Barrier".

32  
33 The unit contract price per meter for "Temporary Conc. Barrier" shall include all  
34 costs for furnishing, placing, maintaining, replacing, and cleaning barrier  
35 delineation.

36  
37 **DRAINS**

38 **Description**

39 Section 7-01.1 is supplemented with the following:

40  
41 (\*\*\*\*\*)

42 ***Pipe for Future Irrigation System***

43 This work consists of furnishing and installing drain pipe 200 mm diameter.

44  
45 **Construction Requirements**

46 Section 7-01.3 is supplemented with the following:

47  
48 (\*\*\*\*\*)

49 Each end of the conduit shall be blocked with plywood and marked with a 100 mm by  
50 100 mm wooden post. The post shall be painted white and shall extend from the bottom  
51 of the conduit to 150 mm above finished grade.

52  
53 **Measurement**

54 Section 7-01.4 is supplemented with the following:

55  
56 (\*\*\*\*\*)

57 The drain pipe for future irrigation system will be measured by the linear meter of actual  
58 pipe installed. Excavation of the trench to install the pipe will be in accordance with  
59 Section 2-09.



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**Payment**

Section 7-01.5 is supplemented with the following:

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The unit contract price per linear meter for "Drain Pipe \_\_\_\_\_mm Diam." And per cubic meter for "Structure Excavation Class B Incl. Haul" shall be full pay for performing the work as specified including the cost of furnishing the materials to cap the ends of the drain pipe and marking the pipe with painted, wooden posts.

**STORM SEWERS**

(\*\*\*\*\*)

**Description**

Section 7-04.1 is supplemented by the following:

(\*\*\*\*\*)

***Furnishing And Jacking Steel Casing***

This work shall consist of furnishing and installing steel casing by jacking, auguring or a combination of both. Also included in the work is excavating and backfilling the jacking pit, disposing of the excavated materials, removing all obstructions as they are encountered and other associated work necessary to complete the installation.

(\*\*\*\*\*)

***Temporary Storm Sewer System***

During the removing and replacement of the existing median storm sewer system and during the construction of the median footings for the 38<sup>th</sup> St. Undercrossing Bridge and the 37<sup>th</sup> St. Pedestrian Undercrossing bridge, it will be necessary for the Contractor to install a temporary median storm sewer system. This work shall consist of installing a temporary storm sewer system capable of handling all stormwater flows (peak volume flow is 0.05 cubic meters per second(840 GPM)), making temporary connections to existing side sewer lines, operating, maintaining, repairing and removal of the temporary sewer system.

**Materials**

Section 7-04.2 is supplemented by the following:

(\*\*\*\*\*)

***Steel Casing***

The Contractor shall furnish 450mm and 600mm ID seamless steel casing pipe in accordance with ASTM A53 or ASTM A252, with required inside diameter and with minimum 12.5mm wall thickness.

***Temporary Storm Sewer System***

Materials used for the temporary storm sewer system shall be at the Contractor's option.

**Construction Requirements**

Section 7-04.3 is supplemented by the following:

(\*\*\*\*\*)

***Casing Installation Plan***

Within ten calendar days after Contract Award, the Contractor shall submit an installation plan for approval by the Engineer. In preparing the submittal, the Contractor shall reference the available subsurface data provided in the contract test hole boring logs and the geotechnical report(s) prepared for this project. This plan shall provide at least the following information:

- 1. An overall construction operation sequence.

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2. Details of casing installation methods including proposed drilling methods, methods for cleanout of the casing, disposal plan for excavated material and drilling slurry (if applicable), and a review of method suitability to the anticipated site and subsurface conditions.
  3. Prior to installation, the Contractor shall submit an outline of the construction procedures to the Engineer. The outline shall include the following:
    - a. Plan view and elevation view including:
      - dimensions of pit;
      - shoring, bracing, struts, walers or sheet pile, and. size and type of casing;
      - plan detailing protecting traffic from the jacking pit, such as with concrete barrier or other approved method;
      - method and equipment used to control both the horizontal and vertical direction of the jacking and auguring.
    - b. Proposed methods of jacking the casing including:
      - the jacking system,
      - a detail of the separator-cushion at the end of the casing against which the jacking force will be applied, the support system behind the jack, and
      - the support system under the jack and bottom of pit.
  4. Proposed methods for the prevention of caving in and corrections to the jacking and auguring operation in the event that ground caving does occur.
  5. Proposed methods for clearing obstructions.

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Work shall not begin until the appropriate submittals have been approved in writing by the Engineer. The casing installation method shall not interfere with highway traffic or damage the traveled lanes and shoulders. Jacking and auguring operations shall be conducted to prevent caving ahead of the casing, which will cause voids outside of the casing.

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Where caving in conditions are encountered, no further excavation will be allowed until the Contractor has implemented the approved methods to correct for ground caving .

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Where obstructions are encountered, the Contractor shall implement the approved methods for clearing obstructions, in accordance with this special provision.

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***Force Account Removing Obstructions***

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When obstructions are encountered during the placement of the steel casing, the Contractor shall notify the Engineer promptly. An obstruction is defined as a specific object (e.g., including but not limited to boulders, logs, existing foundations) which to advance past it to the full length of casing installation, the rate of advance of the casing drilling equipment is significantly reduced relative to the rate of advance for the rest of the casing installation. The method of removal of such obstructions, and the continuation of casing installation shall be as proposed by the Contractor and approved by the Engineer. The documented costs due to changes in steel casing installation methods caused by obstructions will be paid as specified.

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The shoring and jacking pit plan shall be prepared by and bear the seal and signature of a licensed professional engineer. Submittal shall be made within a minimum of 15 days prior to the anticipated construction. Construction shall not begin until the construction procedures and plan drawings have been approved by the Engineer. Approval by the Engineer shall not relieve the Contractor of responsibility for the