

I-5 116TH ST NE INTERCHANGE IMPROVEMENTS

90% Special Provisions

Note to Reviewer:

This project is to be Tulalip Tribes Ad & Award with the expectation of both Federal and State funds. The Tulalip Tribes will be the Contracting Agency. The Certifying Agency will be WSDOT Local Programs.

October 2012

SPECIAL PROVISIONS

The following Special Provisions are made a part of this contract and supersede any conflicting provisions of the 2012 Standard Specifications for Road, Bridge and Municipal Construction, and the foregoing Amendments to the Standard Specifications.

Several types of Special Provisions are included in this contract; General, Region, Bridges and Structures, and Project Specific. Special Provisions types are differentiated as follows:

(date)	General Special Provision
(*****)	Notes a revision to a General Special Provision and also notes a Project Specific Special Provision.
(Regions ¹ date)	Region Special Provision
(BSP date)	Bridges and Structures Special Provision

General Special Provisions are similar to Standard Specifications in that they typically apply to many projects, usually in more than one Region. Usually, the only difference from one project to another is the inclusion of variable project data, inserted as a "fill-in".

Region Special Provisions are commonly applicable within the designated Region. Region designations are as follows:

<u>Regions¹</u>	
ER	Eastern Region
NCR	North Central Region
NWR	Northwest Region
OR	Olympic Region
SCR	South Central Region
SWR	Southwest Region
WSF	Washington State Ferries Division

Bridges and Structures Special Provisions are similar to Standard Specifications in that they typically apply to many projects, usually in more than one Region. Usually, the only difference from one project to another is the inclusion of variable project data, inserted as a "fill-in".

Project Specific Special Provisions normally appear only in the contract for which they were developed.

DIVISION1.GR1

Division 1 General Requirements

DESWORK.GR1

DESCRIPTION OF WORK

DESWORK1.DOCX

(March 13, 1995)

This Contract provides for the improvement of *** The 116th Street NE Interchange to replace the existing diamond interchange with a Single-Point Urban Interchange facility

1 (SPUI). The project includes a new bridge and ramps, retaining walls, noise walls,
2 stormwater treatment facilities, signal, illumination, and signage *** and other work, all in
3 accordance with the attached Contract Plans, these Contract Provisions, and the Standard
4 Specifications.

5
6 1-01.3.defn.doc

7 **1-01.3 Definitions**

8 (*****)

9
10 Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace
11 them with the following:

12
13 **Dates**

14 ***Bid Opening Date***

15 The date on which the Contracting Agency publicly opens and reads the Bids.

16 ***Award Date***

17 The date of the formal decision of the Contracting Agency to accept the lowest
18 responsible and responsive Bidder for the Work.

19 ***Contract Execution Date***

20 The date the Contracting Agency officially binds the Agency to the Contract.

21 ***Notice to Proceed Date***

22 The date stated in the Notice to Proceed on which the Contract time begins.

23 ***Substantial Completion Date***

24 The day the Engineer determines the Contracting Agency has full and unrestricted
25 use and benefit of the facilities, both from the operational and safety standpoint, any
26 remaining traffic disruptions will be rare and brief, and only minor incidental work,
27 replacement of temporary substitute facilities, plant establishment periods, or
28 correction or repair remains for the Physical Completion of the total Contract.

29 ***Physical Completion Date***

30 The day all of the Work is physically completed on the project. All documentation
31 required by the Contract and required by law does not necessarily need to be
32 furnished by the Contractor by this date.

33 ***Completion Date***

34 The day all the Work specified in the Contract is completed and all the obligations of
35 the Contractor under the contract are fulfilled by the Contractor. All documentation
36 required by the Contract and required by law must be furnished by the Contractor
37 before establishment of this date.

38 ***Final Acceptance Date***

39 The date on which the Contracting Agency accepts the Work as complete.

40
41 Supplement this Section with the following:

42
43 All references in the Standard Specifications, Amendments, or WSDOT General Special
44 Provisions, to the terms "State", "Department of Transportation", "Washington State
45 Transportation Commission", "Commission", "Secretary of Transportation", "Secretary",
46 "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency".

47
48 All references to "State Materials Laboratory" shall be revised to read "Contracting
49 Agency designated location".
50

1 All references to “final contract voucher certification” shall be interpreted to mean the
2 final payment form established by the Contracting Agency.

3
4 The venue of all causes of action arising from the advertisement, award, execution, and
5 performance of the contract shall be specified by the contracting agency.

6
7 **Additive**
8 A supplemental unit of work or group of bid items, identified separately in the Bid
9 Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition
10 to the base bid.

11
12 **Alternate**
13 One of two or more units of work or groups of bid items, identified separately in the Bid
14 Proposal, from which the Contracting Agency may make a choice between different
15 methods or material of construction for performing the same work.

16
17 **Business Day**
18 A business day is any day from Monday through Friday except holidays as listed in
19 Section 1-08.5.

20
21 **Contract Documents**
22 See definition for “Contract”.

23
24 **Contract Time**
25 The period of time established by the terms and conditions of the Contract within which
26 the Work must be physically completed.

27
28 **Notice of Award**
29 The written notice from the Contracting Agency to the successful Bidder signifying the
30 Contracting Agency’s acceptance of the Bid Proposal.

31
32 **Notice to Proceed**
33 The written notice from the Contracting Agency or Engineer to the Contractor authorizing
34 and directing the Contractor to proceed with the Work and establishing the date on which
35 the Contract time begins.

36
37 **Traffic**
38 Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and
39 equestrian traffic.

40
41 1-02.4.GR1
42 **Examination of Plans, Specifications and Site of Work**

43
44 1-02.4.OPT1.DOCX
45 (January 2, 2012)
46 The soils information used for study and design of this project is available for review by
47 the bidder at the following location:

48
49 *** Appendix B ***

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51 The soils information includes the following:
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1-02.6.INST1.GR1

Section 1-02.6 is supplemented with the following:

1-02.9.GR1

Delivery of Proposal

1-02.9 Option A.RTF

1-02.9 Delivery of Proposal

(August 15, 2012 APWA GSP, Option A)

Delete this section and replace it with the following:

Each proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

If the project has FHWA funding and requires DBE Written Confirmation Documents or Good Faith Effort Documentation, then to be considered responsive, the Bidder shall submit with their Bid Proposal, written Confirmation Documentation from each DBE firm listed on the Bidder's completed DBE Utilization Certification, form 272-056A EF, as required by Section 1-02.6.

The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids.

1-02.12.GR1

Public Opening of Proposals

DATE_OF_BID.DOCX

*(*****)*

Date of Opening Bids

Sealed bids are to be received at one of the following locations prior to the time specified:

1. At 8802 27th Avenue NE, Tulalip, Washington 98271 until 2:00 PM of the bid opening date.

The bid opening date for this project is _____.
Sealed Bids will be publicly opened and read after 2:00 PM Pacific Time on this date.

1-02.12.RTF

1-02.12 Public Opening of Proposals

(May 4, 2012 APWA GSP)

Delete this section and replace it with the following:

1 Proposals will be opened and publicly read at the time indicated in the Call for Bids, after
2 the deadline(s) for submitting all elements of the Bid Proposal including DBE Written
3 Confirmation Documents and/or Good Faith Effort Documentation, unless the Bid
4 opening has been delayed or canceled. Bidders, their authorized agents, and other
5 interested parties are invited to be present.
6

7 1-02.15.RTF

8 **1-02.15 Pre Award Information**

9 *(October 1, 2005 APWA GSP)*

10

11 Revise this section to read:

12

13 Before awarding any contract, the Contracting Agency may require one or more of these
14 items or actions of the apparent lowest responsible bidder:

- 15 1. A complete statement of the origin, composition, and manufacture of any or all
16 materials to be used,
- 17 2. Samples of these materials for quality and fitness tests,
- 18 3. A progress schedule (in a form the Contracting Agency requires) showing the order
19 of and time required for the various phases of the work,
- 20 4. A breakdown of costs assigned to any bid item,
- 21 5. Attendance at a conference with the Engineer or representatives of the Engineer,
- 22 6. Obtain, and furnish a copy of, a business license to do business in the city or county
23 where the work is located.
- 24 7. A copy of State of Washington Contractor's Registration, or
- 25 8. Any other information or action taken that is deemed necessary to ensure that the
26 bidder is the lowest responsible bidder.

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29 1-03.GR1

30 **Award and Execution of Contract**

31

32 1-02.OPT1_REV.docx

33 **(*****)**

34 ***Protest Procedures***

35 **Form and Substance**

36 All protests regarding any contents or portion of the bid proposal must be submitted
37 to the Contracting Agency as soon as possible after the protestant becomes aware
38 of the reason(s) for the protest. All protests must be in writing and signed by the
39 protestant or an authorized agent. Such writing must state all facts and arguments
40 on which the protestant is relying as the basis for its action. Such protestant shall
41 also attach, or supply on demand by the Contracting Agency, any relevant exhibits
42 referenced in the writing. Copies of all protests and exhibits shall be mailed or
43 delivered by the protestant to the bidder against whom the protest is made (if any)
44 at the same time such protest and exhibits are submitted to the Contracting
45 Agency. All protests shall be directed to:

46

47 Tulalip Tribes
48 Attn: Tulalip Project Manager
49 8802 27th Avenue NE
50 Tulalip, Washington 98504-7360
51 Phone: (360) 716-5024

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Pre-award Protests

To allow sufficient response time, all pre-award protests must be received by the contracting agency no later than 5:00 p.m. of the second business day after the bid opening date. If the protest is mailed after the bid opening date and before the pre-award protest deadline, the protestant shall immediately notify the contracting agency by telephone, or some other means of rapid communication, that a protest has been made.

The Contracting Agency shall consider all the facts available to it, and issue a decision in writing within five (5) business days after receipt of the protest, unless, in the Contracting Agency's sole discretion, more time is needed. The protestant and the bidder(s) against whom the protest is made will be notified if additional time is necessary; and if the additional time required affects the bid opening date or the award date, all bidders shall be notified.

The Contracting Agency's decision shall be final and conclusive. Selection of the successful bidder, if one is to be made, will be postponed until after the Contracting Agency has issued its decision. The Contracting Agency shall provide the protestant with written notice of this decision no later than two full working days prior to execution of the contract.

Post-award Protests

The Contracting Agency shall immediately notify all unsuccessful bidders of the Contracting Agency's award decision. Any decision made by the Contracting Agency regarding the award and execution of the contract or bid rejection shall be conclusive subject to the scope of the judicial review permitted under Tribal court. Such review, if any, shall be timely filed in the Tribal Court.

Protests which do not comply with the above-specified procedures will not be considered.

1-03.4.GR1

Contract Bond

1-03.4.INST1.GR1

Section 1-03.4 is supplemented with the following:

1-03.4.OPT1.GR1

(June 27, 2011)

Release of Contract Bond will be 60 days following Contracting Agency Final Acceptance of Contract, provided following conditions are met:

1. Payment to the State with respect to taxes imposed pursuant to Title 82, RCW on Contracts totaling more than \$ 35,000, a release has been obtained from the Washington State Department of Revenue.
2. Affidavits of Wages Paid for the Contractor and all Subcontractors are on file with the Contracting Agency (RCW 39.12.040).

- 1 3. A certificate of Payment of Contributions Penalties and Interest on Public
2 Works Contract is received from the Washington State Employment Security
3 Department.
4
5 4. Washington State Department of Labor and Industries (per Section 1-07.10)
6 shows the Contractor, Subcontractor(s) and any lower tier Subcontractor(s) are
7 current with payments of industrial insurance and medical aid premiums.
8
9 5. All claims, as provided by law, filed against the Contract Bond have been
10 resolved.

11
12 1-04.2.RTF

13 **1-04.2 Coordination of Contract Documents, Plans, Special Provisions,**
14 **Specifications, and Addenda**

15 *(March 13, 2012 APWA GSP)*
16

17 Revise the second paragraph to read:
18

19 Any inconsistency in the parts of the contract shall be resolved by following this order of
20 precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

- 21 1. Addenda,
22 2. Proposal Form,
23 3. Special Provisions,
24 4. Contract Plans,
25 5. Amendments to the Standard Specifications,
26 6. Standard Specifications,
27 7. Contracting Agency's Standard Plans or Details (if any), and
28 8. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

29
30 1-05.GR1

31 **Control of Work**
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33 1-05.4.GR1

34 **Conformity With And Deviations From Plans And Stakes**
35

36 1-05.4.INST1.GR1

37 Section 1-05.4 is supplemented with the following:
38

39 1-05.4.OPT1.GR1

40 ***(April 4, 2011)***

41 ***Contractor Surveying - Structure***

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

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

1 The Contractor shall inform the Engineer when monuments are discovered that were
2 not identified in the Plans and construction activity may disturb or damage the
3 monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected
4 throughout the length of the project or be replaced at the Contractors expense.
5
6 Detailed survey records shall be maintained, including a description of the work
7 performed on each shift, the methods utilized, and the control points used. The record
8 shall be adequate to allow the survey to be reproduced. A copy of each day's record
9 shall be provided to the Engineer within three working days after the end of the shift.
10
11 The meaning of words and terms used in this provision shall be as listed in "Definitions
12 of Surveying and Associated Terms" current edition, published by the American
13 Congress on Surveying and Mapping and the American Society of Civil Engineers.
14
15 The survey work by the Contractor shall include but not be limited to the following:
16
17 1. Verify the primary horizontal and vertical control furnished by the Contracting
18 Agency, and expand into secondary control by adding stakes and hubs as well
19 as additional survey control needed for the project. Provide descriptions of
20 secondary control to the Contracting Agency. The description shall include
21 coordinates and elevations of all secondary control points.
22
23 2. Establish, by placing hubs and/or marked stakes, the location with offsets of
24 foundation shafts and piles.
25
26 3. Establish offsets to footing centerline of bearing for structure excavation.
27
28 4. Establish offsets to footing centerline of bearing for footing forms.
29
30 5. Establish wing wall, retaining wall, and noise wall horizontal alignment.
31
32 6. Establish retaining wall top of wall profile grade.
33
34 7. Establish elevation benchmarks for all substructure formwork.
35
36 8. Check elevations at top of footing concrete line inside footing formwork
37 immediately prior to concrete placement.
38
39 9. Check column location and pier centerline of bearing at top of footing
40 immediately prior to concrete placement.
41
42 10. Establish location and plumbness of column forms, and monitor column
43 plumbness during concrete placement.
44
45 11. Establish pier cap and crossbeam top and bottom elevations and centerline of
46 bearing.
47
48 12. Check pier cap and crossbeam top and bottom elevations and centerline of
49 bearing prior to and during concrete placement.
50
51 13. Establish grout pad locations and elevations.
52

- 1 14. Establish structure bearing locations and elevations, including locations of
- 2 anchor bolt assemblies.
- 3
- 4 15. Establish box girder bottom slab grades and locations.
- 5
- 6 16. Establish girder and/or web wall profiles and locations.
- 7
- 8 17. Establish diaphragm locations and centerline of bearing.
- 9
- 10 18. Establish roadway slab alignment, grades and provide dimensions from top of
- 11 girder to top of roadway slab. Set elevations for deck paving machine rails.
- 12
- 13 19. Establish traffic barrier and curb profile.
- 14
- 15 20. Profile all girders prior to the placement of any deadload or construction live
- 16 load that may affect the girder's profile.
- 17

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

20
 21 To facilitate the establishment of these lines and elevations, the Contracting Agency will
 22 provide the Contractor with the following primary survey and control information:

- 23
- 24 1. Descriptions of two primary control points used for the horizontal and vertical
- 25 control. Primary control points will be described by reference to the project
- 26 alignment and the coordinate system and elevation datum utilized by the
- 27 project. In addition, the Contracting Agency will supply horizontal coordinates
- 28 for the beginning and ending points and for each Point of Intersection (PI) on
- 29 each alignment included in the project.
- 30
- 31 2. Horizontal coordinates for the centerline of each bridge pier.
- 32
- 33 3. Computed elevations at top of bridge roadway decks at one-tenth points along
- 34 centerline of each girder web. All form grades and other working grades shall
- 35 be calculated by the Contractor.
- 36

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

	<u>Vertical</u>	<u>Horizontal</u>
41 1. Stationing on structures		±0.02 feet
42 2. Alignment on structures		±0.02 feet
43 3. Superstructure elevations	±0.01 feet	
44	variation from	
45	plan elevation	
46 4. Substructure	±0.02 feet	
47	variation from	
48	Plan grades.	
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51 The Contracting Agency may spot-check the Contractor's surveying. These spot-
 52 checks will not change the requirements for normal checking by the Contractor.

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

- Piles
- Shafts
- Footings
- Columns

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

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

Payment

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

"Structure Surveying", lump sum.

The lump sum contract price for "Structure 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.

1-05.4.OPT2.GR1

(April 4, 2011)

Contractor Surveying - Roadway

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

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

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record

- 1 shall be adequate to allow the survey to be reproduced. A copy of each day's record
2 shall be provided to the Engineer within three working days after the end of the shift.
3
- 4 The meaning of words and terms used in this provision shall be as listed in "Definitions
5 of Surveying and Associated Terms" current edition, published by the American
6 Congress on Surveying and Mapping and the American Society of Civil Engineers.
7
- 8 The survey work shall include but not be limited to the following:
9
- 10 1. Verify the primary horizontal and vertical control furnished by the Contracting
11 Agency, and expand into secondary control by adding stakes and hubs as well
12 as additional survey control needed for the project. Provide descriptions of
13 secondary control to the Contracting Agency. The description shall include
14 coordinates and elevations of all secondary control points.
15
 - 16 2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks
17 on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs)
18 and at points on the alignments spaced no further than 50 feet.
19
 - 20 3. Establish clearing limits, placing stakes at all angle points and at intermediate
21 points not more than 50 feet apart. The clearing and grubbing limits shall be 5
22 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless
23 otherwise shown in the Plans.
24
 - 25 4. Establish grading limits, placing slope stakes at centerline increments not more
26 than 50 feet apart. Establish offset reference to all slope stakes. If Global
27 Positioning Satellite (GPS) Machine Controls are used to provide grade
28 control, then slope stakes may be omitted at the discretion of the Contractor
29
 - 30 5. Establish the horizontal and vertical location of all drainage features, placing
31 offset stakes to all drainage structures and to pipes at a horizontal interval not
32 greater than 25 feet.
33
 - 34 6. Establish roadbed and surfacing elevations by placing stakes at the top of
35 subgrade and at the top of each course of surfacing. Subgrade and surfacing
36 stakes shall be set at horizontal intervals not greater than 50 feet in tangent
37 sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-
38 foot intervals in intersection radii with a radius less than 10 feet. Transversely,
39 stakes shall be placed at all locations where the roadway slope changes and
40 at additional points such that the transverse spacing of stakes is not more than
41 12 feet. If GPS Machine Controls are used to provide grade control, then
42 roadbed and surfacing stakes may be omitted at the discretion of the
43 Contractor.
44
 - 45 7. Establish intermediate elevation benchmarks as needed to check work
46 throughout the project.
47
 - 48 8. Provide references for paving pins at 25-foot intervals or provide simultaneous
49 surveying to establish location and elevation of paving pins as they are being
50 placed.
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- 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 10. The Contractor shall collect additional topographic survey data as needed in
 7 order to match into existing roadways such that the transition from the new
 8 pavement to the existing pavement is smooth and that the pavement and
 9 ditches drain properly. If changes to the profiles or roadway sections shown in
 10 the contract plans are needed to achieve proper smoothness and drainage
 11 where matching into existing features, the Contractor shall submit these
 12 changes to the Project Engineer for review and approval 10 days prior to the
 13 beginning of work.

14
 15 The Contractor shall provide the Contracting Agency copies of any calculations and
 16 staking data when requested by the Engineer.

17
 18 To facilitate the establishment of these lines and elevations, the Contracting Agency will
 19 provide the Contractor with primary survey control information consisting of descriptions
 20 of two primary control points used for the horizontal and vertical control, and
 21 descriptions of two additional primary control points for every additional three miles of
 22 project length. Primary control points will be described by reference to the project
 23 alignment and the coordinate system and elevation datum utilized by the project. In
 24 addition, the Contracting Agency will supply horizontal coordinates for the beginning and
 25 ending points and for each Point of Intersection (PI) on each alignment included in the
 26 project.

27
 28 The Contractor shall ensure a surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
30 Slope stakes	±0.10 feet	±0.10 feet
31 Subgrade grade stakes set		
32 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment)
		±0.1 feet (normal to alignment)
37		
38 Stationing on roadway	N/A	±0.1 feet
39 Alignment on roadway	N/A	±0.04 feet
40 Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment)
41		±0.1 feet (normal to alignment)
42		
43		
44		
45 Roadway paving pins for		
46 surfacing or paving	±0.01 feet	±0.2 feet (parallel to alignment)
47		±0.1 feet (normal to alignment)
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51 The Contracting Agency may spot-check the Contractor's surveying. These spot-
 52 checks will not change the requirements for normal checking by the Contractor.

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

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

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

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

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.

1-06.GR1

Control of Material

1-06.INST1.GR1

Section 1-06 is supplemented with the following:

1-06.OPT1.GR1

Buy America

1-06.OPT1(A).GR1

(August 6, 2012)

In accordance with Buy America requirements contained in 23 CFR 635.410, the major quantities of steel and iron construction material that is permanently incorporated into the project shall consist of American-made materials only. Buy America does not apply to temporary steel items, e.g., temporary sheet piling, temporary bridges, steel scaffolding and falsework.

Minor amounts of foreign steel and iron may be utilized in this project provided the cost of the foreign material used does not exceed one-tenth of one percent of the total contract cost or \$2,500.00, whichever is greater.

American-made material is defined as material having all manufacturing processes occurring domestically. To further define the coverage, a domestic product is a

1 manufactured steel material that was produced in one of the 50 States, the District of
2 Columbia, Puerto Rico, or in the territories and possessions of the United States.
3
4 If domestically produced steel billets or iron ingots are exported outside of the area of
5 coverage, as defined above, for any manufacturing process then the resulting product
6 does not conform to the Buy America requirements. Additionally, products
7 manufactured domestically from foreign source steel billets or iron ingots do not
8 conform to the Buy America requirements because the initial melting and mixing of
9 alloys to create the material occurred in a foreign country.
10
11 Manufacturing begins with the initial melting and mixing, and continues through the
12 coating stage. Any process which modifies the chemical content, the physical size or
13 shape, or the final finish is considered a manufacturing process. The processes include
14 rolling, extruding, machining, bending, grinding, drilling, welding, and coating. The action
15 of applying a coating to steel or iron is deemed a manufacturing process. Coating
16 includes epoxy coating, galvanizing, aluminizing, painting, and any other coating that
17 protects or enhances the value of steel or iron. Any process from the original reduction
18 from ore to the finished product constitutes a manufacturing process for iron.
19
20 Due to a nationwide waiver, Buy America does not apply to raw materials (iron ore and
21 alloys), scrap (recycled steel or iron), and pig iron or processed, pelletized, and reduced
22 iron ore.
23
24 The following are considered to be steel manufacturing processes:
25
26 1. Production of steel by any of the following processes:
27
28 a. Open hearth furnace.
29
30 b. Basic oxygen.
31
32 c. Electric furnace.
33
34 d. Direct reduction.
35
36 2. Rolling, heat treating, and any other similar processing.
37
38 3. Fabrication of the products.
39
40 a. Spinning wire into cable or strand.
41
42 b. Corrugating and rolling into culverts.
43
44 c. Shop fabrication.
45
46 A certification of materials origin will be required for any items comprised of, or
47 containing, steel or iron construction materials prior to such items being incorporated
48 into the permanent work. The certification shall be on DOT Form 350-109EF provided
49 by the Engineer, or such other form the Contractor chooses, provided it contains the
50 same information as DOT Form 350-109EF.
51

1 1-06.OPT1(B).DOCX
2 (August 6, 2012)
3 The following items of work containing steel or iron construction materials are
4 considered to be temporary and are excluded from the Buy America requirements
5 contained in 23 CFR 635.410 as described in the above paragraphs:
6

7 *** Temporary Catch Basin,
8 Temporary Pipe Slope Drain,
9 Temporary Concrete Barrier,
10 Temporary Concrete Barrier with Scupper,
11 Temporary Impact Attenuator,
12 Temporary Geosynthetic Retaining Wall ***
13

14 1-07.GR1

15 **Legal Relations and Responsibilities to the Public**

16
17 1-07.2.RTF

18 **1-07.2 State Taxes**

19

20 Delete this section, including its sub-sections, in its entirety and replace it with the following:
21

22

22 **1-07.2 State Sales Tax**

23 *(June 27, 2011 APWA GSP)*
24

25

26 The Washington State Department of Revenue has issued special rules on the State
27 sales tax. Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The
28 Contractor should contact the Washington State Department of Revenue for answers to
29 questions in this area. The Contracting Agency will not adjust its payment if the
30 Contractor bases a bid on a misunderstood tax liability.

31

32 The Contractor shall include all Contractor-paid taxes in the unit bid prices or other
33 contract amounts. In some cases, however, state retail sales tax will not be included.
34 Section 1-07.2(2) describes this exception.

35

36 The Contracting Agency will pay the retained percentage (or release the Contract Bond if
37 a FHWA-funded Project) only if the Contractor has obtained from the Washington State
38 Department of Revenue a certificate showing that all contract-related taxes have been
39 paid (RCW 60.28.051). The Contracting Agency may deduct from its payments to the
40 Contractor any amount the Contractor may owe the Washington State Department of
41 Revenue, whether the amount owed relates to this contract or not. Any amount so
42 deducted will be paid into the proper State fund.

43

43 **1-07.2(1) State Sales Tax — Rule 171**

44

45 WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets,
46 roads, etc., which are owned by a municipal corporation, or political subdivision of the
47 state, or by the United States, and which are used primarily for foot or vehicular traffic.
48 This includes storm or combined sewer systems within and included as a part of the
49 street or road drainage system and power lines when such are part of the roadway
50 lighting system. For work performed in such cases, the Contractor shall include
51 Washington State Retail Sales Taxes in the various unit bid item prices, or other contract
52 amounts, including those that the Contractor pays on the purchase of the materials,
53 equipment, or supplies used or consumed in doing the work.

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1-07.2(2) State Sales Tax — Rule 170

WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

1-07.2(3) Services

The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

1-07.2.OPT4.GR1

(June 27, 2011)

The Contracting Agency will release the Contract Bond only if the Contractor has obtained from the State Department of Revenue a certificate showing that all Contract-related taxes have been paid.

1-07.2.OPT12 Modified.docx

(*****)

The work on this contract is to be performed upon lands whose ownership obligates the Contractor to pay State sales tax on portions of the project work and obligates the Contractor to collect State sales tax from the Contracting Agency on other portions of the project as follows:

1. The provisions of WAC 458-20-192(5)(a)(ii) apply to the following listed portions of the project:

*** The areas within the Tulalip Tribes Reservation Boundary

2. The provisions of Section 1-07.2(1) apply to the following listed portions of the project:

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*** The area east of the Marysville turn-back line outside of WSDOT right of way.***

2. The provisions of Section 1-07.2(2) apply to following listed portions of the project.

*** The area east of the reservation boundary and west of the Marysville turn-back line within WSDOT right of way. ***

For bidding purposes the Contracting Agency has segregated the plan quantities which are affected by Section 1-07.2(1) from those quantities affected by Section 1-07.2(2). These approximate quantities are shown on the Summary of Quantities sheets; however, any tax payments shall be based on actual quantities used.

1-07.5.GR1

Environmental Regulations

1-07.5.INST1.GR1

Section 1-07.5 is supplemented with the following:

1-07.5.OPT1(V).GR1

(August 3, 2009)

The intentional bypass of stormwater from all or any portion of a stormwater treatment system is prohibited without the approval of the Engineer.

1-07.5.OPT1(X).docx

(August 3, 2009)

No Contractor staging areas will be allowed within *** 100 *** feet of any waters of the State including wetlands.

1-07.5.OPT2.GR1

(August 3, 2009)

Payment

All costs to comply with this special provision for the environmental commitments and requirements are incidental to the contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the associated bid prices of the contract.

1-07.6.GR1

Permits and Licenses

1-07.6.OPT2.DOCX

(September 20, 2010)

The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. All contacts with the permitting agency concerning the below-listed permit(s) shall be through the Engineer. The Contractor shall obtain additional permits as necessary. All costs to obtain and comply with additional permits shall be included in the applicable bid items for the work involved. Copies of these permits are required to be onsite at all times.

Corps Section 404 Permit – NWS-2007-1850-SOD

1 **WDFW Hydraulic Project Approval – 111019-1**
2 **EPA NPDES _____**
3 **Washington State Department of Ecology NPDES _____**
4 **WSDOT General Permit _____**
5 **City of Marysville Right of Way Use Permit _____**
6 **Tulalip Tribes Grading Permit _____ *****
7

8 1-07.9.GR1

9 **Wages**

10

11 1-07.9(1).GR1

12 **General**

13

14 1-07.9(1).INST1.GR1

15 Section 1-07.9(1) is supplemented with the following:

16

17 1-07.9(1).OPT1.GR1

18 (January 10, 2012)

19 The Federal wage rates incorporated in this contract have been established by the
20 Secretary of Labor under United States Department of Labor General Decision No.
21 WA120001.

22

23 The State rates incorporated in this contract are applicable to all construction
24 activities associated with this contract.

25

26 1-07.9(1).OPT4.GR1

27 **(April 2, 2007)**

28 **Application of Wage Rates for the Occupation of Landscape Construction**

29 State prevailing wage rates for public works contracts are included in this contract
30 and show a separate listing for the occupation:

31

32 Landscape Construction, which includes several different occupation
33 descriptions such as: Irrigation and Landscape Plumbers, Irrigation and
34 Landscape Power Equipment Operators, and Landscaping or Planting
35 Laborers.

36

37 In addition, federal wage rates that are included in this contract may also include
38 occupation descriptions in Federal Occupational groups for work also specifically
39 identified with landscaping such as:

40

41 Laborers with the occupation description, Landscaping or Planting, or

42

43 Power Equipment Operators with the occupation description, Mulch Seeding
44 Operator.

45

46 If Federal wage rates include one or more rates specified as applicable to
47 landscaping work, then Federal wage rates for all occupation descriptions, specific
48 or general, must be considered and compared with corresponding State wage
49 rates. The higher wage rate, either State or Federal, becomes the minimum wage
50 rate for the work performed in that occupation.

51

1 Contractors are responsible for determining the appropriate crafts necessary to
2 perform the contract work. If a classification considered necessary for performance
3 of the work is missing from the Federal Wage Determination applicable to the
4 contract, the Contractor shall initiate a request for approval of a proposed wage and
5 benefit rate. The Contractor shall prepare and submit Standard Form 1444,
6 Request for Authorization of Additional Classification and Wage Rate available at
7 <http://www.wdol.gov/docs/sf1444.pdf>, and submit the completed form to the Project
8 Engineer's office. The presence of a classification wage on the Washington State
9 Prevailing Wage Rates For Public Works Contracts does not exempt the use of
10 form 1444 for the purpose of determining a federal classification wage rate.

11

12 1-07.9(1).OPT5.docx

13 (January 10, 2012)

14 The Federal wage rates for Highway Construction incorporated in this contract
15 have been established by the Secretary of Labor under United States Department
16 of Labor General Decision No. WA120001. These rates are applicable to highway
17 construction.

18

19 The Federal wage rates for Heavy Construction incorporated in this contract have
20 been established by the Secretary of Labor under United States Department of
21 Labor General Decision No. *** 130 ***. These rates are applicable to heavy
22 construction.

23

24 The State rates incorporated in this contract are applicable to all construction
25 activities associated with this contract.

26

27 1-07.11.GR1

28 **Requirements for Nondiscrimination**

29

30 1-07.11.INST1.GR1

31 Section 1-07.11 is supplemented with the following:

32

33 1-07.11.OPT1.GR1

34 (January 3, 2011)

35 Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive
36 Order 11246)

37

38 1. The Contractor's attention is called to the Equal Opportunity Clause and the
39 Standard Federal Equal Employment Opportunity Construction Contract
40 Specifications set forth herein.

41

1 2. The goals and timetables for minority and female participation set by the Office of
 2 Federal Contract Compliance Programs, expressed in percentage terms for the
 3 Contractor's aggregate work force in each construction craft and in each trade on
 4 all construction work in the covered area, are as follows:

<u>Women - Statewide</u>		
<u>Timetable</u>		<u>Goal</u>
Until further notice		6.9%
<u>Minorities - by Standard Metropolitan Statistical Area (SMSA)</u>		
Spokane, WA:		
SMSA Counties:		
Spokane, WA		2.8
WA Spokane.		
Non-SMSA Counties		
WA Adams; WA Asotin; WA Columbia; WA Ferry; WA Garfield; WA Lincoln, WA Pend Oreille; WA Stevens; WA Whitman.		3.0
Richland, WA		
SMSA Counties:		
Richland Kennewick, WA		5.4
WA Benton; WA Franklin.		
Non-SMSA Counties		
WA Walla Walla.		3.6
Yakima, WA:		
SMSA Counties:		
Yakima, WA		9.7
WA Yakima.		
Non-SMSA Counties		
WA Chelan; WA Douglas; WA Grant; WA Kittitas; WA Okanogan.		7.2
Seattle, WA:		
SMSA Counties:		
Seattle Everett, WA		7.2
WA King; WA Snohomish.		
Tacoma, WA		6.2
WA Pierce.		
Non-SMSA Counties		
WA Clallam; WA Grays Harbor; WA Island; WA Jefferson; WA Kitsap; WA Lewis; WA Mason; WA Pacific; WA San Juan; WA Skagit; WA Thurston; WA Whatcom.		6.1
Portland, OR:		
SMSA Counties:		
Portland, OR-WA		4.5
WA Clark.		
Non-SMSA Counties		
WA Cowlitz; WA Klickitat; WA Skamania; WA Wahkiakum.		3.8

1 These goals are applicable to each nonexempt Contractor's total on-site
2 construction workforce, regardless of whether or not part of that workforce is
3 performing work on a Federal, or federally assisted project, contract, or subcontract
4 until further notice. Compliance with these goals and time tables is enforced by the
5 Office of Federal Contract compliance Programs.
6

7 The Contractor's compliance with the Executive Order and the regulations in 41
8 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity
9 Clause, specific affirmative action obligations required by the specifications set
10 forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority
11 and female employment and training must be substantially uniform throughout the
12 length of the contract, in each construction craft and in each trade, and the
13 Contractor shall make a good faith effort to employ minorities and women evenly on
14 each of its projects. The transfer of minority or female employees or trainees from
15 Contractor to Contractor or from project to project for the sole purpose of meeting
16 the Contractor's goal shall be a violation of the contract, the Executive Order and
17 the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured
18 against the total work hours performed.
19

20 3. The Contractor shall provide written notification to the Office of Federal Contract
21 Compliance Programs (OFCCP) within 10 working days of award of any
22 construction subcontract in excess of \$10,000 or more that are Federally funded, at
23 any tier for construction work under the contract resulting from this solicitation. The
24 notification shall list the name, address and telephone number of the
25 Subcontractor; employer identification number of the Subcontractor; estimated
26 dollar amount of the subcontract; estimated starting and completion dates of the
27 subcontract; and the geographical area in which the contract is to be performed.
28 The notification shall be sent to:
29

30 District Director
31 U.S. Department of Labor
32 Office of Federal Contract Compliance Programs
33 Seattle District Office
34 1111 Third Avenue, Suite 745
35 Seattle, WA 98101-3212
36

37 Additional information may be found at the U.S. Department of Labor website:
38 <http://www.dol.gov/ofccp/TAguides/ctaguide.htm>
39

40 4. As used in this Notice, and in the contract resulting from this solicitation, the
41 Covered Area is as designated herein.
42

43 Standard Federal Equal Employment Opportunity Construction Contract Specifications
44 (Executive Order 11246)
45

46 1. As used in these specifications:
47
48 a. Covered Area means the geographical area described in the solicitation
49 from which this contract resulted;
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- b. Director means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- c. Employer Identification Number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
- d. Minority includes:
 - (1) Black, a person having origins in any of the Black Racial Groups of Africa.
 - (2) Hispanic, a fluent Spanish speaking, Spanish surnamed person of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish origin.
 - (3) Asian or Pacific Islander, a person having origins in any of the original peoples of the Pacific rim or the Pacific Islands, the Hawaiian Islands and Samoa.
 - (4) American Indian or Alaskan Native, a person having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.
- 2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith effort to achieve the Plan goals and timetables.
- 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of this Special Provision. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors

- 1 performing construction work in geographical areas where they do not have a
2 Federal or federally assisted construction contract shall apply the minority and
3 female goals established for the geographical area where the work is being
4 performed. The Contractor is expected to make substantially uniform progress in
5 meeting its goals in each craft during the period specified.
6
- 7 5. Neither the provisions of any collective bargaining agreement, nor the failure by a
8 union with whom the Contractor has a collective bargaining agreement, to refer
9 either minorities or women shall excuse the Contractor's obligations under these
10 specifications, Executive Order 11246, or the regulations promulgated pursuant
11 thereto.
12
- 13 6. In order for the nonworking training hours of apprentices and trainees to be counted
14 in meeting the goals, such apprentices and trainees must be employed by the
15 Contractor during the training period, and the Contractor must have made a
16 commitment to employ the apprentices and trainees at the completion of their
17 training, subject to the availability of employment opportunities. Trainees must be
18 trained pursuant to training programs approved by the U.S. Department of Labor.
19
- 20 7. The Contractor shall take specific affirmative actions to ensure equal employment
21 opportunity. The evaluation of the Contractor's compliance with these
22 specifications shall be based upon its effort to achieve maximum results from its
23 action. The Contractor shall document these efforts fully, and shall implement
24 affirmative action steps at least as extensive as the following:
25
- 26 a. Ensure and maintain a working environment free of harassment,
27 intimidation, and coercion at all sites, and in all facilities at which the
28 Contractor's employees are assigned to work. The Contractor, where
29 possible, will assign two or more women to each construction project. The
30 Contractor shall specifically ensure that all foremen, superintendents, and
31 other on-site supervisory personnel are aware of and carry out the
32 Contractor's obligation to maintain such a working environment, with
33 specific attention to minority or female individuals working at such sites or
34 in such facilities.
35
- 36 b. Establish and maintain a current list of minority and female recruitment
37 sources, provide written notification to minority and female recruitment
38 sources and to community organizations when the Contractor or its unions
39 have employment opportunities available, and maintain a record of the
40 organizations' responses.
41
- 42 c. Maintain a current file of the names, addresses and telephone numbers of
43 each minority and female off-the-street applicant and minority or female
44 referral from a union, a recruitment source or community organization and
45 of what action was taken with respect to each such individual. If such
46 individual was sent to the union hiring hall for referral and was not referred
47 back to the Contractor by the union or, if referred, not employed by the
48 Contractor, this shall be documented in the file with the reason therefor,
49 along with whatever additional actions the Contractor may have taken.
50
- 51 d. Provide immediate written notification to the Director when the union or
52 unions with which the Contractor has a collective bargaining agreement

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has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

- e. Develop on-the-job training opportunity and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the U.S. Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and where reasonable, provide after school,

- 1 summer and vacation employment to minority and female youth both on
2 the site and in other areas of a Contractor's work force.
3
4 k. Validate all tests and other selection requirements where there is an
5 obligation to do so under 41 CFR Part 60-3.
6
7 l. Conduct, at least annually, an inventory and evaluation of all minority and
8 female personnel for promotional opportunities and encourage these
9 employees to seek or to prepare for, through appropriate training, etc.,
10 such opportunities.
11
12 m. Ensure that seniority practices, job classifications, work assignments and
13 other personnel practices, do not have a discriminatory effect by
14 continually monitoring all personnel and employment related activities to
15 ensure that the EEO policy and the Contractor's obligations under these
16 specifications are being carried out.
17
18 n. Ensure that all facilities and company activities are nonsegregated except
19 that separate or single-user toilet and necessary changing facilities shall
20 be provided to assure privacy between the sexes.
21
22 o. Document and maintain a record of all solicitations of offers for
23 subcontracts from minority and female construction contractors and
24 suppliers, including circulation of solicitations to minority and female
25 contractor associations and other business associations.
26
27 p. Conduct a review, at least annually, of all supervisors' adherence to and
28 performance under the Contractor's EEO policies and affirmative action
29 obligations.
30
31 8. Contractors are encouraged to participate in voluntary associations which assist in
32 fulfilling one or more of their affirmative action obligations (7a through 7p). The
33 efforts of a contractor association, joint contractor-union, contractor-community, or
34 other similar group of which the Contractor is a member and participant, may be
35 asserted as fulfilling any one or more of the obligations under 7a through 7p of this
36 Special Provision provided that the Contractor actively participates in the group,
37 makes every effort to assure that the group has a positive impact on the
38 employment of minorities and women in the industry, ensure that the concrete
39 benefits of the program are reflected in the Contractor's minority and female work-
40 force participation, makes a good faith effort to meet its individual goals and
41 timetables, and can provide access to documentation which demonstrate the
42 effectiveness of actions taken on behalf of the Contractor. The obligation to
43 comply, however, is the Contractor's and failure of such a group to fulfill an
44 obligation shall not be a defense for the Contractor's noncompliance.
45
46 9. A single goal for minorities and a separate single goal for women have been
47 established. The Contractor, however, is required to provide equal employment
48 opportunity and to take affirmative action for all minority groups, both male and
49 female, and all women, both minority and non-minority. Consequently, the
50 Contractor may be in violation of the Executive Order if a particular group is
51 employed in substantially disparate manner (for example, even though the
52 Contractor has achieved its goals for women generally, the Contractor may be in

- 1 violation of the Executive Order if a specific minority group of women is
2 underutilized).
- 3
- 4 10. The Contractor shall not use the goals and timetables or affirmative action
5 standards to discriminate against any person because of race, color, religion, sex,
6 or national origin.
- 7
- 8 11. The Contractor shall not enter into any subcontract with any person or firm
9 debarred from Government contracts pursuant to Executive Order 11246.
- 10
- 11 12. The Contractor shall carry out such sanctions and penalties for violation of these
12 specifications and of the Equal Opportunity Clause, including suspensions,
13 terminations and cancellations of existing subcontracts as may be imposed or
14 ordered pursuant to Executive Order 11246, as amended, and its implementing
15 regulations by the Office of Federal Contract Compliance Programs. Any
16 Contractor who fails to carry out such sanctions and penalties shall be in violation
17 of these specifications and Executive Order 11246, as amended.
- 18
- 19 13. The Contractor, in fulfilling its obligations under these specifications, shall
20 implement specific affirmative action steps, at least as extensive as those
21 standards prescribed in paragraph 7 of this Special Provision, so as to achieve
22 maximum results from its efforts to ensure equal employment opportunity. If the
23 Contractor fails to comply with the requirements of the Executive Order, the
24 implementing regulations, or these specifications, the Director shall proceed in
25 accordance with 41 CFR 60-4.8.
- 26
- 27 14. The Contractor shall designate a responsible official to monitor all employment
28 related activity to ensure that the company EEO policy is being carried out, to
29 submit reports relating to the provisions hereof as may be required by the
30 government and to keep records. Records shall at least include, for each
31 employee, their name, address, telephone numbers, construction trade, union
32 affiliation if any, employee identification number when assigned, social security
33 number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer),
34 dates of changes in status, hours worked per week in the indicated trade, rate of
35 pay, and locations at which the work was performed. Records shall be maintained
36 in an easily understandable and retrievable form; however, to the degree that
37 existing records satisfy this requirement, the Contractors will not be required to
38 maintain separate records.
- 39
- 40 15. Nothing herein provided shall be construed as a limitation upon the application of
41 other laws which establish different standards of compliance or upon the
42 application of requirements for the hiring of local or other area residents (e.g., those
43 under the Public Works Employment Act of 1977 and the Community Development
44 Block Grant Program).
- 45
- 46 16. Additional assistance for Federal Construction Contractors on contracts
47 administered by Washington State Department of Transportation or by Local
48 Agencies may be found at:
- 49
- 50 Washington State Dept. of Transportation
51 Office of Equal Opportunity
52 PO Box 47314

1 310 Maple Park Ave. SE
2 Olympia WA
3 98504-7314
4 Ph: 360-705-7090
5 Fax: 360-705-6801
6 <http://www.wsdot.wa.gov/equalopportunity/default.htm>
7

8 1-07.11.OPT2.GR1

9 **(May 7, 2012)**

10 ***Disadvantaged Business Enterprise Participation***

11 The Disadvantaged Business Enterprise (DBE) requirements of 49 CFR Part 26 apply
12 to this Contract. As such, the requirements of this Contract are to make affirmative
13 efforts to solicit DBEs, provide information on who submitted a Bid or quote and to
14 report DBE participation quarterly as described elsewhere in these Contract Provisions.
15 No preference will be included in the evaluation of Bids/Proposals, no minimum level of
16 DBE participation shall be required as a Condition of Award and Bids/Proposals may not
17 be rejected or considered non-responsive on that basis.

18
19 **DBE Goals**

20 No DBE goals have been assigned as part of this Contract.

21
22 **Affirmative Efforts to Solicit DBE Participation**

23 DBE firms shall have an equal opportunity to compete for subcontracts in which the
24 Contractor enters into pursuant to this Contract.

25
26 Contractors are encouraged to:

- 27
28 1. Advertise opportunities for Subcontractors or suppliers in a timely and
29 reasonably designed manner to provide notice of the opportunity to DBEs
30 capable of performing the Work. All advertisements should include a
31 Contract Provision encouraging participation by DBE firms. This may be
32 accomplished through general advertisements (e.g. newspapers, journals,
33 etc.) or by soliciting Bids/Proposals directly from DBEs.

34
35 Note: A Directory of Certified DBE Firms denoting the Description of
36 Work the DBE Contractors are certified to perform is available at:

37
38 www.omwbe.wa.gov/certification/index.shtml.

39
40 The directory provides a plain language on the Description of
41 Work that the listed DBE's have been certified by the Office of
42 Minority and Women's Business Enterprises (OMWBE) to
43 perform.

- 44
45 2. Establish delivery schedules that encourage participation by DBEs and
46 other small businesses.
47
48 3. Participate with a DBE as a joint venture.

49
50 **DBE Eligibility/Selection of DBEs for Reporting Purposes Only**

51 Contractors may take credit for DBEs utilized on this Contract only if the firm is
52 certified for the Work being performed.

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Absent a mandatory goal, all DBE participation that is attained on this project will be considered as “race neutral” participation and shall be reported as such.

Crediting DBE Participation for Reporting Purposes

Joint Venture

When a DBE performs as a participant in a joint venture, only that portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the Work that the DBE performs with its own forces shall be credited.

DBE Prime Contractor

A DBE Prime Contractor may only take credit for that portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the Work that the DBE Prime Contractor performs with its own forces.

DBE Subcontractor

When a DBE firm participates as a Subcontractor, only that portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the Work that the DBE performs with its own forces shall be credited.

- Include the cost of supplies and materials obtained by the DBE for the Work in the Contract including supplies purchased or equipment leased by the DBE. However, you may not take credit supplies, materials, and equipment the DBE Subcontractor purchases or leases from the Prime Contractor or its affiliate. In addition, Work performed by a DBE, utilizing resources of the Prime Contractor or its affiliates shall not be credited.
- In very rare situations, a DBE firm may utilize equipment and/or personnel from a non-DBE firm other than the Prime Contractor or its affiliates. Should this situation arise the arrangement must be short-term and have prior written approval from the Office of Equal Opportunity (OEO). The arrangement must not impact a DBE firm’s ability to perform a Commercially Useful Function (CUF).
- Count the entire value of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, managerial services, or for providing bonds or insurance.
- When a DBE subcontracts to another firm, the value of the subcontracted Work may be counted as participation only if the DBE’s lower tier Subcontractor is also a DBE.
- When non-DBE Subcontractor further subcontracts to a lower-tier Subcontractor or supplier who is a certified DBE, then that portion of the Work further subcontracted may be credited as DBE participation, so long as it is a distinct clearly defined portion of the Work that the DBE is performing with its own forces.
- If a firm is not certified as a DBE at the time of the execution of the contract, their participation cannot be counted toward any DBE goals.

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Trucking

Use the following factors in determining DBE credit and whether a DBE trucking company is performing a Commercially Useful Function (CUF):

1. The DBE must be responsible for the management and supervision of the entire trucking operation for which credit is being claimed.
2. The DBE must itself own and, with its own workforce, operate at least one fully licensed, insured, and operational truck used on the Contract.
3. The DBE receives credit only for the value of the transportation services it provides on the Contract using trucks it owns or leases, licenses, insures, and operates with drivers it employs. For purposes of this requirement a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others provided it is with the consent of the DBE and the lease provides the DBE first priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.
4. The DBE may lease trucks from another DBE firm including an owner-operator provided they are certified as a DBE for trucking. The DBE who leases trucks from another DBE may claim participation for the total value of the transportation services the lessee DBE provides on the Contract.
5. The DBE may also lease trucks from a non-DBE firm and may enter into an agreement with an owner-operator who is a non-DBE. The DBE shall only receive credit for the number of additional non-DBE trucks equal or less than the number of DBE trucks the firms owns or has leased/subcontracted through another DBE trucking company. The DBE must control the work of the non-DBE trucks. If the non-DBE is performing the Work without supervision of that Work by the DBE, the DBE is not performing a Commercially Useful Function (CUF).
6. In any lease or owner-operator situation, as described in requirement #4 and #5 above, the following rules shall apply:
 - a. A written lease/rental agreement is required for all trucks leased or rented; documenting the ownership and the terms of the agreement. The agreements must be submitted and approved by the Contracting Agency prior to the beginning of the Work. The agreement must show the leaser's name, truck description and agreed upon amount and method of payment (hour, ton, or per load). All lease agreements shall be for a long-term relationship, rather than for the individual project. (This requirement does not apply to owner-operator arrangements.)

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b. Only the vehicle, (not the operator) may be leased or rented.
(This requirement does not apply to owner-operator
arrangements.)

7. Credit may only be claimed for DBE trucking firms operating under a
subcontract or a written agreement approved by the Contracting
Agency prior to performing Work.

Expenditures paid to other DBEs

Expenditures paid to other DBEs for materials or supplies may be counted
toward DBE goals as provided in the following:

Manufacturer

You may claim DBE credit for 100 percent of value of the materials or
supplies obtained from a DBE manufacturer.

A manufacturer is a firm that operates or maintains a factory or
establishment that produces, on the premises, the materials, supplies,
articles, or equipment required under the contract. A manufacturer shall
include firms that produce finished goods or products from raw or
unfinished material or that purchases and substantially alters goods and
materials to make them suitable for construction use before reselling
them.

In order to receive credit as a DBE Manufacturer, the firm must be certified
by OMWBE as a manufacturer in a NAICS code that falls within the
31XXXX to 33XXXX classification.

Regular Dealer

You may claim credit for 60 percent of the value of the materials or
supplies purchased from a DBE regular dealer. Rules applicable to
regular dealer status are contained in 49 CFR Part 26.55.e.2.

To be considered a regular dealer you must meet the following criteria:

1. WSDOT considers and recognizes a regular dealer, as a firm that
owns, operates, or maintains a store, warehouse, or other
establishment in which the materials or supplies required for the
performance of the Contract and described by the specifications
of the Contract are bought, kept in stock and regularly sold or
leased to the public in the usual course of business.
2. Sixty percent (60%) of the cost of materials or supplies
purchased from an approved regular dealer may be credited as
DBE participation.

Regular dealer status is granted on a contract-by-contract basis. A firm
wishing to be approved as a regular dealer for WSDOT contracted
projects or Highways & Local Program administered projects must submit
a request in writing to the OEO no later than seven days prior to bid
opening.

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Once the OEO has received the request, an onsite review will be set up with the firm and a review conducted to determine the firm's qualifications. If it is determined that the firm qualifies as a regular dealer the OEO will list the firm on an approved regular dealers List. The list may be accessed through the OEO Home website is at:

www.wsdot.wa.gov/equalopportunity

Note: Requests to be listed as a regular dealer will only be processed if the requesting firm is certified by the Office of Minority and Women's Business Enterprises in a NAICS code that fall within the 42XXXX NAICS Wholesale code section.

Materials or Supplies Purchased from a DBE

With regard to materials or supplies purchased from a DBE who is neither a manufacturer nor a regular dealer you may claim credit for the following:

1. Fees or commissions charged for assistance in the procurement of the materials and supplies.
2. Fees or transportation charges for the delivery of materials or supplies.

In either case, you may not take credit for any part of the cost of the materials and supplies.

Joint Checking Allowance

Prime Contractors and DBEs must receive pre-approval by the OEO before using a joint check. Joint check requests shall be submitted, by the Prime Contractor to the Contracting Agency for approval.

When requesting approval for use of a joint checking allowance, the Contractor must distribute a written joint check agreement among the parties (including the suppliers involved) providing full and prompt disclosure of the expected use of the joint checks. The agreement shall contain all the information concerning the parties' obligations and consequences or remedies if the agreement is not fulfilled or a breach occurs. The joint check request shall be submitted to the Contracting Agency for approval prior to signing the Contract agreement.

The following are some general conditions that must be met by all parties regarding joint check use:

- a. It is understood the Prime Contractor acts as the guarantor of a joint check.
- b. The DBE's own funds are used to pay supplier of materials. The Prime Contractor does not make direct payment to supplier. In order to be performing a Commercially Useful Function (CUF), the DBE must release the check to the supplier (paying for the materials it-self and not be an extra participant in a transaction).

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- c. If the Prime Contractor makes joint checks available to one DBE Subcontractor, the service must be made available to all Subcontractors (DBE and non-DBE).
- d. The relationship between the DBE and its suppliers should be established independently of and without interference by the Prime Contractor. The DBE has final decision-making responsibility concerning the procurement of materials and supplies, including which supplier to use.
- e. The Prime Contractor and DBE shall be able to provide receipts, invoices, cancelled checks and/or certification statements of payment if requested by the Contracting Agency.
- f. The DBE remains responsible for all other elements of 49 CFR 26.55(c) (1).

Failure by the Prime Contractor to request and to receive prior approval of a joint check arrangement will result in the joint check amount not counting towards the Prime Contractor's DBE goal.

Commercially Useful Function (CUF)

In any case, you may only take credit when the associated DBE that is determined to be performing a Commercially Useful Function (CUF).

- A DBE performs a CUF when it is responsible for execution of a distinct element of Work and is carrying out its responsibilities by performing, managing and supervising the Work involved. The DBE must also be responsible with respect to materials and supplies used on the Contract. For example; negotiating price, determining quality, determining quantities, ordering, installing (if applicable) and paying for the material itself.
- A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, Contract, or project through which funds are passed.

Procedures Between Award and Execution

After award and prior to Execution of the Contract, the successful Bidder shall provide additional information as described below. Failure to comply may result in the forfeiture of the Bidder's Proposal bond or deposit.

A list of all firms who submitted a Bid or quote in an attempt to participate in this project whether they were successful or not.

Include the correct business name, federal employer identification number (optional) and a mailing address.

The firms identified by the Prime Contractor may be contacted by Contracting Agency to solicit general information as follows:

1. Age of the firm.

1
2 2. Average of its gross annual receipts over the past three years.
3

4 **Procedures after Execution**

5 **Reporting**

6 **Quarterly Report of Amounts Credited as DBE Participation**
7 **Form #422-102**

8 The Prime Contractor shall submit a Quarterly Report of Amounts
9 Credited as DBE Participation form (422-102 EF) on a quarterly basis
10 for any calendar quarter in which DBE Work is accomplished or upon
11 completion of the project, as appropriate. This is a record of payments
12 to the DBE that the Prime Contractor is taking credit for as DBE
13 participation. The dollars reported as specified in Crediting DBE
14 Participation for Reporting Purposes section of this contract provision.
15

16 In the event that the payments to a DBE have been made by an entity
17 other than the Prime Contractor (as in the case of a lower-tier
18 Subcontractor or supplier), then the Prime Contractor shall obtain the
19 quarterly report, including the signed affidavit, from the paying entity
20 and submit the report to the Contracting Agency.
21

22 **Payment**

23 Compensation for all costs associated with complying with the conditions
24 of this specification shall be included in payment for the associated
25 Contract items of Work.
26

27 **Prompt Payment**

28 Prompt payment to all Subcontractors shall be in accordance with
29 Section 1-08.1(1) of the Contract Provisions.
30

31 **Damages for Noncompliance**

32 The Prime Contractor shall not discriminate on the basis of race, color,
33 national origin, or sex in the performance of this Contract. The Prime
34 Contractor shall carry out applicable requirements of 49 CFR Part 26 in
35 the award and administration of Contracts, which contain funding
36 assistance from the United States Department of Transportation. Failure
37 by the Prime Contractor to carry out these requirements is a material
38 breach of this Contract, which may result in the termination of this
39 Contract or such other remedy as the Contracting Agency deems
40 appropriate.
41

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43 **(August 2, 2010)**

44 **Special Training Provisions**

45 **General Requirements**

46 The Contractor's equal employment opportunity, affirmative action program shall
47 include the requirements set forth below. The Contractor shall provide on-the-job
48 training aimed at developing trainees to journeyman status in the trades involved.
49 The number of training hours shall be *** **\$\$\$1\$\$** ***. Trainees shall not be assigned
50 less than 400 hours. The Contractor may elect to accomplish training as part of the
51 work of a subcontractor, however, the Prime Contractor shall retain the
52 responsibility for complying with these Special Provisions. The Contractor shall

1 also ensure that this training provision is made applicable to any subcontract that
2 includes training.

3
4 **Trainee Approval**

5 The Federal government requires Contracting Agencies to include these training
6 provisions as a condition attached to the receipt of Federal highway funding. The
7 Federal government has determined that the training and promotion of members of
8 certain minority groups and women is a primary objective of this training provision.
9 The Contractor shall make every effort to enroll minority groups and women
10 trainees to the extent such persons are available within a reasonable recruitment
11 area. This training provision is not intended and shall not be used to discriminate
12 against any applicant for training, whether that person is a minority, woman or
13 otherwise. A non-minority male trainee or apprentice may be approved provided
14 the following requirements are met:

- 15
16 1. The Contractor is otherwise in compliance with the contract's Equal
17 Employment Opportunity and On-the-Job Training requirements and
18 provides documentation of the efforts taken to fill the specific training
19 position with either minorities or females
20
21 2. or, if not otherwise in compliance, furnishes evidence of his/her systematic
22 and direct recruitment efforts in regard to the position in question and in
23 promoting the enrollment and/or employment of minorities and females in
24 the craft which the proposed trainee is to be trained
25
26 3. and the Contractor has made a good faith effort towards recruiting of
27 minorities and women. As a minimum this good faith effort shall consist of
28 the following:
29
30 • Distribution of written notices of available employment
31 opportunities with the Contractor and enrollment opportunities
32 with its unions. Distribution should include but not be limited to;
33 minority and female recruitment sources and minority and female
34 community organizations;
35
36 • Records documenting the Contractor's efforts and the outcome of
37 those efforts, to employ minority and female applicants and/or
38 refer them to unions;
39
40 • Records reflecting the Contractor's efforts in participating in
41 developing minority and female on-the-job training opportunities,
42 including upgrading programs and apprenticeship opportunities;
43
44 • Distribution of written notices to unions and training programs
45 disseminating the Contractor's EEO policy and requesting
46 cooperation in achieving EEO and OJT obligations.
47

48 No employee shall be employed as a trainee in any classification in which the
49 employee has successfully completed a training course leading to journeyman
50 status or in which the employee has been employed as a journeyman. The
51 Contractor's records shall document the methods for determining the trainee's

1 status and findings in each case. When feasible, 25 percent of apprentices or
2 trainees in each occupation shall be in their first year of apprenticeship or training.

3
4 For the purpose of this specification, acceptable training programs are those
5 employing trainees/apprentices registered with the following:

6
7 1. Washington State Department of Labor & Industries — State
8 Apprenticeship Training Council (SATC) approved apprenticeship
9 agreement:

10
11 a. Pursuant to RCW 49.04.060, an apprenticeship agreement shall
12 be;

13
14 i. an individual written agreement between an employer
15 and apprentice

16 ii. a written agreement between (an employer or an
17 association of employers) and an organization of
18 employees describing conditions of employment for
19 apprentices

20 iii. a written statement describing conditions of
21 employment for apprentices in a plant where there is no
22 bona fide employee organization.

23
24 All such agreements shall conform to the basic standards and other
25 provisions of RCW Chapter 49.

26
27 2. Apprentices must be registered with U.S. Department of Labor — Bureau
28 of Apprenticeship Training (BAT) approved program.

29
30 Or

31
32 3. Trainees participating in a non-BAT/SATC program, which has been
33 approved by the contracting agency for the specific project.

34
35 4. For assistance in locating trainee candidates, the Contractor may call
36 WSDOT's OJT Support Services Technical Advisor at (360) 705-7088,
37 (206) 587-4954 or toll free at 1-866-252-2680.

38
39 **Obligation to Provide Information**

40 Upon starting a new trainee, the Contractor shall furnish the trainee a copy of the
41 approved program the Contractor will follow in providing the training. Upon
42 completion of the training, the Contractor shall provide the Contracting Agency with
43 a certification showing the type and length of training satisfactorily completed by
44 each trainee.

45
46 **Training Program Approval**

47 The Training Program shall meet the following requirements:

48
49 1. The Training Program (DOT Form 272-049) must be submitted to the
50 Engineer for approval prior to commencing contract work and shall be
51 resubmitted when modifications to the program occur.

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2. The minimum length and type of training for each classification will be as established in the training program as approved by the Contracting Agency.
3. The Training Program shall contain the trades proposed for training, the number of trainees, the hours assigned to the trade and the estimated beginning work date for each trainee.
4. Unless otherwise specified, Training Programs will be approved if the proposed number of training hours equals the training hours required by contract and the trainees are not assigned less than 400 hours each.
5. After approval of the training program, information concerning each individual trainee and good faith effort documentation shall be submitted on (DOT Form 272-050.)
6. In King County, laborer trainees or apprentices will not be approved on contracts containing less than 2000 training hours as specified in this Section. In King County, no more than twenty percent (20%) of hours proposed for trainees or apprentices shall be in the laborer classification when the contract contains 2000 or more hours of training as specified in this Section. Trainees shall not be assigned less than 400 hours.
7. Flagging programs will not be approved. Other programs that include flagging training will only be approved if the flagging portion is limited to an orientation of not more than 20 hours.
8. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Some off-site training is permissible as long as the training is an integral part of an approved training program.
9. It is normally expected that a trainee will begin training on the project as soon as feasible after start of work, utilizing the skill involved and remain on the project as long as training opportunities exist in the work classification or upon completion of the training program. It is not required that all trainees be on board for the entire length of the contract. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.
10. Wage Progressions: Trainees will be paid at least the applicable ratios or wage progressions shown in the apprenticeship standards published by the Washington State Department of Labor and Industries. In the event that no training program has been established by the Department of Labor and Industries, the trainee shall be paid in accordance with the provisions of RCW 39.12.021 which reads as follows:

Apprentice workmen employed upon public works projects for whom an apprenticeship agreement has been registered and approved with the State Apprenticeship Council pursuant to RCW 49.04, must be

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paid at least the prevailing hourly rate for an apprentice of that trade. Any workman for whom an apprenticeship agreement has not been registered and approved by the State Apprenticeship Council shall be considered to be a fully qualified journeyman, and, therefore, shall be paid at the prevailing hourly rate for journeymen.

Compliance

In the event that the Contractor is unable to accomplish the required training hours but can demonstrate a good faith effort to meet the requirements as specified, then the Contracting Agency will adjust the training goals accordingly.

Requirements for Non BAT/SATC Approved Training Programs

Contractors who are not affiliated with a program approved by BAT or SATC may have their training program approved provided that the program is submitted for approval on DOT Form 272-049, and the following standards are addressed and incorporated in the Contractor's program:

- The program establishes minimum qualifications for persons entering the training program.
- The program shall outline the work processes in which the trainee will receive supervised work experience and training on-the-job and the allocation of the approximate time to be spent in each major process. The program shall include the method for recording and reporting the training completed shall be stated.
- The program shall include a numeric ratio of trainees to journeymen consistent with proper supervision, training, safety, and continuity of employment. The ratio language shall be specific and clear as to application in terms of job site and workforce during normal operations (normally considered to fall between 1:10 and 1:4).
- The terms of training shall be stated in hours. The number of hours required for completion to journeyman status shall be comparable to the apprenticeship hours established for that craft by the SATC. The following are examples of programs that are currently approved:

CRAFT	HOURS
Laborer	4,000
Ironworker	6,000
Carpenter	5,200-8,000
Construction Electrician	8,000
Operating Engineer	6,000-8,000
Cement Mason	5,400
Teamster	2,100

- The method to be used for recording and reporting the training completed shall be stated.
- A numeric ratio of trainees to journeymen shall be established. It shall be consistent with proper supervision, training, safety and continuity of

1 employment. The ratio language shall be specific and clear as to
2 application in terms of job site and workforce during normal operations.
3

4 **Measurement**

5 The Contractor may request that the total number of “training” hours for the contract
6 be increased subject to approval by the Contracting Agency. This reimbursement
7 will be made even though the Contractor receives additional training program funds
8 from other sources, provided such other sources do not prohibit other
9 reimbursement. Reimbursement to the Contractor for off-site training as indicated
10 previously may only be made when the Contractor does one or more of the
11 following and the trainees are concurrently employed on a Federal-aid project:
12

- 13 • contributes to the cost of the training,
- 14 • provides the instruction to the trainee,
- 15 • pays the trainee’s wages during the off- site training period.

16
17 Reimbursement will be made upon receipt of a certified invoice that shows the
18 related payroll number, the name of trainee, total hours trained under the program,
19 previously paid hours under the contract, hours due this estimate, and dollar
20 amount due this estimate. The certified invoice shall show a statement indicating
21 the Contractor’s effort to enroll minorities and women when a new enrollment
22 occurs. If a trainee is participating in a SATC/BAT approved apprenticeship
23 program, a copy of the certificate showing apprenticeship registration must
24 accompany the first invoice on which the individual appears. Reimbursement for
25 training occurring prior to approval of the training program will be allowed if the
26 Contractor verbally notifies the Engineer of this occurrence at the time the
27 apprentice/trainee commences work. A trainee/apprentice, regardless of craft,
28 must have worked on the contract for at least 20 hours to be eligible for
29 reimbursement.
30

31 **Payment**

32 The Contractor will be reimbursed under the item “Training” per hour for each hour
33 of training for each employee.
34

35 1-07.12.GR1

36 **Federal Agency Inspection**

37

38 1-07.12.INST1.GR1

39 Section 1-07.12 is supplemented with the following:

40

41 1-07.12.OPT2.DOCX

42 **(August 1, 2011)**

43 ***Indian Preference and Tribal Ordinances***

44 This project is located on the *** TULALIP TRIBES RESERVATION ***. It is the
45 Contractor’s responsibility to contact the person and/or office listed in this special
46 provision to determine whether any tribal laws or taxes apply. If the tribal laws and
47 taxes do apply, the Contractor shall comply with them in accordance with Section 1-
48 07.1. For informational purposes only, the Work on this project that falls within Tribal
49 Lands is shown on the Summary of Quantities in Group(s) *** GROUP 1 – TULALIP
50 TRIBES, GROUP 2 – WSDOT (WITHIN RESERVATION BOUNDARY) ***.
51

1 Tribal Employment Rights Ordinances (TEROs), may utilize a variety of tools to
2 encourage Indian employment. These tools may include, but are not limited to, TERO
3 fees, Indian hiring preference, Indian-owned business subcontracting preference and/or
4 an Indian training requirement. Other requirements may be a Tribal business license, a
5 required compliance plan and/or employee registration requirements. Every tribe is
6 different and each may be willing to work cooperatively with the Contractor to develop a
7 strategy that works for both parties. For specific details, the Contractor should contact
8 *** The Tulalip Tribes' TERO Department at 6406 Marine Drive, Tulalip,
9 Washington 98271, Office (360) 716-4747 or Facsimile (360) 716-0249.
10 <http://www.tulaliptero.com/> ***.

11
12 The state recognizes the sovereign authority of the tribe and supports the tribe's efforts
13 to enforce its rightful and legal ordinances and expects the Contractor to comply and
14 cooperate with the tribe. The costs related to such compliance shall be borne solely by
15 the Contractor, who is advised to contact the tribal representative listed above, prior to
16 submitting a bid, to assess the impact of compliance on the project.

17
18 Although Indian preference cannot be compelled or mandated by the Contracting
19 Agency, there is no limitation whereby voluntary Contractor or Subcontractor initiated
20 preferences are given, if otherwise lawful. 41 CFR 60-1.5(a)7 provides as follows:

21
22 Work on or near Indian reservations --- It shall not be a violation of the equal
23 opportunity clause for a construction or non-construction Contractor to extend a
24 publicly announced preference in employment to Indians living on or near an Indian
25 reservation in connection with employment opportunities on or near an Indian
26 reservation. The use of the word *near* would include all that area where a person
27 seeking employment could reasonably be expected to commute to and from in the
28 course of a work day. Contractors or Subcontractors extending such a preference
29 shall not, however, discriminate among Indians on the basis of religion, sex, or
30 tribal affiliation, and the use of such a preference shall not excuse a Contractor
31 from complying with the other requirements as contained in the August 25, 1981
32 Department of Labor, Office of Federal Contract Compliance Programs,
33 Government Contractors Affirmative Actions Requirements.

34
35 1-07.13.GR1

36 **Contractor's Responsibility for Work**

37
38 1-07.13(4).GR1

39 ***Repair of Damage***

40
41 1-07.13(4).INST1.GR1

42 Section 1-07.13(4) is revised to read:

43
44 1-07.13(4).OPT1.GR1

45 (August 6, 2001)

46 The Contractor shall promptly repair all damage to either temporary or permanent
47 work as directed by the Engineer. For damage qualifying for relief under Sections
48 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with
49 Section 1-04.4. Payment will be limited to repair of damaged work only. No
50 payment will be made for delay or disruption of work.

51

1 1-07.16.GR1
2 **Protection and Restoration of Property**
3

4 1-07.16(2).INST1.GR1
5 Section 1-07.16(2) is supplemented with the following:
6

7 1-07.16(2).OPT1.GR1
8 (August 2, 2010)
9 Vegetation and soil protection zones for trees shall extend out from the trunk to a
10 distance of 1 foot radius for each inch of trunk diameter at breast height.
11

12 Vegetation and soil protection zones for shrubs shall extend out from the stems at
13 ground level to twice the radius of the shrub.
14

15 Vegetation and soil protection zones for herbaceous vegetation shall extend to
16 encompass the diameter of the plant as measured from the outer edge of the plant.
17

18 1-07.16(4).GR1
19 **Archaeological and Historical Objects**
20

21 1-07.16(4).INST1.GR1
22 Section 1-07.16(4) is supplemented with the following:
23

24 1-07.16(4).OPT1.GR1
25 (December 6, 2004)
26 The project area potentially contains archaeological or historical objects that may
27 have significance from a historical or scientific standpoint. To protect these objects
28 from damage or destruction, the Contracting Agency, at its discretion and expense,
29 may monitor the Contractor's operations, conduct various site testing and perform
30 recovery and removal of such objects when necessary.
31

32 The Contractor may be required to conduct its operations in a manner that will
33 accommodate such activities, including the reserving of portions of the work area
34 for site testing, exploratory operations and recovery and removal of such objects as
35 directed by the Engineer. If such activities are performed by consultants retained
36 by the Contracting Agency, the Contractor shall provide them adequate access to
37 the project site.
38

39 Added work necessary to uncover, fence, dewater, or otherwise protect or assist in
40 such testing, exploratory operations and salvaging of the objects as ordered by the
41 Engineer shall be paid by force account as provided in Section 1-09.6. If the
42 discovery and salvaging activities require the Engineer to suspend the Contractor's
43 work, any adjustment in time will be determined by the Engineer pursuant to
44 Section 1-08.8.
45

46 To provide a common basis for all bidders, the Contracting Agency has entered an
47 amount for the item "Archaeological and Historical Salvage" in the Proposal to
48 become a part of the total bid by the Contractor.
49

50 1-07.17.GR1
51 **Utilities and Similar Facilities**
52

1 1-07.17.INST1.GR1
2 Section 1-07.17 is supplemented with the following:

3
4 1-07.17.OPT2.docx
5 (April 2, 2007)

6 Locations and dimensions shown in the Plans for existing facilities are in accordance
7 with available information obtained without uncovering, measuring, or other verification.

8
9 Public and private utilities, or their Contractors, will furnish all work necessary to adjust,
10 relocate, replace, or construct their facilities unless otherwise provided for in the Plans
11 or these Special Provisions. Such adjustment, relocation, replacement, or construction
12 will be done during the prosecution of the work for this project. It is anticipated that
13 utility adjustment, relocation, replacement or construction within the project limits will be
14 completed as follows:

15
16 ***
17 Relocation of Fire Hydrant STA. M 127+40 LT
18
19 Relocation of Luminaries (4) STA. M 125+10 LT
20 STA. M 125+10 RT
21 STA. M 126+25 RT
22 STA. M 127+75 LT
23
24 Relocation of ITS STA. LM 210+00 LT & RT to
25 STA. LM 235+00 LT & RT ***

26
27 The Contractor shall attend a mandatory utility preconstruction meeting with the
28 Engineer, all affected Subcontractors, and all utility owners and their Contractors prior to
29 beginning onsite work.

30
31 The following addresses and telephone numbers of utility companies or their
32 Contractors that will be adjusting, relocating, replacing or constructing utilities within the
33 project limits are supplied for the Contractor's use:

34
35 *** Paul Federspiel; City of Marysville; 425-363-8278 ***

36
37
38 1-07.18.GR1

39 **Public Liability and Property Damage Insurance**

40
41 1-07.18.INST1.GR1

42 Item No. 1 of the first paragraph of Section 1-07.18 is revised to read:

43
44 **1-07.18.OPT1.docx**

45 (January 3, 2011)

46 1. Owners and Contractors Protective (OCP) Insurance providing bodily injury and
47 property damage liability coverage with limits of *** **\$\$\$1\$\$** *** per occurrence and,
48 per project, in the aggregate for each policy period, written on Insurance Services
49 Office (ISO) form CG0009 1204, together with Washington State Department of
50 Transportation amendatory endorsement CG 2908 1195 specifying the Contracting
51 Agency, the State, the Governor, the Commission, the Secretary ,the Department
52 and all officers and employees of the State as named insured.

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1-07.23.GR1
Public Convenience and Safety

1-07.23(1).GR1
Construction Under Traffic

1-07.23(1).INST1.GR1
Section 1-07.23(1) is supplemented with the following:

1-07.23(1).OPT2.GR1
(January 2, 2012)
Work Zone Clear Zone

The Work Zone Clear Zone (WZCZ) applies during working and nonworking hours. The WZCZ applies only to temporary roadside objects introduced by the Contractor's operations and does not apply to preexisting conditions or permanent Work. Those work operations that are actively in progress shall be in accordance with adopted and approved Traffic Control Plans, and other contract requirements.

During nonworking hours equipment or materials shall not be within the WZCZ unless they are protected by permanent guardrail or temporary concrete barrier. The use of temporary concrete barrier shall be permitted only if the Engineer approves the installation and location.

During actual hours of work, unless protected as described above, only materials absolutely necessary to construction shall be within the WZCZ and only construction vehicles absolutely necessary to construction shall be allowed within the WZCZ or allowed to stop or park on the shoulder of the roadway.

The Contractor's nonessential vehicles and employees private vehicles shall not be permitted to park within the WZCZ at any time unless protected as described above.

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

Minimum WZCZ distances are measured from the edge of traveled way and will be determined as follows:

Regulatory Posted Speed	Distance From Traveled Way (Feet)
35 mph or less	10 *
40 mph	15
45 to 55 mph	20
60 mph or greater	30

* or 2-feet beyond the outside edge of sidewalk

43
44

Minimum Work Zone Clear Zone Distance

F0723015.docx

(August 7, 2006)

Shoulder, Lane, Ramp, Roadway closures and rolling slowdown closures are subject to the following restrictions:

Temporary shoulder closures will be permitted as follows:

NB I-5

Sunday	8:00 p.m.	to	2:00 p.m.	(the following day)
Monday	7:00 p.m.	to	2:00 p.m.	(the following day)
Tuesday	7:00 p.m.	to	2:00 p.m.	(the following day)
Wednesday	7:00 p.m.	to	2:00 p.m.	(the following day)
Thursday	7:00 p.m.	to	NOON	(the following day)

SB I-5

Sunday	8:00 p.m.	to	5:00 a.m.	(the following day)
Monday	6:00 p.m.	to	5:00 a.m.	(the following day)
Tuesday	6:00 p.m.	to	5:00 a.m.	(the following day)
Wednesday	6:00 p.m.	to	5:00 a.m.	(the following day)
Thursday	6:00 p.m.	to	5:00 a.m.	(the following day)

Lane closures will be permitted as follows:

NB I-5 Single Lane Closure

Sunday	8:00 p.m.	to	9:00 a.m.	(the following day)
Monday	7:00 p.m.	to	9:00 a.m.	(the following day)
Tuesday	7:00 p.m.	to	9:00 a.m.	(the following day)
Wednesday	7:00 p.m.	to	9:00 a.m.	(the following day)
Thursday	7:00 p.m.	to	9:00 a.m.	(the following day)

NB I-5 Two Lane Closure

Sunday	11:00 p.m.	to	6:00 a.m.	(the following day)
Monday	11:00 p.m.	to	6:00 a.m.	(the following day)
Tuesday	11:00 p.m.	to	6:00 a.m.	(the following day)
Wednesday	11:00 p.m.	to	6:00 a.m.	(the following day)
Thursday	11:00 p.m.	to	6:00 a.m.	(the following day)

SB I-5 Single Lane Closure

Sunday	8:00 p.m.	to	5:00 a.m.	(the following day)
Monday	7:00 p.m.	to	5:00 a.m.	(the following day)
Tuesday	7:00 p.m.	to	5:00 a.m.	(the following day)
Wednesday	7:00 p.m.	to	5:00 a.m.	(the following day)
Thursday	7:00 p.m.	to	5:00 a.m.	(the following day)

SB I-5 Two Lane Closure

Sunday	11:00 p.m.	to	4:00 a.m.	(the following day)
Monday	10:00 p.m.	to	4:00 a.m.	(the following day)
Tuesday	10:00 p.m.	to	4:00 a.m.	(the following day)
Wednesday	10:00 p.m.	to	4:00 a.m.	(the following day)
Thursday	10:00 p.m.	to	4:00 a.m.	(the following day)

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116 th Roadway (structure over I-5)		
Sunday to Monday		10:00 p.m. to 5:00 a.m.
Monday to Tuesday		9:00 p.m. to 5:00 a.m.
Tuesday to Wednesday		9:00 p.m. to 5:00 a.m.
Wednesday to Thursday		9:00 p.m. to 5:00 a.m.
Thursday to Friday		9:00 p.m. to 5:00 a.m.
*Friday to Saturday		11:59 p.m. to 6:00 a.m.
Saturday to Sunday		11:59 p.m. to 7:00 a.m.

Ramp closures will be permitted as follows:

NB I-5 to 116 th St. Exit Ramp				
Sunday	9:00 p.m. to	6:00 a.m.		(the following day)
Monday	10:00 p.m. to	6:00 a.m.		(the following day)
Tuesday	10:00 p.m. to	6:00 a.m.		(the following day)
Wednesday	10:00 p.m. to	6:00 a.m.		(the following day)
Thursday	10:00 p.m. to	6:00 a.m.		(the following day)

116 th St. Ramp to NB I-5				
Sunday	9:00 p.m. to	9:00 a.m.		(the following day)
Monday	9:00 p.m. to	9:00 a.m.		(the following day)
Tuesday	9:00 p.m. to	9:00 a.m.		(the following day)
Wednesday	9:00 p.m. to	9:00 a.m.		(the following day)
Thursday	9:00 p.m. to	9:00 a.m.		(the following day)

SB I-5 to 116 th St. Exit Ramp				
Sunday	9:00 p.m. to	5:00 a.m.		(the following day)
Monday	8:00 p.m. to	5:00 a.m.		(the following day)
Tuesday	8:00 p.m. to	5:00 a.m.		(the following day)
Wednesday	8:00 p.m. to	5:00 a.m.		(the following day)
Thursday	8:00 p.m. to	5:00 a.m.		(the following day)

116 th St. Ramp to SB I-5				
Sunday	10:00 p.m. to	4:30 a.m.		(the following day)
Monday	10:00 p.m. to	4:30 a.m.		(the following day)
Tuesday	10:00 p.m. to	4:30 a.m.		(the following day)
Wednesday	10:00 p.m. to	4:30 a.m.		(the following day)
Thursday	10:00 p.m. to	4:30 a.m.		(the following day)

Ramp closures are not permitted when NB or SB I-5, or 116th Roadway are closed.

Roadway Closures for girder setting and bridge demolition will be permitted as follows:

NB I-5		
Sunday to Monday		11:59 p.m. to 5:00 a.m.
Monday to Tuesday		11:59 p.m. to 5:00 a.m.
Tuesday to Wednesday		11:59 p.m. to 5:00 a.m.
Wednesday to Thursday		11:59 p.m. to 5:00 a.m.

1	Thursday to Friday	11:59 p.m. to 5:00 a.m.
2	*Friday to Saturday	11:59 p.m. to 6:00 a.m.
3	Saturday to Sunday	11:59 p.m. to 7:00 a.m.

4

5 A max. of 10 roadway closures are permitted.

6

7 SB I-5

8	Sunday to Monday	11:00 p.m. to 4:00 a.m.
9	Monday to Tuesday	11:00 p.m. to 4:00 a.m.
10	Tuesday to Wednesday	11:00 p.m. to 4:00 a.m.
11	Wednesday to Thursday	11:00 p.m. to 4:00 a.m.
12	Thursday to Friday	11:00 p.m. to 4:00 a.m.
13	*Friday to Saturday	11:59 p.m. to 6:00 a.m.
14	Saturday to Sunday	11:59 p.m. to 7:00 a.m.

15

16 A max. of 10 roadway closures are permitted.

17

18

19 116th Roadway (structure over I-5)

20	Sunday to Monday	10:00 p.m. to 5:00 a.m.
21	Monday to Tuesday	10:00 p.m. to 5:00 a.m.
22	Tuesday to Wednesday	10:00 p.m. to 5:00 a.m.
23	Wednesday to Thursday	10:00 p.m. to 5:00 a.m.
24	Thursday to Friday	10:00 p.m. to 5:00 a.m.
25	*Friday to Saturday	11:00 p.m. to 7:00 a.m.
26	Saturday to Sunday	10:00 p.m. to 8:00 a.m.

27

28 A max. of 10 roadway closures are permitted.

29

30

31 Rolling Slowdown closures will be permitted as follows:

32

33 Rolling slowdowns in the northbound and southbound lanes of I-5 for
 34 girder setting will be permitted from 11:59 PM to 4:00 AM on any
 35 night of the week except Friday and Saturday nights.

36

37 If the Engineer determines the permitted closure hours adversely affect traffic, the
 38 Engineer may adjust the hours accordingly. The Engineer will notify the Contractor
 39 in writing of any change in the closure hours.

40

41 No closures will be allowed on a holiday or holiday weekend, or after 12:00 PM
 42 (noon) on a day prior to a holiday or holiday weekend. Holidays that occur on
 43 Friday, Saturday, Sunday or Monday are considered a holiday weekend.

44

45

46 0723015A.DT1.docx

47 (NWR August 21, 2006)

48 In addition, no closures will be allowed during the following time periods:

49

50 Midnight through noon the day following a holiday or holiday weekend.

51

52

1 TC2000C4.DT1.docx
2 (NWR December 8, 2003)
3 Miscellaneous Special Events as follows:
4
5 • Tribal Amphitheatre event dates
6 • Two weeks prior to 4th of July
7 • Thanksgiving through New Years Day
8
9
10 TC2000A.DT1.docx
11 (NWR March 6, 2000)
12 Construction vehicles using a closed traffic lane shall travel only in the normal
13 direction of traffic flow unless expressly allowed in an approved traffic control plan.
14 Construction vehicles shall be equipped with flashing or rotating amber lights.
15
16 Work over an open lane of traffic will not be allowed, unless a plan for the
17 protection of the traveling public from debris falling onto the traveled way is
18 approved by the Engineer. This protection shall remain in place during construction
19 and meet minimum vertical clearance for the highway.
20
21 **Controlled Access**
22 No special access or egress will be allowed the Contractor other than normal legal
23 movements or as shown in the Plans.
24
25
26 TC2000B1.DT1.docx
27 **(NWR November 7, 2005)**
28 **Traffic Blockage for Mast Arm Erection**
29 During erection of mast arm assemblies, the Contractor may, with the authorization
30 of the Engineer, block all traffic for maximum durations of fifteen minutes between
31 the hours of *** 11:59pm *** and *** 3:00am ***. These fifteen-minute blockages
32 shall be separated by an interval long enough to allow the delayed vehicles to clear.
33
34 TC2000B2.DT1.docx
35 **(NWR March 7, 2005)**
36 **Signal Turn-On**
37 Signal turn-on for new or rebuilt control equipment will be permitted Monday
38 through Thursday, between ***10 PM*** and ***4 AM*** (nightly).
39
40
41 TC2000B4.DT1.docx
42 (NWR March 7, 2005)
43 The Contractor shall, at no additional cost to the Contracting Agency, provide
44 Contractor-hired uniformed officer(s), having jurisdiction in the area, to manually
45 control intersections during signal turn-on.
46
47
48 TC2000D1.DT1.docx
49 **(NWR March 6, 2000)**
50 **Advance Notification**
51 The Contractor shall notify the Engineer in writing 5 working days in advance of any
52 lane closure, sidewalk closure, or both.

1
2 TC2000D2.DT1.docx
3 (NWR March 6, 2000)
4 The Contractor shall notify the Engineer in writing 10 working days in advance of
5 any ramp closure, roadway closure, or both.
6

7 TC2000D3.DT1.docx
8 **(NWR March 6, 2000)**
9 **Public Notification**
10 The Contractor shall furnish and install information signs that provide advance
11 notification of a ramp closure, road closure, or both, a minimum of five working
12 days prior to the closure. The signs shall have a black legend on a white reflective
13 background. Sign locations, messages, letter sizes, and sign sizes are shown in
14 the Plans.
15

16 The Contractor shall notify the Washington State Patrol; local fire, police,
17 emergency service, and city engineering departments; Medic 1 and Metro Transit
18 (206-684-2732) when applicable; other transit companies; and the affected school
19 district(s) in writing a minimum of five working days prior to each closure. The
20 Contractor shall furnish copies of these notifications to the Engineer.
21

22 TC2000W.DT1.docx
23 **Construction and Maintenance of Detours**
24 Section 1-07.23(2) is supplemented with the following:
25

26 TC2000X1.DT1.docx
27 (NWR March 6, 2000)
28 Detour routes shall be provided as shown in the Plans.
29

30 TC2000X2.DT1.docx
31 (NWR March 6, 2000)
32 No two consecutive on-ramps or exits shall be closed at the same time.
33

34
35 1-08.GR1
36 **Prosecution and Progress**
37

38 1-08.0(1).RTF
39 Add the following new section:
40

41 **1-08.0(1) Preconstruction Conference**
42 *(October 10, 2008 APWA GSP)*
43

44 Prior to the Contractor beginning the work, a preconstruction conference will be held
45 between the Contractor, the Engineer and such other interested parties as may be
46 invited. The purpose of the preconstruction conference will be:

- 47 1. To review the initial progress schedule;
- 48 2. To establish a working understanding among the various parties associated or
49 affected by the work;
- 50 3. To establish and review procedures for progress payment, notifications, approvals,
51 submittals, etc.;

- 1 4. To establish normal working hours for the work;
- 2 5. To review safety standards and traffic control; and
- 3 6. To discuss such other related items as may be pertinent to the work.

4
5 The Contractor shall prepare and submit at the preconstruction conference the following:

- 6 1. A breakdown of all lump sum items;
- 7 2. A preliminary schedule of working drawing submittals; and
- 8 3. A list of material sources for approval if applicable.

9
10 1-08.1.GR1

11 **Subcontracting**

12
13 1-08.1.INST1.GR1

14 Section 1-08.1 is supplemented with the following:

15
16 1-08.1.OPT1.GR1

17 (October 12, 1998)

18 Prior to any subcontractor or lower tier subcontractor beginning work, the Contractor
19 shall submit to the Engineer a certification (WSDOT Form 420-004 EF) that a written
20 agreement between the Contractor and the subcontractor or between the subcontractor
21 and any lower tier subcontractor has been executed. This certification shall also
22 guarantee that these subcontract agreements include all the documents required by the
23 Special Provision **Federal Agency Inspection**.

24
25 A Subcontractor or lower tier Subcontractor will not be permitted to perform any work
26 under the contract until the following documents have been completed and submitted to
27 the Engineer:

- 28
29 1. Request to Sublet Work (Form 421-012 EF), and
- 30 2. Contractor and Subcontractor or Lower Tier Subcontractor Certification for
31 Federal-aid Projects (Form 420-004 EF).

32
33 The Contractor's records pertaining to the requirements of this Special Provision shall
34 be open to inspection or audit by representatives of the Contracting Agency during the
35 life of the contract and for a period of not less than three years after the date of
36 acceptance of the contract. The Contractor shall retain these records for that period.
37 The Contractor shall also guarantee that these records of all Subcontractors and lower
38 tier Subcontractors shall be available and open to similar inspection or audit for the
39 same time period.

40
41 1-08.1(1).GR1

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

43
44 1-08.1(1).INST1.GR1

45 Section 1-08.1(1) is revised to read:

46
47 1-08.1(1).OPT1.GR1

48 (June 27, 2011)

49 The following procedures shall apply to all subcontracts entered into as a part of
50 this Contract:
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Requirements

1. The Prime Contractor or Subcontractor shall make payment to the Subcontractor not later than ten (10) days after receipt of payment from the Contracting Agency for work satisfactorily completed by the Subcontractor, to the extent of each Subcontractor's interest therein.
2. Prompt and full payment of retainage from the Prime Contractor to the Subcontractor shall be made within 30 days after Subcontractor's Work is satisfactorily completed.
3. For purposes of this Section, a Subcontractor's work is satisfactorily completed when all task and requirements of the Subcontract have been accomplished and including any required documentation and material testing .
4. Failure by a Prime Contractor or Subcontractor to comply with these requirements may result in one or more of the following:
 - a. Withholding of payments until the Prime Contractor or Subcontractor complies
 - b. Failure to comply shall be reflected in the Prime Contractor's Performance Evaluation
 - c. Cancellation, Termination, or Suspension of the Contract, in whole or in part
 - d. Other sanctions as provided by the subcontractor or by law under applicable prompt pay statutes.

Conditions

This clause does not create a contractual relationship between the Contracting Agency and any Subcontractor as stated in Section 1-08.1. Also, it is not intended to bestow upon any Subcontractor, the status of a third-party beneficiary to the Contract between the Contracting Agency and the Contractor.

Payment

The Contractor will be solely responsible for any additional costs involved in paying retainage to the Subcontractors. Those costs shall be incidental to the respective Bid Items.

1-08.4.RTF

1-08.4 Prosecution of Work

Delete this section in its entirety, and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work
(June 27, 2011 APWA GSP)

Notice to Proceed will be given after the Contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting

1 Agency. The Contractor shall not commence with the work until the Notice to Proceed
2 has been given by the Engineer. The Contractor shall commence construction activities
3 on the project site within ten days of the Notice to Proceed Date, unless otherwise
4 approved in writing. The Contractor shall diligently pursue the work to the physical
5 completion date within the time specified in the Contract. Voluntary shutdown or slowing
6 of operations by the Contractor shall not relieve the Contractor of the responsibility to
7 complete the work within the time(s) specified in the Contract.
8

9 When shown in the Plans, the first order of work shall be the installation of high visibility
10 fencing to delineate all areas for protection or restoration, as described in the Contract.
11 Installation of high visibility fencing adjacent to the roadway shall occur after the
12 placement of all necessary signs and traffic control devices in accordance with 1-10.1(2).
13 Upon construction of the fencing, the Contractor shall request the Engineer to inspect the
14 fence. No other work shall be performed on the site until the Contracting Agency has
15 accepted the installation of high visibility fencing, as described in the Contract.
16

17 1-08.4.GR1

18 **Prosecution of Work**

19

20 1-08.4.INST1.GR1

21 The first sentence of Section 1-08.4 is revised to read:

22

23 1-08.4.OPT2.GR1

24 (August 7, 2006)

25 The Contractor shall begin work no earlier than the begin work date stated in the written
26 notice provided by the Engineer. The Engineer will provide a minimum of 10 calendar
27 days written notice for the date identified as the first working day.
28

29 1-08.4.High Viz.docx

30 (NWR May 15, 2006)

31 Section 1-08.4 is supplemented with the following:

32

33 ***Order of Work***

34 The first order of work on this project shall be the layout and installation of fencing to
35 delineate all wetland and sensitive areas. All required traffic control items shall be in
36 place prior to beginning this work. The Contractor shall mark the areas as shown in the
37 Plans. The delineation shall consist of high visibility construction fencing as described
38 below.
39

40 No other work shall be performed on the site until the Contracting Agency has accepted
41 the installation of the wetland and sensitive area delineation. The acceptance shall be
42 evidenced in writing.
43

44 Throughout the life of the project, the Contractor shall preserve and protect the wetland
45 and sensitive area delineation, acting immediately to repair or restore any fencing
46 damaged or removed.
47

48 High visibility fencing shall be as detailed in the Standard Plans. Fencing shall not be
49 fastened to trees.

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Measurement

High visibility fencing will be measured by the linear foot along the line and slope of fence placed as specified.

Payment

"High Visibility Fencing", per linear foot.

The unit contract price per linear foot for "High Visibility Construction Fencing" shall be full compensation for all costs to obtain, survey, layout, install, maintain, and remove the fencing as shown in the Plans. Once removed, the fencing shall remain the property of the Contractor.

1-08.5.GR1

Time for Completion

1-08.5.INST1.GR1

The third paragraph of Section 1-08.5 is revised to read:

1-08.5.INST2.GR1

Section 1-08.5 is supplemented with the following:

1-08.5.OPT7.docx

(March 13, 1995)

This project shall be physically completed within *** 460 *** working days.

1-08.5 Option A.RTF

1-08.5 Time for Completion

(June 28, 2007 APWA GSP, Option A)

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the Notice to Proceed Date.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor elects to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

1 The Engineer will give the Contractor written notice of the completion date of the contract
2 after all the Contractor's obligations under the contract have been performed by the
3 Contractor. The following events must occur before the Completion Date can be
4 established:

- 5 1. The physical work on the project must be complete; and
- 6 2. The Contractor must furnish all documentation required by the contract and required
7 by law, to allow the Contracting Agency to process final acceptance of the contract.
8 The following documents must be received by the Project Engineer prior to
9 establishing a completion date:
 - 10 a. Certified Payrolls (Federal-aid Projects)
 - 11 b. Material Acceptance Certification Documents
 - 12 c. Annual Report of Amounts Paid as MBE/WBE Participants or Quarterly Report of
13 Amounts Credited as DBE Participation, as required by the Contract Provisions.
 - 14 d. Final Contract Voucher Certification
 - 15 e. Property owner releases per Section 1-07.24

16
17 1-08.9.GR1

18 **Liquidated Damages**

19

20 1-08.9.INST1.GR1

21 Section 1-08.9 is supplemented with the following:

22

23 **LIQDAM.DT1.docx**

24 The closure of \$\$ I-5 \$\$ mainline lanes and ramps will result in substantial traffic
25 impacts. These closures will cause delays to the traveling public, increase fuel
26 consumption, vehicle operating cost, pollution, and other inconveniences and harm.

27

28 Accordingly, the Contractor agrees:

29

- 30 1. To pay \$\$ **TBD** \$\$ liquidated damages per 15 minutes for each 15 minute period
31 prorated to the nearest 5 minutes that a lane is closed on mainline I-5 beyond
32 the scheduled opening time specified in the Subsection Public Convenience
33 and Safety of the Special Provision LEGAL RELATIONS AND
34 RESPONSIBILITIES TO THE PUBLIC.
- 35
36 2. To pay \$\$ **TBD** \$\$ liquidated damages per 15 minutes for each minute period
37 prorated to the nearest 5 minutes that a ramp is closed beyond the scheduled
38 opening time specified in the Subsection Public Convenience and Safety of the
39 Special Provision LEGAL RELATIONS AND RESPONSIBILITIES TO THE
40 PUBLIC.
- 41
42 3. To pay \$\$ **TBD** \$\$ liquidated damages per 15 minutes for each minute period
43 prorated to the nearest 5 minutes that Mainline NB I-5 is closed beyond the
44 scheduled opening time specified in the Subsection Public Convenience and
45 Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES
46 TO THE PUBLIC.
- 47
48 4. To pay \$\$ **TBD** \$\$ liquidated damages per 15 minutes for each minute period
49 prorated to the nearest 5 minutes that Mainline NB I-5 is closed beyond the
50 scheduled opening time specified in the Subsection Public Convenience and

- 1 Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES
2 TO THE PUBLIC.
3
4 5. To pay \$\$ **TBD** \$\$ liquidated damages per 15 minutes for each minute period
5 prorated to the nearest 5 minutes that Mainline SB I-5 is closed beyond the
6 scheduled opening time specified in the Subsection Public Convenience and
7 Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES
8 TO THE PUBLIC.
9
10 6. To authorize the Engineer to deduct these liquidated damages from any money
11 due or coming due to the Contractor.

12
13 1-09.GR1
14 **Measurement and Payment**

15
16 1-09.3.GR1
17 **Scope of Payment**

18
19 1-09.3.INST1.GR1
20 Section 1-09.3 is supplemented with the following:

21
22 1-09.3.OPT2.GR1
23 **(April 5, 2010)**
24 **Steel Cost Adjustment**

25 **General**
26 The Contracting Agency will make a steel cost adjustment, either a credit or a
27 payment, for qualifying changes in the index price of raw steel used in the
28 production of specified materials that are incorporated into the permanent Work.
29 The adjustment will be applied to partial payments made according to Section 1-
30 09.9. The adjustment will be applied to the following materials:

- 31
32 • Reinforcing steel conforming to Section 9-07 used in non-proprietary walls,
33 and pedestrian and vehicular bridge Substructure and Superstructure.
34
35 • Structural steel conforming to Section 6-03.2 used in pedestrian and vehicular
36 bridge Substructure and Superstructure.
37
38 • Soldier Piles
39
40 • Permanent steel casings for vertical shafts and horizontal borings and
41 jackings
42
43 • Permanent steel casings for concrete piling

44
45 The adjustment is not a guarantee of full compensation for steel price changes.
46 Any adjustment provided by this provision shall not obligate the Contracting Agency
47 for any costs due solely to changes in steel costs beyond the amount adjusted by
48 this provision. The Contracting Agency does not guarantee that steel will be
49 available at the base steel cost or monthly steel cost. No additional adjustment will
50 be made for changes in the cost of manufacturing, fabrication, shipping, or storage.
51

1 For the purpose of determining the adjustment, the Base Steel Cost shall be the
2 *Engineering News-Record Materials Cost Index for Steel \$/CWT* index value for
3 the month prior to the month that Bids are opened. The Base Steel Cost is fixed for
4 the duration of the Contract and will be used for determining all adjustments.

5
6 The Monthly Steel Cost shall be the *Engineering News-Record Materials Cost*
7 *Index for Steel \$/CWT* index value for the month that the steel is actually shipped
8 from the producing mill. If the specified index ceases to be available for any
9 reason, the Contracting Agency at its discretion will select and begin using a
10 substitute price source or index to establish the Monthly Steel Cost.

11
12 For each month that steel material that is specified in this Section is incorporated
13 into the permanent Work or paid for as Materials on Hand, the Contractor shall
14 provide the Engineer with written documentation (such as bills of lading, invoices,
15 or purchase orders) of the actual date and quantity of steel in pounds shipped from
16 the producing mill to the manufacturer and the Contracting Agency contract number
17 that the steel is used in.

18
19 **Measurement**

20 No adjustment will be made if the Monthly Steel Cost is within 10 percent of the
21 Base Steel Cost. No adjustment will be made for Work performed after the
22 authorized time for completion. No adjustment will be made for any products
23 manufactured from steel having a mill shipping date prior to the date the contract is
24 executed.

25
26 If the Monthly Steel Cost is greater than or equal to 110% of the Base Steel Cost,
27 then:

28
29
$$\text{Adjustment} = \frac{(\text{Monthly Steel Cost} - (1.1 \times \text{Base Steel Cost})) \times Q}{100}$$

30
31
32 If the Monthly Steel Cost is less than or equal to 90% of the Base Steel Cost, then:

33
34
$$\text{Adjustment} = \frac{(\text{Monthly Steel Cost} - (0.90 \times \text{Base Steel Cost})) \times Q}{100}$$

35
36
37 Where Q = total pounds of reinforcing steel and structural steel paid in the current
38 month's progress payment. No adjustment will be provided for quantities of steel
39 exceeding the estimated quantity shown in the Contract, even though the actual
40 quantities required may deviate from those listed. If the Contract provides no
41 estimated quantities, then the maximum quantity of reinforcing steel or structural
42 steel shall be the quantity determined by the Engineer using WSDOT approved
43 shop drawings and a unit weight of 490-pounds per cubic foot of steel.

44
45 **Payment**

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

48
49 "Steel Cost Adjustment", by calculation.

50
51 To provide a common proposal for all bidders, the Contracting Agency has entered
52 an amount in the proposal to become a part of the Contractor's total bid.

1
2 No adjustment payment will be provided until the Contractor provides written
3 documentation of the actual date and quantity of steel in pounds shipped from the
4 producing mill to the manufacturer. If the Contractor fails to provide the required
5 documentation, then adjustment credits will be calculated using a shipment date
6 determined by the Engineer in accordance with Section 1-05.1.
7
8 1-09.6.RTF
9 **1-09.6 Force Account**
10 *(October 10, 2008 APWA GSP)*
11
12 Supplement this section with the following:
13
14 The Contracting Agency has estimated and included in the Proposal, dollar amounts for
15 all items to be paid per force account, only to provide a common proposal for Bidders.
16 All such dollar amounts are to become a part of Contractor's total bid. However, the
17 Contracting Agency does not warrant expressly or by implication, that the actual amount
18 of work will correspond with those estimates. Payment will be made on the basis of the
19 amount of work actually authorized by Engineer.
20
21 1-09.8.GR1
22 **Payment For Material On Hand**
23
24 1-09.8.INST1.GR1
25 The last paragraph of Section 1-09.8 is revised to read:
26
27 1-09.8.OPT1.GR1
28 *(August 3, 2009)*
29 The Contracting Agency will not pay for material on hand when the invoice cost is less
30 than \$2,000. As materials are used in the work, credits equaling the partial payments
31 for them will be taken on future estimates. Each month, no later than the estimate due
32 date, the Contractor shall submit a letter to the Project Engineer that clearly states: 1)
33 the amount originally paid on the invoice (or other record of production cost) for the
34 items on hand, 2) the dollar amount of the material incorporated into each of the various
35 work items for the month, and 3) the amount that should be retained in material on hand
36 items. If work is performed on the items and the Contractor does not submit a letter, all
37 of the previous material on hand payment will be deducted on the estimate. Partial
38 payment for materials on hand shall not constitute acceptance. Any material will be
39 rejected if found to be faulty even if partial payment for it has been made.
40
41 1-09.9.GR1
42 **Payments**
43
44 1-09.9.INST1.GR1
45 Section 1-09.9 is supplemented with the following:
46
47 1-09.9(1).GR1
48 ***Retainage***
49
50 1-09.9(1).INST1.GR1
51 Section 1-09.9(1) content and title is deleted and replaced with the following:
52

1 1-09.9(1).OPT1.GR1
2 (June 27, 2011)
3 Vacant
4

5 1-09.11.GR1
6 **Disputes and Claims**
7

8 1-09.11.INST1.GR1
9 Section 1-09.11 is revised to read:

10
11 TRIBAL COURT.DOCX

12 **FORUM FOR EQUITABLE RELIEF**

13 The Tribal Court of the Tulalip Tribes of Washington shall have exclusive
14 jurisdiction over any action or proceeding for any injunction or declaratory
15 judgment concerning any agreement or performance under the Contract
16 Documents or in connection with the Project. Any such action or proceeding
17 arising out of or related in any way to the Contract or performance thereunder
18 shall be brought only in the Tribal Court of the Tulalip Tribes of Washington and
19 the Contractor irrevocably consents to such jurisdiction and venue. The
20 Contract shall be governed by the law of the State of Washington.

21 **FORUM FOR MONEY DAMAGES**

22 The Tribal Court of the Tulalip Tribes of Washington shall be the exclusive
23 jurisdiction for any action or proceeding for any injunction or declaratory
24 judgment concerning any agreement or performance under the Contract
25 Documents or in connection with the Project. The Tribal Court of the Tulalip
26 Tribes of Washington shall be the exclusive jurisdiction for any action or
27 proceeding by the Contractor or the Contractor's Surety, if applicable, for any
28 money damages concerning any agreement or performance under the Contract
29 Documents or in connection with the Project.
30

31
32 1-10.GR1
33 **Temporary Traffic Control**
34

35 1-10.1.GR1
36 **General**
37

38 1-10.1.INST1.GR1
39 Section 1-10.1 is supplemented with the following:

40
41 1-10.1.OPT1.docx
42 (August 2, 2004)

43 The Contracting Agency will provide the following labor, equipment and/or materials
44 resources to the Contractor for use on the project. The Contractor will notify the
45 Engineer when each resource is to be utilized and will provide adequate notice that will
46 allow any necessary arrangements to be made.

47
48 *** Washington State Patrol ***
49

1 1-10.1.OPT2.docx
2 (August 2, 2004)
3 The Contracting Agency has arranged for uniformed law enforcement personnel to
4 participate in the Contractor's traffic control activities. As stated in the last paragraph of
5 Section 1-10.1(2), the responsibility for all traffic control shall remain with the Contractor.
6 Uniformed law enforcement personnel may be utilized to perform the following traffic
7 control tasks:

8
9 *** Provide manual control of signalized intersections during signal alterations and
10 provide assistance with I-5 closures and detours as shown in the plans. ***

11
12 This resource is provided at no additional cost to the Contractor. The value of this
13 resource is assumed to be reflected in the Contractor's bid for Traffic Control. Additional
14 agreement or price adjustment between the Contractor and the Contracting Agency for
15 this resource shall not be necessary.

16
17 1-10.2.GR1

18 **Traffic Control Management**

19
20 1-10.2(1).GR1

21 **General**

22
23 1-10.2(1).INST1.GR1

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

25
26 1-10.2(1).OPT1.GR1

27 (December 1, 2008)

28 Only training with WSDOT TCS card and WSDOT training curriculum is recognized
29 in the State of Washington. The Traffic Control Supervisor shall be certified by one
30 of the following:

31
32 The Northwest Laborers-Employers Training Trust
33 27055 Ohio Ave.
34 Kingston, WA 98346
35 (360) 297-3035

36
37 Evergreen Safety Council
38 401 Pontius Ave. N.
39 Seattle, WA 98109
40 1-800-521-0778 or
41 (206) 382-4090

42
43 The American Traffic Safety Services Association
44 15 Riverside Parkway, Suite 100
45 Fredericksburg, Virginia 22406-1022
46 Training Dept. Toll Free (877) 642-4637
47 Phone: (540) 368-1701

48
49 1-10.4.GR1

50 **Measurement**

51

1 1-10.4(2).GR1
2 **Item Bids With Lump Sum for Incidentals**
3
4 1-10.4(2).INST1.GR1
5 Section 1-10.4(2) is supplemented with the following:
6
7 1-10.4(2).OPT1.GR1
8 (August 2, 2004)
9 The bid proposal does not contain the item "Project Temporary Traffic Control,"
10 lump sum. The provisions of Section 1-10.4(2) shall apply.
11
12 DIVISION2.GR2
13 **Division 2**
14 **Earthwork**
15
16 2-02.GR2
17 **Removal of Structures and Obstructions**
18
19 2-02.1.GR2
20 **Description**
21
22 2-02.1-RemovalDescription.docx
23 **Description**
24 Section 2-02.1 is supplemented with the following:
25
26 **(*****)**
27 **Removal of Drainage Structures and Drainage Pipe**
28 This work shall include the removal, disposal and backfill of existing drainage structures
29 and drainage pipes.
30
31 2-02.1.INST1.GR2
32 Section 2-02.1 is supplemented with the following:
33
34 2-02.1.OPT1.GR2
35 (March 13, 1995)
36 This work shall consist of removing miscellaneous traffic items.
37
38 2-02.3.GR2
39 **Construction Requirements**
40
41 2-02.3.INST1.GR2
42 Section 2-02.3 is supplemented with the following:
43
44 2-02.3.INST1.GR2 Insert 17.docx
45 **(June 26, 2000)**
46 **Salvage of Removed Structure Items**
47 All ***Metal railing and associated brackets and posts *** of the existing bridge or
48 structure being removed shall remain the property of the Contracting Agency.
49
50 The Contractor shall transport the specified salvaged items to the following location:

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WSDOT NWR Bridge Maintenance Location TBD

The Contractor shall stack the material where directed by the Engineer. The Contractor shall contact the Engineer at least five working days prior to scheduled delivery of the items to confirm delivery arrangements.

2-02.3.OPT2.docx

(March 13, 1995)

Removing Miscellaneous Traffic Items

The following miscellaneous traffic items shall be removed and disposed of:

- *** Removing Traffic Island
- Removing Traffic Curb
- Removing Guide Post
- Removing Raised Pavement Marker ***

2-02.3.OPT6.docx

(June 26, 2000)

Salvage of Removed Structure Items

All *** girders *** of the existing bridge or structure being removed shall remain the property of the Contracting Agency.

The Contractor shall transport the specified salvaged items to the following location:

*** **\$\$\$** ***

The Contractor shall stack the material where directed by the Engineer. The Contractor shall contact the Engineer at least five working days prior to scheduled delivery of the items to confirm delivery arrangements.

2-02.3-RemovalConstReq.docx

(***)**

Where shown in the Plans, or at other locations as determined by the Engineer, the Contractor shall remove drainage structures and drainage pipes regardless of the size or type.

Voids left by drainage structure and drainage pipe removal shall be backfilled and compacted in accordance with Section 2-03.3(14)C.

All material removed shall become the property of the Contractor and shall be disposed of outside the project limits.

2-02.3(2).GB2

Removal of Bridges, Box Culverts, and other Drainage Structures

2-02.3(2).INST1.GB2

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

1 2-02.3(2).Insert 13.docx
2 (June 26, 2000)
3 The Contractor shall remove existing Bridge *** No. 5/656 *** after routing traffic
4 onto *** the completed Stage 1 Construction of the replacement bridge, including
5 removal of Pier 2 to the bottom of the existing footing, and removal of Piers 1 and 3
6 and the flanking retaining walls to six feet below proposed finished ground line ***.
7
8
9 2-02.3(2).OPT4.GB2
10 (June 26, 2000)
11 Plans of the existing bridge(s) are available at the Project Engineer's Office for the
12 prospective bidder's inspection.
13
14 2-02.3(2).OPT5.GB2
15 **(June 26, 2000)**
16 **Bridge Demolition Plan**
17 The Contractor shall submit a bridge demolition plan with working drawings and
18 calculations to the Engineer for approval in accordance with Section 6-01.9,
19 showing the method of removing the existing bridge(s), or portions of bridges, as
20 specified.
21
22 The bridge demolition plan shall show support bents, bracing, guys, lifting devices,
23 lifting attachments, the sequence of demolition and removal, the type of equipment
24 to be used in all demolition and removal operations, the location of cranes and
25 barges, the location of support or lifting points, and the weights of structure parts
26 being removed. The plan shall include a crane stability analysis and crane load
27 calculations based on the controlling crane picks of the Contractor's plan. The plan
28 shall detail the containment, collection, and disposal of all debris. The plan shall
29 show all stages of demolition.
30
31 The Contractor shall not begin removal operations until receiving the Engineer's
32 approval of the bridge demolition plan.
33
34 2-02.3(2).OPT10.GB2
35 **Use of Explosives**
36
37 2-02.3(2).OPT10(A).GB2
38 (June 26, 2000)
39 Explosives shall not be used in the demolition.
40
41 2-02.4.GR2
42 **Measurement**
43
44 2-02.4.INST1.GR2
45 Section 2-02.4 is supplemented with the following:
46
47 2-02.4.OPT2.GR2
48 (September 8, 1997)
49 Pavement removal will be measured by the square yard.
50
51 2-02.4.OPT3.GR2
52 (October 25, 1999)

1 Sidewalk removal will be measured by the square yard.

2

3 2-02.4.OPT4.GR2

4 (September 8, 1997)

5 Curb removal will be measured by the linear foot.

6

7 2-02.4-RemovalMeasurement.docx

8 **Measurement**

9 Section 2-02.4 is supplemented with the following:

10

11 **(*****)**

12 Removal of drainage pipe will be measured per linear foot along the line and slope of
13 the pipe prior to removal. Any existing pipes removed within the limits of roadway
14 excavation or structure excavation will not be measured and will be included in the pay
15 item for roadway excavation or structure excavation.

16

17 Removal of drainage structures will be measured per each for each drainage structure
18 removed.

19

20 2-02.5.GR2

21 **Payment**

22

23 2-02.5.INST2.GR2

24 Section 2-02.5 is supplemented with the following:

25

26 2-02.5.OPT8.GR2

27 (September 30, 1996)

28 "Removing Miscellaneous Traffic Item", lump sum.

29

30 2-02.5.OPT9.GB2

31 (June 26, 2000)

32 "Removing Existing Bridge _____", lump sum.

33

34 2-02.5.OPT13.docx

35 (September 30, 1996)

36 "Removing *** ASPHALT CONC. *** Pavement", per square yard.

37

38 2-02.5.OPT17.docx

39 (September 8, 1997)

40 "Removing *** TRAFFIC *** Curb", per linear foot.

41

42 2-02.5-RemovalPayment.docx

43 **Payment**

44 Section 2-02.5 is supplemented with the following:

45

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

47 "Removal of Drainage Pipe", per linear foot.

48 The unit contract price per linear foot for "Removal of Drainage Pipe" shall be full pay to
49 perform the work as specified, including saw cutting and disposal.

50

1 “Removal of Drainage Structure” per each.
2 The unit contract price per each for “Removal of Drainage Pipe” shall be full pay to
3 perform the work as specified, including saw cutting and disposal.
4

5 2-03.1-PondExDescription.docx

6 **Description**

7 Section 2-03.1 is supplemented with the following:
8

9 **(*****)**

10 ***Pond Excavation Incl. Haul***

11 This work shall consist of excavating and grading for the construction of stormwater
12 ponds as shown in the plans, including hauling and disposing of all unwanted excavated
13 material.
14

15 2-03.3.PondExConstReq.docx

16 **Construction Requirements**

17 Section 2-03.3(14)C is supplemented with the following:
18

19 **(*****)**

20 The Contractor shall use Method C for building the earth embankments of the
21 stormwater ponds except where it is located in the structural fill slopes of the roadway.
22

23 2-03.3(14).GR2

24 ***Embankment Construction***

25

26 2-03.3(14)C Comptill_req.doc

27 **Construction Requirements**

28 Section 2-03.3(14)C is supplemented with the following:
29

30 **(*****)**

31 The “Compacted Till” shall be compacted using Method C.
32

33 2-03.4.GR2

34 **Measurement**

35

36 2-03.4.INST1.GR2

37 Section 2-03.4 is supplemented with the following:
38

39 2-03.4.OPT2.GR2

40 (March 13, 1995)

41 Only one determination of the original ground elevation will be made on this project.
42 Measurement for roadway excavation and embankment will be based on the original
43 ground elevations recorded previous to the award of this contract.
44

45 If discrepancies are discovered in the ground elevations which will materially affect the
46 quantities of earthwork, the original computations of earthwork quantities will be
47 adjusted accordingly.
48

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 and at the Region 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 2-03.5 pondexc.doc

12 **Description**

13 Section 2-03.1 is supplemented with the following:
14

15 **(*****)**

16 ***Pond Excavation Incl. Haul***

17 This work shall consist of excavating and grading of stormwater ponds as shown in the
18 plans.
19

20
21 **Measurement**

22 Section 2-03.4 is supplemented with the following:
23

24 "Pond Excavation Incl. Haul", will be measured by the cubic yard.
25

26 **Payment**

27 Section 2-03.5 is supplemented with the following:
28

29 "Pond Excavation Incl. Haul", per cubic yard.
30

31 2-03.5-PondExPayment.docx

32 **Payment**

33 Section 2-03.5 is supplemented with the following:
34

35 **(*****)**

36 "Pond Excavation Incl. Haul", per cubic yard.

37 The unit contract price per cubic yard for "Pond Excavation Incl. Haul" shall be full
38 compensation for all costs incurred for excavating, loading, hauling, placing, and
39 otherwise disposing of the material. The unit Contract price per cubic yard shall include
40 "Haul".
41

42 2-05 Stone Columns.doc

43 **(*****)**

44 **2-05 STONE COLUMNS FOR GROUND IMPROVEMENT**

45 **(NEW SECTION)**

46 **2-05.1 Description**

- 1 A. This section specifies the furnishing of all material, labor, equipment, services and
 2 appurtenances necessary and incidental to the design and installation of stone
 3 columns. Stone columns shall be installed to improve the existing soils within the
 4 areas and depths shown on the Plans and recommended by the project Geotechnical
 5 Report. The stone columns shall be installed using dry, bottom-feed, vibratory
 6 methods. Soil improvement shall be performed using vibro-compaction techniques.
 7 Vibro-compaction techniques shall be used to densify cohesionless soils.
 8 Cohesionless soils are defined herein as granular soils with less than 15 percent
 9 fines (material passing the No. 200 sieve, by weight).
- 10 B. The stone column work is a performance specification and stone columns shall be
 11 independently designed and installed by the Contractor to achieve the specified
 12 minimum relative density in cohesionless soils, and the specified average
 13 replacement ratio, as specified in the project Geotechnical Report.

14 **2-05.1(1) Description of Site Conditions**

15 Site conditions encountered during previous site explorations are summarized in the
 16 Geotechnical Report, dated May 17, 2012. The Contractor is responsible for reviewing the
 17 available information and coordinating with the geotechnical subconsultant to make
 18 interpretations and draw conclusions.

19 **2-05.1(2) References Cited**

20 American Society for Testing and Materials, 2006.

21 PanGEO Inc., May 18, 2012, *Supplemented Final Geotechnical Report, I-5 116th Street NE*
 22 *Interchange Improvements, The Tulalip Tribes, Snohomish County.*

23 **2-05.2 Materials**

24 Stone material used in construction of stone columns shall be hard, sound, durable, and
 25 consist of crushed or partially crushed granular stone from approved sources manufactured
 26 in accordance with the provisions of Section 3-01. The material shall be uniform in quality
 27 and substantially free from wood, roots, bark and other extraneous materials and shall meet
 28 the following tabulated test requirements:

<u>Title</u>	<u>Test Method</u>	<u>Value</u>
Specific Gravity	ASTM C 127	2.65
Los Angeles Wear, 500 Rev	ASTM C 131	35% Maximum
Degradation Factor	WSDOT 113	15% Minimum

29

30 The stone shall meet the following tabulated requirements for grading:

<u>Sieve Size</u>	<u>Percent Passing</u>
1½" (25.4mm)	100
¾" (19.1mm)	40-100
⅜" (9.5mm)	5-70
U.S. No. 4	0-10
U.S. No. 200	0-2

(All percentages are by weight.)

31

32 The stone shall also meet the fracture requirements of at least two fractured faces on
 33 75 percent and at least one fractured face on 90 percent of the material retained on each
 34 sieve above 9.5 mm.

1 **2-05.3 Construction Requirements**

2 The design and installation of the stone column work shall be performed by a qualified
3 Contractor with at least 5 equivalent projects involving work of a similar scope, application
4 and complexity.

5 **2-05.3(1) Design Requirements**

6 The limits of the areas to be improved by the stone columns are shown on the Plans. The
7 stone columns shall extend to the elevation depth as shown on the Plans. The Contractor
8 shall independently design the stone columns including diameter and spacing to meet the
9 requirements specified in the project Geotechnical Report. The stone columns shall be
10 installed using dry, bottom-feed, vibratory methods. Use of vibratory equipment is restricted
11 to between 9:00 AM and 5:00 PM daily Monday through Friday.

12 Stone columns shall be designed and installed so as to achieve a minimum area
13 replacement ratio as shown in Table 11 of the Geotechnical Report. The area replacement
14 ratio is a function of the diameter, spacing, and placement pattern of the stone columns, and
15 is defined by the equations shown in the Geotechnical Report.

16 In addition to the minimum area replacement ratio requirement, a test section of the stone
17 columns shall meet the densification performance criteria as specified in Table 12 of the
18 Geotechnical Report. Adjustments of column spacing(s), and/or diameter(s) may be
19 necessary to achieve the specified densification requirements, based on the results of the
20 verification testing program described in 2-05.3(3), following.

21 **2-05.3(2) Submittals**

22 The Contractor shall submit the following information to the Engineer no later than two (2)
23 weeks before starting work on the stone column installation.

- 24 1. Evidence of successful installation by the Contractor or his key personnel of
25 vibro compaction stone columns by the dry bottom-feed method on five or
26 more projects within the last three years. The documentation to be submitted
27 shall include references for the specific projects. The references shall consist
28 of the Owner of the project and the Project Engineer, including their name,
29 address, and the telephone number where they may be reached.
- 30 2. Detailed design and installation plan. The installation plan shall include shop
31 drawings showing locations, spacing, diameter, identification numbers, and
32 depth of stone columns to achieve the criteria described herein, the sequence
33 of installation operation, the type of equipment to be used in the operations,
34 the location of cranes, and the location of critical utilities and acceptable
35 clearances shall also be provided on the drawings. Coordination with utilities,
36 if necessary, shall be the responsibility of the Contractor.
- 37 3. Detailed list and description of proposed equipment.
- 38 4. Details of construction procedures and sequencing.
- 39 5. Description of the quality control devices used to verify the compaction effect
40 as a function of the compaction depth. The minimum shall include a digital
41 data acquisition system that continuously records amperage draw or pressure
42 of the vibroflot's motor over time and depth.
- 43 6. Sample log of graphical record (depicting the quantity of material installed,
44 operating amperage, and depth).

- 1 7. Fifty-pound sample of stone column material with the source of the material,
2 and current results of laboratory tests for the material's specific gravity, Los
3 Angeles Abrasion wear, degradation factor, and particle gradation.
- 4 8. Proposed measures to protect nearby structures against settlement induced
5 by vibratory methods of stone column installation.
- 6 9. Temporary erosion and sedimentation control plan for approval by the
7 Engineer.
- 8 10. A construction sequence describing coordination and impacts of densification
9 work and placement of stone columns at and around existing utilities.

10 **2-05.3(3) Verification Testing Program**

11 A verification testing program will be conducted by the Engineer, as described herein and in
12 accordance with the Geotechnical Report. The Contractor shall cooperate with the Engineer
13 by stopping stone column work during the verification testing program. The verification
14 testing program will consist of drilled borings within the ground improvement area,
15 Improvement Area 'A', as shown on the Plans, before and after installation of the stone
16 columns. The data obtained from the borings will be used to verify the effectiveness of the
17 Contractor's soil densification methods, and provide a basis for him to make adjustments as
18 necessary to stone column spacing and/or diameter to achieve the specified relative density
19 in the cohesionless soils.

20 Within Improvement Area 'A', the Contractor shall designate a rectangular-shaped test
21 section encompassing a minimum of ten (10) stone columns. The test locations will be
22 determined by the Engineer upon approval of the Contractor's stone column installation
23 Submittal(s). The Engineer will conduct initial and subsequent verification tests at a
24 minimum of four (4) locations within the stone column installation area defined in the Plans.
25 Initial verification test borings will be drilled before stone column installation, and subsequent
26 verification test borings will be drilled after stone column installation, at approximately the
27 same test locations, for a total of 8 tests. The initial four (4) verification test borings will be
28 drilled within two weeks of approval of the Contractor's stone column installation submittal.
29 The same drilling and sampling rig and equipment will be used for both initial and
30 subsequent testing. The Contractor shall wait for a maximum of 2 working days to allow the
31 Engineer to conduct the subsequent verification test boring.

32 The Engineer will evaluate the results of the initial and subsequent tests, and will provide the
33 Contractor with written notification as to whether any adjustments to the column spacing or
34 diameter are necessary, at which time the stone column installation may resume. This
35 notification will be provided to the Contractor within 24 hours of completion of the
36 subsequent testing.

37 The borings will be drilled using rotary wash (mud rotary) drilling techniques. SPT (Standard
38 Penetration Test) sampling from the borings will be performed in general accordance with
39 ASTM D 1586. SPT samples will be taken every 2½ feet for the full depth of each boring.
40 All of the borings will be advanced to at least the stone column tip elevation shown in the
41 plans. Cohesionless soil zones will be defined based on field observations and laboratory
42 gradation tests on soil samples retrieved from the initial test borings (laboratory tests will not
43 be conducted on samples obtained from the subsequent borings, unless there is apparent
44 substantial deviation in test results).

45 **2-05.3(5) Equipment and Procedures**

1 Equipment for stone column installation shall satisfactorily place and compact the stone to
2 the depth shown on the Plans. In addition, the equipment shall meet the following minimum
3 requirements:

4 The vibrator shall be driven by a motor having at least a 60 KW rating that is capable
5 of developing a minimum centrifugal force of 15 tons gyrating about a vertical axis.

6 The construction technique and probe shall be capable of producing and/or complying with
7 the following:

- 8 1. Produce circular holes concentric with indicated column locations within 6-
9 inch tolerance at the ground surface.
- 10 2. The probe and any follower tubes shall be of sufficient length to create a hole
11 by penetrating the in-situ soils to the specified bottom elevation. Preboring
12 shall not be permitted, unless approved by the Engineer in writing.
- 13 3. The probe shall have visible external markings, at 1-foot increments on at
14 least two sides, to enable measurement of penetration and repenetration
15 depths of the probe.
- 16 4. The probe shall be capable of compacting the stone that has been
17 incrementally added to the hole, and of forcing the material into the
18 surrounding soil by displacement in combination with vibration.
- 19 5. Stone columns shall be installed in a manner that keeps the hole clear and
20 prevents collapse or caving so that each completed column will be continuous
21 stone throughout its length.
- 22 6. The stone shall be compacted by holding the probe at each depth interval
23 until the time interval or amperage load has been achieved as predetermined
24 in the verification testing program.
- 25 7. The stone shall be compacted in lifts sufficient to meet the minimum
26 replacement ratio and relative density specified. The lifts shall be equal over
27 the full treatment depth. The probe shall repenetrate into each recently
28 treated lift a sufficient depth to form a continuous compacted column.
- 29 8. In the event subsurface obstructions are encountered during installation of a
30 stone column, and such obstructions cannot be penetrated with reasonable
31 effort, the stone column shall be installed following the specified procedures
32 from the obstruction to the surface. The Engineer may direct installation of a
33 replacement stone column at another location, which shall be deemed "Extra
34 Work".
- 35 10. All equipment shall be in good operating condition and fully capable of
36 obtaining the specified results.

37 **2-05.3(6) Reporting**

38 The Contractor shall submit a daily log to the Engineer and shall include the data described
39 below for each column installed. The data shall be observed and recorded by qualified
40 personnel provided by the Contractor. Observation and recording shall be performed on a
41 continuous basis during excavation and compaction. The log shall be submitted to the
42 Engineer by noon each day for the previous day's work. The daily log shall include the
43 following:

1 6-02.2.GR6

2 **Materials**

3

4 6-02.2.INST1.GR6

5 Section 6-02.2 is supplemented with the following:

6

7 6-02.2.OPT1.GR6

8 **(April 2, 2012)**

9 **Resin Bonded Anchors**

10 The resin bonded anchor system shall include the nut, washer, and threaded anchor rod
11 which is installed into hardened concrete with a resin bonding material.

12

13 Resin bonding material used in overhead and horizontal application shall be specifically
14 recommended by the resin manufacturer for those applications.

15

16 Resin bonding material used in submerged liquid environment shall be specifically
17 recommended by the resin manufacturer for this application.

18

19 The resin bonded anchor system shall conform to the following requirements:

20

21 1. Threaded Anchor Rod and Nuts

22 Threaded anchor rods shall conform to ASTM A 193 Grade B7 or ASTM A 449,
23 except as otherwise noted, and be fully threaded. Threaded anchor rods for
24 stainless steel resin bonded anchor systems shall conform to ASTM F 593 and
25 shall be Type 304 unless otherwise specified.

26

27 Nuts shall conform to ASTM A 563, Grade DH, except as otherwise noted.
28 Nuts for stainless steel resin bonded anchor systems shall conform to ASTM F
29 594 and shall be Type 304 unless otherwise specified.

30

31 Washers shall conform to ASTM F 436, and shall meet the same requirements
32 as the supplied anchor rod, except as otherwise noted. Washers for stainless
33 steel resin bonded anchor systems shall conform to ASTM A 240 and the
34 geometric requirements of ASME B18.21.1 and shall be Type 304 Stainless
35 Steel unless otherwise specified.

36

37 Nuts and threaded anchor rods, except those manufactured of stainless steel,
38 shall be galvanized in accordance with AASHTO M 232. Galvanized threaded
39 anchor rods shall be tested for embrittlement after galvanizing, in accordance
40 with Section 9-29.6(5).

41

42 Threaded anchor rods used with resin capsules shall have the tip of the rod
43 chiseled in accordance with the resin capsule manufacturer's
44 recommendations. Galvanized threaded rods shall have the tip chiseled prior
45 to galvanizing.

46

47 2. Resin Bonding Material

48 Resin bonding material shall be one of the following:

49

50 a. Vinyl ester resin.

51

52 b. Polyester resin.

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- c. Methacrylate resin.
- d. A two component epoxy resin conforming to Type IV ASTM C 881.

3. Ultimate Anchor Tensile Capacity

Resin bonded anchors shall be tested in accordance with ASTM E 488 to have the following minimum ultimate tensile load capacity when installed in concrete having a maximum compressive strength of 6000 pounds per square inch (psi) at the embedment specified below:

Anchor Diameter (inch)	Tensile Capacity (lbs.)	Embedment (inch)
3/8	7,800	3-3/8
1/2	12,400	4-1/2
5/8	19,000	5-5/8
3/4	27,200	6-3/4
7/8	32,000	7-7/8
1	41,000	9
1-1/4	70,000	11-1/4

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The Contractor shall submit items 1 and 2 below to the Engineer for all resin bonded anchor systems. If the resin bonded anchor system and anchor diameter are not listed in the current WSDOT Qualified Products List, the Contractor shall also submit item 3 below to the Engineer.

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22

For resin bonded anchor systems that are installed in a submerged liquid environment the Contractor shall submit items 1, 2, and 4 below. If the resin bonded anchor system and anchor diameter are not listed in the current WSDOT Qualified Products List, the Contractor shall also submit item 3 below to the Engineer.

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- 1 The resin manufacturer's written installation procedure for the anchors.
2. The manufacturer's certificate of compliance for the threaded anchor rod certifying that the anchor rod meets these requirements.
3. Test results by an independent laboratory certifying that the threaded anchor rod system meets the ultimate anchor tensile load capacity specified in the above table. The tests shall be performed in accordance with ASTM E 488.
4. For threaded anchors intended to be installed in submerged liquid environments the Contractor shall submit tests performed by an independent laboratory within the past 24 months which certifies that anchors installed in a submerged environment meet the strength requirements specified in the above table.

6-02.2.OPT8.GB6

(April 7, 2008)
Fractured Fin Finish

42
43

The fractured fin finish shall be accomplished by the use of either a form liner selected from the approved products listed in the WSDOT Qualified Products List (QPL), latest

1 edition, or a form liner approved by the Engineer as an equal product. For approval of
2 form liners not listed in the current WSDOT QPL, the Contractor shall submit four copies
3 of the request, along with catalogue cuts and other descriptive supporting information,
4 as follows:

- 5
6 1. Two sets to the Project Engineer
7
8 2. Two sets, accompanied by a 2 foot square physical sample of the form liner, to
9 the State Bridge and Structures Architect, addressed as follows:

10
11 If sent via US Postal Service:

12
13 Washington State Department of Transportation
14 State Bridge and Structures Architect
15 P. O. Box 47340
16 Olympia, WA 98504-7340
17

18 If sent via FedEx:

19
20 Washington State Department of Transportation
21 State Bridge and Structures Architect
22 7345 Linderson Way SW
23 Tumwater, WA 98501-6504
24

25 The height of the form liner shall be equal to or greater than the height of the formed
26 surface. Only elastomeric form liners are allowed to have horizontal splices.
27

28 6-02.2.OPT46.GB6

29 ***Bridge Supported Utilities***

30
31 6-02.2.OPT46(A).GB6

32 (June 26, 2000)

33 Inserts shall be of the type and model specified in the Plans. Inserts shall be galvanized
34 in accordance with AASHTO M 111.
35

36 6-02.2.OPT46(B).GB6

37 (April 30, 2001)

38 Hanger rods, and associated nuts and washers, shall conform to Section 9-06.5(1), and
39 shall be galvanized in accordance with AASHTO M 232.
40

41 Steel bars and plates shall conform to ASTM A 36 and shall be galvanized in
42 accordance with AASHTO M 111.
43

44 6-02.2.OPT46(D).GB6

45 (June 26, 2000)

46 Pipe rolls or pipe saddles shall be of the type and model specified in the Plans.
47

48 6-02.3.GR6

49 **Construction Requirements**

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51 6-02.3.INST1.GR6

52 Section 6-02.3 is supplemented with the following:

1
2 6-02.3.OPT2.GB6
3 **Bridge Supported Utilities**
4
5 6-02.3.OPT2(A).GB6
6 (June 26, 2000)
7 The Contractor shall furnish and install inserts for the bridge utility supports as shown in
8 the Plans. The Contractor shall verify that the hanger rods freely hang plumb in their
9 inserts, and shall make adjustments to the inserts as necessary and as approved by the
10 Engineer prior to utility installation.
11
12 6-02.3.OPT2(B).GB6
13 (June 26, 2000)
14 The Contractor shall furnish and install the bridge utility supports, and the utility pipe or
15 conduit pipe, as shown in the Plans.
16
17 6-02.3(10).GR6
18 **Bridge Decks and Bridge Approach Slabs**
19
20 6-02.3(10)F.GR6
21 **Bridge Approach Slab Orientation and Anchors**
22
23 6-02.3(10)F.INST1.GR6
24 Section 6-02.3(10)F is supplemented with the following:
25
26 6-02.3(10)F.INST1.GR6.Insert 2.docx
27
28 (August 4, 2008)
29 The pavement end of the bridge approach slabs shall be constructed in
30 accordance with the contract plans.
31
32
33 6-02.3(10)F.OPT4.GB6
34 (August 4, 2008)
35 The compression seal shall be a 2-1/2 inch wide gland selected from the
36 approved products listed in the WSDOT Qualified Products List, latest edition.
37
38 6-02.3(14).GR6
39 **Finishing Concrete Surfaces**
40
41 6-02.3(14).INST1.GR6
42 Section 6-02.3(14) is supplemented with the following:
43
44 6-02.3(14).OPT4.GB6
45 **(June 26, 2000)**
46 **General Requirements for Concrete Surface Finishes Produced by Form**
47 **Liners**
48 Horizontal and vertical joints shall be spliced in accordance with the manufacturer's
49 printed instructions. A copy of these printed instructions shall be submitted to the
50 Engineer prior to placement of the form liners. The Contractor shall not place
51 concrete against the form liners until receiving the Engineer's approval of the forms
52 and splices.

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Horizontal splicing of ABS and plastic form liners to achieve the required height is not permitted and there shall be no horizontal joints. The concrete formed with ABS and plastic form liners shall be given a light sandblast to remove the glossy finish.

Side forms, traffic barrier forms, and pedestrian barrier forms using these form liners may be removed after 24 hours provided a water reducing admixture approved by the Engineer is used in the concrete, and the concrete reaches 1,400 psi minimum compressive strength before form removal. Concrete in load supporting forms utilizing these form liners shall be cured in accordance with Section 6-02.3(17)N. Once the forms are removed, the Contractor shall treat the joint areas by patching or light sandblasting as required by the Engineer to ensure that the joints are not visible.

Form liners shall be cleaned, reconditioned, and repaired before each use. Form liners with repairs, patches, or defects which, in the opinion of the Engineer, would result in adverse effects to the concrete finish shall not be used.

Care shall be taken to ensure uniformity of color throughout the textured surface. A change in form release agent will not be allowed.

All surfaces formed by the form liner shall also receive a Class 2 surface finish. Form ties shall be a type that leaves a clean hole when removed. All spalls and form tie holes shall be filled as specified for a Class 2 surface finish.

6-02.3(14).OPT6.GB6

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

Form liners shall be placed with fins and joints normal to grade for barrier applications and vertical (or as shown in the Plans) for other applications. Horizontal joints in the elastomeric form liners are permitted on surfaces greater than 8 feet in height provided that the minimum form liner panel dimension is 8 feet.

6-02.3(14)C.GR6

Pigmented Sealer for Concrete Surfaces

6-02.3(14)C.INST1.GR6

Section 6-02.3(14)C is supplemented with the following:

6-02.3(14)C.OPT1.GB6

(April 6, 2009)

The color of the pigmented sealer shall be Washington Gray.

6-02.3(18).GR6

Placing Anchor Bolts

6-02.3(18).INST1.GR6

Section 6-02.3(18) is supplemented with the following:

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6-02.3(18).OPT1.GR6
(January 3, 2011)

Resin Bonded Anchors

The embedment depth of the anchors shall be as specified in the Plans. If the embedment depth of the anchor is not specified in the Plans then the embedment depth shall be as specified in the table of minimum and maximum torque below.

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.

The anchor nuts shall be tightened to the following torques when the embedment equals or exceeds the minimum embedment specified.

Anchor Diameter (inch)	Minimum Torque (ft-lbs)	Maximum Torque (ft-lbs)	Minimum Embedment (Inch)
3/8	12	18	3-3/8
1/2	22	35	4-1/2
5/8	55	80	5-5/8
3/4	106	140	6-3/4
7/8	165	190	7-7/8
1	195	225	9
1-1/4	370	525	11-1/4

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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 recommended by the resin bonded anchor system manufacturer and approved by the Engineer.

6-02.3(20).GR6

Grout for Anchor Bolts and Bridge Bearings

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6-02.3(20).INST1.GR6

Section 6-02.3(20) is supplemented with the following:

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6-02.2.OPT1.GR6.Insert 1.docx

6-02.3(20).OPT1.FB6

(June 26, 2000)

Grout placed at the following locations shall conform to the requirements of this section.

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*** Elastomeric bearing pad grout pads ***

6-02.4.GR6

Measurement

6-02.4.INST1.GR6

Section 6-02.4 is supplemented with the following:

6-02.4.INST1.GR6.Insert 3.docx

(August 2, 2010)

*** "Superstructure – 116th St NE over I-5 Br. No. 5/656" *** contains the following approximate quantities of materials and work:

Superstructure – 116th St NE over I-5 Br. No. 5/656

Epoxy –Coated St. Reinf. Bar (incl. sidewalk)	141,000 lbs
St. Reinf. Bar	54,500 lbs
Conc. Class 4000D	940 CY
Conc. Class 4000 (incl. sidewalk)	360 CY
Elastomeric Bearing Pads	50 EA
Elastomeric Girder Stop Pads	100 EA
Inserts for Bridge Supported Utility	TBD LB ***

The quantities 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 lump sum contract price for *** "Superstructure – 116th St NE over I-5 Br. No. 5/656" *** even though the actual quantities required may deviate from those listed.

6-02.4.OPT46.BSP.GB6

(BSP December 5, 2005)

Prestressed concrete girder will be measured by the linear foot of girder specified in the Proposal, including adjustments to the Plan quantity made in accordance with Section 1-04.4.

6-02.5.GR6

Payment

6-02.5.INST1.GR6

The first bid item under Section 6-02.5 is supplemented with the following:

6-02.5.INST1.GR6.Insert 4.docx

(June 26, 2000)

All costs in connection with producing *** **Fractured Fin** *** finish on concrete surfaces as specified shall be included in the unit contract price per cubic yard for "Conc. Class

1 4000". If the concrete is to be paid for other than by class of concrete then the costs
2 shall be included in the applicable adjacent item of work.

3
4
5 6-02.5.INST2.GR6

6 The third bid item under Section 6-02.5 is supplemented with the following:

7
8 6-02.5.INST2.GR6.Insert 5.docx

9
10 (June 26, 2000)

11 All costs in connection with *** forming, casting and curing the reinforced concrete
12 sidewalk on the bridge deck, and furnishing and installing elastomeric bearing pads and
13 elastomeric girder stop pads *** shall be included in the lump sum contract price for
14 "Superstructure – 116th St NE over I-5 Br. No. 5/656".

15
16
17 6-02.5.OPT74.BSP.GB6.docx

18 (BSP November 5, 2006)

19 "Prestressed Conc. Girder [REDACTED]", per linear foot.

20 The unit contract price per linear foot for "Prestressed Conc. Girder [REDACTED]" shall be full
21 pay for performing the work as specified, including shop drawing submittals, fabrication,
22 storage, handling, shipping, erection (including all site preparation and restoration
23 activities necessary for erection equipment access and support), furnishing and
24 removing oak block wedges, furnishing and removing temporary bracing, and furnishing
25 and cutting temporary strands. For deck bulb tee girders and PCPS members, all work
26 related to equalizing girder camber, connecting weld-ties, and grouting keyways, shall
27 also be included. For spliced prestressed concrete girders, all work related to cast-in-
28 place concrete closures and post-tensioning shall be included. Payment will be made
29 based on the quantity specified in the Proposal, unless changes are made to this
30 quantity in accordance with Section 1-04.4, in which case the quantity specified in the
31 Proposal will be adjusted by the amount of the change and will be paid for in
32 accordance with Section 1-04.4.

33
34 6-02.5.OPT74.BSP.GB6.Insert 6.docx

35 **(June 26, 2000)**

36 ***Bridge and Structures Minor Items***

37 For the purpose of payment, such bridge and structures items as *** pre-molded joint
38 filler, butyl rubber sheeting and assembly, adhesives, oak blocks, grout, concrete
39 inserts, anchor bolts, anvil inserts, polystyrene foam *** etc., for which there is no pay
40 item included in the proposal, are considered as bridge and structures minor items. All
41 costs in connection with furnishing and installing these bridge and structures minor
42 items as shown and noted in the Plans and as outlined in these specifications and in the
43 Standard Specifications shall be included in the *** applicable adjacent items of work ***

44
45
46 6-02.5.OPT74.BSP.GB6.Insert 7.docx

47
48 **(June 26, 2000)**

49 ***Bridge Supported Utilities***

50 All costs in connection with placing *** the four (4) – 4 inch diameter fiber optics
51 conduits, four (4) – 2 inch diameter and two (2) – 3.5 inch diameter signal and
52 illumination conduits, beneath the bridge approach slabs of, and *** through the

1 superstructure of ***116th St NE over I-5 Br. No. 5/656 *** as shown in the Plans,
2 including all *** conduit pipe and sleeves, threaded rods, bars and plates, pipe rolls and
3 braces, but excluding all concrete inserts cast into the bridge deck,***, shall be included
4 in the *** unit contract prices per linear for "Conduit Pipe [redacted] In. Diam. ***
5

6 6-10.GR6

7 **Concrete Barrier**

8

9 6-10.1.GR6

10 **Description**

11

12 6-10.1.OPT1.GR6.docx

13 Section 6-10.1 is supplemented with the following:
14

15 (*****)

16 **TEMPORARY CONC. BARRIER WITH SCUPPER**

17 This work shall consist of furnishing and installing precast concrete barrier type 2
18 with a cast opening in the base of the barrier. This opening is referred to as a
19 scupper. Each precast barrier section shall have one scupper. This barrier shall
20 conform to the applicable portions of Section 6-10 of the Standard Specifications
21 and the details shown in the Plans.
22

23 6-10.3.GR6

24 **Construction Requirements**

25

26 6-10.3(5).GR6

27 ***Temporary Concrete Barrier***

28

29 6-10.3(5).INST1.GR6

30 Section 6-10.3(5) is supplemented with the following:
31

32 6-10.3(5).OPT1.GR6

33 (March 13, 1995)

34 Delineators shall be placed on the traffic face of the barrier 6 inches from the top
35 and spaced a maximum of 40 feet on tangents and 20 feet through curves.
36

37 Reflector color shall be white on the right of traffic and yellow on the left of traffic.
38

39 The Contractor shall maintain, replace, and clean the delineators when ordered by
40 the Engineer.
41

42 6-10.4.GR6

43 **Measurement**

44

45 6-10.4.OPT1.GR6.docx

46 Section 6-10.4 is supplemented with the following:
47

47 (*****)

48 Precast Concrete Barrier Type 2 with Scupper will be measured by the linear foot in
49 place for only those sections with a scupper.

1
2 6-10.5.GR6
3 **Payment**
4
5 6-10.5.INST1.GR6
6 Section 6-10.5 is supplemented with the following:
7
8 6-10.5.OPT1.GR6
9 (April 28, 1997)
10 The following paragraph is added immediately following the bid item, "Temporary Conc.
11 Barrier":
12
13 The unit contract price per linear foot for "Temporary Conc. Barrier" shall include all
14 costs for furnishing, placing, maintaining, replacing, and cleaning barrier
15 delineation.
16
17 6-10.5.OPT2.GR6.docx

18 (*****)
19 "Precast Conc. Barrier Type 2 with Scupper". per linear foot.
20
21 6-12.GR6
22 **Noise Barrier Walls**
23
24 6-12.2.GR6
25 **Materials**
26
27 6-12.2.INST1.GR6
28 Section 6-12.2 is supplemented with the following:
29
30 6-12.2.OPT1.GB6
31 **(April 2, 2012)**
32 ***Precast Concrete Noise Barrier Walls***
33 Grout for encapsulating dowel bars shall conform to Section 6-02.3(26)H.
34
35 Grout pads at the bases of precast concrete panels shall conform to Section 6-02.3(20).
36
37 Base plates and anchor bolt templates shall conform to ASTM A 36. Base plates shall
38 be corrosion protected by one of the following methods:
39
40 1. One coat of paint conforming to Section 9-08.1(2)F.
41
42 2. Galvanized after fabrication in accordance with AASHTO M 111.
43
44 3. Galvanized after fabrication in accordance with AASHTO M 298, Class 5, Type
45 1.
46
47 Anchor rods shall conform to ASTM F 1554 Grade 55. Nuts shall conform to ASTM A
48 563. Washers shall conform to AASHTO M 293, except that plate washers conforming
49 to ASTM A 36 may be used. Nuts and washers, and a minimum of 1'-0" of the exposed
50 end of the anchor rod, shall be corrosion protected by one of the following methods:
51

- 1 1. One coat of paint conforming to Section 9-08.1(2)F.
- 2
- 3 2. Galvanized after fabrication in accordance with AASHTO M 232.
- 4
- 5 3. Galvanized after fabrication in accordance with AASHTO M 298, Class 5, Type
- 6 1.
- 7

8 The cone head end, 1'-0" minimum, of steel reinforcing Bar B, as identified in the
9 Standard Plans, shall be painted with one coat paint conforming to Section 9-08.1(2)F.

10
11 The sealant system for the vertical joint between precast concrete panels shall consist of a
12 polyurethane sealant conforming to ASTM C 920 Type S Grade NS Class 25 Use M and a
13 closed cell foam backer rod conforming to ASTM C 1330 Type C. The polyurethane sealant
14 shall be tested for compatibility with the closed cell foam backer rod in accordance with
15 ASTM C 1087.

16
17 6-12.3(6).GR6
18 **Precast Concrete Panel Fabrication and Erection**

19
20 6-12.3(6).INST1.GR6
21 Section 6-12.3(6) is supplemented with the following:

22
23 **6-12.3(6).OPT1.docx**
24 (April 5, 2004)
25 The Contractor shall form a *** **to be determined when aesthetics finalized** ***
26 finish, as specified in the Plans and Section 6-02.3(14) as supplemented in these
27 Special Provisions, on the surface of the precast concrete panel facing the traffic
28 side.

29
30 The Contractor shall form a *** **to be determined when aesthetics finalized** ***
31 finish, as specified in the Plans and Section 6-02.3(14) as supplemented in these
32 Special Provisions, on the surface of the precast concrete panel facing the
33 residential area, except as otherwise noted. The surfaces of the pilaster shall
34 receive either a Class 2 surface finish in accordance with Section 6-02.3(14)B, if
35 pigmented sealer is being applied, or a Class 1 surface finish in accordance with
36 Section 6-02.3(14)A, if pigmented sealer is not being applied.

37
38 6-13.GR6
39 **Structural Earth Walls**

40
41 6-13.2.GR6
42 **Materials**

43
44 6-13.2.INST1.GR6
45 Section 6-13.2 is supplemented with the following:

46

2 (April 12, 2012)

3 **Precast Concrete Panel Faced Structural Earth Wall Materials**

4 **General Materials**

5 **Concrete Leveling Pad**

6 Leveling pad concrete shall be commercial concrete in accordance with
7 Section 6-02.3(2)B.
8

9 **Backfill for Precast Concrete Panel Faced Structural Earth Wall**

10 All backfill material within the structural earth wall reinforced zone shall be free
11 draining, free from organic or otherwise deleterious material.
12

13 Backfill material within the reinforced zone shall conform to Section 9-03.14(1),
14 except that the maximum particle size for walls with geogrid reinforcement
15 shall not exceed 1-1/4 inches.
16

17 All material within the structural earth wall reinforced zone shall be
18 substantially free of shale or other soft, poor durability particles, and shall not
19 contain recycled materials, such as glass, shredded tires, portland cement
20 concrete rubble, or asphaltic concrete rubble. The material shall meet the
21 following aggregate durability requirements:
22

<u>Property</u>	<u>Test Method</u>	<u>Allowable Test Value</u>
Los Angeles Wear, 500 rev.	AASHTO T 96	35 percent max.
Degradation	WSDOT Test Method 113	15 percent min.

23
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26
27 For walls with metallic soil reinforcement, all material within the structural earth
28 wall reinforced zone shall meet the following chemical requirements:
29

<u>Property</u>	<u>Test Method</u>	<u>Allowable Test Value</u>
Resistivity	WSDOT Test Method 417	3,000 ohm-cm, min.
pH	WSDOT Test Method 417	5 to 10
Chlorides	AASHTO T 291	100 ppm max.
Sulfates	AASHTO T 290	200 ppm max.

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36 If the resistivity of the backfill material equals or exceeds 5,000 ohm-cm, the
37 specified chloride and sulfate limits may be waived.
38

39
40 For walls with geogrid soil reinforcement, all material within the structural earth
41 wall reinforced zone shall meet the following chemical requirements:
42

<u>Property</u>	<u>Test Method</u>	<u>Allowable Test Value</u>
pH	WSDOT Test Method 417	4.5 to 9

43
44
45
46 Wall backfill material satisfying these gradation, durability, and chemical
47 requirements shall be classified as nonaggressive.
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Proprietary Materials
ARES Modular Panel Wall System
Tensor Geogrid Materials

Geogrid reinforcement shall conform to Section 9-33.1, and shall be a product listed in Appendix D of the current WSDOT Qualified Products List (QPL). The values of T_{al} and T_{ult} as listed in the QPL for the products used shall meet or exceed the values required for the wall manufacturer's reinforcement design as specified in the structural earth wall design calculation and working drawing submittal.

The minimum ultimate tensile strength of the geogrid shall be a minimum average roll value (the average test results for any sampled roll in a lot shall meet or exceed the values shown in Appendix D of the current WSDOT QPL). The strength shall be determined in accordance with ASTM D 6637 for multi-rib specimens.

The ultraviolet (UV) radiation stability, in accordance with ASTM D 4355, shall be a minimum of 70 percent strength retained after 500 hours in the weatherometer.

The longitudinal (i.e., in the direction of loading) and transverse (i.e., parallel to the wall or slope face) ribs that make up the geogrid shall be perpendicular to one another. The maximum deviation of the cross-rib from being perpendicular to the longitudinal rib (skew) shall be no more than 1 inch in 5 feet of geogrid width. The maximum deviation of the cross-rib at any point from a line perpendicular to the longitudinal ribs located at the cross-rib (bow) shall be 0.5 inches.

The Engineer will take random samples of the geogrid materials at the job site. Approval of the geogrid materials will be based on testing of samples from each lot. A "lot" shall be defined as all geogrid rolls sent to the project site produced by the same manufacturer during a continuous period of production at the same manufacturing plant having the same product name. The Contracting Agency will require 14 calendar days maximum for testing the samples after their arrival at the WSDOT Materials Laboratory in Tumwater, WA.

The geogrid samples will be tested for conformance to the specified material properties. If the test results indicate that the geogrid lot does not meet the specified properties, the roll or rolls which were samples will be rejected. Two additional rolls for each roll tested which failed from the lot previously tested will then be selected at random by the Engineer for sampling and retesting. If the retesting shows that any of the additional rolls tested do not meet the specified properties, the entire lot will be rejected. If the test results from all the rolls retested meet the specified properties, the entire lot minus the roll(s) which failed will be accepted.

All geogrid materials which have defects, deterioration, or damage, as determined by the Engineer, will be rejected. All rejected geogrid materials shall be replaced at no expense to the Contracting Agency.

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Except as otherwise noted, geogrid identification, storage and handling shall conform to the requirements specified in Section 2-12.2. The geogrid materials shall not be exposed to temperatures less than -20F and greater than 122F.

Rubber bearing pads shall be a type and grade as recommended by Tensar Earth Technologies, Inc.

Geosynthetic joint cover for all horizontal and vertical joints shall be a non-woven geosynthetic as recommended by Tensar Earth Technologies, Inc. Adhesive used to attach the geosynthetic to the rear of the precast concrete facing panel shall be as recommended by Tensar Earth Technologies, Inc.

Reinforced Earth Wall

Reinforcing strips shall be shop fabricated from hot rolled steel conforming to ASTM A 572 Grade 65 or approved equal, and shall be galvanized after fabrication in accordance with AASHTO M 111. Damage to the galvanizing shall be repaired with one coat of Formula A-9-73 paint conforming to Section 9-08.2.

Bolts and nuts shall conform to Section 9-06.5(3), and shall be galvanized in accordance with AASHTO M 232.

Rubber bearing pads shall be a type and grade as recommended by the Reinforced Earth Company.

Vertical joint filler between panels, when specified in the structural earth wall working drawings, shall be two inch square, flexible open cell polyether foam strips, Grade UU-34, as recommended by the Reinforced Earth Company.

Filter fabric joint cover for all horizontal and vertical joints, when specified in the structural earth wall working drawings, shall be a pervious woven polypropylene filter fabric as recommended by the Reinforced Earth Company. Adhesive used to attach the fabric material to the rear of the precast concrete facing panel shall be as recommended by the Reinforced Earth Company.

Reinforced Soil Wall

Reinforcing mesh shall be shop fabricated of cold drawn steel wire conforming to AASHTO M 32, and shall be welded into finished mesh fabric conforming to AASHTO M 55. Reinforcing mesh shall be galvanized after fabrication in accordance with AASHTO M 111. Damage to the galvanizing shall be repaired with one coat of paint conforming to Section 9-08.1(2)B.

Retained Earth Wall

Tie strips shall be shop fabricated from hot rolled steel conforming to ASTM A 570 Grade 50 or approved equal, and shall be galvanized after fabrication in accordance with AASHTO M 111. Damage to the galvanizing shall be repaired with one coat of paint conforming to Section 9-08.1(2)B.

The embed loops and connector bars shall be fabricated of steel wire conforming to AASHTO M 32, and shall be galvanized after fabrication in accordance with AASHTO M 111.

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Filter fabric joint cover for all horizontal and inclined joints shall be a monofilament filter fabric as recommended by Foster Geotechnical. Adhesive used to attach the fabric to the rear of the precast concrete facing panel shall be as recommended by Foster Geotechnical.

6-13.3.GR6
Construction Requirements

6-13.3.INST1.GR6.docx
Section 6-13.3 is supplemented with the following:

- (*****)
Structural Earth Wall Special Design Provisions
1. The wall may be constructed near vertical, without a specified batter.
 2. The wall should be placed on a level foundation in the horizontal direction perpendicular to the wall face.
 3. Wall embedment depth should be a minimum of 2 feet with a level front slope, or H/10 with 3H:1V front slope, where H is the total height of the wall.
 4. A minimum 4-foot wide horizontal bench should be provided in front of the wall.
 5. For all walls, the reinforcing length should not be less than 70 percent of the wall height, with a minimum reinforcing length of 8 feet. For total wall heights between 22 and 26 feet for wall WA1 only, the base width of the wall should not be less than 80 percent of the wall height. These recommended minimum reinforcing lengths are needed to maintain adequate external stability. Greater reinforcing lengths may be needed to provide adequate internal stability.
 6. The uppermost reinforcing layer should be placed no lower than 2 feet below the top of wall. Welded wire faced systems should include a top mat at the top of the wall.
 7. Since the wall will be constructed above existing grades, there is limited potential for water to reach or build up in the reinforced zone. Special drainage elements are therefore not required.

6-13.3.OPT2.GB6
(April 12, 2012)
Precast Concrete Panel Faced Structural Earth Wall

Precast concrete panel faced structural earth walls shall be constructed of only one of the following wall systems. The Contractor shall make arrangements to purchase the precast concrete panels, soil reinforcement, attachment devices, joint filler, and all necessary incidentals from the source identified with each wall system:

ARES Modular Panel Wall System
ARES Modular Panel Wall System is a registered trademark of Tensar Corporation

Tensar Corporation
2500 Northwinds Parkway Suite 500
Atlanta, GA 30009
(770) 344-2090
FAX (678) 281-8546
www.tensarcorp.com

1 Reinforced Earth Wall
 2 Reinforced Earth is a registered trademark of the Reinforced Earth Company.
 3
 4 The Reinforced Earth Company
 5 88 Inverness Circle East Suite E-101
 6 Englewood, CO 80112
 7 (303) 790-1481
 8 FAX (303) 790-1461
 9 www.reinforcedearth.com

10
 11 Reinforced Soil Wall
 12 Reinforced Soil is a registered trademark of Hilfiker Retaining Walls.
 13
 14 Hilfiker Retaining Walls
 15 1902 Hilfiker Lane
 16 Eureka, CA 95503-5711
 17 (707) 443-5093
 18 FAX (707) 443-2891
 19 www.hilfiker.com

20
 21 Retained Earth Wall
 22 Retained Earth is a registered trademark of Reinforced Earth Company.
 23
 24 The Reinforced Earth Company
 25 88 Inverness Circle East Suite E-101
 26 Englewood, CO 80112
 27 (303) 790-1481
 28 FAX (303) 790-1461
 29 www.reinforcedearth.com

30
 31 6-13.3(2).GR6
 32 **Submittals**

33
 34 6-13.3(2).INST1.GR6
 35 Section 6-13.3(2) is supplemented with the following:

36
 37 6-13.3(2).OPT1.docx
 38 (January 3, 2011)
 39 The following geotechnical design parameters shall be used for the design of the
 40 structural earth wall(s):

41
 42 Wall Name or No.: *** WA1 ***

43	44 Soil	45 Wall	46 Retained	47 Foundation
48	49 Properties	50 Backfill	51 Soil	Soil
44	45 Unit Weight	46	47	48
45	46 (pcf)	47 130	48 125	49 120
46	47 Friction Angle	48	49	50
47	48 (deg)	49 38	50 32	51 34
48	49 Cohesion (psf)	50 0	51 0	0

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For the Service Limit State, the wall shall be designed to accommodate a differential settlement of 2 inches per 100 feet of wall length.

For the Extreme Event I Limit State, the wall shall be designed for a horizontal seismic acceleration coefficient k_h of 0.18 g and a vertical seismic acceleration coefficient k_v of 0.0 g.

For wall heights greater than 22 feet in wall WA1, the minimum reinforcement lengths should be 0.8H where H is the total height of the wall.

(January 3, 2011)

The following geotechnical design parameters shall be used for the design of the structural earth wall(s):

Wall Name or No.: *** WA2 – WA7 ***

Soil Properties	Wall Backfill	Retained Soil	Foundation Soil
Unit Weight (pcf)	130	125	120
Friction Angle (deg)	38	32	36
Cohesion (psf)	0	0	0

For the Service Limit State, the wall shall be designed to accommodate a differential settlement of 2 inches per 100 feet of wall length.

For the Extreme Event I Limit State, the wall shall be designed for a horizontal seismic acceleration coefficient k_h of 0.18 g and a vertical seismic acceleration coefficient k_v of 0.0 g.

6-13.3(4).GR6

Precast Concrete Facing Panel and Concrete Block Fabrication

6-13.3(4).INST1.GR6

Section 6-13.3(4) is supplemented with the following:

6-13.3(4).OPT1.GB6

(April 12, 2012)

Specific Fabrication Requirements for Precast Concrete Panel Faced Structural Earth Walls

ARES Modular Panel Wall System

The concrete mix for precast concrete facing panels shall be a Contractor mix design in accordance with Section 6-02.3(2)A, producing a minimum compressive strength at 28 days of 4,500 psi. The Contractor mix design for precast concrete facing panels shall not include Type III cement unless otherwise approved by the Engineer.

The slot opening for geogrid attachment in precast concrete facing panels shall be 1/8 inch minimum. The Contractor shall test the slot opening of each concrete panel using a feeler gauge furnished by Tensar Earth Technologies,

1 Inc. Concrete panels with slot dimension deviations that allow the feeler
2 gauge to be pulled out of the slot shall be rejected.
3
4 6-13.3(5).GR6
5 **Precast Concrete Facing Panel and Concrete Block Erection**
6
7 6-13.3(5).INST1.GR6
8 Section 6-13.3(5) is supplemented with the following:
9
10 6-13.3(5).OPT1.GB6
11 **(April 5, 2004)**
12 **Specific Erection Requirements for Precast Concrete Panel Faced Structural**
13 **Earth Walls**
14 **MSE Plus Wall**
15 The loop pockets and access pockets of the internal connection channel of the
16 precast concrete facing panels shall be cleaned of all backfill and extraneous
17 materials prior to inserting the pins to connect the soil reinforcing mesh to each
18 concrete panel.
19
20 6-13.3(7).GR6
21 **Backfill**
22
23 6-13.3(7).INST1.GR6
24 Section 6-13.3(7) is supplemented with the following:
25
26 6-13.3(7).OPT1.GB6
27 **(April 5, 2004)**
28 **Specific Backfill Requirements for Precast Concrete Panel Faced Structural**
29 **Earth Walls**
30 **MSE Plus Wall**
31 At each wall reinforcement level, the Contractor shall place the backfill to the
32 level of the connection. Backfill placement and compaction methods shall
33 ensure that no voids exist directly beneath the wall reinforcement near the
34 precast concrete facing panels.
35
36 6-14.GR6
37 **Geosynthetic Retaining Walls**
38
39 6-14.2.GR6
40 **Materials**
41
42 6-14.2(9-33.2(2)).GR6
43 **Geosynthetic Properties For Retaining Walls and Reinforced Slopes**
44 Section 9-33.2(2) is supplemented with the following:
45
46 **6-14.2(9-33.2(2)).OPT1.FB6**
47 **(August 7, 2006)**
48 **Geosynthetic Properties For Temporary Geosynthetic Retaining Walls**
49 Wide strip geosynthetic strengths provided in Table 10 are minimum average roll
50 values. The average test results for any sampled roll in a lot shall meet or exceed
51 the values shown in the table. These wide strip strength requirements apply only in
52 the geosynthetic direction perpendicular to the wall face. The test procedures

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specified in the table are in conformance with the most recently approved ASTM geosynthetic test procedures, except for geosynthetic sampling and specimen conditioning, which are in accordance with WSDOT Test Methods 914 and 915, respectively.

Table 10: Wide strip tensile strength required for the geosynthetic reinforcement used in geosynthetic retaining walls.

Wall Location	Vertical Spacing of Reinforcement Layers	Reinforcement Layer Distance from Top of Wall	Minimum Tensile Strength Based on ASTM D4595 for Geotextiles and ASTM D6637 for Geogrids
***\$1\$\$**	***\$2\$\$**	***\$3\$\$**	***\$4\$\$**

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6-19.GR6
Shafts

6-19.3.GR6
Construction Requirements

6-19.3(3).GR6
Shaft Excavation

6-19.3(3)B.GR6
Temporary and Permanent Shaft Casing

6-19.3(3)B.INST1.GR6
Section 6-19.3(3)B is supplemented with the following:

6-19.3(3)B.INST1.GR6.Insert 10.docx
(January 2, 2012)
The Contractor shall furnish and install casings as follows:

Bridge No. and Pier number or Wall name and Station Limits	Casing Type	Elev. Of Bottom of Required Casing (feet)	Upper and Lower Elevation Limits for Concurrent Casing Placement with Excavation
Br. No. 5/656 Replacement	***	***	***
Pier 1	Temporary	As shown in the Plans	Ground Surface to 35.0
Pier 2	Permanent	9 feet below top of shaft	Ground Surface to 9 feet below top of shaft
Pier 2 and 3	Temporary	Bottom of shaft	Ground Surface to bottom of shaft

30

1 When installing required temporary or required permanent casings between
2 the upper and lower elevation limits specified above, the casing shall be
3 advanced prior to or concurrently with the excavation. Excavation in advance
4 of the casing tip shall not exceed *** three *** feet, except that in no case shall
5 shaft excavation and casing placement extend below the bottom of shaft
6 excavation as shown in the Plans.
7

8
9 DIVISION7.GR7

10 **Division 7**
11 **Drainage Structures, Storm Sewers, Sanitary**
12 **Sewers, Water Mains, and Conduits**
13

14 7-04.GR7

15 **Storm Sewers**

16
17 7-04.1-StormSewersDescription.docx

18 **Description**

19 Section 7-04.1 is supplemented with the following:
20

21 **(*****)**

22 ***Temporary Schedule A Storm Sewer Pipe 12 In. Diam.***

23 This work shall include installing Temporary Schedule A Storm Sewer Pipe 12 In. Diam.
24 in locations shown on the Plans or as directed by the Engineer.
25

26 7-04.3-StormSewersConstReq.docx

27 **Construction Requirements**

28 Section 7-04.3 is supplemented with the following:
29

30 **(*****)**

31 ***Temporary Schedule A Storm Sewer Pipe 12 In. Diam.***

32 Temporary storm sewer pipe shall be removed prior to completion of construction.
33

34 7-04.4-StormSewersMeasurement.docx

35 **Measurement**

36 Section 7-04.4 is supplemented with the following:
37

38 **(*****)**

39 "Temporary Schedule A Storm Sewer Pipe 12 In. Diam.", will be measured per linear
40 foot.
41

42 7-04.5-StormSewersPayment.docx

43 **Payment**

44 Section 7-04.5 is supplemented with the following:

1

2 (*****)

3 "Temporary Schedule A Storm Sewer Pipe 12 In. Diam.", per linear foot.

4 The unit contract price per linear foot for "Temporary Schedule A Storm Sewer Pipe 12
5 In. Diam." shall include removal of the pipe

6

7 7-05.GR7

8 **Manholes, Inlets, Catch Basins, and Drywells**

9

10 7-05.1-CBandCoverDescription.docx

11 **Description**

12 Section 7-05.1 is supplemented with the following:

13

14 (*****)

15 **Temporary Catch Basin Type 1**

16 This work shall include constructing temporary catch basins in locations shown on the
17 plans or as directed by the Engineer. Work shall also include relocating temporary
18 structures as shown on the Stage & Temporary Erosion & Sedimentation Control Plans.

19

20 (*****)

21 **Locking Solid Metal Cover and Frame for Catch Basin**

22 This work shall consist of furnishing and installing the inlet frame and locking solid metal
23 cover for catch basins.

24

25 (*****)

26 **Catch Basin Type 2 48 In. Diam. W/ Jail House Grate**

27 This work shall consist of constructing Catch Basin Type 2 48 In. Diam. with a jailhouse
28 grate in accordance with the Plans.

29

30 7-05.3-CBandCoverConstReq.docx

31 **Construction Requirements**

32 Section 7-05.3 is supplemented with the following:

33

34 (*****)

35 **Temporary Catch Basin Type 1**

36 Temporary catch basins shall be removed or abandoned prior to completion of
37 construction.

38

39 (*****)

40 **Locking Solid Metal Cover and Frame for Catch Basin**

41 This work shall conform to Section 7-05.3(1).

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(*****)

Catch Basin Type 2 48 In. Diam. W/ Jail House Grate

The size and location of the jail house grate shall be installed in accordance with the “Catch Basin Type 2 48 In. Diam. With Jail House Grate” detail in the Plans.

7-05.4-CBandCoverMeasurement.docx

Measurement

Section 7-05.4 is supplemented with the following:

(*****)

“Temporary Catch Basin Type 1”, will be measured per each.

(*****)

“Locking Solid Metal Cover and Frame for Catch Basin,” will be measured per each.

(*****)

“Catch Basin Type 2 48 In. Diam. With Jail House Grate”, will be measured per each.

7-05.5-CBandCoverPayment.docx

Payment

Section 7-05.5 is supplemented with the following:

(*****)

“Temporary Catch Basin Type 1”, per each.

The unit contract price per each for “Temporary Catch Basin Type 1” shall include installation and removal or abandonment for the structure.

(*****)

“Locking Solid Metal Cover and Frame for Catch Basin”, per each.

(*****)

“Catch Basin Type 2 48 In. Diam. With Jail House Grate”, per each.

DIVISION8.GR8

**Division 8
Miscellaneous Construction**

8-01.GR8

Erosion Control and Water Pollution Control

1 8-01.3.GR8

2 **Construction Requirements**

3

4 8-01.3(1).GR8

5 **General**

6

7 8-01.3(2)B.GR8

8 **Seeding and Fertilizing**

9

10 8-01.3(2)B.INST1.GR8

11 Section 8-01.3(2)B is supplemented with the following:

12

13 8-01.3(2)B.OPT1.docx

14

(*****)

15

Seed of the following composition, proportion, and quality shall be applied at a rate of 80 pounds per acre on all areas requiring roadside seeding within the project:

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8-01.1-CompactedTillLinerDescription.docx

Description

Section 8-01.1 is supplemented with the following:

46

(*****)

47

Compacted Till Liner

48

This Work shall consist of furnishing and placing compacted till liner as shown in the Plans or as designated by the Engineer.

49

50

2 **Materials**

3 Section 8-01.2 is supplemented with the following:

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

5 **Compacted Till Liner**

6 "Compacted Till Liner" as shown on the plans shall meet the requirements of the
7 following section:

8

9	Sieve Size	Percent Passing
10	6-inch	100%
11	4-inch	90%
12	#4	70% – 100%
13	#200	20% max.

14

16 **Construction Requirements**

17 Section 8-01.3 is supplemented with the following:

18 **(*****)**

19 **Compacted Till Liner**

20 The compacted till liner shall be evenly spread over the specified areas to the depth
21 shown in the Plans or as otherwise ordered by the Engineer. The Contractor shall place
22 the compacted till liner in horizontal layers no more than 6 inches thick. Each layer of
23 the embankment shall be compacted to 95 percent of the maximum density as
24 determined by the modified Proctor method as designated by ASTM D1557. The
25 finished compacted till liner shall have a thickness of 18 inches after compaction is
26 completed.

27 **(*****)**

28 **Treatment of pH for Concrete Work**

29 Stormwater or dewatering water that has come in contact with concrete rubble, concrete
30 pours, concrete grindings or cement treated soils shall be maintained between pH 6.5
31 and pH 8.5 before it is allowed to enter surface waters and discharges shall not cause a
32 receiving water pH change of more than 0.2 pH units.

33
34 The Contractor shall test runoff during each rain event causing runoff to leave the
35 project site during concrete pouring, grinding, rubblizing activities, when soils are being
36 treated with cement and during the first three storms following those activities. If
37 discharging directly to surface waters or to a storm sewer system, the Contractor shall
38 test the pH of the water, as a first order of work, at the point of discharge, once the pour
39 or grinding has begun for each shift, and periodically, as requested by the Engineer,
40 thereafter. If a test indicates the pH is above 8.5, the Contractor shall immediately
41 discontinue work and initiate treatment according to the plan to lower the pH.
42

1 Unless specific measures are identified in the Special Provisions, the pH of water may
2 be reduced by infiltration, dispersion in vegetation or compost, or by pumping to a
3 sanitary sewer system. If water is pumped to the sanitary sewer, the Contractor shall
4 provide, at no cost to the Contracting Agency, a copy of permits and requirements for
5 placing the material into a sanitary sewer system prior to beginning the work.
6

7 Work may resume, with treatment, once the pH of the treated material is between 6.5
8 and 8.5 or it can be demonstrated that the runoff will not reach surface waters.
9

10
11 8-01.4-CompactedTillLinerMeasurement.docx

12 **Measurement**

13 Section 8-01.4 is supplemented with the following:

14 **(*****)**

15 "Compacted Till Liner", will be measured by the cubic yard in the haul conveyance at
16 the point of delivery.
17

18 8-01.5-CompactedTillLinerPayment.docx

19 **Payment**

20 Section 8-01.5 is supplemented with the following:

21 **(*****)**

22 "Compacted Till Liner", per cubic yard.

23 The unit contract price per cubic yard for "Compacted Till" shall be full compensation for
24 all costs incurred for furnishing, portioning, loading, hauling, and placing the materials.
25

26 8-10.GR8

27 **Guide Posts**

28
29 8-10.1.GR8

30 **Description**

31
32 8-10.1.INST1.GR8

33 Section 8-10.1 is supplemented with the following:
34

35 8-10.1.OPT1.GR8

36 (April 1, 2002)

37 This Work shall consist of furnishing and installing barrier delineators on concrete
38 barrier when barrier runs concurrent with guide post locations.
39

40 8-10.2.GR8

41 **Materials**

42
43 8-10.2.INST1.GR8

44 Section 8-10.2 is supplemented with the following:
45

46 8-10.2.OPT1.GR8

47 (April 1, 2002)

48 Barrier delineators shall consist of a flat plastic reflector lens or reflective sheeting
49 attached to a housing or bracket to facilitate the mounting of the delineator on concrete

1 traffic barrier. The reflective surface shall be rectangular or trapezoidal shape with a
2 minimum area of 9 square inches for reflectors and 12 square inches for reflective
3 sheeting. The housing or bracket can be flexible or rigid, molded from a durable plastic
4 or other durable material approved by the engineer. Barrier delineators shall be one
5 sided for single direction or two sided for bi-directional.
6

7 Reflectors shall be acrylic or polycarbonate and shall conform to AASHTO M 290.
8 Reflectors shall equal or exceed the following minimum values of specific intensity:
9

Observation Angle (Degrees)	Entrance Angle (Degrees)	Specific Intensity cd/ft-c	
		White	Yellow
0.1	0	126	75
0.1	20	50	30

15
16 Reflective sheeting for barrier delineators shall be type III, IV, V or VII and selected from
17 approved materials listed in the Qualified Products List.
18

19 8-10.3.GR8

20 **Construction Requirements**

21

22 8-10.3.INST1.GR8

23 Section 8-10.3 is supplemented with the following:
24

25 8-10.3.OPT1.GR8

26 (April 1, 2002)

27 Barrier delineators shall be placed on the traffic face of the barrier six inches down from
28 the top. Spacing shall be as shown in the plans. Delineator color shall be white on the
29 right of traffic and yellow on the left of traffic. The surface of the barrier where the
30 delineator is applied shall be free of dirt, curing compound, moisture, paint, or any other
31 material that would adversely affect the bond of the adhesive. Install delineators with an
32 adhesive recommended by the manufacturer.
33

34 8-10.4.GR8

35 **Measurement**

36

37 8-10.4.INST1.GR8

38 Section 8-10.4 is supplemented with the following:
39

40 8-10.4.OPT1.GR8

41 (April 1, 2002)

42 Barrier delineators will be measured by the unit for each delineator furnished and
43 installed.
44

45 8-10.5.GR8

46 **Payment**

47

48 8-10.5.INST1.GR8

49 Section 8-10.5 is supplemented with the following:
50

51 8-10.5.OPT1.GR8

52 (April 1, 2002)

1 "Barrier Delineator", per each

2

3 8-11.GR8

4 **Guardrail**

5

6 8-11.1.GR8

7 **Description**

8

9 8-11 Remove & Reset Cable Barrier

10 **Removing and Resetting Cable Barrier (Type-3 Cable)**

11

12 **Description**

13 Section 8-11.1 is supplemented with the following:

14 **(*****)**

15 This Work shall consist of removing and resetting cable barrier systems (cable, posts,
16 terminals, transitions, compensating devices, fittings, and hardware) at locations shown
17 in the Plans, or as designated by the Engineer.

18

19 **Construction Requirements**

20 Section 8-11.3 is supplemented with the following:

21 **(*****)**

22 The Engineer will notify the Contractor in writing to authorize the removal of the cable
23 barrier system. The cable barrier system components shall be stored by the Contractor
24 in location where the components will be protected from dirt, debris, and moisture. The
25 Engineer will notify the Contractor in writing to authorize the resetting of the cable
26 barrier system at the prior existing location where removed. The resetting of the cable
27 barrier system shall follow the installation requirements of a new cable barrier system as
28 specified in the Construction Requirements of WSDOT General Special Provision 8-
29 11.3OPT2.FR8 (August 6, 2012).

30

31 **Measurement**

32 Section 8-11.4 is supplemented with the following:

33 **(*****)**

34 Measurement of removing and resetting cable barrier Type-3 cable will be by the linear
35 foot measured along the line of cable barrier removed and reset, including transition
36 sections, terminals, cable barrier to guardrail terminals, foundations, sockets, concrete
37 compensating devices, tensioning device, slip base post, sleeves, caps, and all
38 hardware.

39

40 **Payment**

41 Section 8-11.5 is supplemented with the following:

42 **(*****)**

43 The unit contract price per linear foot for "Removing and Resetting Cable Barrier (Type-
44 3 Cable)", shall be full payment for all costs to perform the work as described in Section
45 8-11.3.

46

1 8-14.GR8

2 **Cement Concrete Sidewalks**

3

4 8-14.3.GR8

5 **Construction Requirements**

6

7 8-14.3.INST1.GR8

8 Section 8-14.3 is supplemented with the following:

9

10 8-14.3.OPT1.GR8

11 (April 4, 2011)

12 The Contractor shall request a pre-meeting with the Engineer to be held 2 to 5 working
13 days before any work can start on cement concrete sidewalks, curb ramps or other
14 pedestrian access routes to discuss construction requirements. Those attending shall
15 include:

16

17 1. The Prime Contractor and Subcontractor in charge of constructing forms, and
18 placing, and finishing the cement concrete.

19

20 2. Project Engineer (or representative) and Project Inspectors for the cement
21 concrete sidewalk, curb ramp or pedestrian access route Work.

22

23 Items to be discussed in this meeting shall include, at a minimum, the following:

24

25 1. Slopes shown on the Plans.

26

27 2. Inspection

28

29 3. Traffic control

30

31 4. Pedestrian control, access routes and delineation

32

33 5. Accommodating utilities

34

35 6. Form work

36

37 7. Installation of detectable warning surfaces

38

39 8-20.GR8

40 **Illumination, Traffic Signal Systems, and Electrical**

41

42 8-20.docx

43 **8-20.1 Description**

44 Section 8-20.1 is supplemented with the following:

45

46 (*****)

47 Work shall include the following

48 1. Furnishing and installing all equipment necessary to provide complete and
49 functional permanent traffic signal and illumination systems.

50 2. Furnishing, installing, relocating, and removing all equipment necessary to
51 provide temporary traffic and illumination systems for the various construction
52 stages.

- 1 3. Relocating existing luminaire poles and reconnecting to existing circuit wires.
- 2 4. Removing and disposing of all existing traffic signal and illumination equipment.
- 3 5. Salvaging existing traffic control and illumination equipment as noted on the
- 4 plans.

5
6 **8-20.2 Materials**

7
8 **8-20.2(9-29.1) Conduit, Innerduct, and Outerduct**

9 Section 9-29.1 is supplemented with the following:

10
11 *(NWR August 10, 2009)*

12 **Conduit Sealing**

13 Mechanical plugs for cabinet conduit sealing shall be one of the following:

- 14 1. Tyco Electronics – TDUX
- 15 2. Jackmoon – Triplex Duct Plugs
- 16 3. O-Z Gedney – Conduit Sealing Bushings

17 The mechanical plug shall withstand a minimum of 5 psi of pressure.

18
19 **8-20.2(9-29.1(2)) Rigid Metal Conduit Fittings and Appurtenances**

20 Section 9-29.1(2) is supplemented with the following:

21
22 *(August 10, 2009)*

23 **Conduit Coatings**

24 Electroplated couplings are not allowed.

25 Steel conduit entering concrete shall be wrapped in 2-inch -wide pipe wrap tape with a
26 minimum 1-inch overlap for 12 inches on each side of the concrete face. Pipe wrap tape
27 shall be installed per manufacturer’s recommendations.

28
29 *(NWR March 4, 2009)*

30 **Surface Mounting Conduit Attachment Components**

31 Channel supports and all fastening hardware components shall be Type 304 stainless
32 steel. Conduit clamps shall be one piece, two bolt units with lock washers.

33
34 **8-20.2(9-29.2) Junction Boxes, Cable Vaults and Pull Boxes Cover**
35 **Markings**

36
37 **8-20.2(9-29.2(1)A) Standard Duty Junction Boxes**

38 Section 9-29.2(1)A is supplemented with the following:

39
40 *(NWR January 21, 2011)*

41 **Concrete Junction Boxes**

42
43 The Non-slip lid and frame shall be made of the following material:

44 Non-slip lid ASTM A36 flat steel

45 Non-slip frame ASTM A36 flat steel

46 Both the non-slip lid and non-slip frame shall be treated with Mebac1 (their most
47 aggressive surface) as manufactured by IKG industries, or SlipNOT Grade 3-coarse as
48 manufactured by W.S. Molnar Co. The non-slip lid shall be identified with permanent
49 marking on the underside indicating the type of surface treatment (“M1” for Mebac 1; or
50 “S3” for SlipNot3) and the year of manufacturer. The permanent marking shall be 1/8
51 inch line thickness formed by engraving, stamping or with a stainless steel weld bead.

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8-20.2(9-29.2(2)A) Standard Duty Cable Vaults and Pull boxes

Section 9-29.2(2)A is supplemented with the following:

(NWR January 21, 2011)

Cable Vaults and Pull Boxes Non Slip Lids

All Standard Duty Cable Vaults and Pull Boxes placed in sidewalks, walkways and shared use paths shall have slip resistant surfaces. The Standard Duty Cable Vaults and Pull Boxes steel frame, lid support and lid shall be hot-dip galvanized.

The Non-slip lid and frame shall be made of the following material:

Non-slip lid ASTM A36 flat steel

Non-slip frame ASTM A36 flat steel

Both the non-slip lid and non-slip frame shall be treated with Mebac1 (their most aggressive surface) as manufactured by IKG industries, or SlipNOT Grade 3-coarse as manufactured by W.S. Molnar Co. The non-slip lid shall be identified with permanent marking on the underside indicating the type of surface treatment (“M1” for Mebac 1; or “S3” for SlipNot3) and the year of manufacturer. The permanent marking shall be 1/8 inch line thickness formed by engraving, stamping or with a stainless steel weld bead.

8-20.2(9-29.2(4)) Cover Markings

Section 9-29.2(4) is supplemented with the following:

(NWR October 5, 2009)

Junction Box Identification

Junction boxes shall not be marked when the junction boxes are to be installed as part of a future raceway system in a bridge structure, vehicle barrier, pedestrian barrier, or roadway crossing and the future raceway system is not connected to an illumination, signal, interconnect, or ITS raceway system.

8-20.2(9-29.3(2)) Electrical Conductors and Cable

Section 9-29.3(2) is supplemented with the following:

(NWR October 5, 2009)

Video Detection Cable

Coaxial cable or combination (composite/Siamese) cable for video detection shall be RG59/U with a manufacturer’s rating of 600 Volts (Non UL - manufacturer’s voltage rating of the insulation is acceptable). Combination cable shall be in accordance with the video detection system manufacturer’s recommendations for the length of cable required.

8-20.2(9-29.3(2)F) Detector Loop Wire

Section 9-29.3(2)F is revised to read as follows:

(NWR October 5, 2009)

Detector loop wire shall use 14 AWG stranded copper conductors, and shall conform to IMSA Specification 51-7, with cross-linked polyethylene (XLPE) insulation encased in a polyethylene outer jacket (PE tube).

8-20.2(9-29.6) Light and Signal Standards

Section 9-29.6 is supplemented with the following:

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(August 1, 2011)

Light Standards with Type 1 Luminaire Arms

Lighting standards shall be fabricated in conformance with the methods and materials specified on the pre-approved Plans listed below, provided the following requirements have been satisfied:

- (a) Light source to pole base distance (H1) shall be as noted in the Plans. Verification of H1 distances by the Engineer, prior to fabrication, is not required. Fabrication tolerance shall be ±6 inches.
- (b) All other requirements of the Special Provisions have been satisfied.

Pre-Approved Plan	Fabricator	Mounting Hgt.
Drawing No. DB00654 Rev. F Sheets 1, 2, 3 & 4	Valmont Ind. Inc.	30', 35', 40', and 50'
Drawing No. W3721-1 Rev. H & W3721-2 – Rev. C	Ameron Pole Prod. Div.	40' and 50'
Drawing No. NWS 3510 Rev. 2 or NWS 3510B – Rev. 2	Northwest Signal Supply, Inc.	25', 30', 35', 40', 45' & 50'
Drawing WS-SL-01 Revision 5	American Pole Structures, Inc.	25', 30', 35', 40', 45', 50'
Drawing 71035-B39 Rev. R9 Sheets 1 and 2 of 2, and B100-B335 Rev. R1	Union Metal Corp	40'
Drawing 71035-B50 Rev. R2 Sheets 1, 2, and 3 and B100-B335 Rev. R1	Union Metal Corp.	50'
Drawing No. 71035-B47, Rev R3, Sheet 1 of 1 Elbow Mounting Detail	Union Metal Corp	40', 50'
Drawing No. WSDOT-LP-01 Rev. 4, Sheets 1 and 2 or WSDOT - LP-01-BE Rev 3 Sheets 1 and 2 or WSDOT - LP-01-C8B Rev. 2	West Coast Engineering Group	25', 30', 35', 40', 45', and 50'
Drawing No. 10-31-RWP-1 Rev. 4 Sheets 1, 2, and 3	KW Industries	25, 30, 35, 40, 45, 50
Drawing No. 10-31-RWP-3 Rev. 1 (Bridge Mount Details)	KW Industries	

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(August 1, 2011)

Light Standards with Type 1 Luminaire Arms

Lighting standards shall be fabricated in conformance with the methods and materials specified on the pre-approved plans listed below, provided the following requirements have been satisfied:

- (a) Mounting heights shall be as specified in the Plans.
- (b) Light source to pole base distances (H1) shall be determined or verified by the Engineer prior to fabrication. Fabrication tolerance shall be ±6 inches.
- (c) All other requirements of the Special Provisions have been satisfied.

Pre-Approved Plan	Fabricator	Mounting Hgt.
Drawing No. DB00654 Rev. F Sheets 1, 2, 3 & 4	Valmont Ind. Inc.	30', 35', 40', and 50'
Drawing No. W3721-1 Rev. H & W3721-2 – Rev. C	Ameron Pole Prod. Div.	40' and 50'
Drawing No. NWS 3510 Rev. 2 or NWS 3510B – Rev. 2	Northwest Signal Supply, Inc.	25', 30', 35', 40', 45' & 50'
Drawing WS-SL-01 Revision 5	American Pole Structures, Inc.	25', 30', 35', 40', 45', 50'
Drawing 71035-B39 Rev. R9 Sheets 1 and 2 of 2, and B100-B335 Rev. R1	Union Metal Corp	40'
Drawing 71035-B50 Rev. R2 Sheets 1, 2, and 3 and B100-B335 Rev. R1	Union Metal Corp.	50'
Drawing No. 71035-B47, Rev R3, Sheet 1 of 1 Elbow Mounting Detail	Union Metal Corp	40', 50'
Drawing No. WSDOT-LP-01 Rev. 4, Sheets 1 and 2 or WSDOT - LP-01-BE Rev 3 Sheets 1 and 2 or WSDOT - LP-01-C8B Rev. 2	West Coast Engineering Group	25', 30', 35', 40', 45', and 50'
Drawing No. 10-31-RWP-1 Rev. 4 Sheets 1, 2, and 3	KW Industries	25, 30, 35, 40, 45, 50
Drawing No. 10-31-RWP-3 Rev. 1 (Bridge Mount Details)	KW Industries	

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2 **9-29.6(1) Steel Light and Signal Standards**

3 Section 9-29.6(1) is supplemented with the following:

4 Traffic signal standards shall conform to the WSDOT preapproved plans noted below.

5

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

7 **Traffic Signal Standards**

8 Traffic signal standards shall be furnished and installed in accordance with the methods
9 and materials noted in the applicable Standard Plans, pre-approved plans, or special
10 design plans.

11 All welds shall comply with the latest AASHTO Standard Specifications for Structural
12 Supports for Highway Signs, Luminaires, and Traffic Signals. Welding inspection shall
13 comply with Section 6-03.3(25)A Welding Inspection.

14 Hardened washers shall be used with all signal arm connecting bolts instead of
15 lockwashers. All signal arm AASHTO M 164 connecting bolts tightening shall comply with
16 Section 6-03-3(33).

17 Traffic signal standard types and applicable characteristics are as follows:

18

Type PPB Pedestrian push button posts shall conform to Standard Plan J-20.10 or to one of the following pre-approved plans:	
Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3540 Rev. 2 and NWS 3540B Rev. 2
Valmont Ind. Inc.	DB00655 Rev. H Sht. 1, 2 & 3
Ameron Pole Prod. Div.	M3723 Rev. G
Union Metal Corp.	TA-10035 Rev. R3
West Coast Engineering Group	WSDOT-PP-01 Rev. 1
KW Industries	10-200-PED-1 Rev. 5, Sheets 1 and 2

1

Type PS Pedestrian signal standards shall conform to Standard Plan J-20.16 or to one of the following pre-approved plans:	
Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3540 Rev. 2 and NWS 3540B Rev. 2
Valmont Ind. Inc.	DB00655 Rev. H Sht. 1, 2 & 3
Ameron Pole Prod. Div.	M3723 Rev. G or W3539 Rev. B
Union Metal Corp.	TA-10025-A, Rev. R14
West Coast Engineering Group	WSDOT-PP-02 Rev. 1
American Pole Structures, Inc.	WS-PP-03 Rev. 1C
KW Industries	10-200-PED-1 Rev. 5, Sheets 1 and 2

2

Type I Type I vehicle signal standards shall conform to Standard Plan J-21.15 or to one of the following pre-approved plans:	
Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3540 Rev. 2 and NWS 3540B Rev. 2
Valmont Ind. Inc.	DB00655 Rev. H Sht. 1, 2 & 3
Ameron Pole Prod. Div.	M3723 Rev. G or W3539 Rev. B
Union Metal Corp.	TA-10025-A, Rev. R14
West Coast Engineering Group	WSDOT-PP-02 Rev. 1
American Pole Structures, Inc.	WS-PP-03 Rev. 1C
KW Industries	10-200-PED-1 Rev. 5, Sheets 1 and 2

3

Type FB Type FB flashing beacon standard shall conform to Standard Plan J-21.16 or the following pre-approved plan:	
Fabricator	Drawing No.
Valmont Ind. Inc.	DB00655 Rev. H Sht. 1, 2 & 3
Union Metal Corp.	50200-B58 Rev. R4
Ameron Pole Products Division	W3539 Rev. B
American Pole Structures, Inc.	WS-PP-03 Rev. 1C
Northwest Signal Supply, Inc.	NWS 3540 Rev. 2 and NWS 3540B Rev. 2
KW Industries	10-200-PED-1 Rev. 5, Sheets 1 and 2
Type RM Type RM ramp meter standard shall conform to Standard Plan J-22.15 or the following pre-approved plan:	
Fabricator	Drawing No.

Valmont Ind. Inc.	DB00655 Rev. H Sht. 1, 2 & 3
Union Metal Corp.	50200-B58 Rev. R4
Ameron Pole Products Division	W3539 Rev. B
Northwest Signal Supply, Inc.	NWS 3540 Rev. 2 and NWS 3540B Rev. 2
KW Industries	10-200-PED-1 Rev. 5, Sheets 1 and 2

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Type CCTV Type CCTV camera pole standards shall conform to one of the following pre-approved Plans:	
Fabricator	Drawing No.
Valmont Ind. Inc.	DB 00759 Rev. P Sht. 1 & 2
Ameron Pole Products Division	W6CCTV1 Rev. D
West Coast Engineering Group	AP-WSDOT-CP-01 Rev. 3
American Pole Structures	LLC WS-CP-01 Rev. 1C Sht. 1 & 2
Union Metal Corporation	Drawing No P33-B317, Rev R3, Sheets 1, 2 of 2
Union Metal Corporation	Drawing No. P33-B318, Rev. R6, Sheets 1, 2 of 2
KW Industries	Drawing No. 10-200-CAM-1 Rev. 6, Sheets 1 and 2
Northwest Signal Supply, Inc.	Drawing No. NWS 3545 Rev. 1

2

Type II Characteristics:	
Luminaire mounting height	N.A.
Luminaire arms	N.A.
Luminaire arm length	N.A.
Signal arms	One Only

3

Type II standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.		
Signal Arm Length (max)	Fabricator-(x) (y) (z)	Drawing No.
65 ft.	Valmont Ind. Inc.-(2894)	DB00625-Rev. P, Shts. 1, 2, 3 & 4
65 ft.	Union Metal Corp. (2900)	71026-B86 Rev. R7 Shts. 1, 2 & 3
65 ft.	Ameron Pole-(2900)	W3724-1 Rev. I & W3724-2 Rev. F
65 ft.	Northwest Signal-(2802) Supply Inc.	NWS 3505 Rev. 4 or NWS 3505B Rev. 4
45 ft.	American Pole (1875) Structures, Inc.	WS-T2-L Rev. 6
65 ft.	American Pole (2913) Structures, Inc.	WS-T2-H Rev. 6
65 ft.	KW Industries	10-200-TSP-4 Rev. 5, Sheets 1, 2, and 3
65 ft.	West Coast Engineering Group	WSDOT-TS-01 Rev. 3, Sheets 1, 2, and 3
65 ft.	Maico Industries (2894)	WSDOTMA Rev. 3, Sheets 1, 2, and 3

4

Type III Characteristics:	
Luminaire mounting height	30 ft., 35 ft., 40 ft., or 50 ft.
Luminaire arms	One Only
Luminaire arm type	Type 2
Luminaire arm length (max.)	16 ft.

Signal arms	One Only
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<p>Type III standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.</p>		
Signal Arm Length (max)	Fabricator-(x) (y) (z)	Drawing No.
65 ft.	Valmont Ind. Inc.-(2947)	DB00625-Rev. P, Shts. 1, 2, 3 and 4 and "T" luminaire arm
65 ft.	Northwest Signal-Supply Inc.-(2802)	NWS 3505 Rev. 4 or NWS 3505B Rev. 4
65 ft.	Ameron Pole-(2900) Prod. Div.	W3724-1 Rev. I & W3724-2 Rev. F and "T" luminaire arm
65 ft.	West Coast Engineering Group	WSDOT-TS-01 Rev. 3 Shts.1, 2, & 3
65 ft.	Maico Industries (2947)	WSDOTMA Rev. 3 Sheets 1, 2, and 3 and "T" luminaire arm
65 ft.	KW Industries	10-200-TSP-3 Rev. 5, Sheets 1, 2, and 3
65ft	Union Metal Corp.	71026-B95 R3 Sheets 1, 2, and 3

2

<p>Type IV Type IV strain pole standards shall be consistent with details in the Plans and Standard Plan J-7c or one of the following pre-approved plans:</p>	
Fabricator	Drawing No.
Northwest Signal Supply, Inc.	NWS 3525 Rev. 2 or NWS 3525B Rev. 2
Valmont Ind. Inc.	5000-4
Ameron Pole Products Division	M3650 Rev. D
Union Metal Corporation	EA-10224, Rev. R8
American Pole Structures, Inc.	9000-12-037 Rev. A
Maico Industries	WA-SP-4 Rev. 2, Sheets 1 and 2 of 2

3

<p>Type V Type V combination strain pole and lighting standards shall be consistent with details in the Plans and Standard Plan J-7c or one of the following pre-approved plans:</p>	
Fabricator	Drawing No.
Ameron Pole Products Division	M3650 Rev. D
Northwest Signal Supply, Inc.	NWS 3525 Rev. 2 or NWS 3525B Rev. 2
Maico Industries	WA-SP-5 Rev. 2, Sheets 1, 2 & 3 and "T" luminaire arm

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The luminaire arm shall be Type 2, 16-foot maximum and the luminaire mounting height shall be 40 feet or 50 feet as noted in the Plans.

1 Type SD Type SD standards require special design. All special design shall be
 2 based on the latest AASHTO Standard Specifications for Structural
 3 Supports for Highway Signs, Luminaires and Traffic Signals and pre-
 4 approved plans and as follows:
 5 1. A 90 mph wind loading shall be used.
 6 2. The Design Life and Recurrence Interval shall be 50 years for
 7 luminaire support structures.
 8 3. Fatigue design shall conform to AASHTO Section 11, Table 11-1
 9 using fatigue category III.
 10 Complete calculations for structural design, including anchor bolt details,
 11 shall be prepared by a Professional Engineer, licensed under Title 18
 12 RCW, State of Washington, in the branch of Civil or Structural
 13 Engineering or by an individual holding valid registration in another state
 14 as a civil or structural Engineer.
 15 All shop drawings and the cover page of all calculation submittals shall
 16 carry the Professional Engineer's original signature, date of signature,
 17 original seal, registration number, and date of expiration. The cover page
 18 shall include the contract number, contract title, and sequential index to
 19 calculation page numbers. Two copies of the associated design
 20 calculations shall be submitted for approval along with shop drawings.
 21 Details for handholes and luminaire arm connections are available from
 22 the Bridges and Structures Office.
 23 The monotube structure shall be designed as a Type SD structure.
 24 Contact WSDOT Bridges and Structures Office for requirements.
 25

26 Foundations for various types of standards shall be as follows:

27	Type PPB	As noted on Standard Plan J-20.10.
28	Type PS	As noted on Standard Plan J-21.10.
29	Type I	As noted on Standard Plan J-21.10.
30	Type FB	As noted on Standard Plan J-21.10.
31	Type RM	As noted on Standard Plan J-21.10.
32	Type CCTV	As noted in the Plans.
33	Type II	As noted in the Plans.
34	Type III	As noted in the Plans.
35	Type IV	As noted in the Plans and Standard Plan J-7c.
36	Type V	As noted in the Plans and Standard Plan J-7c.
37	Type SD	As noted in the Plans.

38
 39 **8-20.2(9-29.6(3)) Timber Light Standards, Timber Strain Poles, Timber**
 40 **Service Supports**

41 Section 9-29.6(3) is supplemented with the following:

42
 43 (*****)

44 **Timber Standards, Poles, and Supports**

45 Timber strain poles for the temporary traffic signal systems shall be of the class and
 46 height as noted on the Plans.

47 Timber poles for temporary illumination shall be of sufficient height to provide the
 48 specified luminaire mounting height and bury requirements. Bury depth shall be 10
 49 percent of total pole height plus 2 feet.

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8-20.2(9-29.10(4)) Underdeck and Wall Mount Luminaires

Section 9-29.10(4) is supplemented with the following:

(NWR May 1, 2006)

Underdeck Fixtures

Underdeck fixtures shall be wall mountable and shall be hose-down rated with a gasket between the doorframe and ballast housings and between the doorframe and lens. Housing shall be low copper alloy cast aluminum with gray paint finish. The luminaires down light efficiency shall be no less than 64% of lamp output, with peak candle power occurring at 65 to 70 degrees, using a heavy borosilicate prismatic glass lens with 180 degree beam spread. Lamps shall have HPF ballasts, per requirements of Section 9-29.9. Lamps shall be high-pressure sodium, with mogul base socket. Lens shall be vandal resistant. The luminaires shall have wire protective guards on the lenses. Fusing shall be provided for all conductors above ground potential.

8-20.2(9-29.12) Electrical Splice Materials

Section 9-29.12 is supplemented with the following:

(NWR April 19, 1995)

Aerial Splice Enclosures

Aerial splice enclosures shall meet the requirements of REA specification PE-52 and GTE Automatic Electric Specification GTS-8514. Aerial splice enclosures shall be re-enterrable and resealable without requiring special tools or equipment. Conductor connections shall be sealed, moisture resistant telephone type connectors approved for outside use. The cable shields shall be bonded using an approved low resistance shield connector.

8-20.2(9-29.12(2)) Traffic Signal Splice Material

Section 9-29.12(2) is supplemented with the following:

(NWR March 1, 2011)

Induction loop splices shall be either the heat shrink type or the re-enterrable type with end cap seals.

8-20.2(9-29.13) Traffic Signal Controllers

8-20.2(9-29.13(3)) Emergency Preemption

Section 9-29.13(3) is supplemented with the following:

(NWR May 1, 2006)

Emergency Preemption Logic - NEMA

The traffic signal controller shall have the capability of preempting normal traffic signal operation.

The preemption logic shall be an internal software function of the traffic signal controller.

The preemption system shall include the additional functions:

When a preemption call is registered for the phase or phases the controller is presently serving, the controller shall remain in that phase until this call is dropped.

During any preemption phase, "Don't Walk" or "Hand Symbol" shall be displayed on all pedestrian heads.

1 (NWR August 10, 2009)

2 **Preemption:**

3 The system shall be capable of preempting the controller to the phases shown in the
4 Plans when a signal is received from the field detector.

5 Pre-emption equipment shall be either Opticom or Tomar.

6

7 **Opticom**

8 If Opticom pre-emption equipment is used, the Contractor shall furnish and install the
9 following:

- 10 1. Pre-emption detectors shall be Opticom Model 711.
11 2. Discriminators shall be four-channel model 454 units. One is required at each
12 controller.

13 In addition, where auxiliary Opticom pre-emption is used, the Contractor shall furnish
14 and install the following:

- 15 3. A 757 auxiliary optical detector wiring harness where more than one detector
16 is called for per channel.
17 4. A twelve position terminal block of the barrier type rated for 20A at 600 volts
18 RMS minimum and meeting the requirements of Chapter 11 of the Type 170
19 Hardware Specification, FHWA IP-78-16 as currently amended.

20

21 **Tomar**

22 Tomar equipment is allowed provided that it is able to receive and respond to
23 Opticom emitter signals.

24 If Tomar equipment is used, the Contractor shall furnish and install the following:

- 25 1. Pre-emption detectors shall be Tomar Model 2091-SD complete with mount
26 and mounting hardware.
27 2. Discriminators shall be Tomar Model 3080 four-channel units. One is required
28 per controller.
29 3. The Contractor shall make all initial range adjustments.
30 4. The pre-emption function operation tests shall be performed using an
31 Opticom emitter.

32

33 (NWR November 16, 1995)

34 **Emergency Preemption Hardwire:**

35 Emergency preemption hardwire equipment installed by this contract shall activate the
36 Emergency Preemption Logic in the traffic signal controller when a signal is received
37 from a dry contact closure.

38 The contact closure shall be activated by a 120-volt input that is isolated from all
39 controller circuitry.

40 The equipment used to provide the contact closure shall be housed in a separate
41 enclosure located within the controller cabinet.

42

43 **8-20.2(9-29.13(6)) Radio Interference Suppressers**

44 Section 9-29.13(6) is supplemented with the following:

45

46 (NWR September 16, 2002)

47 The interference filters shall be hermetically sealed in a substantial metal case filled with
48 a suitable insulating compound.

49

50 **8-20.2(9-29.13(7)) Traffic Actuated Controllers**

51 Section 9-29.13(7) is supplemented with the following:

52

1 (*****)

2 **Signal Controller**

3 The traffic signal controller shall be a type 2070 controller conforming to the 2002 TEES
4 (Transportation Electrical Equipment Specification) and shall include the following items:

5 2070-1B CPU Module

6 2070-2A Field I/O

7 2070-3B Front Panel

8 2070-4A Power Supply

9 Nextphase Software

10 2070 Unit Chassis

11

12 (NWR July 22, 1999)

13 **Controllers**

14 The local signal control unit shall be a fully actuated, eight-phase controller. Pedestrian
15 functions on a minimum of four phases shall be provided.

16 The following functions shall also be provided in the local signal control unit:

17 1. Guaranteed Yellow

18 The Yellow interval for all phases shall be 3.5 seconds unless the operator sets a
19 higher value for it.

20 2. Simultaneous Gap Out

21 Two concurrently timing phases shall simultaneously reach a rest state prior to
22 their termination by gap out and prior to advancing across the barrier. A phase in
23 dual ring operation may re-time its gap from a rest state upon vehicle actuation.

24

25 **8-20.2(9-29.13(7)C) Auxiliary Equipment for Type 170E, 2070, 2070 Lite, ITS/ATC**
26 **Controllers**

27 Section 9-29.13(7)C is supplemented with the following:

28

29 (NWR March 31, 2008)

30 **Controller Auxiliary Equipment**

31 Traffic signal control equipment to be furnished shall be provided with:

32 1. Flash Indication Jumper Plugs

33 One for each vehicle display load switch socket (eight minimum). Provides quick
34 and easy change of indications, either red or yellow, for display during flashing
35 operations.

36 2. Load Switches

37 All load switches shall be model 200 units equipped with replaceable solid state
38 relay modules. Load switches shall be provided for all phases, not just phases
39 used with the current configuration.

40 3. Detection Panel

41 The detection panel configuration shall conform to the details shown in the Plans.
42 Detection test switches shall be provided for each vehicle and pedestrian input on
43 the input file. The indicators shall be high intensity LEDs.

44 4. Conflict Monitor

45 For type 170E controllers, the conflict monitor shall be a Model 210N unit. For
46 2070, 2070 Lite and ITS/ATC controllers the conflict monitor shall be a Model
47 2010 ECL unit. The conflict monitor shall be capable of supporting the flashing
48 yellow arrow signal head display configuration.

49 5. Loop Detectors

50 A total of 16 two-channel loop detectors are required at each cabinet. Detectors
51 shall be Reno A & E Type "C1103-SS".

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(NWR April 13, 1996)

Display Panel

The display panel shall depict a generic eight-phase operation. Panel configuration shall conform to the details shown in the Plans. Panel mounting shall be of a type that allows installation of the panel in four different orientations. The connecting cable shall be long enough to allow any mounting orientation. No diodes will be allowed.

(*****)

Fiber Optic Ethernet Switch

Fiber optics interconnect shall include the Ethernet switch. Ethernet switch shall be manufactured by RuggedCom, Inc. and installed in each signal cabinet. The units operate on 24 Vdc and shall be connected to the signal cabinet internal power supply.

Equipment Model Numbers

- 4 Port Ethernet
- Rugged Switch RMC40-24-L2L2
- 24 Vdc Power Supply 43-10-0007
- 9 Port Ethernet Switch RS 900-24-L2L2200

Manufacturer:

RuggedCom, Inc.
64 Jardin Drive Unit #3G
Concord, Ontario, Canada L4K3P3
Tel: (905) 760-7799 Fax: (905) 760-9909

Toll Free: (888) 264-0006

Fiber Optic Patch Panels

The Design-Builder shall provide and install a rack-mounted fiber optic patch panel in the signal controller cabinet.

The fiber optic patch panel shall be rated by the manufacturer as a fiber optic patch panel. The patch panel shall be designed to hold, at a minimum, the specified number of interconnection sleeves and splice trays. The splice trays and the fiber optic interconnection sleeves shall be fully enclosed on all sides by the patch panel when the patch panel is closed.

Each patch panel shall be fully populated with interconnection sleeves. Interconnection sleeves shall contain zirconium (ceramic) linings (phosphorus bronze is not allowed). All unutilized interconnection sleeves shall have protective dust covers installed.

The patch panels shall be EIA 19-inch (ANSI/EIA RS-310-C) rack-mountable, unless otherwise noted.

Mounting plates for interconnection sleeves shall be constructed of metal. Adequate spacing shall be provided around each interconnection sleeve. Where interconnection sleeves are arranged in a vertical line, the minimum horizontal center-to-center spacing shall be 1.25 inches (31 mm), and the minimum vertical center-to-center spacing shall be 0.625 inch (16 mm). Where interconnection sleeves are arranged in a staggered layout, the minimum center-to-center radial distance between sleeves shall be 0.875 inch (22 mm).

A wiring diagram shall be supplied with each patch panel. The wiring diagram shall identify each fiber terminated in the patch panel using the fiber optic cable labeling method as specified later in these provisions. The wiring diagram shall be placed in a plastic sheet protector next to the patch panel.

8-20.2(9-29.13(7)E) Type 170E, 170E-HC-11, 2070, 2070 Lite, ATC Controller Cabinets

Section 9-29.13(7)E is supplemented with the following:

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(NWR October 16, 2006)

Cabinet Construction

Construction shall be of 0.125-inch sheet aluminum (5052 alloy), with mill finish. A green construction core shall be installed at each core lock. Upon contract completion, two master keys for each cabinet shall be delivered to the Engineer.

8-20.2(9-29.16) Vehicular Signal Heads, Displays and Housing

Section 9-29.16 is supplemented with the following:

(NWR January 18, 2011)

Back Plate

Back plates shall be constructed of louvered anodized aluminum. The back plates shall have a minimum 1.5-inch flat border between the louvers and the outside edge of the back plate. The yellow retro reflective sheeting applied around the perimeter of each back plate shall be 1.5 inches wide.

8-20.2(9-29.16(2)) Conventional Traffic Signal Heads

8-20.2(9-29.16(2)A) Optical Units

Section 9-29.16(2)A is supplemented with the following:

(NWR March 8, 2004)

LED Signal Displays

All traffic signal displays shall be the Light Emitting Diode (LED) type and shall be from one of the following manufacturers:

Dialight Corporation
1913 Atlantic Avenue
Manasquan, NJ 08736
Telephone: (732) 223-9400
Fax: (732) 223-8788
Precision Solar Controls, Inc.
2960 Market Street
Garland, TX 75041
Telephone: (972) 278-0553
Fax: (972) 271-9583

GELcore, LLC
6810 Halle Drive
Valley View, OH 44125
Telephone: (216) 606-6555
Fax: (216) 606-6556

Each LED signal module shall be designed to be installed in the door frame of a standard traffic signal housing. The lamp socket, reflector holder and lens used with an incandescent lamp shall not be used in a signal section in which a LED signal module is installed. The installation of an LED signal module shall not require any modification to the housing. The LED signal module shall be a single, self-contained device, not requiring onsite assembly for installation into an existing traffic signal housing.

All red and yellow LED signal modules shall be manufactured with a matrix of AlInGaP LED light sources and green LED signal modules shall be manufactures with a matrix of InGaN LED light sources. The LED traffic signal module shall be operationally compatible with controllers and conflict monitors on this project. The LED lamp unit shall contain a disconnect that will show an open switch to the conflict monitor when less than 60% of the LEDs in the unit are operational.

Each LED module shall conform to the current standards in Institute of Transportation Engineers (ITE) VTCSH Part 2 and a Certificate of Compliance with these standards shall be submitted by the manufacturer for each type of signal head. The certificate shall

1 state that the lot of signal heads meets the current ITE specification. A label shall be
2 placed on each LED signal module certifying conformance to this specification. The
3 manufacturer's name, trademark, serial number and other necessary identification shall
4 be permanently marked on the backside of the LED signal module. LED signal modules
5 used on this project shall be from the same manufacturer. A label shall be provided on
6 the LED housing and the Contractor shall mark the label with a permanent marker to
7 note the installation date.

8 The manufacturer shall provide a written warranty against defects in materials and
9 workmanship for the LED signal modules for a period of 60 months after the installation
10 of the modules. All warranty documentation shall be given to the Engineer prior to
11 installation.

12
13 **8-20.2(9-29.16(4)) Traffic Signal Cover**

14 Section 9-29.16(4) is supplemented with the following:

15
16 *(NWR August 10, 2009)*

17 **Covering Material**

18 Signal head covering material shall consist of 4 mil minimum thickness black
19 polyethylene sheeting.

20
21 **8-20.2(9-29.18) Vehicle Detector**

22 Section 9-29.18 is supplemented with the following:

23
24 *(NWR August 10, 2009)*

25 **Loop Amplifier**

26
27 Loop detector amplifiers shall be as follows:

28 Model: Model C-1103-SS

29 Manufacturer: Reno A&E

30 4655 Aircentet Circle

31 Reno, NV 89502

32 Ph: (775) 826-2020

33 www.renoe.com

34
35 *(NWR March 4, 2009)*

36 **Loop Sealant**

37
38 Loop sealant for use in HMA pavement shall be one of the following:

39 1. RAI Pro-Seal 6006EX

40 2. QCM EAS-14

41 3. 3M Black 5000

42 4. Craftco Inc. Part #34271

43 When 3M Black 5000 is installed below the final lift of an HMA installation, a minimum of
44 5 consecutive days of cure time is required before either the final lift is installed or
45 vehicle traffic is allowed over the installation

46 Loop sealant for use on concrete bridge decks and PCC pavement shall be one of the
47 following:

48 1. 3M Black 5000

49 2. Gold Label Flex 1P

50 3. QCM EAS-14

51 Loop sealant installation shall conform to the manufacturer's recommendations.

52

1 (*****)
2 **Video Detection**
3 All components needed to provide a complete video detection system shall be supplied
4 and installed per manufacturer's recommendation.
5 The video detection equipment shall include, but not be limited to, Cameras, Camera
6 Housings, Camera Lens, Camera Mounting Hardware, Video Image Processors, Input
7 File Adapters, lens Adjustment Modules, Keypad and Monitor.
8 The video detection system shall be capable of supplying video detection to the signal
9 controller phases as indicated in the plans.
10 Video detection cameras for the temporary signal systems shall be capable of operating
11 when mounted on a span wire.

12 The video detection system shall be one of the following:

- 13 1. Iteris Vantage Edge
14 Iteris
15 1515 S. Manchester Avenue
16 Anaheim, CA. 92802-2907
- 17 2. Traficon VIP3
18 Traficon NV
19 Bissegemsestraat 45
20 B-8501 Heule
21 Belgium, Europe

22
23 *(NWR July 18, 2005)*

24 **Preformed Loops**

25
26 Preformed detector loops shall be factory assembled. Homeruns shall be pre-wired and
27 shall be an integral part of the loop assembly. The loop configurations and homerun
28 lengths shall be assembled for the specific application shown in the Plans.

29 All materials used to protect the wire in the preformed loop shall have properties that
30 shall withstand the temperature and pressure of paving applications without melting or
31 cracking.

32 The loop and homerun shall be constructed using synthetic cord reinforced hydraulic flex
33 hose. Hose for the loop and homerun shall each be one piece. The only allowable joints
34 or splices in the hose shall be where the homeruns connect to the loops.

35 Hose tee connections shall be high temperature synthetic rubber. The tee shall be of
36 proper size to attach directly to the hose to minimize glue joints. The tee shall have the
37 same flex properties as the hose.

38 The number of turns in the loop shall be as shown in the Plans. Homerun wire pairs shall
39 be twisted a minimum of two turns per foot. No wire splices shall be allowed in the
40 preformed detector loop assembly. The direction of the twist shall be identified as CW for
41 clockwise and CCW for counter clockwise twist. The loops shall be available to order
42 from the manufacturer with both twist directions available.

43 The loop and homeruns shall be filled and sealed with a flexible sealant. The sealant,
44 when set up, shall not soften at 180 degrees Fahrenheit, nor get brittle at minus 20
45 degrees Fahrenheit.

46 All preformed detector loops shall carry a manufacturer's warranty stating that the loops
47 will be free from defects in materials and workmanship for a service period of ten (10)
48 years from the date of purchase.

50 **8-20.2(9-29.19) Pedestrian Push Buttons**

51 Section 9-29.19 is supplemented with the following:
52

1 (NWR February 3, 2011)

2 **Polara Pushbutton Station**

3 Pedestrian pushbutton assembly equipment shall be the 2-wire Navigator Pushbutton
4 Station from the following manufacturer:

5 Polara Engineering Inc.

6 9153 Stellar Court

7 Corona, Ca 92883

8 <http://www.polara.com/>

9 The pushbutton assemblies and adapters shall be Forest Green in color. The sign shall
10 be 9 inch by 12 inch, option B (MUTCD R10-3b), when used in conjunction with a non-
11 countdown type pedestrian signal display or 9 inch by 15 inch, option G (MUTCD R10-
12 3e), when used in conjunction with a countdown type pedestrian signal display. The sign
13 shall include a frame adapter plate.

14 Each Navigator Pedestrian Signal system shall include one Navigator Central Control
15 Unit. The Central Control Unit shall include a rail mounting bracket assembly and
16 mounting hardware. A Navigator Configurator shall be furnished with each control unit.

17

18 **8-20.2(9-29.20 Pedestrian Signals**

19 Section 9-29.20 is supplemented with the following:

20

21 (NWR April 16, 2001)

22 **Audible Pedestrian Indicators**

23 Audible pedestrian indicators shall meet the requirements of the American Disability Act.
24 Installation shall be done in conformance with procedures specified by the manufacturer
25 and approved by the Engineer.

26 Output shall be adjustable to provide a "Cuckoo" indication for north south movements or
27 a "Peep-Peep" indication for east west movements. The indicators shall be self switching
28 to one of two adjustable output levels depending on ambient noise conditions.

29 Indicators shall be olive green.

30 Indicators shall mount on top of pedestrian signals with a flex mount which can be used
31 to aim the indicator. The mounting hardware shall incorporate an O ring and shall prevent
32 entrance of moisture into the pedestrian signal.

33 Indicators shall function when wired to the walk terminal and to the AC neutral terminal of
34 the associated pedestrian signal.

35

36 (NWR May 1, 2006)

37 **LED Pedestrian Signal**

38

39 All pedestrian signal displays shall be the Light Emitting Diode (LED) type.

40

41 (NWR January 26, 2011)

42 **Countdown Pedestrian Signal**

43

44 All pedestrian signal displays shall be the countdown type signal display as follows and
45 from the following manufacturer:

46 Model: 430-6479-001X

47 Manufacturer: Dialight Corp.

48 1501 Route 34 South

49 Farmingdale, NJ 07727

50 <http://www.dialight.com/>

51

1 **8-20.2(9-29.20(1)) LED Pedestrian Displays**

2 Section 9-29.20(1) is supplemented with the following:

3

4 *(NWR May 1, 2006)*

5 **LED Pedestrian Signal Display Modules**

6 Each LED pedestrian signal module shall be designed as retrofit replacements for optical
7 units in a standard pedestrian signal housing and shall not require special tools for
8 installation. The installation of an LED pedestrian module shall not require any
9 modification to the housing. Each LED pedestrian module shall be a single, self-
10 contained device, not requiring any on-site assembly for installation into any pedestrian
11 signal housing. The power supply for the LED pedestrian module may be packaged as a
12 separate module.

13 All pedestrian "HAND" modules shall be Portland Orange and shall conform to current
14 ITE standards for size, chromaticity, and intensity. LED pedestrian "HAND" modules shall
15 be manufactured with a matrix of AlInGaP LED light sources. All pedestrian walking
16 "MAN" modules shall be Lunar White and shall conform to current ITE standards for size,
17 chromaticity and intensity. LED pedestrian walking "MAN" modules shall be
18 manufactured with a matrix of InGaN LED light sources. The "HAND" and walking "MAN"
19 message bearing surfaces shall be filled, not outline, symbols. The LED pedestrian
20 modules shall be operationally compatible with controllers and conflict monitors on this
21 project.

22 Each LED pedestrian module shall be protected against dust and moisture intrusion in
23 accordance with the NEMA Moisture Resistant STD 250-1991 for Type 4 enclosures to
24 protect all internal components. The assembly, manufacturing, and mounting of the LED
25 pedestrian module shall be designed to assure all internal LED and electronic
26 components are adequately supported to withstand mechanical shock and vibration from
27 high winds and other sources. The manufacturer's name, trademark, serial number, and
28 other necessary identification shall be permanently marked on the backside of the LED
29 pedestrian module. A label shall be provided on the LED housing and the Contractor
30 shall mark the label with a permanent marker to note the installation date.

31 Each LED pedestrian module shall operate at 60+3 Hz. Nominal operating voltage for all
32 measurements shall be 120+3 volts rms. The LED circuitry shall prevent flicker at less
33 than 100 Hz over the voltage range specified above. Fluctuations in the line voltage
34 specified above shall not affect luminous intensity by more than +10%. The signal
35 module on-board circuitry shall include voltage surge protection to withstand high-
36 repetition noise transients and low-repetition high-energy transients as stated in Section
37 2.1.6, NEMA Standard TS-2, 1992. The individual LED light sources shall be wired so
38 that catastrophic failure of any one LED light source will result in the loss of not more
39 than 20% of the signal module light sources. LED pedestrian signal modules shall
40 provide a power factor of 0.90 or greater when operated at nominal operating voltage,
41 and 77 degrees C. Total harmonic distortion induced into an AC power line by an LED
42 pedestrian module shall not exceed 20 percent. Each LED pedestrian module and
43 associated onboard circuitry shall meet Federal Communications Commission (FCC)
44 Title 47, SubPart B, Section 15 regulations concerning the emission of electrical noise.
45 Two secured, color coded, 600V, 20AWG minimum, jacketed wires, conforming to the
46 National Electrical Code, rated for service at 221°C, shall be provided for electrical
47 connection.

48

1 **8-20.2(9-29.24) Service Cabinets**

2 Section 9-29.24 is supplemented with the following:

3

4 *(NWR March 4, 2009)*

5 **Service Cabinet Construction**

6 Service cabinets shall be fabricated from 0.125 inch sheet aluminum (5052 alloy) with
7 mill finish. The aluminum shall not be anodized and the exterior shall not be painted.

8 A spring-loaded construction core lock capable of accepting a Best 6-pin CX series core
9 installed by others shall be installed on all doors accessing WSDOT equipment.

10 Cabinet doors shall be four-hinged with a two-position door stop assembly and a three
11 point latch.

12 A three-position terminal block shall be installed between the main electrical service
13 panel and the photocell assembly base.

14 The cabinet bonding connection shall be a welded plate with stainless steel hardware,
15 Belleville washers, cu/al lug, and antioxidant compound. The bolt shall be torqued to fully
16 compress the Belleville washers.

17

18 *(*****)*

19 Service cabinets shall have ventilation louvers on the lower sides complete with screens
20 and filters.

21

22 *(NWR August 10, 2009)*

23 **Uninterruptible Power Supply (LED)**

24 The UPS system shall provide traffic signal system battery backup power in the event of
25 loss or failure of normal utility power. The UPS system shall be constructed for full on line
26 configuration (line interactive type), providing automatic voltage regulation and power
27 conditioning when under normal utility power. The transfer from utility power to battery
28 power and vice versa shall not interfere with the normal operation of the connected traffic
29 signal controller including conflict monitor and any other peripheral devices within the
30 traffic controller assembly.

31 The completely assembled UPS system, including enclosure, shall be obtained by the
32 Contractor from the following manufacturer:

33 Alpha Technologies, Inc.
34 3767 Alpha Way
35 Bellingham, WA 98226
36 Phone: 360 647 2360
37 Email: alpha@alpha.com
38 <http://www.alpha.com>

39 The UPS system shall include the following equipment:

40

41 **UPS Cabinet**

42 The enclosure cabinet shall be a CALTRANS approved Type 332 cabinet with the
43 following:

44 Items 2, 4, and 5 of the first paragraph of Section 9-29.13(7)E shall be provided with the
45 cabinet. Green construction cores shall be installed for each cabinet core lock.

46 The cabinet shall be provided with a breaker panel with two 15 amp, 120 volt, single pole
47 breakers, one each for the fan and the lights.

48 Item M of Section 9-29.13(7)C shall be provided with the cabinet.

49 Construction shall be of 0.125-inch sheet aluminum (5052 alloy), with mill finish. The
50 aluminum shall not be anodized and the exterior shall not be painted.

51 A thermostatically controlled cooling fan, with a minimum CFM of three times the cabinet
52 volume shall be installed at the top of the cabinet.

1 Three battery shelves shall be furnished. Each shelf shall be capable of supporting two
2 Alpha (220 GOLD-HP) batteries. A minimum of two and one half inches of side clearance
3 and six inches of overhead clearance is required for each battery.
4 A minimum of 12 inches of clearance shall be maintained between the bottom rack and
5 the bottom of the cabinet.
6

7 **Generator Transfer Switch and Enclosure**

8 The UPS Type 332 cabinet shall include a transfer switch enclosure of identical
9 materials, dimensions and installation methods as the police panel type enclosure
10 identified in the first paragraph of Section 9-29.13(7)E except that the enclosure door
11 shall include a spring loaded construction core lock capable of accepting a Best 6-pin CX
12 series core. The core lock shall be installed with a green construction core. Upon
13 contract completion, two master keys for the construction core shall be delivered to the
14 Engineer. The transfer switch enclosure shall be installed at the same location normally
15 occupied by the police panel enclosure.

16 The transfer switch enclosure shall contain the following generator transfer switch
17 equipment:

18 One NEMA L5-30P Flanged Inlet generator connector

19 One Utility power "ON" indicator light. The indicator light shall be labeled "Utility".

20 One generator power "ON" indicator light. The indicator light shall be labeled
21 "Generator".

22 Two 30 amp, 120 V, single-pole, single-phase, circuit breakers. One circuit breaker shall
23 be labeled "Generator" and the other circuit breaker shall be labeled "Utility". Both labels
24 shall be engraved phenolic name plates.

25 The enclosure shall include a mechanical lock out feature that prevents the Utility circuit
26 breaker and the Generator circuit breaker from being in the ON position at the same
27 time. The circuit breakers shall be capable of being independently switched.

28 The conductors from the generator transfer switch enclosure to the rack mounted
29 automatic transfer switch shall be enclosed in nylon mesh sleeve.

30 The enclosure door shall be labeled with the letters "GTS".
31

32 **UPS Internal Components**

33 The following equipment shall be furnished and mounted to the EIA rack in the UPS
34 cabinet.

35 Alpha – #017-201-31 Controller Power Module - FXM 2000 w/SNMP module

36 Alpha – # 020-168-25 Automatic Transfer Switch (UATS)

37 Alpha – # 740-755-21 Surge Suppressor Assembly, 120/240VAC

38 Alpha – # 740-748-23 Receptacle Plate Assembly

39 The following equipment shall be installed on the battery shelves:

40 Alpha – # 220 GOLD-HP GXL Battery (Four batteries shall be provided)

41 Alpha – #012-306-21 Alpha Guard Battery Management System

42 Alpha – #740-648-27 Battery Cable kit
43

44 **Maintenance and Operations Manual(s)**

45 Two Maintenance and Operations Manuals from Alpha Technologies shall be provided
46 for each UPS cabinet.
47

1 **8-20.2(9-29.25) Amplifier, Transformer, and Terminal Cabinets**

2 Section 9-29.25 is supplemented with the following:

3

4 *(NWR March 4, 2009)*

5 **Cabinet Material**

6 Nominal cabinet dimensions for Transformer 3.1 to 12.5 KVA shall be 20" (D) x 40" (H) x
7 24" (W).

8

9 **8-20.2(1) Equipment List and Drawings**

10 Section 8-20.2(1) is supplemented with the following:

11

12 *(NWR November 13, 1996)*

13 Manufacturer's data for materials proposed for use in the contract which require approval
14 shall be submitted in one complete package.

15

16 *(NWR April 19, 1995)*

17 Pole base to light source distances (H1) for lighting standards with pre-approved plans
18 shall be as noted in the Plans.

19

20 *(March 13, 1995)*

21 If traffic signal standards, strain pole standards, or combination traffic signal and lighting
22 standards are required, final verified dimensions including pole base to signal mast arm
23 connection point, pole base to light source distances (H1), mast arm length, offset
24 distances to mast arm mounted appurtenances, and orientations of pole mounted
25 appurtenances will be furnished by the Engineer as part of the final approved shop
26 drawings prior to fabrication.

27

28 *(*****)*

29 Complete shop drawings for the monotube structure shall be submitted to WSDOT
30 Bridges and Structures Office for approval prior to manufacturing the structure. The
31 monotube structure shall be considered as a Type SD structure.

32

33 **8-20.3 Construction Requirements**

34

35 **8-20.3(1) General**

36 Section 8-20.3(1) is supplemented with the following:

37

38 *(*****)*

39 **Electrical Order of Work**

40 Permanent signal and illumination facilities shall not be removed until the temporary
41 facilities for each stage of the construction are in place, tested, and fully functional.

42 Temporary signal and illumination facilities for each stage shall be fully functional before
43 the traffic is rerouted from the previous stage.

44

45 *(NWR May 15, 2000)*

46 **Energized Equipment**

47 Work shall be coordinated so that electrical equipment, with the exception of the service
48 cabinet, is energized within 72 hours of installation.

49

1 (NWR June 20, 1995)

2 **Pole Removal**

3 Poles designated for removal shall not be removed prior to approval of the Engineer.

4

5 (NWR January 11, 2005)

6 **Signal Display Installation**

7 Signal displays shall be installed no more than 30 days prior to scheduled signal turn on
8 or changeover.

9

10 (NWR October 31, 2005)

11 **Construction Core Installation**

12 The Contractor shall coordinate installation of construction cores with Contracting
13 Agency maintenance staff through the Engineer. The Contractor shall provide written
14 notice to the Engineer, a minimum of seven working days in advance of proposed
15 installation. The Contractor shall advise the Engineer in writing when construction cores
16 are ready to be removed.

17

18 (NWR May 15, 2000)

19 **Electrical Equipment Removals**

20 Removals associated with the electrical system shall not be stockpiled within the job site
21 without the Engineer's approval.

22

23 (NWR April 18, 1996)

24 **Contracting Agency Owned Equipment**

25 A portion of the temporary or existing electrical equipment to be removed shall remain
26 the property of the Contracting Agency.

27 The following shall be disconnected, dismantled, and delivered to the Contracting
28 Agency as specified in the subsection Delivery of Removed Items:

29 *** Controllers and controller cabinets

30 Service cabinets

31 Transformers

32 Cameras

33 Luminaires

34 Vehicle and pedestrian signal heads

35 Pedestrian pushbuttons

36 EVP detectors

37 Steel mast arm and signal poles

38 Steel lighting poles ***

39

40 (NWR April 11, 2001)

41 **Wire Removal**

42 Remove all wires from salvaged light and signal standards.

43

44 (NWR September 20, 1995)

45 **Controller Cabinet Removal**

46 Controller cabinets shall not be removed until all associated electronic equipment is
47 removed by Contracting Agency signals personnel. All other equipment shall be removed
48 by the Contractor and delivered within 24 hours following removal to the Contracting
49 Agency.

1 (NWR November 16, 1995)

2

3 **Span Wire Removal**

4 Span wire shall not be lowered or disconnected from strain poles until all associated
5 signal heads and signs have been removed from the span.

6

7 (NWR August 5, 1996)

8 **Pole Shaft and Mast Arm Identification**

9 All removed mast arms and pole shafts shall be identified by paper identification tags
10 recording pole number, intersection location (such as SR XXX, Jct XXX), and mast arm
11 length.

12 Four inch by six inch (minimum) tags shall be taped to corresponding pole shafts and
13 mast arms. Information on the mast arm tag shall match the information on the
14 corresponding pole shaft tag. Each tag shall be entirely covered with clear acetate tape.
15 The tape shall be wrapped one full circle around the shaft or arm with a 1/2 inch
16 minimum overlap at the ends and sides.

17 The Contractor shall bundle the complete signal standard assembly together. The
18 assembly consists of pole shaft, mast arm, and connecting bolts. Connecting bolts shall
19 be attached to the original mast arm base plate.

20

21 (NWR April 11, 2001)

22 **Contractor Owned Removals**

23 All removals associated with an electrical system, which are not designated to remain
24 the property of the Contracting Agency, shall become the property of the Contractor and
25 shall be removed from the project.

26 The Contractor shall:

- 27
- Remove all wires for discontinued circuits from the conduit system.
 - 28 • Remove elbow sections of abandoned conduit entering junction boxes.
 - 29 • Abandoned conduit encountered during excavation shall be removed to the
30 nearest outlets or as directed by the Engineer.
 - 31 • Remove foundations entirely, unless the Plans state otherwise.
 - 32 • Backfill voids created by removal of foundations and junction boxes. Backfilling
33 and compaction shall be performed in accordance with Section 2-09.3(1)E.

34

35 (*****)

36 **Relocation and Removal of Temporary Illumination**

37 The Contractor shall relocate temporary illumination equipment as noted on the
38 plans and as necessary for staged construction. When the permanent facilities are
39 activated or as directed by the Engineer, the Contractor shall remove all temporary
40 light poles, luminaires, mounting hardware, messenger cables, and circuit wires.
41 Equipment shall be salvaged as noted under "Delivery of Removed Items". Voids
42 created by the removal shall be backfilled as specified for foundation removal.

43

44 **Relocation and Removal of Temporary Traffic Control Equipment**

45 The Contractor shall relocate traffic control equipment as noted on the plans, as
46 directed by the Engineer, and as necessary to control vehicular and pedestrian
47 through the construction area during the various stages and sub-stages of
48 construction. When permanent control equipment is operational, or as noted on the
49 plans, or as directed by the Engineer, the Contractor shall remove all temporary

1 traffic control equipment. Equipment shall be salvaged as noted under "Delivery of
2 Removed Items". Voids created by the removal shall be backfilled as specified for
3 foundation removal.
4

5 (NWR February 22, 2005)

6 **Delivery of Removed Items**

7 Removed electrical equipment which remains the property of the Contracting Agency
8 shall be delivered to:

9 WSDOT Signal Shop

10 3700 9th Ave. So.

11 Seattle WA 98134

12 Phone: (206) 442-2110

13 Five days written advance notice shall be delivered to both the Engineer and the
14 Electronic Parts Specialist at the address listed above. Delivery shall occur during the
15 hours of 8:00 a.m. to 2:00 p.m. Monday through Friday. Material will not be accepted
16 without the required advance notice.

17 Equipment damaged during removal or delivery shall be repaired or replaced to the
18 Engineer's satisfaction at no cost to the Contracting Agency.

19 The Contractor shall be responsible for unloading the equipment where directed by the
20 Engineer at the delivery site.
21

22 (NWR May 15, 2000)

23 **Surface Mounted Appurtenances**

24 Electrical appurtenances to be surface mounted on structures shall be mounted so that a
25 minimum ¼ inch space is maintained between the appurtenance and structure.
26

27 **8-20.3(5) Conduit**

28 Section 8-20.3(5) is supplemented with the following:
29

30 (NWR August 10, 2009)

31 **Conduit Seal, Detectable Tape and Location Wire**

32 Upon installation of wiring, all conduits entering pad mounted cabinets, all conduit entering
33 ITS hubs, and all ITS conduit 2 inches in diameter or larger shall be sealed with an approved
34 mechanical plug at both ends of the conduit run. Installation of mechanical plugs shall
35 conform to the manufacturer's recommendations. Upon installation of wiring at other
36 locations, conduit shall be sealed with duct seal. Upon installation of the pull string, spare
37 conduit shall be plugged.
38

39 A pull string rated for 200 lbs. or greater shall be installed in all spare conduits.

40 Detectable underground warning tape shall be placed 12-inches above all innerduct installed
41 in trenches.
42

43 Location 14 AWG stranded orange USE insulated wire shall be placed in conjunction with all
44 innerduct installed in trenches. The location wire shall be placed directly above the conduit
45 containing innerduct in single conduit installations or between the conduits containing
46 innerduct in multiple conduit installations.
47

48 Location wire routed into pull boxes or cable vaults shall be attached to the "C" channel or
49 the cover hinge bracket with stainless steel bolts and straps. A 1-foot loop of locate wire shall
50 be provided above the channel as shown in the Plans.
51

1 **8-20.3(6) Junction Boxes, Cable Vaults, and Pull Boxes**

2 Section 8-20.3(6) is supplemented with the following:

3
4 (*****)

5 ***Junction Boxes, Cable Vaults, and Pull Boxes***

6 Unless otherwise noted in the Plans or approved by the Engineer, junction boxes, cable
7 vaults and pull boxes shall not be placed within the traveled way or paved shoulders.

8 All junction boxes, cable vaults, and pull boxes placed within the traveled way or paved
9 shoulders shall be heavy-duty.

10
11 Wiring shall not be pulled into any conduit until all associated junction boxes have been
12 adjusted to, or installed in, their final grade and location, unless installation is necessary
13 to maintain system operation. If wire is installed for this reason, sufficient slack shall be
14 left to allow for future adjustment.

15
16 When junction boxes, cable vaults and pull boxes are installed or adjusted prior to
17 construction of finished grade, pre-molded joint filler for expansion joints may be placed
18 around the junction boxes, cable vaults and pull boxes. The joint filler shall be removed
19 prior to adjustment to finished grade.

20
21 Adjustments involving raising or lowering of new or existing junction boxes shall require
22 conduit modification if the resultant clearance between top of conduit and the junction
23 box lid becomes less than six inches or more than ten inches. Wiring shall be replaced if
24 sufficient slack is not maintained.

25
26 The six-inch gravel pad required in the Standard Plans shall be maintained. When
27 existing junction boxes do not have this gravel pad, it shall be installed as part of the
28 adjustment to finished grade.

29
30 Where conduit and junction boxes are placed in barrier, the prime Contractor shall
31 coordinate the work of the Contractor constructing the barrier and the electrical
32 Contractor so that each junction box placed in the barrier is placed in correct alignment
33 with respect to the barrier, with the face of the box flush. The junction box shall be
34 parallel to the top of the barrier within a 1-degree tolerance. If any point on the face of a
35 junction box placed in barrier is recessed more than 1/8 inch from the surface of the
36 barrier, the Contractor shall install a box extension per the Engineer's approval and grout
37 around the extension or remove and replace the entire section of barrier.

38
39 Heavy-duty Type 4, 5 and 6 junction boxes, cable vaults and pull boxes shall be installed
40 in accordance with the following:

- 41 1. Excavation and backfill shall be in accordance with Section 2-09. Excavation for
42 junction boxes, cable vaults and pull boxes shall be sufficient to leave one foot in
43 the clear between their outer surface and the earth bank.
- 44 2. Junction boxes, cable vaults and pull boxes shall be installed on a level 6-inch
45 layer of crushed surfacing top course, in accordance with 9-03.9(3), placed on a
46 compacted or undisturbed foundation. The crushed surfacing shall be compacted
47 in accordance with Section 2-09.3(1)E.
- 48 3. After installation, the lid/cover shall be kept bolted down during periods when
49 work is not actively in progress at the junction box, cable vault or pull box.
- 50 4. Before closing the lid/cover, the lid/cover and the frame/ring shall be thoroughly
51 brushed and cleaned of all debris. There shall be absolutely no visible dirt, sand
52 or other foreign matter between the bearing surfaces.

- 1 5. When the lid/cover is closed for the final time, a liberal coating of anti-seize
- 2 compound shall be applied to the bolts and nuts and the lid shall be securely
- 3 tightened.
- 4 6. Hinges on the Type 4, 5 and 6 junction boxes shall be located on the side of the
- 5 box, which is nearest to adjacent shoulder. Hinges shall allow the lid to open 180
- 6 degrees.

7

8 **8-20.3(8) Wiring**

9 Section 8-20.3(8) is supplemented with the following:

10 *(NWR April 14, 2003)*

11 **Wire Labels**

12 At each junction box, all illumination wires, power supply wires, and communication

13 cable shall be labeled with a PVC marking sleeve. For illumination and power supply

14 circuits the sleeve shall bear the circuit number. For communication cable the sleeve

15 shall be marked "Comm."

16

17

18 *(NWR March 13, 1995)*

19 **Wire Splices**

20 All splices shall be made in the presence of the Engineer.

21

22 *(NWR May 1, 2006)*

23 **Illumination Circuit Splices**

24 Temporary splices shall be the heat shrink type.

25

26 *(March 13, 1995 WSDOT GSP)*

27 **Field Wiring Chart**

501	AC+ Input	516-520	Railroad Pre-empt
502	AC- Input	5A1-5D5	Emergency Pre-empt
503-510	Control-Display	541-580	Coordination
511-515	Sign Lights	581-599	Spare

28

Movement Number	1	2	3	4	5	6	7	8	9
Vehicle Head									
Red	611	621	631	641	651	661	671	681	691
Yellow	612	622	632	642	652	662	672	682	692
Green	613	623	633	643	653	663	673	683	693
Spare	614	624	634	644	654	664	674	684	694
Spare	615	625	635	645	655	665	675	685	695
AC-	616	626	636	646	656	666	676	686	696
Red Auxiliary	617	627	637	647	657	667	677	687	697
Yellow Auxiliary	618	628	638	648	658	668	678	688	698
Green Auxiliary	619	629	639	649	659	669	679	689	699
Pedestrian Heads & Dets.									
Hand	711	721	731	741	751	761	771	781	791
Man	712	722	732	742	752	762	772	782	792
AC-	713	723	733	743	753	763	773	783	793
Detection	714	724	734	744	754	764	774	784	794
Common-Detection	715	725	735	745	755	765	775	785	795
Spare	716	726	736	746	756	766	776	786	796
Spare	717	727	737	747	757	767	777	787	797
Spare	718	728	738	748	758	768	778	788	798
Spare	719	729	739	749	759	769	779	789	799
Detection									

Movement Number	1	2	3	4	5	6	7	8	9
AC+	811	821	831	841	851	861	871	881	891
AC-	812	822	832	842	852	862	872	882	892
Common-Detection	813	823	833	843	853	863	873	883	893
Detection A	814	824	834	844	854	864	874	884	894
Detection B	815	825	835	845	855	865	875	885	895
Loop 1 Out	816	826	836	846	856	866	876	886	896
Loop 1 In	817	827	837	847	857	867	877	887	897
Loop 2 Out	818	828	838	848	858	868	878	888	898
Loop 2 In	819	829	839	849	859	869	879	889	899
Supplemental Detection									
Loop 3 Out	911	921	931	941	951	961	971	981	991
Loop 3 In	912	922	932	942	952	962	972	982	992
Loop 4 Out	913	923	933	943	953	963	973	983	993
Loop 4 In	914	924	934	944	954	964	974	984	994
Loop 5 Out	915	925	935	945	955	965	975	985	995
Loop 5 In	916	926	936	946	956	966	976	986	996
Loop 6 Out	917	927	937	947	957	967	977	987	997
Loop 6 In	918	928	938	948	958	968	978	988	998
Spare	919	929	939	949	959	969	979	989	999

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8-20.3(9) Bonding, Grounding

Section 8-20.3(9) is supplemented with the following:

(NWR August 21, 2006)

Junction Box Grounding

Where shown in the Plans or where designated by the Engineer, the metal frame and lid of existing junction boxes shall be grounded to the existing equipment grounding system. The existing equipment grounding system shall be derived from the service serving the raceway system of which the existing junction box is a part.

8-20.3(10) Services, Transformer, Intelligent Transportation System Cabinet

Section 8-20.3(10) is supplemented with the following:

(NWR March 4, 2009)

Cabinet Construction Core

A green construction core shall be installed for each cabinet core lock. Upon contract completion, two master keys for each cabinet shall be delivered to the Engineer.

8-20.3(11) Testing

Section 8-20.3(11) is supplemented with the following:

(NWR August 5, 1996)

Communication Cable Acceptance Testing

Communications cable acceptance testing shall be performed for each pair of conductors. Acceptance testing shall commence only after all communication cable is installed, and all splices have been completed, with the exception of the splices connecting the new cable to existing cable. If any test fails, repairs shall be made by the Contractor and the entire test series shall be repeated.

1 Three tests shall be performed on each cable installation. All tests shall be conducted in
2 the presence of the Engineer. The Contractor shall provide the necessary test
3 equipment, perform the tests, and document the results. When the tests are completed,
4 whether successful or not, the test result documentation shall be provided to the
5 Engineer. All tests shall be conducted on all pairs in the communication cable to each
6 cable drop point. Seven calendar days notice shall be given by the Contractor prior to
7 performing any of the tests.

8 For each arterial all testing shall be conducted from the same cable drop point.
9

10 **Continuity Test**

11 The continuity test shall be made on each conductor as well as the cable shield.
12 Each conductor and/or shield shall show a resistance of not more than 20 ohms
13 per 1,000 feet of conductor. The resistance of each conductor shall be recorded.
14

15 **Insulation Test**

16 The insulation test shall be measured on each insulated conductor with all other
17 conductors in the cable (including cable shield) grounded. The measurement shall
18 be made with a DC potential of not less than 60% and not more than 90% of the
19 insulation rating for 1 minute. Insulation resistance shall exceed 5,000 megohm-
20 miles. The insulation resistance of each conductor shall be recorded.
21

22 **Frequency Response and Noise Test**

23 The frequency response and noise tests shall be performed on each pair of
24 conductors. All tests shall be made using transmission test instruments designed
25 especially for use on data circuits. Two such instruments are required; one for use
26 at the designated testing location and the other for use at each cable drop location.
27 The test sets shall be subject to approval by the Engineer prior to the start of the
28 tests.

29 The first test shall measure frequency response from the test location to each cable
30 drop. A tone of 0 dBm shall be applied to the transmitting end and the signal level
31 shall be measured at the receiving end. The cable pair being tested shall be
32 isolated from ground and terminated in 600 ohms at both test locations. A 10,000
33 ohm resistor shall terminate the same pair at all other cable drop locations. The test
34 shall be performed at frequencies of 300, 500, 700, 1,004, 1,500, 2,300, and 3,000
35 Hz. The received tone shall be:

36
37 Greater than minus 16 dBm at 1,004 Hz.

38 2 dB gain to 8 dB loss with respect to the level at 1,004 Hz over the frequency
39 range of 500 to 2,500 Hz.
40

41 2 dB gain to 12 dB loss with respect to the level at 1,004 Hz over the frequency
42 ranges of 300 to 500 Hz and 2,500 to 3,000 Hz.
43

44 The second test shall measure circuit or background noise. The cable pair being
45 tested shall be terminated the same as in the previous test. A C-message filter in
46 the test set shall restrict the spectrum to the range normally used for voice-grade
47 data circuits. The noise level shall be at least 13 dB below the lowest signal level
48 measured in the first test.
49

50 All test data shall be recorded in an approved format. Cables which fail the tests
51 shall be repaired or replaced as directed by the Engineer.
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(NWR October 16, 2010)

Traffic Signal Turn-on

Prior to a Traffic Signal Turn-on event, the contractor shall conduct a Pre Turn-on coordination meeting with the following Contracting Agency personnel included as invited attendees:

- Project Engineer
- Project Chief Inspector
- Electrical Inspector
- Signal Operations Engineer
- Signal Maintenance Technician

The Contractor shall provide the Engineer a minimum of 5 days written notice of the proposed Pre Turn-on coordination meeting date and time.

Prior to the Pre Turn-on coordination meeting, the Contractor shall complete the items of work detailed in the Traffic Signal Turn-on Checklist and submit the completed checklist to the Engineer. The Traffic Signal Turn-on Checklist form will be furnished to the Contractor by the Engineer.

Prior to scheduling a turn-on date, the Contractor shall provide verification to the Engineer that tests 1, 2, and 3 as specified in this section have been completed.

(NWR August 10, 2009)

UPS Cabinet Acceptance Testing

The UPS cabinet shall be tested at the Washington State Department of Transportation Materials Laboratory located in Tumwater, Washington, prior to final delivery. The tests shall check the operation of each individual component as well as the overall operation of the system.

The Contractor shall designate a qualified representative for these tests. Notification of this representative shall be submitted for approval, in writing, to the State Materials Laboratory, 14 calendar days prior to any equipment deliveries. The Engineer shall also receive a copy of this notification, which includes the representative's name, address, and telephone number. All communications and actions regarding testing of all equipment submitted to the State Materials Laboratory shall be made through this representative. These communications and actions shall include, but not be limited to, all notifications of failure or rejection, demonstration of the equipment, and the return of rejected equipment.

The State Materials Laboratory testing process will consist of the following three separate stages:

- a. Delivery and Assembly
- b. Demonstration and Documentation
- c. Performance Test

Testing will follow in the correct order with no time gaps between stages unless mutually agreed upon by the Contractor and State Materials Laboratory.

Stage 1 Delivery and Assembly

Prior to delivery of the UPS cabinet to the State Materials Laboratory, all components and equipment, including the batteries shall be fully installed in the cabinet and the cabinet operations shall be successfully tested by the Contractor's representative.

1 After the cabinet has been successfully tested, the batteries shall be removed from
2 the cabinet and the cabinet and batteries shall be delivered, independently, to the
3 State Materials Laboratory. Upon delivery to the State Materials Laboratory, the
4 batteries shall be reinstalled in the cabinet and the cabinet shall be made fully
5 operational by the Contractor's representative.
6

7 All components for the complete UPS system, including the necessary test
8 equipment, shall be assembled and ready for demonstration within ten working
9 days of delivery to the Materials Laboratory. The systems shall simulate the
10 operations as installed in the field.
11

12 The Contractor shall provide labor, equipment, and materials necessary to
13 assemble all UPS equipment, including battery installation, and make ready for
14 demonstration.
15

16 **Stage 2 Documentation and Demonstration**

17 Documentation

18 All documentation shall be furnished with the UPS equipment prior to the start of
19 testing. The documents to be supplied shall consist of the following:

- 20 a. A complete set of documents which shall include:
- 21 1. Serial numbers when applicable.
 - 22 2. Wiring diagrams for all equipment furnished. One set per cabinet.
 - 23 3. Complete operations and maintenance manuals. Two sets per cabinet.
- 24 b. A description of the functions and the capabilities of individual components and
25 of the overall UPS system.

26 Demonstration

27 The Contractor shall provide the following:

- 28 a. A presentation on how to operate the system.
- 29 b. A complete and thorough demonstration to show that all components of the
30 UPS system are in good condition and operating properly.

31 The demonstration shall be performed by the Contractor's representative in the
32 presence of State Materials personnel.
33

34 **Stage 3 Unit Performance Test**

35 The unit performance test will be conducted by State Personnel to determine if
36 each and every UPS cabinet assembly performs correctly.

37 The performance test shall include the testing of the following specifications:

- 38
- 39 • Battery Discharge Rate
 - 40 • Battery Recharge Rate
 - 41 • Power Transfer Rate

42 Test results shall be within the manufacturers recommended values in order for the
43 tests to be considered successful.
44

44 **Equipment Failure or Rejection**

45 All component or system failures shall be documented. This documentation shall
46 provide the following information:

- 47 a. A detailed description of the failure.
- 48 b. The steps undertaken to correct the failure.
- 49 c. A list of parts that were replaced, if any.

1 All failed or rejected equipment shall be removed from the Materials Laboratory
2 within three working days following notification; otherwise, the failed or rejected
3 equipment will be returned, freight collect, to the Contractor.
4 Following final approval by the State Materials Laboratory, all equipment shall be
5 removed from the State Materials Laboratory, by the contractor and delivered to
6 sites as designated elsewhere in this contract.

7
8 **UPS Cabinet Field Testing**
9 After installation, the Contractor shall field test the UPS system to ensure the
10 system operates in accordance with plans, specifications, and manufacturer's
11 instructions. The test shall ensure that that all components are operational within
12 manufacturer's tolerances. The Contractor shall provide a testing procedure to the
13 Engineer for approval. The testing procedure shall provide for operational testing of
14 the following:

- 15 • UPS Power Module
- 16 • Surge Suppressor
- 17 • Automatic Transfer Switch
- 18 • Generator Power Transfer Switch

19 The field test shall demonstrate the loss of utility power and the switch over to
20 battery power without interference with the normal operation of the connected traffic
21 signal controller including conflict monitor and any other peripheral devices within
22 the traffic controller assembly.

23
24 **8-20.3(13) Illumination Systems**

25
26 **8-20.3(13)A Light Standards**
27 Section 8-20.3(13)A is supplemented with the following:

28
29 *(NWR May 1, 2006)*
30 **Slip Base**
31 When slip bases are installed, the conduit, anchor bolts, and other obstructions shall
32 terminate at a height below the elevation of the top of the bottom slip plate.

33
34 **8-20.3(14) Signal Systems**
35 Section 8-20.3(14) is supplemented with the following:

36
37 *(NWR August 10, 2009)*
38 **Temporary Video Detection System**
39 Temporary video detection systems shall be completely installed and made operational
40 prior to any associated induction loop being disabled.

41
42 *(NWR August 10, 2009)*
43 **Video Detection Equipment Training**
44 The Contractor shall provide a minimum of eight hours of video detection equipment
45 training for Contracting Agency personnel. The Contractor shall provide for the video
46 equipment manufacturer or their duly authorized representative to conduct the training.
47 The Contractor shall notify the Project Engineer seven days in advance of the training
48 session. All pertinent documentation including, but not limited to maintenance and

1 operation manuals and wiring diagrams shall be made available for use in this training
2 session.

3
4 **8-20.3(14)A Signal Controllers**

5 Section 8-20.3(14)A is supplemented with the following:

6

7 *(NWR March 13, 1995)*

8 **Signal Controllers**

9 *** The signal controller cabinet and controller *** will be delivered to the job site by the
10 Contracting Agency.

11

12 *(August 2, 2010)*

13 **Testing**

14 All signal control equipment shall be tested at the Washington State Department of
15 Transportation Materials Laboratory located in Tumwater, Washington, prior to final
16 delivery. The tests shall check the operation of each individual component as well as the
17 overall operation of the system.

18 The Contractor shall designate a qualified representative for these tests. Notification of
19 this representative shall be submitted for approval, in writing, to the State Materials
20 Laboratory, 14 calendar days prior to any equipment deliveries. The Engineer shall also
21 receive a copy of this notification, which includes the representative's name, address,
22 and telephone number. All communications and actions regarding testing of all
23 equipment submitted to the State Materials Laboratory shall be made through this
24 representative. These communications and actions shall include, but not be limited to,
25 the following:

26 All notifications of failure or rejection, demonstration of the equipment, and the return of
27 rejected equipment.

28 The State Materials Laboratory testing process will consist of the following four separate
29 stages:

- 30 a. Delivery and Assembly
31 b. Demonstration and Documentation
32 c. Performance Test
33 d. Operational Test

34 Testing will follow in the correct order with no time gaps between stages unless mutually
35 agreed upon by the Contractor and State Materials Laboratory.

36

37 **Stage 1 Delivery Assembly**

38 All components for the complete traffic control systems, including the necessary test
39 equipment, shall be assembled and ready for demonstration within ten working days of
40 delivery to the Materials Laboratory. The systems shall simulate the operations as
41 installed in the field.

42 Equipment and prerequisites necessary to complete this stage shall include:

43 a. Detection Simulator:

44 The detection simulator shall provide at least one detector per phase and variable
45 traffic volumes. One simulator shall be required for every two controllers tested.

46 b. Communications Network:

47 Locations, specified for coordinating communications equipment and cable, shall
48 be completely wired to provide an operational communications system between
49 all local and master controllers.

1 The Contractor shall provide labor, equipment, and materials necessary to assemble all
2 control equipment complete and ready for demonstration. Materials and equipment used
3 for this stage that are not required for field installation shall remain the property of the
4 Contractor. Failure to complete this stage within ten working days will result in rejection
5 of the entire system.
6

7 **Stage 2 Demonstration and Documentation**

8 This stage shall be completed within seven working days following the completion of
9 Stage 1. Failure to do so shall result in rejection of the entire shipment.

10 All documentation shall be furnished with the control equipment prior to the start of
11 testing. If corrections to any document are deemed necessary by the State, the
12 Contractor shall submit this updated version prior to the final approval by the State
13 Materials Laboratory. The documents to be supplied shall consist of or provide the
14 following:

- 15 a. A Complete accounting of all the control and test equipment required.
- 16 b. A complete set of documents which shall include:
 - 17 1. Serial numbers when applicable.
 - 18 2. Written certification that equipment of the same make and model has been
19 tested according to NEMA Environmental Standards and Test Procedures,
20 and has met or exceeded these standards. The certificate shall include
21 equipment model number and where, when, and by whom the tests were
22 conducted. This certificate shall accompany each shipment of controllers.
 - 23 3. Reproducible Mylar wiring diagrams and two blue-tone prints for each
24 controller and cabinet supplied. The sheet size shall be 24 inches by 36
25 inches.
 - 26 4. Wiring diagrams for all auxiliary equipment furnished. One set per cabinet.
 - 27 5. Complete operations and maintenance manuals including complete and
28 correct software listing and flow charts. One set of operations and
29 maintenance manuals per cabinet; at least four but no more than ten. Five
30 sets of software listings and flow charts.
 - 31 6. Complete operations and maintenance manuals for all auxiliary equipment.
32 One set per cabinet.
- 33 c. A description of the functions and the capabilities of individual components and of
34 the overall control system.
- 35 d. A presentation on how to operate the system.
- 36 e. A complete and thorough demonstration to show that all components of the
37 control system are in good condition and operating properly, and proof that the
38 controller and cabinet are functioning correctly.
- 39 f. Detailed instructions for installing and operating the controller(s), including
40 explanations on the use of all features of the controller(s).
- 41 g. The operational and maintenance manuals for each traffic signal controller
42 supplied including as a minimum, but not to be limited to the following:
 - 43 1. Detailed instructions for maintaining all hardware components, controller, and
44 auxiliary equipment.
 - 45 2. A complete parts list detailing all manufacturer's identification codes.

- 1 3. Detailed wiring diagrams and schematics indicating voltage levels and
2 pictorial description, part name, and location for all hardware components,
3 controller, and auxiliary equipment.
4 The demonstration shall include the following:
5 a. Phasing per plans and all phase timing.
6 b. Detection including any special detector functions.
7 c. Conflict Monitor and Load Switches.
8 d. Special Coordination including communication equipment.

9 This demonstration shall be performed by the Contractor in the presence of State
10 Materials personnel. The Contractor shall supply any item not accounted for within five
11 working days of the accounting. Controllers and cabinets that remain incomplete five
12 working days after notification shall be rejected and returned freight collect to the
13 Contractor.

14
15 **Stage 3 Unit Performance Test**

16 A minimum of ten working days shall be allowed for one or two cabinet assemblies and
17 five working days for each additional assembly.

18 The unit performance test will be conducted by State Personnel to determine if each and
19 every controller cabinet assembly complies with NEMA Environmental Standards as
20 stated in NEMA publication No. TS 1-1976, Part 2.

21 Any unit submitted, whose failure has been corrected, shall be retested from the
22 beginning of this stage.

23 **Stage 4 Operational Test**

24 All control and auxiliary equipment shall operate without failure for a minimum of ten
25 consecutive days. If an isolated controller is specified, it shall operate as an isolated
26 controller. If a coordinated system is specified, it shall operate as a total coordinated
27 system with the master and all local controllers operating in all coordinated modes.

28 If any failure occurs during this stage, all equipment for this stage shall be restarted
29 following completion of repairs.

30
31 **Equipment Failure Or Rejection**

32 Equipment failures shall be defined as set forth in NEMA Publication No. TS 1-1976.
33 Failure of load switches, detector amplifiers, and conflict monitors shall not result in
34 rejection of the controller or cabinet. However, the Contractor shall stock, as
35 replacements, approximately 30 percent more than the total for these three items. All
36 excess material shall remain the property of the Contractor following completion of all
37 tests.

38 If a failure occurs during Stages 3 or 4, repairs shall be made and completed within ten
39 working days following notification of the malfunction. The Contractor shall have the
40 option of making on-site repairs or repair them at a site selected by the Contractor.
41 Failure to complete repairs within the allotted time shall result in rejection of the controller
42 or cabinet assembly under test.

43 A total of two failures will be allowed from the start of Stage 3 to the end of Stage 4. If
44 three failures occur during this time period, the equipment will be rejected. New
45 equipment of different serial numbers submitted as replacement shall be received by the
46 Materials Laboratory for testing under Stage 3 within ten working days following
47 notification of rejection. Failure to meet this requirement within the allotted time will result
48 in rejection of the entire system. Software errors will be considered as failures and, if not
49 corrected within ten working days, the entire system will be subject to rejection.

1 Following rejection of any equipment, the Contractor shall be responsible for all costs
2 incurred. This shall include but not be limited to all shipping costs.
3 When the traffic control program is supplied by the State, the Contractor shall prove that
4 any failures are, in fact, caused by that program and not the hardware.
5 All component or system failures, except load switches and detector amplifiers, shall be
6 documented. This documentation shall be submitted prior to commencing the test or
7 stage in which the failure was found and shall provide the following information:

- 8 a. A detailed description of the failure.
- 9 b. The steps undertaken to correct the failure.
- 10 c. A list of parts that were replaced, if any.

11 Upon completion of the tests, the equipment will be visually inspected. If material
12 changes are observed which adversely affect the life of the equipment, the cause and
13 conditions shall be noted. The Contractor will immediately be given notice to correct
14 these conditions. If not repaired within ten working days of notification, the equipment will
15 be subject to rejection. A final accounting shall be made of all equipment prior to
16 approval.

17 All failed or rejected equipment shall be removed from the Materials Laboratory within
18 three working days following notification; otherwise, the failed or rejected equipment will
19 be returned, freight collect, to the Contractor.

20 Following final approval by the State Materials Laboratory, all equipment shall be
21 removed from the State Materials Laboratory and delivered to sites as designated
22 elsewhere in this contract.

23 **Guarantees**

24 Guarantees and warranties shall be in accordance with Section 1-05.10.
25 (*NWR March 13, 1995*)

26 **Controller Equipment Training**

27 The Contractor shall provide a minimum of eight hours training for Contracting Agency
28 personnel. Qualified personnel, mutually agreed upon by the Contracting Agency and
29 Contractor, shall conduct the training. All sessions shall be conducted during Stages 2, 3,
30 and 4 as described under Testing in this Special Provision. The Contractor shall notify
31 the Project Engineer, who in turn shall notify the Regional Traffic Engineer, seven days in
32 advance of the training session. All documentation (maintenance manuals, wiring
33 diagrams, etc.) shall be made available for use in this training session.

34 This training shall include, but not be limited to, the following:

- 35 1. Operations: (approximately four hours in length):
 - 36 a. Equipment Energization Procedures
 - 37 b. Utilization of Operator Controls
 - 38 c. Input Procedures
- 39 2. Maintenance: (approximately four hours in length):
 - 40 a. Hardware Maintenance
 - 41 b. System Trouble Shooting
 - 42 c. Detection of Abnormal Conditions
 - 43 d. Emergency Operating Procedures

44 All participants are assumed to have a basic working knowledge of electronics.
45 Training sessions shall emphasize hands-on training.

1 No compensation shall be made to the Contractor if the "Controller Equipment Training"
2 bid item is cancelled prior to the end of the procurement period, in accordance with
3 Section 1-09.5.
4

5 **8-20.3(14)B Signal Heads**

6 Section 8-20.3(14)B is supplemented with the following:
7

8 *(NWR December 3, 2010)*

9 **Signal Heads Installation with Back Plates**

10 The first paragraph is revised to read as follows:

11 Signal heads shall not be installed at any intersection until all other signal equipment is
12 installed and the controller is in place, inspected, and ready for operation at that
13 intersection, unless ordered by the Engineer. If the Engineer orders advance installation,
14 the signal heads shall be covered to clearly indicate the signal is not in operation. The
15 signal head covering material shall be of sufficient size to entirely cover the display. The
16 covering shall extend over all edges of the signal housing and shall be securely fastened
17 at the back.

18 Signal heads shall be installed with back plates. A 1.5-inch wide strip of yellow retro
19 reflective sheeting shall be applied to the outside border of the back plates in accordance
20 with the manufacturer's recommendations. The application surface of the back plate
21 shall be cleaned, degreased with isopropyl alcohol and dried prior to application of the
22 sheeting.
23

24 **8-20.3(14)C Induction Loop Vehicle Detectors**

25 Section 8-20.3(14)C is supplemented with the following:
26

27 *(NWR August 16, 2010)*

28 **Round Loops**

29 Round loops shall be constructed in accordance with the following requirements:

- 30 1. Loop conductor and lead in cable shall conform to these Special Provisions.
- 31 2. Round sawcuts shall be six feet in diameter and shall be constructed using
32 equipment designed for cutting round loops. The equipment shall use a concave,
33 diamond-segmented blade. The sawcuts shall be normal to the pavement surface
34 and shall be a minimum of 0.25 inches wide. The sawcut depth shall be a
35 minimum of 2 5/8 inches and a maximum of three inches measured at any point
36 along the perimeter, except on bridge decks. Other methods of constructing the
37 round sawcut, such as anchoring a router or flat blade saw, will not be allowed.
- 38 3. The bottom of the sawcut shall be smooth. No edges created by differences in
39 sawcut depths will be allowed.
- 40 4. All sawcut corners shall be rounded to a minimum 1.5 inch radius.
- 41 5. All sawcuts shall be cleaned with a 1000 psi high pressure washer as certified by
42 the manufacturer's label on the machine or as measured by an in line pressure
43 gauge. Wash water and slurry shall be vacuumed out and the sawcut shall be
44 blown dry with compressed air. Disposal of the wash water and slurry shall
45 comply with the requirements of Section 1-07.5(3) and the Special Provision
46 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
- 47 6. Loops shall be installed after paving the final lift of roadway surfacing
48 material.
- 49 7. The conductor shall be installed one turn on top of the previous turn. All turns
50 shall be installed in a clockwise direction. The conductors shall be secured to
51 prevent floating with 2-inch lengths of high temperature foam backer rod sized for

- 1 a snug fit. The backer rod shall be spaced at 2-foot intervals around the perimeter
2 of the sawcut and at corners.
- 3 8. Installation of the sealant shall completely encapsulate the loop conductors. A
4 minimum of one inch of sealant shall be provided between the top of the
5 conductors and the top of the sawcut. The top of the sealant shall be flush to 1/8
6 inch below the top of the sawcut.
- 7 9. Use of kerosene solvent is prohibited.

8
9 (NWR October 16, 2006)

10 **Preformed Loops**

11 Where indicated in the Plans, detector loops shall be preformed.

12 Preformed detector loops and homeruns located in bridge roadway slabs shall be supported
13 at a depth of 1 to 1-1/2 inches below the finished grade and one inch minimum above the top
14 layer of steel reinforcing bars. Preformed detector loops and homeruns shall be supported
15 by metal or plastic chair supports conforming to Section 6-02.3(24)C. The loops shall be
16 supported every 12 inches at a minimum. Loops and homeruns shall be tie wrapped and
17 anchored so that they remain at a depth 1 to 1-1/2 inches below the finished grade and one
18 inch minimum above the top layer of steel reinforcing bars.

19 Preformed detector loops and homeruns located in cement concrete pavement, outside
20 of bridge roadway slabs, shall be supported at a depth of four to six inches below the
21 finished grade with plastic chair supports meeting the requirements of Section 6-
22 02.3(24)C. The loops shall be supported every 12 inches at a minimum. Loops and
23 homeruns shall be tie wrapped and anchored with epoxy coated rebar stakes so that
24 they remain at a depth four to six inches below the finished grade. Epoxy coated rebar
25 stakes shall be driven a minimum of four inches into the subgrade.

26 Preformed detector loops and homeruns located in hot mix asphalt shall be installed
27 after all grinding and prior to paving the final lift of asphalt.

- 28 1. Round sawcuts shall be six feet in diameter and shall be constructed using
29 equipment designed for cutting round loops. The equipment shall use a concave,
30 diamond-segmented blade. The sawcut shall be normal to the pavement surface
31 and shall be a minimum of 0.1 inches wider than the preformed detector loop.
32 The sawcut depth shall be a minimum of one inch and a maximum of two inches
33 measured at any point along the perimeter, except on bridge decks. Other
34 methods of constructing the round sawcut, such as anchoring a router or flat
35 blade saw, will not be allowed.
- 36 2. The bottom of the sawcut shall be smooth. No edges created by differences in
37 sawcut depths will be allowed.
- 38 3. All sawcut corners shall be rounded to a minimum 1.5 inch radius.
- 39 4. All sawcuts shall be cleaned with a 1000 psi high pressure washer as certified by
40 the manufacturer's label on the machine or as measured by an in line pressure
41 gauge. Wash water and slurry shall be vacuumed out and the sawcut shall be
42 blown dry with compressed air. Disposal of the wash water and slurry shall
43 comply with the requirements of Section 1-07.5(3) and the Special Provision
44 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
- 45 5. The preformed detector loops shall be secured to prevent floating with 2-inch
46 lengths of high temperature foam backer rod sized for a snug fit. The backer rod
47 shall be spaced at 2-foot intervals around the perimeter of the sawcut and at
48 corners.
- 49 6. Installation of the sealant shall completely encapsulate the preformed detector
50 loops. A minimum of 1/2 inch of sealant shall be provided between the top of the
51 preformed detector loop and the top of the sawcut. The top of the sealant shall be
52 flush to 1/8 inch below the top of the sawcut.

1 7. Use of kerosene solvent is prohibited.
2 The loop manufacturer shall mark the wire ends clearly with start and finish.
3 A minimum of six inches of hose assembly and two feet of slack homerun wire with the
4 hose removed shall be coiled in the junction box.
5 Each successive preformed detector loop shall be installed with the homeruns twisted in
6 alternating directions.

7
8 *(NWR October 5, 2009)*

9 **Existing Traffic Loops**

10 The Contractor shall notify the Area Traffic Engineer through the Engineer a minimum of
11 five working days in advance of pavement removal or grinding in areas with existing
12 loops.

13 If the Engineer suspects that damage to any loop, not identified in the Plans as being
14 replaced, may have resulted from Contractor's operations or is not operating adequately,
15 the Engineer may order the Contractor to perform the field tests specified in Section 8
16 20.3(14)D. The test results shall be recorded and submitted to the Engineer. Loops that
17 fail any of these tests shall be replaced.

18 Loops that fail the tests, as described above, and are replaced shall be installed in
19 accordance with current WSDOT design standards and Standard Plans, as determined
20 by the Engineer.

21 If traffic signal loops that fail the tests, as described above, are not replaced and
22 operational within 48 hours, the Contractor shall install and maintain interim video
23 detection until the replacement loops are operational. The type of interim video detection
24 furnished shall be approved by the Engineer prior to installation.

25
26 *(NWR February 22, 2005)*

27 **Induction Loop Installation**

28 In Section 8-20.3(14)C, Items 2 and 11 and the last two sentences of Item 4 are deleted.

29
30 **8-20.3(14)D Test for Induction Loops and Lead-in Cable**

31 Section 8-20.3(14)D is supplemented with the following:

32
33 *(NWR October 5, 2009)*

34 **Induction Loop Tests**

35 Test A and Test D are revised as follows:

36 Test A – The DC resistance between the 2 lead-in cable wires, including the loop,
37 shall be measured by a volt ohmmeter. The resistance shall not exceed 5-ohms or
38 lower the Q of the circuit below 5 where Q is equal to the "Inductive Impedance @ 50
39 kHz" divided by "Resistance".

40 Test D – An inductance test shall be made to determine the inductance level of each
41 inductance loop. The Contractor shall record the inductance level of each inductance
42 loop installed on the project and shall furnish the findings to the Engineer. An
43 induction level, as measured from the controller cabinet, below 50-microhenries is
44 considered a failure.

45
46 *(NWR October 5, 2009)*

47 **Preformed Loop Tests**

48 Where preformed loops are installed under cement concrete pavement, testing of the
49 induction loop and lead-in cable shall be done immediately prior to laying the concrete.
50 Tests A, C and D shall be repeated after the placement of the cement concrete
51 pavement.

1 (NWR October 5, 2009)

2

3 **Existing Lead-in Cable Test**

4 When new induction loops are scheduled to be installed and spliced to an existing two-
5 conductor shielded detector lead-in cable, the Contractor shall perform the following:

- 6 1. Disconnect the existing detector lead-in cable in the controller cabinet and at the
7 loop splice.
8 2. Megger test both detector lead-in cable conductors. A resistance reading of less
9 than 100-megohms is considered a failure.
10 3. Detector lead-in cables that fail the test shall be replaced and then retested.
11 4. After final testing of the detector lead-in cable, the loop installation shall be
12 completed and the loop system tested according to Tests A, C and D.
13 5. Connect the detector lead-in cables in the controller cabinet.

14

15 (NWR October 5, 2009)

16 **Existing Loop Test**

17 When two-conductor shielded detector lead-in cable is scheduled to be installed and
18 spliced to an existing loop, the Contractor shall perform the following:

- 19 1. Disconnect the existing loop from the detector lead-in splice.
20 2. Megger test the existing loop wire. A resistance reading of less than 100-
21 megohms is considered a failure.
22 3. Loops that fail the test shall be replaced and then retested.
23 4. After the final testing of the loops, the detector lead-in cable installation shall be
24 completed and the loop system tested according to Tests A, C and D.

25

26 **8-20.4 Measurement**

27 Section 8-20.4 is supplemented with the following:

28

29 (NWR August 10, 2009)

30 When the following is shown as lump sum in the Plans or in the Proposal, no specific unit
31 of measurement will apply, but measurement will be for the sum total of all items for a
32 complete system to be furnished and installed.

33

34 (NWR August 10, 2009)

35 Traffic Signal and Illumination System

36

37 (*****)

38 Temporary Traffic Signal and Illumination Systems

39 The lump sum measurement for "Temporary Traffic Signal and Illumination Systems"
40 shall be for all temporary systems for all stages of construction.

41

42 **8-20.5 Payment**

43 Section 8-20.5 is supplemented with the following:

44

45 (*****)

46 The lump sum Contract price for each of the following items shall be full pay for the
47 construction of the complete electrical system, modifying existing systems, or both,
48 including sign lighting systems, as described below and as shown in the Plans and
49 herein specified including excavation, backfilling concrete foundations, conduit, wiring,
50 restoring facilities destroyed or damaged during construction, removing existing
51 materials, salvaging existing materials, and for making all required tests. All additional

1 materials and labor, not shown in the Plans or called for herein and which are required to
2 complete the electrical systems, shall be included in the lump sum Contract price.
3
4 *(NWR August 10, 2009)*
5 "Traffic Signal and Illumination System Complete", lump sum.
6
7 *(NWR August 10, 2009)*
8 "Temporary Traffic Signal and Illumination Systems Complete", lump sum.
9
10 *(NWR August 10, 2009)*
11 All costs for installing conduit and junction boxes containing both signal wiring and signal
12 interconnect shall be included in the lump sum contract prices for the associated traffic
13 signal system bid item.
14
15 *(NWR August 10, 2009)*
16 All costs associated with the removal of a temporary traffic signal system, temporary
17 illumination system, temporary traffic and illumination system or a temporary video
18 detection system shall be included in the lump sum contract price for the associated bid
19 item.
20
21 *(NWR August 10, 2009)*
22 "Grounding Existing Junction Box", per each
23 The unit contract price per each for "Grounding Existing Junction Box" shall be full pay
24 for the work as specified.
25
26 *(NWR August 10, 2009)*
27 All costs for adjustment of new junction boxes, both to the final grade and any grade
28 adjustments required for the various construction stages proposed in the Contract, or for
29 alternative stages proposed by the Contractor, shall be included in the lump sum contract
30 price for the associated electrical system.
31
32 *(NWR August 10, 2009)*
33 All costs for conduit, junction boxes, and associated hardware and fittings installed on or
34 within a structural item (wall, bridge, or barrier) shall be included in the respective lump
35 sum bid item for work on the associated electrical or conduit system.
36
37 *(NWR March 13, 1995)*
38 The construction signs used during signal turn-on will be paid as part of "Construction
39 Signs Class A".
40
41 *(*****)*
42 "Adjusting Existing Junction Box", per each
43 The unit contract price per each for "Adjusting Existing Junction Box" shall be full pay for
44 the work as specified, including but not limited to adjusting the elevation of the junction
45 box, installation, or replacement of the gravel pad and the adjustment of conduit
46 placement within the junction box. All work shall conform to the requirements of Standard
47 Plans J-40.10-01 and J-40.30-00.
48 When the replacement or modification of electrical or communication system cables,
49 wiring or conductors or other associated work, not identified as work in the Contract
50 Plans, is required as a result of the adjustment of existing junction boxes, all costs
51 associated with those modifications shall be paid in accordance with Section 1-04.4.
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1 8-21.GR8

2 **Permanent Signing**

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4 8-21.2.GR8

5 **Materials**

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7 8-21.2(9-28.14).GR8

8 **Sign Support Structures**

9

Section 9-28.14 is supplemented with the following:

10

11 8-21.2(9-28.14).OPT1.BSP.GB8

12

(BSP August 1, 2011)

13

Sign Structure Foundation Shaft Casing And Slurry

14

All temporary casing shall be a smooth wall non corrugated structure of steel base metal. All temporary casing shall be of ample strength to resist damage and deformation from transportation and handling, installation and extraction stresses, and all pressures and forces acting on the casing. The temporary casing shall be capable of being removed without deforming and causing damage to the completed shaft, and without disturbing the surrounding soil.

20

The temporary casing shall be clean prior to placement in the excavation. The temporary casing may be telescoped, but the outside diameter of the temporary casing shall not be less than the specified diameter of the shaft.

24

Slurry for shaft foundations shall be either synthetic slurry or water slurry, conforming to the following requirements:

27

Synthetic Slurries

28

Synthetic slurries shall be used in conformance with the manufacturer's recommendations, and the quality control plan specified in Section 8-21.3(9)F as supplemented in these Special Provisions. The sand content of synthetic slurry prior to final cleaning and immediately prior to placing concrete shall be less than 1.0 percent, in accordance with API 13B-1, Section 5.

34

Water Slurry

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Water without site soils may be used as slurry when casing is used for the entire length of the drilled hole. Use of water slurry without full length casing may only be used with the approval of the Engineer. Water slurry shall conform to the following requirements:

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Property	Test	Requirement
Density (pcf)	Mud Weight (Density) API 13B-1, Section 1	65 max.
Sand Content (percent)	Sand API 13B-1, Section 5	1.0 max.

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Slurry temperature shall be at least 40F when tested.

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1 8-21.2(9-28.14(2)).GR8
2 **Steel Structures and Posts**
3 Section 9-28.14(2) is supplemented with the following:
4
5 8-21.2(9-28.14(2)).OPT1.BSP.GB8
6 **(BSP January 2, 2012)**
7 **Monotube Sign Structures**
8 Structural steel, except for cover plates, anchor rod templates and as
9 otherwise shown in the Plans, shall conform to either ASTM A 572 Grade 50,
10 or ASTM A 588. Cover plates shall conform to ASTM A 36.
11
12 Handhole cover screws shall conform to ASTM F 593, Grade 1.
13
14 Sign bracket bolts, nuts, and washers shall conform to Section 9-06.5(1).
15
16 Monotube splice bolts, mounting beam rods, and associated nuts and
17 washers, shall conform to the Section 9-06.5(3) requirements for AASHTO M
18 164, and shall be galvanized after fabrication in accordance with AASHTO M
19 232. Tension control bolts conforming to ASTM F 1852 may be used as
20 monotube splice bolts, and if used shall be galvanized after fabrication in
21 accordance with ASTM B 695 Class 55 Type I.
22
23 Anchor rods shall conform to ASTM F 1554 Grade 105, including supplemental
24 requirements S2, S3, and S5. Nuts shall conform to ASTM A 563 Grade DH.
25 Washers shall conform to AASHTO M 293. Anchor rods shall be galvanized a
26 minimum of 1'-0" at the exposed end in accordance with AASHTO M 232.
27 Nuts and washers shall be galvanized in accordance with AASHTO M 232.
28
29 8-21.3.GR8
30 **Construction Requirements**
31
32 8-21.3(9).GR8
33 **Sign Structures**
34
35 8-21.3(9)A.INST1.GR8
36 Section 8-21.3(9)A is supplemented with the following:
37
38 8-21.3(9)A.OPT1.BSP.GB8
39 **(BSP August 3, 2009)**
40 **Monotube Sign Structures**
41 **Bolted Connections**
42 All bolted connections shall be made using the direct tension indicator
43 method, except as otherwise specified.
44
45 The Contractor may use tension control bolts at all monotube splice
46 locations, subject to the following conditions:
47
48 1. The tension control bolts shall incorporate a design feature
49 intended to either indirectly indicate, or to automatically provide,
50 the bolt tension as specified in Table 3 of Section 6-03.3(33).
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2. The Contractor shall submit the tension control bolt system to the Engineer for approval, including but not limited to bolt capacities, type of bolt, nut, and washer lubricant, method of packaging and protection of the lubricated bolt, installation equipment, calibration equipment, and installation procedures.
3. Verification testing of the tension control bolt system shall be performed at the job site in a device capable of indicating the actual bolt tension. A representative sample of not less than three bolt and nut assemblies of each diameter, length, and grade, used for structure assembly shall be tested. The test assembly shall include the type of washers specified for the structure, and the bolt, nut, and washers shall be arranged in the device as specified in the Plans for the structure. The test assembly shall use the lubricated bolts as supplied by the manufacturer.
4. The verification testing shall demonstrate that each bolt develops a tension not less than the tension specified in Table 3 of Section 6-03.3(33).
5. The tension control bolt manufacturer's installation procedure shall be followed for installation of bolts in the verification testing device, in all calibration devices, and in all structure connections.
6. Upon receiving the Engineer's approval of the verification testing results, the Contractor shall assemble the bolts in the splice locations as follows:
 - a. All bolts, nuts, and washers shall be lubricated as supplied by the manufacturer and as tested during verification testing.
 - b. All bolts shall be initially tightened sufficiently to bring all plies of the splice joint into firm contact but without yielding or fracturing the tension control or tension indicator element of the bolts.
 - c. All bolts shall be tightened further, progressing systematically from the most rigid part of the connection to the free edges in a manner that will minimize relaxation of previously tightened bolts. In some cases, proper tensioning of the bolts may require more than one cycle of systematic partial tightening prior to final yield or fracture of the tension control or tension indicator element of each bolt.
 - d. If yield or fracture of the tension control or tension indicator element of a bolt occurs prior to the final tightening cycle, that bolt shall be replaced with a new one.

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- 7. Additional field verification testing shall be performed as requested by the Engineer.

- 8. All bolts and connecting hardware shall be stored and handled in a manner to prevent corrosion and loss of lubricant. Bolts which are installed without the same lubricant coating as tested under the verification test will be rejected, shall be removed from the joint, and shall be replaced with new lubricated bolts at no additional cost to the Contracting Agency.

Shop Assembly

Prior to galvanizing, the Contractor shall shop assemble the completed structure lying on its side in an undeflected position to ensure correct alignment, accuracy of holes, fit of joints, smooth camber profile, and the specified amount of camber. The joints shall be bolted with a sufficient number of bolts tightened snug tight to close the joints as they would be in the final field assembled position. The Contractor shall not disassemble the sign structure for galvanizing as specified until receiving the Engineer's approval of the shop assembled structure.

Zinc Coating and Painting

All galvanized surfaces exposed to view after erection shall be shop painted or shop powder coated in accordance with Section 6-07.3(11), except when the Plans or Special Provisions require field painting only in accordance with Sections 6-07.3(9)I and 6-07.3(11)A. Contact surfaces of the field bolted connections shall be left as galvanized without any overcoat.

The color of the finish coat shall match color No. 35237 Federal Standard 595 latest edition when dry.

All galvanized surfaces specified to be painted or powder coated shall be prepared for coating in accordance with the ASTM D 6386 and Section 6-07.3(11). The method of preparation shall be as agreed upon by the paint or powder coating manufacturer and the galvanizer. The Contractor shall not begin painting or powder coating the sign structure until receiving the Engineer's approval of the prepared galvanized surface.

After completing erection, the Contractor shall repair all metal surfaces with damaged paint or powder coatings and exposed metal with a field repair coating in accordance with Section 6-07.3(9)I and Section 6-07.3(11)A (for paint) or Section 6-07.3(11)B (for powder coating). The color of the finish coat of the field repair coating, when dry, shall match the color specified above.

Field Assembling

The Contractor shall furnish and install the vibration damper as shown in the Plans. The damper shall be installed before the sign structure is erected.

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Welding Inspector Qualification

The fabricator shop will provide a Certified Welding Inspector. The inspector shall be a AWS Certified Welding Inspector (CWI) qualified and certified in accordance with the provisions of AWS QCI Standard for Qualification and Certification.

Welding Inspection

Welds for monotube sign structures shall be inspected using the methods described below.

1. Visual Inspection
All welds shall have 100 percent of their length visually inspected.
2. Magnetic Particle Inspection
Fillet welds, and longitudinal butt joint welds in beams, shall have 30 percent of their length inspected using magnetic-particle testing techniques. If rejectable flaws are found in any test length of the weld, the full length of the weld or five feet on either side of the test length, whichever is less, shall be tested.
3. Ultrasonic Inspection
Groove welds, except the post to beam connection weld and longitudinal butt joint welds in beams, shall have 100 percent of their length inspected using ultrasonic testing techniques. The testing procedure and acceptance criteria for tubular members shall conform to the latest edition of the AWS Structural Welding Code D1.1-Steel.
4. Dye-Penetrant or Magnetic Particle Inspection
The post to beam connection weld shall have 100 percent of its length inspected using dye-penetrant or magnetic-particle testing techniques. The inspection shall be performed after the root pass and after completion of the weld.

8-21.3(9)F.GR8

Foundations

8-21.3(9)F.INST1.GR8

Section 8-21.3(9)F is supplemented with the following:

8-21.3(9)F.OPT1.BSP.GB8

(BSP July 12, 2000)

The Contractor shall not construct grout pads at the base of the monotube sign structures.

8-21.3(9)F.OPT1.BSP.GB8.Insert 15.docx

(BSP August 1, 2011)

Shafts For Sign Structure Foundations

Shaft foundations for the sign structures at the following location(s) shall be constructed in accordance with the following requirements, except that

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temporary casing is not required by the Contracting Agency but is instead a Contractor option:

*** N/A ***

Shaft foundations for the sign structures at the following location(s) shall be constructed in accordance with the following requirements, including required use of temporary casing:

Sign Bridge No.1 – M Line Sta. 115+25
Sign Bridge No. 3 – M Line Sta. 124+35

Submittals

Contractor Project Reference and Personnel Experience Submittal

Prior to the start of shaft construction, the Contractor shall electronically submit a project reference list to the Engineer for approval verifying the successful completion by the Contractor of at least three separate shaft foundation projects in the past five years with drilled shafts of diameters and depths similar to or larger than those shown in the Plans and ground conditions similar to those identified in the Contract. A brief description of each listed project shall be provided along with the name and current phone number of the project owner or the owner's Contractor.

Prior to the start of shaft construction, the Contractor shall electronically submit a list identifying the on-site supervisors, and drill rig operators potentially assigned to the project to the Engineer for approval. On-site supervisors shall have a minimum two years experience in supervising construction of shaft foundations, and drill rig operators shall have a minimum one year experience in construction of shaft foundations. The list shall contain a brief description of each individual's experience.

The Engineer will approve or reject the Contractor's qualifications and field personnel within 10 working days after receipt of the submission. Work shall not be started on any drilled shaft until the Contractor's qualifications and field personnel are approved by the Engineer. The Engineer may suspend the shaft construction if the Contractor substitutes unapproved personnel. The Contractor shall be fully liable for the additional costs resulting from the suspension of work and no adjustments in contract time resulting from the suspension of work will be allowed.

Shaft Installation Narrative Submittal

The Contractor shall electronically submit a shaft installation narrative for approval by the Engineer. The narrative shall reference available subsurface data provided in the contract test hole boring logs, and the

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geotechnical report(s) prepared for this project. This narrative shall provide the following information in a single complete submittal:

1. Proposed overall construction operation sequence.
2. Description, size, and capacities of specific equipment that will be available on site, including but not limited to cranes, drills, auger, bailing buckets, final cleaning equipment and drilling unit. The narrative shall describe why the equipment was selected, and describe equipment suitability to the anticipated site conditions and work methods. The narrative shall include a project history of the drilling equipment demonstrating the successful use of the equipment on shafts of equal or greater size in similar soil/rock conditions. The narrative shall also include details of shaft excavation and cleanout methods
3. Details of the method(s) to be used to ensure shaft stability (i.e., prevention of caving, bottom heave, etc. using temporary casing, slurry, and other means) during excavation (including pauses and stops during excavation) and concrete placement. Temporary casing dimensions and detailed procedures for temporary casing installation and removal, and methods of advancing temporary casing with the excavation in accordance with this Special Provision, shall be provided.
4. Detailed procedures for mixing, using, and maintaining the slurry shall be provided. A detailed mix design (including all additives and their specific purpose in the slurry mix), and a discussion of its suitability to the anticipated subsurface conditions, shall also be provided for the proposed slurry.

The submittal shall include a detailed plan for quality control of the selected slurry, including tests to be performed, test methods to be used, and minimum and/or maximum property requirements which shall be met to ensure that the slurry functions as intended, considering the anticipated subsurface conditions and shaft construction methods, in accordance with the slurry manufacturer's recommendations and this Special Provision. As a minimum, the slurry quality control plan shall include the following tests:

Property	Test Method
Density	Mud Weight (Density), API 13B-1, Section 1
Viscosity	Marsh Funnel and Cup, API 13B-1, Section 2.2
PH	Glass Electrode, pH Meter, or pH Paper
Sand Content	Sand, API 13B-1, Section 5

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5. Description of the method used to fill or eliminate all voids below the top of shaft between the plan shaft diameter and excavated shaft diameter.
6. Reinforcing steel shop drawings, details of reinforcement placement, including bracing, centering, and lifting methods, and the method to assure the reinforcing cage position is maintained during construction.
7. Details of concrete placement, including operational procedures for pumping methods, and a sample uniform yield form to be used by the Contractor for plotting the approximate volume of concrete placed versus the depth of shaft for all shaft concrete placement (except concrete placement in the dry).
8. Description of the material (either CDF or granular material) used to temporarily backfill a shaft excavation during a stoppage of the excavation operation, as well as the method used to place and remove the material.
9. Storage and disposal plan for excavated material and drilling slurry (if applicable).

The Engineer will evaluate the shaft installation narrative for conformance with the Plans, Specifications and Special Provisions within the review time specified in Section 6-01.9.

Synthetic Slurry Technical Representative Submittal

If synthetic slurry is used to construct the shafts, the Contractor shall provide or arrange for technical assistance in the use of the synthetic slurry as specified in the **Slurry** subsection of this Special Provision. As part of the shaft installation narrative submittal, the Contractor shall electronically submit one of the following to the Engineer for approval:

1. The name and current phone number of the synthetic slurry manufacturer's technical representative assigned to the project.

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2. The name(s) of the Contractor's personnel assigned to the project and trained by the synthetic slurry manufacturer in the proper use of the synthetic slurry. The submittal shall include a signed training certification letter from the synthetic slurry manufacturer for each trained Contractor's employee listed, including the date of the training.

All submittals shall be in electronic pdf format, and all documents in each pdf shall be legible. All submittals shall be prepared jointly by the Contractor and any subcontractors that will be performing the work.

Work shall not begin until all the required submittals have been approved in writing by the Engineer. All procedural approvals given by the Engineer will be subject to trial in the field and shall not relieve the Contractor of the responsibility to satisfactorily complete the work.

Quality Assurance

Shafts shall be constructed so that the center at the top of the shaft is within four inches of the Plan location. Shafts shall be within 1.5 percent of plumb. Shaft steel reinforcing bar placement tolerances shall conform to Section 6-02.3(24)C.

A shaft preconstruction conference shall be held at least five working days prior to the Contractor beginning any shaft construction work at the site to discuss construction procedures, personnel, and equipment to be used, and other elements of the approved shaft installation plan as specified elsewhere in this Special Provision. Those attending shall include:

1. (representing the Contractor) The superintendent, on site supervisors, and all foremen in charge of excavating the shaft, placing the casing and slurry as applicable, placing the steel reinforcing bars, and placing the concrete. If synthetic slurry is used to construct the shafts, the synthetic slurry manufacturer's representative and/or approved Contractor's employees trained in the use of the synthetic slurry shall also attend.
2. (representing the Contracting Agency) The Project Engineer, key inspection personnel, and representatives from the WSDOT State Construction Office and Materials Laboratory Geotechnical Division.

If the Contractor proposes a significant revision of the approved shaft installation plan, as determined by the Engineer, the Engineer may require an additional conference be held before any additional shaft construction operations are performed.

Shaft Excavation

Shafts shall be excavated to the required depth as shown in the Plans. Shaft excavation operations shall conform to this Special Provision and the shaft installation narrative as approved by the Engineer. Once the excavation operation has been started, the excavation shall be conducted

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in a continuous operation until the excavation of the shaft is completed, except for pauses and stops as noted, using approved equipment capable of excavating through the type of material expected.

Pauses, defined as momentary interruptions of the excavation operation, will be allowed only for casing splicing, tooling changes, slurry maintenance, and removal of obstructions. Shaft excavation operation interruptions not conforming to this definition shall be considered stops. Stops for uncased or partial depth cased excavations shall not exceed 16 hours in duration. Stops for fully cased excavations shall not exceed 65 hours duration.

For stops exceeding the time durations specified above, the Contractor shall stabilize the excavation using one or both of the following methods:

1. Before the end of the work day, install casing in the hole to the depth of the excavation. The outside diameter of the casing shall not be smaller than six inches less than either the Plan diameter of the shaft or the actual excavated diameter of the hole, whichever is greater. Prior to removing the casing and resumption of shaft excavation, the annular space between the casing and the excavation shall be sounded. If the sounding operation indicates that caving has occurred, the casing shall not be removed and shaft excavation shall not resume until the Contractor has stabilized the excavation in accordance with item 3 of the shaft installation narrative as approved by the Engineer.
2. Backfill the hole with CDF or granular material as specified by the Contractor and approved by the Engineer in accordance with item 8 of the shaft installation narrative. The Contractor shall backfill the hole to the ground surface if the excavation is not cased, or to a minimum of five feet above the bottom of casing if the excavation is cased. Backfilling of shafts with casing fully seated into rock, as determined by the Engineer, will not be required.

During stops, the Contractor shall stabilize the shaft excavation to prevent bottom heave, caving, head loss, and loss of ground. The Contractor bears full responsibility for selection and execution of the method(s) of stabilizing and maintaining the shaft excavation, in accordance with Section 1-07.13. Shaft stabilization shall conform to item 3 of the shaft installation narrative.

If slurry is present in the shaft excavation, the Contractor shall conform to the requirements in the **Slurry** subsection of this Special Provision regarding the maintenance of the slurry and the minimum level of drilling slurry throughout the stop, and shall recondition the slurry to the required slurry properties prior to recommencing shaft excavation operations.

Temporary casing shall be advanced during excavation operations within the limits of temporary casing shown in the Plans for all sign structure

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shaft foundation locations specified at the beginning of this Special Provision as requiring temporary casing. Excavation in advance of the casing tip shall not exceed three feet, except that in no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans. Unless partial depth temporary casing is shown in the Plans, temporary casing shall be full depth of the sign bridge shaft.

The Contractor shall conduct casing installation operations and shaft excavation operations such that the adjacent soil outside the casing and shaft excavation for the full height of the shaft is not disturbed. Disturbed soil is defined as soil whose geotechnical properties have been changed from those of the original in-situ soil, and whose altered condition adversely affects the structural integrity of the shaft foundation.

The Contractor shall use appropriate means such as a cleanout bucket, smooth mouth grab, or air lift to clean the bottom of the excavation of all shafts. No more than two inches of loose or disturbed material shall be present at the bottom of the shaft just prior to placing concrete.

The excavated shaft shall be inspected and approved by the Engineer prior to proceeding with construction. The bottom of the excavated shaft shall be sounded with an airlift pipe, a tape with a heavy weight attached to the end of the tape, or other means acceptable to the Engineer to determine that the shaft bottom meets the requirements in the Contract.

When obstructions are encountered, the Contractor shall notify the Engineer promptly. An obstruction is defined as a specific object (including, but not limited to, boulders, logs, and man made objects) encountered during the shaft excavation operation which prevents or hinders the advance of the shaft excavation. When efforts to advance past the obstruction to the design shaft tip elevation result in the rate of advance of the shaft drilling equipment being significantly reduced relative to the rate of advance for the portion of the shaft excavation in the geological unit that contains the obstruction, then the Contractor shall remove, break-up, or push aside, the obstruction under the provisions of Section 8-21.5 as supplemented in these Special Provisions. The method of dealing with such obstructions, and the continuation of excavation shall be as proposed by the Contractor and approved by the Engineer.

The Contractor shall use slurry, as specified in the **Slurry** subsection of this Special Provision, to maintain a stable excavation during excavation and concrete placement operations once water begins to enter the shaft excavation and remain present.

Slurry

If synthetic slurry is used, either a manufacturer's representative or a Contractor's employee trained in the use of the synthetic slurry, as approved by the Engineer in accordance with the **Submittals** subsection of this Special Provision, shall provide technical assistance for the use of the synthetic slurry, shall be at the site prior to introduction of the synthetic slurry into the first drilled hole requiring slurry, and shall remain at the site

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during the construction of the first shaft excavated to adjust the slurry mix to the specific site conditions.

If the Contractor uses slurry in shafts installed below groundwater and in caving or sloughing soils, the slurry level in the excavation shall be maintained above the groundwater level the greater of the following dimensions, except as otherwise noted for the special requirements for all stops in shaft excavation operations:

1. Not less than ten feet,
2. Dimension as required to provide and maintain a stable hole.

The Contractor shall provide casing, or other means, as necessary to meet these requirements.

The slurry level shall be maintained above all unstable zones a sufficient distance to prevent bottom heave, caving or sloughing of those zones.

Throughout all stops in shaft excavation operations as defined in the **Shaft Excavation** subsection of this Special Provision, the Contractor shall monitor and maintain the slurry level in the excavation the greater of the following elevations:

1. No lower than the water level elevation outside the shaft.
2. Elevation as required to provide and maintain a stable hole.

Synthetic slurry shall be mixed and thoroughly hydrated in slurry tanks, ponds, or storage areas. The Contractor shall draw sample sets from the slurry storage facility and test the samples for the conformance with the specified viscosity and pH properties before beginning slurry placement in the drilled hole. Synthetic slurry shall conform to the quality control plan included in the shaft installation plan as approved by the Engineer. A sample set shall be composed of samples taken at mid-height and within two feet of the bottom of the storage area.

When synthetic slurry is used, the Contractor shall keep a written record of all additives and concentrations of the additives in the synthetic slurry. These records shall be provided to the Engineer once the slurry system has been established in the first drilled shaft on the project. The Contractor shall provide revised data to the Engineer if changes are made to the type or concentration of additives during construction.

The Contractor shall sample and test all slurry in the presence of the Engineer, unless otherwise directed. The date, time, names of the persons sampling and testing the slurry, and the results of the tests shall be recorded. A copy of the recorded slurry test results shall be submitted to the Engineer at the completion of each shaft, and during construction of each shaft when requested by the Engineer.

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Sample sets of all slurry, composed of samples taken at mid-height and within two feet of the bottom of the shaft and the storage area, shall be taken and tested once every four hours minimum at the beginning and during drilling shafts and prior to cleaning the bottom of the hole to verify the control of the viscosity and pH properties of the slurry. As a minimum, sample sets of all slurry shall be taken and tested at least once every two hours if the previous sample set did not have consistent viscosity and pH properties. All slurry shall be recirculated, or agitated with the drilling equipment, when tests show that the sample sets do not have consistent specified properties. Cleaning of the bottom of the hole shall not begin until tests show the samples taken at mid-height and within two feet of the bottom of the hole have consistent viscosity and pH properties.

Sample sets of all slurry, as specified, shall be taken and tested to verify control of the viscosity, pH, density, and sand content properties after final cleaning of the bottom of the hole just prior to placing concrete. Placement of the concrete shall not start until tests show that the samples taken at mid-height and within two feet of the bottom of the hole have consistent specified properties.

The Contractor shall clean, recirculate, de-sand, or replace the slurry to maintain the required slurry properties.

The Contractor shall demonstrate to the satisfaction of the Engineer that stable conditions are being maintained. If the Engineer determines that stable conditions are not being maintained, the Contractor shall immediately take action to stabilize the shaft. The Contractor shall submit a revised shaft installation narrative which addresses the problem and prevents future instability. The Contractor shall not continue with shaft construction until the damage which has already occurred is repaired in accordance with the specifications, and until receiving the Engineer's approval of the revised shaft installation narrative.

The Contractor shall dispose of the slurry and slurry-contacted spoils as specified in the shaft installation plan as approved by the Engineer, and in accordance with the following requirements:

1. Water slurry with no additives may be infiltrated to uplands within the confines of the Contracting Agency Right Of Way for the project, provided that the groundline at the disposal site is at least five feet above the current water table, and that disposal operations conform to the temporary erosion and sedimentation control (TESC) requirements established for this project. For the purposes of water slurry disposal, upland is defined as an area that has no chance of discharging directly to waters of the State, including wetlands or conveyances that indirectly lead to wetlands or waters of the State.

Spoils in contact with the slurry may be disposed of as clean fill.

2. Synthetic slurry and water slurry with polymer-based additives shall be contained and disposed of by the Contractor at an

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approved facility. Spoils in contact with synthetic slurry or water slurry with polymer-based additives shall be contained and disposed of by the Contractor at an approved waste facility. Prior to beginning shaft excavation operations, the Contractor shall coordinate with the waste facility operator and the Jurisdictional Health Department (JHD) to determine requirements for shaft spoils disposal at the facility. The Contractor shall submit the location of the waste facility requirements for disposal of shaft spoils (as approved by the waste facility operator and the JHD), copies of any permits required and obtained, and any associated test results to the Engineer prior to disposal. The Contractor shall stockpile spoils on 6-mil plastic and cover with 6-mil plastic to protect from runoff until approval from the waste facility operator.

Assembly And Placement Of Steel Reinforcing Bars

The steel reinforcing bar cage shall be rigidly braced to retain its configuration during handling and construction. Individual or loose bars will not be permitted. The Contractor shall show bracing and any extra reinforcing steel required for fabrication of the cage in the shop drawings.

The reinforcement shall be carefully positioned and securely fastened to provide the minimum clearances listed below, and to ensure that no displacement of the steel reinforcing bars occurs during placement of the concrete. The Contractor shall submit details of the proposed reinforcing cage centralizers along with the shop drawings required by item 6 of the shaft installation narrative. The reinforcing steel centralizers shall be placed at least at the quarter points around the circumference of the steel reinforcing bar cage, and located vertically at least at the 1/4 and 3/4 points of the shaft length below the shaft cap.

The Contractor shall place bars as shown in the Plans with minimum concrete cover of three inches for shafts with diameters of three feet or less, and four inches for shafts with diameters greater than three feet.

Placing Concrete

Shaft concrete shall be Class 4000P. Concrete placement shall commence immediately after completion of excavation by the Contractor and inspection by the Engineer. Immediately prior to commencing concrete placement, the shaft excavation and the properties of the slurry (if used) shall conform to the excavation and slurry requirements specified elsewhere in this Special Provision. Concrete placement shall continue in one operation to the construction joint at the top of the shaft, as shown in the Plans.

During concrete placement, the Contractor shall monitor, and minimize, the difference in the level of concrete inside and outside of the steel reinforcing bar cage. The Contractor shall conduct concrete placement operations to maintain the differential concrete head as 1'-0" maximum.

When placing concrete in the dry, only the top five feet of concrete shall be vibrated. The amount and extent of vibration shall be sufficient to assure

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concrete flow to the outside of the shaft with full consolidation without causing segregation to occur. Temporary casing shall be removed before vibration. This requirement may be waived if the temporary casing is removed with a vibratory hammer during the concrete placement operation. Vibration of the top five feet of concrete does not affect the maximum slump allowed for the concrete class specified.

If water is not present, the concrete shall be deposited through the center of the reinforcement cage by a method which prevents segregation of aggregates and splashing of concrete on the reinforcement cage. The concrete shall be placed such that the free-fall is vertical down the center of the shaft without hitting the sides, the steel reinforcing bars, or the steel reinforcing bar cage bracing. The Section 6-02.3(6) restriction for 5'-0" maximum free-fall shall not apply to placement of Class 4000P concrete into a shaft.

When placing concrete underwater, including when water in a shaft excavation exceeds three inches in depth, the Contractor shall place the concrete by pressure feed using a concrete pump with a watertight tube having a minimum diameter of four inches. The discharge end of the tube on the concrete pump shall include a device to seal out water while the tube is first filled with concrete. Alternatively, the Contractor may use a plug that is inserted in the hopper of the concrete pump and travels through the tremie to keep the concrete separated from the water and slurry. Concrete placement by gravity feed is not allowed.

Throughout the underwater concrete placement operation, the discharge end of the tube shall remain submerged in the concrete at least five feet and the tube shall always contain enough concrete to prevent water from entering. The concrete placement shall be continuous until the work is completed, resulting in a seamless, uniform shaft.

Before placing any fresh concrete against concrete deposited in water or slurry, the Contractor shall remove all scum, laitance, loose gravel and sediment on the upper surface of the concrete deposited in water or slurry and chip off any high spots on the upper surface of the existing concrete that would prevent the steel reinforcing bar cage from being placed in the position required by the Plans.

The Contractor's construction operation in the vicinity of a drilled shaft excavation with freshly placed concrete and curing concrete shall conform to Section 6-02.3(6)D.

Except for shafts where the shaft concrete is placed in the dry, the Contractor shall complete a uniform yield form, consistent with the sample form submitted to the Engineer as part of the shaft installation plan, for each shaft and shall submit the completed form to the Engineer within 24 hours of completing the concrete placement in the shaft.

Casing Removal

As the temporary casing is withdrawn, the Contractor shall maintain the concrete and slurry inside the casing at a level sufficient to balance the

1 hydrostatic pressure outside the casing. The Contractor shall completely
2 remove all temporary casings.
3
4
5 8-21.4.GR8
6 **Measurement**
7
8 8-21.4.INST1.GR8
9 Section 8-21.4 is supplemented with the following:
10
11 8-21.4.INST1.GR8.Insert 16.docx
12
13 (BSP July 12, 2000)
14 *** Sign Bridges No's 1, 2 and 3 *** contain(s) the following approximate quantities of
15 material and work:
16
17 ***
18
19 **Sign Bridge No. 1**
20
21 Structural Steel 41,063 lbs.
22 Temporary Casing TBD L.F.
23 Structural Excavation 14.2 CY
24 Concrete CI 4000P 14.2 CY
25 Concrete CI 4000 3.7 CY
26 Steel Reinforcing 4500 lbs.
27
28 **Sign Bridge No. 2**
29
30 Structural Steel 38,045 lbs.
31
32 **Sign Bridge No. 3**
33
34 Structural Steel 37,225 lbs.
35 Temporary Casing TBD L.F.
36 Structural Excavation 14.2 CY
37 Concrete CI 4000P 14.2 CY
38 Concrete CI 4000 3.7 CY
39 Steel Reinforcing 4500 lbs.
40
41 ***
42
43 The quantities are listed only for the convenience of the Contractor in determining the
44 volume of work involved and are not guaranteed to be accurate. The prospective
45 bidders shall verify these quantities before submitting a bid. No adjustments other than
46 for approved changes will be made in the applicable sign structure lump sum contract
47 price even though the actual quantities required may deviate from those listed.
48
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50

1 8-21.5.GR8

2 **Payment**

3

4 8-21.5.INST1.GR8

5 Section 8-21.5 is supplemented with the following:

6

7 8-21.5.OPT1.BSP.GB8

8 (BSP August 4, 2008)

9 "Removing Sign Structure Shaft Obstructions", estimated.

10 Payment for removing obstructions, as defined in Section 8-21.3(9)F as supplemented
11 in these Special Provisions, will be made for the changes in shaft construction methods
12 necessary to remove the obstruction. The Contractor and the Engineer shall evaluate
13 the effort made and reach agreement on the equipment and employees utilized, and the
14 number of hours involved for each. Once these cost items and their duration have been
15 agreed upon, the payment amount will be determined using the rate and markup
16 methods specified in Section 1-09.6. For the purpose of providing a common proposal
17 for all bidders, the Contracting Agency has entered an amount for the item "Removing
18 Sign Structure Shaft Obstructions" in the bid proposal to become a part of the total bid
19 by the Contractor.

20

21 If the shaft construction equipment is idled as a result of the obstruction removal work
22 and cannot be reasonably reassigned within the project, then standby payment for the
23 idled equipment will be added to the payment calculations. If labor is idled as a result of
24 the obstruction removal work and cannot be reasonably reassigned within the project,
25 then all labor costs resulting from Contractor labor agreements and established
26 Contractor policies will be added to the payment calculations.

27

28 The Contractor shall perform the amount of obstruction work estimated by the
29 Contracting Agency within the original time of the contract. The Engineer will consider a
30 time adjustment and additional compensation for costs related to the extended duration
31 of the shaft construction operations, provided:

32

- 33 1. the dollar amount estimated by the Contracting Agency has been exceeded,
34 and
- 35 2. the Contractor shows that the obstruction removal work represents a delay to
36 the completion of the project based on the current progress schedule provided
37 in accordance with Section 1-08.3.

38

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40 8-SA1.GR8.docx

41 (*****)

42 **FIELD OFFICE BUILDING**

43 **Description**

44 This work shall consist of furnishing and setting-up a temporary office building for the sole
45 use of the Contracting Agency.

46

47 **Construction Requirements**

48 The building shall be set-up, at the location designated by the Engineer, within the first 10
49 working days, unless the Engineer has approved a different schedule.

50

- 1 The building shall be weather-tight, installed plumb and level, and provided with the following
2 as a minimum:
3
4 1. 600 square feet of floor space
5 2. Above ground floor
6 3. Heat
7 4. Electric lights
8 5. Telephone
9 6. Adequate windows
10 7. Twenty square feet of shelving
11 8. Plan table: 3 feet 6 inches deep by 6 feet wide by 3 feet 3 inches high
12 9. Drafting stool
13 10. Two Conference table: 4 foot by 8 foot, each
14 11. Eight chairs
15 12. Cylinder door lock and six keys
16 13. Sanitary facilities
17

18 The building shall remain the property of the Contractor and removed from the site upon
19 physical completion of the contract, or when designated by the Engineer.
20

21 **Payment**

22 Payment will be made in accordance with Section 1-04.1, for the following bid item:
23

24 "Field Office Building", lump sum.
25

26 The lump sum contract price for "Field Office Building" shall be full pay for furnishing,
27 installing, maintaining, and removing the facility, including all costs associated with all
28 required utility hook-ups and disconnects, and monthly utility charges for all utilities except
29 telephone.
30

31 The monthly telephone costs will be paid by the Contracting Agency.
32

33 DIVISION9.GR9

34 **Division 9**
35 **Materials**
36

37 STDPLANS.GR9

38 **(August 6, 2012)**

39 **Standard Plans**

40 The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-
41 01 transmitted under Publications Transmittal No. PT 11-036, effective August 6, 2012 is
42 made a part of this contract.
43

44 The Standard Plans are revised as follows:
45

46 B-10.20 and B10.40

47 Substitute "step" in lieu of "handhold" on plan
48

49 C-5

50 Deleted
51

1 C-13
2 Deleted
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4 C-13a
5 Deleted
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7 C-13b
8 Deleted
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10 C-13c
11 Deleted
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13 C-14a
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16 C-14b
17 Deleted
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19 C-14c
20 Deleted
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22 C-14d
23 Deleted
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25 C-14e
26 Deleted
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28 C-15a
29 Deleted
30
31 C-15b
32 Deleted
33
34 C-28.40
35 Deleted
36
37 C-70.10-00
38 Elevation, and Barrier Connection Detail, callout for premolded joint filler, revise ¼” to
39 3/8” Note 1, revise ¼” to 3/8”.
40 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, “*Optional
41 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
42 Sections 6-10 and 9-07” is revised to read: “Steel Welded Wire Reinforcement
43 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
44 Standard Specification 6-10.3.”
45
46 C-75.10-00
47 Elevation, callout for premolded joint filler, revise ¼” to 3/8”, Note 1, revise ¼” to 3/8”.
48 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, “*Optional
49 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
50 Sections 6-10 and 9-07” is revised to read: “Steel Welded Wire Reinforcement
51 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
52 Standard Specification 6-10.3.”

1
2 C-75.20-00
3 Elevation, callout for premolded joint filler, revise 1/4" to 3/8", Note 1, revise 1/4" to 3/8".
4 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
5 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
6 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
7 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
8 Standard Specification 6-10.3."
9
10 C-75.30-00
11 Elevation, and Plan views, callout for premolded joint filler, revise 1/4" to 3/8" ", Note 1,
12 revise 1/4" to 3/8".
13 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
14 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
15 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
16 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
17 Standard Specification 6-10.3."
18
19 C-80.10-00
20 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
21 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
22 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
23 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
24 Standard Specification 6-10.3."
25
26 C-80.20-00
27 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
28 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
29 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
30 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
31 Standard Specification 6-10.3."
32
33 C-80.30-00
34 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
35 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
36 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
37 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
38 Standard Specification 6-10.3."
39
40 C-80.40-00
41 The Welded Wire Reinforcing Substitution Option Table is deleted. The note, "**Optional
42 Substitutions to Welded Wire Reinforcements shall conform to Standard Specification
43 Sections 6-10 and 9-07" is revised to read: "Steel Welded Wire Reinforcement
44 Deformed, for Concrete may be substituted for reinforcing steel in accordance with
45 Standard Specification 6-10.3."
46
47 D-3
48 Deleted
49
50 D-3.10
51 Key Note 7, reference to 1130.04(5).06 is revised to 730.05(5)
52

1 J-1f
2 Deleted
3
4 J-3b
5 Sheet 2 of 2, Plan View of Service Cabinet, Boxed Note, "SEE STANDARD PLAN J-
6 6C..." is revised to read: "SEE STANDARD PLAN J-10.10..."
7 Sheet 2 of 2, Plan View of Service Cabinet Notes, references to Std. Plan J-9a are
8 revised to J-60.05 (3 instances).
9
10 J-7c
11 Deleted
12
13 J-12
14 Deleted
15
16 J-16b
17 Key Note 1, reference to J-16a is revised to J-40.36
18
19 J-16c
20 Key Note 1, reference to J-16a is revised to J-40.36
21
22 J-50.16
23 Deleted
24
25 J-75.40
26 Monotube Sign Structure, elevation, callout – EQUIPMENT GROUNDING
27 CONDUCTOR ~ SIZE PER NEC. MINIMUM SIZE # 8
28 Is revised to read; EQUIPMENT GROUNDING CONDUCTOR ~ SIZE PER NEC
29 minimum size # 4 AWG
30 Detail C, callout– EQUIPMENT GROUNDING CONDUCTOR ~ CLAMP TO STEEL
31 REINFORCING BAR, SIZE PER NEC MIN. SIZE # 8
32 Is revised to read; EQUIPMENT GROUNDING CONDUCTOR ~ CLAMP TO STEEL
33 REINFORCING BAR, SIZE PER NEC minimum size # 4 AWG
34
35 J-75.45
36 elevation, callout – EQUIPMENT GROUNDING CONDUCTOR ~ SIZE PER NEC.
37 MINIMUM SIZE # 8
38
39 Is revised to read:
40
41 EQUIPMENT GROUNDING CONDUCTOR ~ SIZE PER NEC minimum size # 4 AWG
42
43 Detail D, callout– EQUIPMENT GROUNDING CONDUCTOR ~ CLAMP TO STEEL
44 REINFORCING BAR, SIZE PER NEC. MIN. SIZE # 8
45
46 Is revised to read:
47
48 EQUIPMENT GROUNDING CONDUCTOR ~ CLAMP TO STEEL REINFORCING BAR,
49 SIZE PER NEC minimum size # 4 AWG
50
51 K-80.30

1 In the NARROW BASE, END view, the reference to Std. Plan C-8e is revised to Std.
2 Plan K-80.35

3
4 The following are the Standard Plan numbers applicable at the time this project was
5 advertised. The date shown with each plan number is the publication approval date
6 shown in the lower right-hand corner of that plan. Standard Plans showing different
7 dates shall not be used in this contract.
8

9
A-10.10-00.....8/7/07 A-30.35-00.....10/12/07 A-50.20-01.....9/22/09
A-10.20-00.....10/5/07 A-40.00-00.....8/11/09 A-50.30-00.....11/17/08
A-10.30-00.....10/5/07 A-40.10-02.....6/2/11 A-50.40-00.....11/17/08
A-20.10-00.....8/31/07 A-40.15-00.....8/11/09 A-60.10-01.....10/14/09
A-30.10-00.....11/8/07 A-40.20-01.....2/7/12 A-60.20-02.....6/2/11
A-30.15-00.....11/8/07 A-40.50-01.....6/2/11 A-60.30-00.....11/8/07
A-30.30-01.....6/16/11 A-50.10-00.....11/17/08 A-60.40-00.....8/31/07

B-5.20-01.....6/16/11 B-30.50-01.....4/26/12 B-75.20-01.....6/10/08
B-5.40-01.....6/16/11 B-30.70-03.....4/26/12 B-75.50-01.....6/10/08
B-5.60-01.....6/16/11 B-30.80-00.....6/8/06 B-75.60-00.....6/8/06
B-10.20-01.....2/7/12 B-30.90-01.....9/20/07 B-80.20-00.....6/8/06
B-10.40-00.....6/1/06 B-35.20-00.....6/8/06 B-80.40-00.....6/1/06
B-10.60-00.....6/8/06 B-35.40-00.....6/8/06 B-82.20-00.....6/1/06
B-15.20-01.....2/7/12 B-40.20-00.....6/1/06 B-85.10-01.....6/10/08
B-15.40-01.....2/7/12 B-40.40-01.....6/16/10 B-85.20-00.....6/1/06
B-15.60-01.....2/7/12 B-45.20-00.....6/1/06 B-85.30-00.....6/1/06
B-20.20-02.....3/16/12 B-45.40-00.....6/1/06 B-85.40-00.....6/8/06
B-20.40-03.....3/16/12 B-50.20-00.....6/1/06 B-85.50-01.....6/10/08
B-20.60-03.....3/15/12 B-55.20-00.....6/1/06 B-90.10-00.....6/8/06
B-25.20-01.....3/15/12 B-60.20-00.....6/8/06 B-90.20-00.....6/8/06
B-25.60-00.....6/1/06 B-60.40-00.....6/1/06 B-90.30-00.....6/8/06
B-30.10-01.....4/26/12 B-65.20-01.....4/26/12 B-90.40-00.....6/8/06
B-30.20-02.....4/26/12 B-65.40-00.....6/1/06 B-90.50-00.....6/8/06
B-30.30-01.....4/26/12 B-70.20-00.....6/1/06 B-95.20-01.....2/3/09
B-30.40-01.....4/26/12 B-70.60-00.....6/1/06 B-95.40-00.....6/8/06

10
C-1.....6/16/11 C-6.....5/30/97 C-23.60-02.....6/21/12
C-1a.....10/14/09 C-6a.....10/14/09 C-24.10-00.....7/12/12
C-1b.....6/16/11 C-6c.....1/6/00 C-25.18-03.....7/2/12
C-1c.....5/30/97 C-6d.....5/30/97 C-25.20-05.....7/2/12
C-1d.....10/31/03 C-6f.....7/25/97 C-25.22-04.....7/2/12
C-2.....1/6/00 C-7.....6/16/11 C-25.26-02.....7/2/12
C-2a.....6/21/06 C-7a.....6/16/11 C-25.80-02.....7/2/12
C-2b.....6/21/06 C-8.....2/10/09 C-40.14-02.....7/2/12
C-2c.....6/21/06 C-8a.....7/25/97 C-40.16-02.....7/2/12
C-2d.....6/21/06 C-8b.....6/27/11 C-40.18-02.....7/2/12
C-2e.....6/21/06 C-8e.....2/21/07 C-70.10-00.....4/8/12
C-2f.....3/14/97 C-8f.....6/30/04 C-75.10-00.....4/8/12
C-2g.....7/27/01 C-10.....6/3/10 C-75.20-00.....4/8/12
C-2h.....3/28/97 C-16a.....6/3/10 C-75.30-00.....4/8/12
C-2i.....3/28/97 C-16b.....6/3/10 C-80.10-00.....4/8/12
C-2j.....6/12/98 C-20.10-00.....7/2/12 C-80.20-00.....4/8/12
C-2k.....7/27/01 C-20.14-02.....7/2/12 C-80.30-00.....4/8/12

	C-2n.....7/27/01	C-20.15-01.....7/2/12	C-80.40-00.....4/8/12
	C-2o.....7/13/01	C-20.18-01.....7/2/12	C-80.50-00.....4/8/12
	C-2p.....10/31/03	C-20.19-01.....7/2/12	C-85.10-00.....4/8/12
	C-3.....6/27/11	C-20.40-03.....7/2/12	C-85.11-00.....4/8/12
	C-3a.....10/4/05	C-20.42-03.....7/2/12	C-85.14-00.....6/16/11
	C-3b.....6/27/11	C-20.45.01.....7/2/12	C-85.15-00.....6/16/11
	C-3c.....6/27/11	C-22.14-02.....6/16/11	C-85.16-00.....6/16/11
	C-4b.....6/8/06	C-22.16-03.....4/18/12	C-85.18-00.....6/16/11
	C-4e.....2/20/03	C-22.40-02.....6/16/10	C-85.20-00.....6/16/11
	C-4f.....7/2/12	C-22.45.00.....6/16/11	C-90.10-00.....7/3/08
1	D-2.04-00.....11/10/05	D-2.48-00.....11/10/05	D-3.17-01.....5/17/12
	D-2.06-01.....1/6/09	D-2.64-01.....1/6/09	D-4.....12/11/98
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