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1 INTRO.GR1

2 INTRODUCTION

3
4 This Contract shall be constructed in accordance with the 2021 Standard Specifications for
5 Road, Bridge, and Municipal Construction.

6 SPECIAL PROVISIONS

7
8
9 Several types of Special Provisions are included in this contract; General, Region, Bridges
10 and Structures, and Project Specific. Special Provisions types are differentiated as follows:

11		
12	(date)	General Special Provision
13	(*****)	Notes a revision to a General Special Provision
14		and also notes a Project Specific Special
15		Provision.
16	(Regions ¹ date)	Region Special Provision

17
18 **General Special Provisions** are similar to Standard Specifications in that they typically apply
19 to many projects, usually in more than one Region. Usually, the only difference from one
20 project to another is the inclusion of variable project data, inserted as a “fill-in”.

21
22 **Region Special Provisions** are commonly applicable within the designated Region. Region
23 designations are as follows:

24		
25	<u>Regions¹</u>	
26	ER	Eastern Region
27	NCR	North Central Region
28	NWR	Northwest Region
29	OR	Olympic Region
30	SCR	South Central Region
31	SWR	Southwest Region
32		
33	WSF	Washington State Ferries Division

34
35 **Project Specific Special Provisions** normally appear only in the contract for which they were
36 developed.

37
38 DIVISION1.GR1

39 Division 1 40 General Requirements

41
42 DESWORK.GR1

43 DESCRIPTION OF WORK

44
45 DESWORK1.FR1.docx
46 (March 13, 1995)

47 This Contract provides for the improvement of *** SR9 in Snohomish County, MP 15.05 to MP
48 15.73, SR204 INTERSECTION; IMPROVEMENTS (STAGE 2). This project will improve traffic
49 flow at the intersection of SR9 and Market PI NE but constructing an additional northbound
50 through lane between the vicinity of 4Th St SE and 4Th St NE; and right-turn pockets at the
51 Market PI Intersection on southbound SR9 and westbound Market PI NE. In addition, the
52 Stage 2 project will construct a right-turn pocket on northbound SR9 to provide access to 4th

St NE. Improvements also include site preparation by clearing and grubbing, construction of noise walls, replacement of the signal at Market Place, roadway excavation, paving with HMA, drainage systems, detention pond, illumination roadside restoration, permanent signage, intelligent traffic systems, pavement markings, temporary erosion control, traffic control *** and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

1-01.GR1

Definition and Terms

1-01.2.GR1

Abbreviations

1-01.2(2).GR1

Items of Work and Units of Measurement

1-01.2(2).INST1.ITS.DT1

Section 1-01.2(2) is supplemented with the following:

1-01.2(2).OPT1.ITS.DT1

(NWR ITS August 25, 2020)

ATM	Active Traffic Management
bps	Bits Per Second of Serial Data
CCTV	Closed Circuit Television
CC	Camera Cabinet
CPU	Central Processing Unit
CWDM	Course Wave Division Multiplex
dB	Decibel
dBm	Decibel referenced to 1 milliwatt
DMS	Dynamic Message Sign
DS	Data Station
ES	Electronic Surveillance
ESS	Electronic Switching System
EPROM	Electronically Programmable Read-Only Memory
FTC	Fiber Terminal Cabinet
Gb	Gigabit
Gbps	Gigabits per second
HAR	Highway Advisory Radio
HARS	Highway Advisory Radio Sign
HART	Highway Advisory Radio Transmitter
ITS	Intelligent Transportation System
Kbps	Thousands of Bits Per Second of Serial Data
LASER	Light Amplification by Stimulated Emission of Radiation
LCS	Lane Control Sign
LED	Light Emitting Diode
Mbps	Millions of Bits Per Second of Serial Data
MMFO	Multimode Fiber Optics
MUX	Multiplexer
nm	Nanometer (10 ⁻⁹ meter)
OFNR	Optical Fiber Nonconductive Riser
OSP	Outside Plant
OTDR	Optical Time Domain Reflectometer

1	PTZ	Pan, Tilt, Zoom (for camera control)
2	RMU	Rack Mounting Unit (1.75 inches)
3	RWIS	Road Weather Information System
4	SC&DI	Surveillance, Control and Driver Information
5	SFP	Small Form-factor Pluggable
6	SMFO	Singlemode fiber optics
7	SMS	Side Mount Dynamic Message Sign
8	TC	Terminal Cabinet
9	TMS	Traffic Management System
10	TMC	Transportation Management Center
11	TWP	Twisted Wire Pair
12	UPS	Uninterruptible Power Supply
13	VMS	Variable Message Sign
14	WSTA	Weather Station
15	ZIF	Zero-Insertion Force

16

17 1-02.GR1

18 **Bid Procedures and Conditions**

19

20 1-02.4.GR1

21 **Examination of Plans, Specifications and Site of Work**

22

23 1-02.4(1).GR1

24 ***General***

25

26 1-02.4(1).INST1.GR1

27 Section 1-02.4(1) is supplemented with the following:

28

29 1-02.4(1).WebPosting.docx

30 (*****)

31 The Reference Information for this project is available for review by the bidder at the
32 following location, organized by Contract Number and Project Title:

33

34 ftp.ftp.wsdot.wa.gov/contracts

35

36 The Reference Information includes the following:

37

38 SR 9/SR20 Intersection Improvements Project, Stage 2 Plans, Specifications,
39 and Site Work.

40

41 1-02.6.GR1

42 **Preparation of Proposal**

43

44 1-02.6.INST3.GR1

45 Section 1-02.6 is supplemented with the following:

46

47 1-02.6.OPT6.FR1.docx

48 ***(January 7, 2019)***

49 ***Progress Schedule Minimum Bid***

50 A minimum bid of *** \$25,000 *** lump sum has been established for the item "Min Bid
51 Req - Type *** B *** Progress Schedule *** \$25,000 ***." The Contractor's bid shall equal

1 or exceed that amount. If the Contractor's bid is less than the minimum specified amount,
2 the Contracting Agency will unilaterally revise the bid amount to the minimum specified
3 amount and recalculate the Contractor's total bid amount. The corrected total bid amount
4 will be used by the Contracting Agency for award purposes and to fix the amount of the
5 contract bond.
6

7 1-02.9.GR1

8 **Delivery of Proposal**
9

10 1-02.9.INST2.GR1

11 The first paragraph of Section 1-02.9 is replaced with the following:
12

13 1-02.9.OPT3.GR1.docx

14 (April 2, 2018)

15 For projects scheduled for Bid opening in Olympia, the Proposal shall be sealed and
16 submitted in the envelope provided with it to the address provided below. The Bidder shall
17 fill in all blanks on this envelope to ensure proper handling and delivery. Bids are to be
18 received no later than until 11:00:59 A.M. Pacific time on the date of Bid opening:
19

20 Washington State Department of Transportation
21 Room 2D20
22 310 Maple Park Avenue SE
23 Olympia WA 98501-2361
24

25 1-02.12.GR1

26 **Public Opening of Proposals**
27

28 1-02.12.INST1.GR1

29 Section 1-02.12 is supplemented with the following:
30

31 1-02.12.OPT1.FR1.docx

32 **(August 3, 2015)**

33 ***Date of Opening Bids***

34 The bid opening date for this project is *** \$\$1\$\$ ***. Bids received will be publicly opened
35 and read after 11:00:59 A. M. Pacific Time on this date.
36

37 1-03.GR1

38 **Award and Execution of Contract**
39

40 1-03.3.GR1

41 **Execution Of Contract**
42

43 1-03.3.INST2.GR1

44 The first paragraph of Section 1-03.3 is supplemented with the following:
45

46 1-03.3.OPT3.GR1

47 (January 4, 2016)

48 Within 20 calendar days after the Award date, the successful Bidder shall return WSDOT
49 Form 421-013 with the Contractor's costs for transit, bicycle and pedestrian Work.
50

1 1-04.GR1

2 **Scope of the Work**

3
4
5 **Coordination of Contract Documents, Plans, Special Provisions,**
6 **Specifications, and Addenda**

7
8 Section 1-04.2 is supplemented with the following:

9
10 (*****)

11 ***Document Control***

12 This specification applies to project documentation and correspondence that occurs after
13 execution of the Contract. The Contractor shall submit all project documentation and
14 correspondence for this Contract in electronic format utilizing the WSDOT Unifier system.
15 Documents that are received by means other than the WSDOT Unifier system will be
16 rejected, except as allowed by this special provision or specifically approved by the
17 Engineer.

18
19 The Engineer may reject documents that are deemed unsuitable. This includes
20 documents that are illegible, unreadable, locked, etc. Forms that require further
21 information from WSDOT must be unlocked.

22
23 The Contractor shall submit a Unifier Access Request Form (WSDOT Form 134-092)
24 designating all individuals requiring access to WSDOT Unifier no later than 5 days
25 following Contract execution. Training for WSDOT Unifier will be provided by WSDOT at
26 no cost to the Contractor.

27
28 All signed documents shall be in PDF format and will require an electronic signature. An
29 electronic signature is defined as a symbol, or process attached to or logically associated
30 with a record and executed or adopted by a person with the intent to sign the record. All
31 signed documents shall be in PDF format.

32
33 WSDOT has provided an application to be used to apply electronic signatures to the
34 following documents:

35
36 Change Orders that are not Minor Change Orders
37 421-009 Release – Retained Percentage (Except Landscaping)
38 134-146 Final Contract Voucher Certificate

39
40 When the Contract specifies that documentation is to be submitted through other web
41 based systems, such as the Diversity Management and Compliance System, or email
42 addresses, the Contractor shall utilize those systems and email addresses accordingly.

43
44 All costs for submitting project documentation electronically shall be included in the
45 Contract prices for the Bid items of Work involved.

46
47 1-04.4.GR1

48 **Changes**

49
50 1-04.4.INST1.GR1

51 Section 1-04.4 is supplemented with the following:

1-04.4.OPT1.GR1

(April 30, 2020)

Change Orders will be transmitted electronically to the Contractor for signature. The Contractor shall apply all signatures electronically using the software provided by the Contracting Agency. Within 21 days of execution of the Contract, the Contractor shall submit a Type 1 Working Drawing consisting of the names, email addresses, and text-message capable phone numbers for the authorized change order signers and shall bear the name, phone number and email of the officer providing this authorization. Delegation of authority to sign Change Orders shall be by the officer authorized to sign the Contract in accordance with Section 1-02.1.

1-05.GR1

Control of Work

1-05.4.GR1

Conformity With And Deviations From Plans And Stakes

1-05.4.INST1.GR1

Section 1-05.4 is supplemented with the following:

1-05.4.OPT1.GR1

(August 7, 2017)

Contractor Surveying - Structure

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

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of bridges, noise walls, and retaining walls. 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 shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

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

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

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of

- 1 secondary control to the Contracting Agency. The description shall include
2 coordinates and elevations of all secondary control points.
- 3
- 4 2. Establish, by placing hubs and/or marked stakes, the location with offsets of
5 foundation shafts and piles.
- 6
- 7 3. Establish offsets to footing centerline of bearing for structure excavation.
- 8
- 9 4. Establish offsets to footing centerline of bearing for footing forms.
- 10
- 11 5. Establish wing wall, retaining wall, and noise wall horizontal alignment.
- 12
- 13 6. Establish retaining wall top of wall profile grade.
- 14
- 15 7. Establish elevation benchmarks for all substructure formwork.
- 16
- 17 8. Check elevations at top of footing concrete line inside footing formwork
18 immediately prior to concrete placement.
- 19
- 20 9. Check column location and pier centerline of bearing at top of footing
21 immediately prior to concrete placement.
- 22
- 23 10. Establish location and plumbness of column forms, and monitor column
24 plumbness during concrete placement.
- 25
- 26 11. Establish pier cap and crossbeam top and bottom elevations and centerline of
27 bearing.
- 28
- 29 12. Check pier cap and crossbeam top and bottom elevations and centerline of
30 bearing prior to and during concrete placement.
- 31
- 32 13. Establish grout pad locations and elevations.
- 33
- 34 14. Establish structure bearing locations and elevations, including locations of
35 anchor bolt assemblies.
- 36
- 37 15. Establish box girder bottom slab grades and locations.
- 38
- 39 16. Establish girder and/or web wall profiles and locations.
- 40
- 41 17. Establish diaphragm locations and centerline of bearing.
- 42
- 43 18. Establish roadway slab alignment, grades and provide dimensions from top of
44 girder to top of roadway slab. Set elevations for deck paving machine rails.
- 45
- 46 19. Establish traffic barrier and curb profile.
- 47
- 48 20. Profile all girders prior to the placement of any deadload or construction live load
49 that may affect the girder's profile.
- 50
- 51 The Contractor shall provide the Contracting Agency copies of any calculations and
52 staking data when requested by the Engineer.

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

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

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

	<u>Vertical</u>	<u>Horizontal</u>
1. Stationing on structures		±0.02 feet
2. Alignment on structures		±0.02 feet
3. Superstructure elevations	±0.01 feet variation from plan elevation	
4. Substructure	±0.02 feet variation from Plan grades.	

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

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.

1
2 **Payment**

3 Payment will be made for the following bid item when included in the proposal:

4
5 "Structure Surveying", lump sum.

6
7 The lump sum contract price for "Structure Surveying" shall be full pay for all labor,
8 equipment, materials, and supervision utilized to perform the Work specified, including
9 any resurveying, checking, correction of errors, replacement of missing or damaged
10 stakes, and coordination efforts.

11
12 1-05.4.OPT2.GR1

13 **(August 7, 2017)**

14 **Contractor Surveying - Roadway**

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

17
18 The Contractor shall be responsible for setting, maintaining, and resetting all alignment
19 stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage,
20 surfacing, paving, channelization and pavement marking, illumination and signals,
21 guardrails and barriers, and signing. Except for the survey control data to be furnished
22 by the Contracting Agency, calculations, surveying, and measuring required for setting
23 and maintaining the necessary lines and grades shall be the Contractor's responsibility.

24
25 The Contractor shall inform the Engineer when monuments are discovered that were not
26 identified in the Plans and construction activity may disturb or damage the monuments.
27 All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the
28 length of the project or be replaced at the Contractors expense.

29
30 Detailed survey records shall be maintained, including a description of the work
31 performed on each shift, the methods utilized, and the control points used. The record
32 shall be adequate to allow the survey to be reproduced. A copy of each day's record shall
33 be provided to the Engineer within three working days after the end of the shift.

34
35 The meaning of words and terms used in this provision shall be as listed in "Definitions of
36 Surveying and Associated Terms" current edition, published by the American Congress
37 on Surveying and Mapping and the American Society of Civil Engineers.

38
39 The survey work shall include but not be limited to the following:

- 40
41 1. Verify the primary horizontal and vertical control furnished by the Contracting
42 Agency, and expand into secondary control by adding stakes and hubs as well
43 as additional survey control needed for the project. Provide descriptions of
44 secondary control to the Contracting Agency. The description shall include
45 coordinates and elevations of all secondary control points.
46
47 2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on
48 centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and
49 at points on the alignments spaced no further than 50 feet.
50
51 3. Establish clearing limits, placing stakes at all angle points and at intermediate
52 points not more than 50 feet apart. The clearing and grubbing limits shall be 5

- 1 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise
2 shown in the Plans.
- 3
- 4 4. Establish grading limits, placing slope stakes at centerline increments not more
5 than 50 feet apart. Establish offset reference to all slope stakes. If Global
6 Positioning Satellite (GPS) Machine Controls are used to provide grade control,
7 then slope stakes may be omitted at the discretion of the Contractor
- 8
- 9 5. Establish the horizontal and vertical location of all drainage features, placing
10 offset stakes to all drainage structures and to pipes at a horizontal interval not
11 greater than 25 feet.
- 12
- 13 6. Establish roadbed and surfacing elevations by placing stakes at the top of
14 subgrade and at the top of each course of surfacing. Subgrade and surfacing
15 stakes shall be set at horizontal intervals not greater than 50 feet in tangent
16 sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-
17 foot intervals in intersection radii with a radius less than 10 feet. Transversely,
18 stakes shall be placed at all locations where the roadway slope changes and at
19 additional points such that the transverse spacing of stakes is not more than 12
20 feet. If GPS Machine Controls are used to provide grade control, then roadbed
21 and surfacing stakes may be omitted at the discretion of the Contractor.
- 22
- 23 7. Establish intermediate elevation benchmarks as needed to check work
24 throughout the project.
- 25
- 26 8. Provide references for paving pins at 25-foot intervals or provide simultaneous
27 surveying to establish location and elevation of paving pins as they are being
28 placed.
- 29
- 30 9. For all other types of construction included in this provision, (including but not
31 limited to channelization and pavement marking, illumination and signals,
32 guardrails and barriers, and signing) provide staking and layout as necessary to
33 adequately locate, construct, and check the specific construction activity.
- 34
- 35 10. Contractor shall determine if changes are needed to the profiles or roadway
36 sections shown in the Contract Plans in order to achieve proper smoothness
37 and drainage where matching into existing features, such as a smooth transition
38 from new pavement to existing pavement. The Contractor shall submit these
39 changes to the Engineer for review and approval 10 days prior to the beginning
40 of work.
- 41

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

44

45 To facilitate the establishment of these lines and elevations, the Contracting Agency will
46 provide the Contractor with primary survey control information consisting of descriptions
47 of two primary control points used for the horizontal and vertical control, and descriptions
48 of two additional primary control points for every additional three miles of project length.
49 Primary control points will be described by reference to the project alignment and the
50 coordinate system and elevation datum utilized by the project. In addition, the Contracting
51 Agency will supply horizontal coordinates for the beginning and ending points and for
52 each Point of Intersection (PI) on each alignment included in the project.

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

	<u>Vertical</u>	<u>Horizontal</u>
Slope stakes	±0.10 feet	±0.10 feet
Subgrade grade stakes set 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Stationing on roadway	N/A	±0.1 feet
Alignment on roadway	N/A	±0.04 feet
Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Roadway paving pins for surfacing or paving	±0.01 feet	±0.2 feet (parallel to alignment) ±0.1 feet (normal to alignment)

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

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 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.

1-05.4.OPT4.GR1

(April 2, 2018)

Contractor Surveying – ADA Features

ADA Feature Staking Requirements

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, and grades necessary for the construction of the ADA features. Calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility. The Contractor shall build the ADA features within the specifications in the Standard Plans and contract documents.

ADA Feature As-Built Measurements

The Contractor shall be responsible for providing electronic As-Built records of all ADA feature improvements completed in the Contract.

The survey work shall include but not be limited to completing the measurements, recording the required measurements and completing other data fill-ins found on the ADA Measurement Forms, and transmitting the electronic Forms to the Engineer. The ADA Measurement Forms are found at the following website location:

<http://www.wsdot.wa.gov/Design/ADAGuidance.htm>

In the instance where an ADA Feature does not meet accessibility requirements, all work to replace non-conforming work and then to measure, record the as-built measurements, and transmit the electronic Forms to the Engineer shall be completed at no additional cost to the Contracting Agency, as ordered by the Engineer.

Payment

Payment will be made for the following bid item that is included in the Proposal:

"ADA Features Surveying", lump sum.

The unit Contract price per lump sum for "ADA Features Surveying" shall be full pay for all the Work as specified.

1-05.14.GR1

Cooperation With Other Contractors

1-05.14.INST1.GR1

Section 1-05.14 is supplemented with the following:

1-05.14.OPT1.FR1.docx

(March 13, 1995)

Other Contracts Or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

1 WSDOT
2 SR 9 S Lake Stevens Rd Intersection Improvement
3 Contact: Mark Sawyer, PE 9021 EL Capitan Way
4 Everett, WA 98208
5 Phone: 425-225-8799,
6 Fax: 425-225-8798,
7 Mailstop: NB82-57
8
9 WSDOT
10 US 2 /Bickford Ave to Sofie Rd & SR 9 – Paving, Joints, Improvements & ADA
11 Contact: Mark Sawyer, PE
12 9021 EL Capitan Way
13 Everett, WA 98208
14 Phone: 425-225-8799
15 Fax: 425-225-8798
16 MailStop:NB82-57 ***
17

18 **1-07.GR1**

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

20

21 1-07.1.GR1

22 **Laws to be Observed**

23

24 1-07.1.INST1.GR1

25 Section 1-07.1 is supplemented with the following:

26

27 1-07.1.OPT1.FT1.Docx

28 (*****)

29 **Nighttime Construction Work Requirements**

30

31 The Contractor shall perform nighttime Work under the measures listed below to
32 minimize construction noise:

33

- 34 1. All trucks performing export haul shall have well maintained bed liners as
35 inspected and accepted by the Engineer.
36
37 2. Truck tailgate banging is prohibited. All truck tailgates shall be secured to
38 prevent excessive noise from banging.
39
40 3. The Contractor shall mail a Nighttime Work Mail Notification to residents
41 located within 500 feet within the project limits.
42

43

44 WSDOT will provide the Nighttime Work Mail Notification and the Contractor shall
45 submit the following information to the Contracting Agency 20 working days prior to the
46 start of nighttime Work:

47

- 47 • Start date and duration of the nighttime Work.
- 48
- 49 • List of the expected nighttime noise sources.
- 50
- 51 • List of noise mitigation measures to be implemented.
- 52

1 The Contractor shall obtain the mailing distribution list of residents and property owners.
2 The Contractor shall hire a Mailing Service to print and distribute by mail the Contracting
3 Agency's provided Nighttime Work Mail Notification to the required residences 14
4 working days prior to the start of the night Work.

5
6 The Contractor shall not proceed with nighttime Work unless all conditions listed in this
7 Contract are in place and the Affidavit of Service by Mailing is received by the
8 Contracting Agency 24 hours prior to the start of nighttime Work.

9
10 The Affidavit of Service by Mailing is a notarized document from the Mailing Service
11 stating that the Nighttime Work Mail Notifications were mailed. A list of addresses
12 obtained by the Contractor for the mailing shall be included with the Affidavit.

13 14 **General**

15
16 Failure of the Contractor to perform all obligations under this Special Provision will result
17 in the suspension of all night Work until a corrective Work plan is accepted by the
18 Engineer. Working Days will continue to accrue during the period of suspension.

19
20 The Contractor shall be responsible for obtaining all exemptions or variances to perform
21 nighttime Work outside the project limits such as staging areas. A copy of each
22 exemption or variance obtained by the Contractor shall be provided to the Contracting
23 Agency before proceeding with the nighttime Work.

24
25 Other noise mitigation measures may be required, and it is understood that the
26 Contractor is responsible for devising methods that comply with all ordinances.
27 Compliance with the above noise mitigation measures shall not be considered a
28 warranty that the equipment or the activity will comply with all local regulations.

29 30 **Payment**

31 All costs to comply with the above requirements shall be included in the associated
32 items of Work.

33
34
35 1-07.1.OPT3.FR1.docx

36 **(April 3, 2006)**

37 **Confined Space**

38 Confined spaces are known to exist at the following locations:

39
40 ***

41 Roadway locations including but not limited to the following:

42
43 Drainage Structures
44 Walled Detention Pond

45
46 ***

47
48 The Contractor shall be fully responsible for the safety and health of all on-site workers
49 and compliant with Washington Administrative Code (WAC 296-809).

50
51 The Contractor shall prepare and implement a confined space program for each of the
52 confined spaces identified above. The Contractors Confined Space program shall be

1 sent to the Contracting Agency at least 30 days prior to the Contractor beginning work in
2 or adjacent to the confined space. No work shall be performed in or adjacent to the
3 confined space until the plan is submitted to the Engineer as required. The Contractor
4 shall communicate with the Engineer to ensure a coordinated effort for providing and
5 maintaining a safe worksite for both the Contracting Agency's and Contractor's workers
6 when working in or near a confined space.
7

8 All costs to prepare and implement the confined space program shall be included in the
9 bid prices for the various items associated with the confined space work.
10

11 1-07.1.OPT4.GR1

12 (May 13, 2020)

13 In response to COVID-19, the Contractor shall prepare a project specific COVID-19 health
14 and safety plan (CHSP) in conformance with Section 1-07.4(2) as supplemented in these
15 specifications, **COVID-19 Health and Safety Plan (CHSP)**.
16

17 1-07.4.GR1

18 **Sanitation**

19
20 1-07.4(2).GR1

21 **Health Hazards**
22

23 1-07.4(2).INST2.GR1

24 Section 1-07.4(2) is supplemented with the following:
25

26 1-07.4(2).OPT2.GR1

27 **(May 13, 2020)**

28 **COVID-19 Health and Safety Plan (CHSP)**

29 The Contractor shall prepare a project specific COVID-19 health and safety plan
30 (CHSP). The CHSP shall be prepared and submitted as a Type 2 Working Drawing
31 prior to beginning physical Work. The CHSP shall be based on the most current State
32 and Federal requirements. If the State or Federal requirements are revised, the
33 CHSP shall be updated as necessary to conform to the current requirements.
34

35 The Contractor shall update and resubmit the CHSP as the work progresses and
36 new activities appear on the look ahead schedule required under Section 1-08.3(2)D.
37 If the conditions change on the project, or a particular activity, the Contractor shall
38 update and resubmit the CHSP. Work on any activity shall cease if conditions prevent
39 full compliance with the CHSP.
40

41 The CHSP shall address the health and safety of all people associated with the
42 project including State workers in the field, Contractor personnel, consultants, project
43 staff, subcontractors, suppliers and anyone on the project site, staging areas, or
44 yards.
45

46 **COVID-19 Health and Safety Plan (CHSP) Inspection**

47 The Contractor shall grant full and unrestricted access to the Engineer for CHSP
48 Inspections. The Engineer (or designee) will conduct periodic compliance
49 inspections on the project site, staging areas, or yards to verify that any ongoing work
50 activity is following the CHSP plan. If the Engineer becomes aware of a
51 noncompliance incident either through a site inspection or other means, the

1 Contractor will be notified immediately (within 1 hour). The Contractor shall
2 immediately remedy the noncompliance incident or suspend all or part of the
3 associated work activity. The Contractor shall satisfy the Engineer that the
4 noncompliance incident has been corrected before the suspension will end.
5
6 1-07.5.GR1
7 **Environmental Regulations**
8
9 1-07.5.INST1.GR1
10 Section 1-07.5 is supplemented with the following:
11
12 1-07.5.OPT1.GR1
13 **(September 20, 2010)**
14 **Environmental Commitments**
15 The following Provisions summarize the requirements, in addition to those required
16 elsewhere in the Contract, imposed upon the Contracting Agency by the various
17 documents referenced in the Special Provision **Permits and Licenses**. Throughout the
18 work, the Contractor shall comply with the following requirements:
19
20 1-07.5.OPT1(B).FR1
21 (April 1, 2019)
22 The Contractor shall notify the Engineer a minimum of *** \$\$1\$\$ *** calendar days
23 prior to commencing any work in sensitive areas, mitigation areas, and wetland
24 buffers. Installation of construction fencing is excluded from this notice requirement.
25
26 1-07.5.OPT1(H).GR1
27 (January 7, 2013)
28 Stormwater, dewatering water, or other authorized non-stormwater discharges that
29 has come into contact with pH modifying substances such as concrete rubble,
30 concrete pours or amended soils, need to be maintained between 6.5 – 8.5 standard
31 units (su). If pH exceeds 8.5 su, the Contractor shall immediately discontinue work
32 and initiate treatment to prevent discharges outside the acceptable range from
33 occurring. All neutralization methods used shall be in accordance with the permit.
34 Work may resume once treatment has been implemented and pH of the stormwater
35 or authorized non-stormwater discharge is between 6.5 - 8.5 su or it can be
36 demonstrated that high pH waters will not discharge to surface waters.
37
38 Stormwater, dewatering water, and other authorized non-stormwater discharges are
39 monitored weekly for compliance with the turbidity benchmark (25 nephelometric
40 turbidity units (ntu)) and the phone reporting trigger value (250 ntu) by the
41 Contracting Agency. When the turbidity benchmark is breached, the best
42 management practices (BMPs) installed on-site are not working adequately and
43 need to be adapted, maintained or more BMPs shall be installed. When the turbidity
44 phone reporting trigger value is breached, immediate action is required in order to
45 lower the turbidity to ≤ 25 ntu or to eliminate the discharge. Daily follow-up discharge
46 samples will be collected at all locations where a discharge of 250 ntu or higher was
47 collected unless the discharge was stopped or eliminated.
48
49 1-07.5.OPT1(V).GR1.docx
50 (August 3, 2009)
51 The intentional bypass of stormwater from all or any portion of a stormwater
52 treatment system is prohibited without the approval of the Engineer.

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.

1-07.5(3).GR1

State Department of Ecology

1-07.5(3).INST1.GR1

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

1-07.5(3).OPT1.GR1

(April 2, 2018)

The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Contracting Agency by the Washington State Department of Ecology. Throughout the work, the Contractor shall comply with the following requirements:

1-07.5(3).OPT1(B).FR1.docx

(January 7, 2019)

The Contractor shall notify the Engineer a minimum of *** seven *** calendar days prior to commencing any work in environmentally sensitive areas, mitigation areas, and wetland buffers. Installation of construction fencing is excluded from this notice requirement.

1-07.5(3).OPT2.GR1

(April 2, 2018)

All costs to comply with this special provision 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.

1-07.5(6).GR1

U.S. Fish and Wildlife Service and National Marine Fisheries Service

1-07.5(6).INST1.GR1

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

1-07.5(6).OPT1.GR1

(April 2, 2018)

The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Contracting Agency by the U.S. Fish/Wildlife Services and the National Marine Fisheries Service. Throughout the work, the Contractor shall comply with the following requirements:

1-07.5(6).OPT1(A).FR1.docx

(August 3, 2009)

No Contractor staging areas will be allowed within *** 50 *** feet of any waters of the State including wetlands.

1 1-07.6.GR1

2 **Permits and Licenses**

3

4 1-07.6.INST1.GR1

5 Section 1-07.6 is supplemented with the following:

6

7 1-07.6.OPT1.FR1.docx

8 (January 2, 2018)

9 The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of
10 the permit(s) is attached as an appendix for informational purposes. Copies of these
11 permits, including a copy of the Transfer of Coverage form, when applicable, are required
12 to be onsite at all times.

13

14 Contact with the permitting agencies, concerning the below-listed permit(s), shall be
15 made through the Engineer with the exception of when the Construction Stormwater
16 General Permit coverage is transferred to the Contractor, direct communication with the
17 Department of Ecology is allowed. The Contractor shall be responsible for obtaining
18 Ecology's approval for any Work requiring additional approvals (e.g. Request for
19 Chemical Treatment Form). The Contractor shall obtain additional permits as necessary.
20 All costs to obtain and comply with additional permits shall be included in the applicable
21 Bid items for the Work involved.

22

- 23 • *** City of Lake Stevens: Major Land Disturbance Permit
- 24 • Washington Department of Ecology: Construction Stormwater General Permit
- 25 • City of Lake Stevens: Right of Way Use Permit; Permit #: PWD2019-0165
- 26 • NPDES Construction Stormwater General Permit
- 27 • CWA Section 404, US Army Corps of Engineers, Nationwide Permit
- 28 • CWA Section 401, Ecology, Letter of Verification

29 ***

30

31 1-07.7.GR1

32 **Load Limits**

33

34 1-07.7.INST1.GR1

35 Section 1-07.7 is supplemented with the following:

36

37 1-07.7.OPT6.GR1

38 (March 13, 1995)

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

42

43 1-07.11.GR1

44 **Requirements for Nondiscrimination**

45

46 1-07.11.INST1.GR1

47 Section 1-07.11 is supplemented with the following:

48

(January 7, 2019)

**Voluntary Minority, Small, Veteran and Women's Business Enterprise
(MSVWBE) Participation**

General Statement

The participation of minority, small, veteran, and women business enterprises (MSVWBE) is an important strategic objective for the State of Washington. Voluntary goals for minority, small, veteran and women business enterprises are included in this Contract. The Contractor is encouraged to utilize MSVWBEs in accordance with these Specifications, RCW 39.19 and Executive Order 13-01 (issued by the Governor of Washington on May 10, 2013).

The goals are voluntary; efforts to provide MSVWBEs maximum practicable opportunities are encouraged.

Non-Discrimination

Contractors shall not create barriers to open and fair opportunities for all businesses, including MSVWBEs, to participate in the Work on this Contract. This includes the opportunity to compete for subcontracts as sources of supplies, equipment, construction or services.

The Contractor shall make Voluntary MSVWBE Participation a part of all subcontracts and agreements entered into as a result of this Contract.

Voluntary MSVWBE Participation Goals

Goals for voluntary MSVWBE participation have been established as a percentage of Contractor's total Bid amount.

The Contracting Agency has established the following voluntary goals:

Minority	10%
Small	5%
Veteran	5%
Women	6%

Amounts paid to an MSVWBE will be credited to every voluntary goal in which they are eligible. In other words, participation may be credited for participation in more than one category. If the Contractor is a MSVWBE, their Work will be credited to the voluntary goals in which they are eligible.

MSVWBE Abbreviations and Definitions

Broker – A business firm that provides a bona fide service, such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for the performance of the Contract; or, persons/companies who arrange or expedite transactions.

Commercially Useful Function (CUF)

A MSVWBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MSVWBE must also be responsible, with

respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

The MSVWBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, contract, or Project through which the funds are passed in order to obtain the appearance of MSVWBE participation.

Manufacturer (MSVWBE) – A MSVWBE 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 MSVWBE Manufacturer shall produce finished goods or products from raw or unfinished material or purchase and substantially alters goods and materials to make them suitable for construction use before reselling them.

Minority Business Enterprise (MBE) – A minority owned business meeting the requirements of RCW 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s Business Enterprises.

Pass Through – When the MSVWBE firm participates as an extra participant in a transaction, through which funds are passed in order to give the appearance of participation by the MSVWBE firm and count toward the voluntary goal.

Small Business – A business meeting the Washington State requirements for a “Small business”, “Minibusiness” or “Microbusiness as defined in RCW 39.26.010 and included on the WSDOT Office of Equal Opportunity list of Small Businesses at <http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm>

Supplier (MSVWBE) – A MSVWBE firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of a Contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a Supplier, the MSVWBE firm must be an established business that engages in as its principal business and in its own name the purchase and sale of the products in question. A Supplier in such items as steel, cement, gravel, stone, and petroleum products need not own, operate or maintain a place of business if it both owns and operates distribution equipment for the products. Any supplementing of suppliers’ own distribution equipment shall be by long-term formal lease agreements and not on an ad-hoc basis. Brokers, packagers, manufacturers’ representatives, or other persons who arrange or expedite transactions shall not be regarded as Suppliers within the meaning of this definition.

Veteran Business – A veteran owned business meeting the requirements of RCW 43.60A.010 and included on the WSDOT Office of Equal Opportunity list of Veteran Businesses at <http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm>

Women Business Enterprise (WBE) – A women owned business meeting the requirements of RCW 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s Business Enterprises.

1
2 **Crediting MSVWBE Participation**

3 Subcontractors proposed as counting toward the MSVWBE goal must be certified
4 and be performing a CUF during the execution of the Work.
5

6 MSVWBE participation cannot be counted toward the Contractor's MSVWBE
7 Voluntary Goal until the amount being counted has actually been paid to the
8 MSVWBE.
9

10 The following are some examples of what may be counted as MSVWBE participation:
11

12 **MSVWBE Prime Contractor**

13 Only take credit for that portion of the total dollar value of the Contract equal to
14 the distinct, clearly defined portion of the Work that the MSVWBE Prime
15 Contractor performs with its own forces and is credited to perform.
16

17 **MSVWBE Subcontractor**

18 Only take credit for that portion of the total dollar value of the subcontract that is
19 equal to the distinct, clearly defined portion of the Work that the MSVWBE
20 performs with its own forces. The value of work performed by the MSVWBE
21 includes the cost of supplies and materials purchased by the MSVWBE and
22 equipment leased by the MSVWBE, for its work on the Contract. Supplies,
23 materials or equipment obtained by a MSVWBE that are not utilized or
24 incorporated in the Contract work by the MSVWBE will not be eligible for
25 MSVWBE credit unless the MSVWBE is certified as a supplier or equipment
26 leasing company.
27

28 The supplies, materials, and equipment purchased or leased from the
29 Contractor or its affiliate, including any Contractor's resources available to
30 MSVWBE subcontractors at no cost, shall not be credited toward the MSVWBE
31 Voluntary Goals.
32

33 MSVWBE credit will not be given in instances where the equipment lease
34 includes the operator. The MSVWBE is expected to operate the equipment used
35 in the performance of its work under the contract with its own forces.
36

37 If a MSVWBE subcontracts a portion of the Work of its contract to another firm,
38 the value of the subcontracted Work may be counted toward the MSVWBE
39 Voluntary Goal only if the MSVWBE's Lower-Tier Subcontractor is also a
40 MSVWBE.
41

42 **MSVWBE Subcontract and Lower Tier Subcontract Documents**

43 There must be a subcontract agreement that fully describes the distinct
44 elements of Work committed to be performed by the MSVWBE. The subcontract
45 agreement shall incorporate requirements of the Contract. Subcontract
46 agreements of all tiers, including lease agreements, shall be readily available at
47 the Project site for the Engineer's review.
48

49 **MSVWBE Service Provider**

50 When a MSVWBE participates as a service provider or consultant and provides
51 a bona fide services such as professional, technical, consultant, or managerial

1 services, 100 percent of the total cost counts toward the MSVWBE Voluntary
2 Goal if the firm performs a CUF.

3 4 **MSVWBE Broker**

5 When a MSVWBE participates as a broker (i.e. arranging a transaction or
6 service but does not provide a work product or enhancement), only the dollar
7 value of the fee or commission charged or 20 percent of the total dollar value of
8 expenditures by the MSVWBE (whichever is greater) counts toward the
9 MSVWBE Voluntary Goal if the firm performs a CUF.

10 11 **Trucking**

12 A MSVWBE trucking firm's participation will be credited to MSVWBE Voluntary
13 Goal if the MSVWBE trucking firm has one leased or owned truck working on
14 the project and the MSVWBE trucking firm performs a CUF. MSVWBE trucking
15 companies may lease trucks from other MSVWBE firms and non-MSVWBE
16 firms and count this work toward the MSVWBE Voluntary Goal.

17
18 A MSVWBE trucking firm that is also a supplier or manufacturer of the materials
19 or goods being transported can count 100 percent of the dollar value toward the
20 MSVWBE Voluntary Goal. For an MSVWBE that is not a supplier or
21 manufacturer, only the fee charged to deliver the goods or materials can be
22 counted toward the MSVWBE Voluntary Goal.

23 24 **MSVWBE Manufacturer and MSVWBE Supplier**

25 If materials or supplies are obtained from a MSVWBE Manufacturer, one
26 hundred percent (100%) of the cost of materials or supplies can count toward
27 the MSVWBE Voluntary Goal.

28
29 One hundred percent (100%) of the cost of materials or supplies purchased from
30 a MSVWBE Supplier may be credited toward meeting the MSVWBE Voluntary
31 Goal. If the role of the MSVWBE Supplier is determined to be that of a pass-
32 through, then no MSVWBE credit will be given for its services. If the role of the
33 MSVWBE Supplier is determined to be that of a Broker, then MSVWBE credit
34 shall be limited to the fee or commission it receives for its services.

35 36 **Procedures after Execution**

37 **Commercially Useful Function (CUF)**

38 The Contractor may only take credit for the payments made for Work performed
39 by a MSVWBE that is determined to be performing a CUF. Payment must be
40 commensurate with the work actually performed by the MSVWBE, if the
41 Contractor wants to receive credit for their participation. If a MSVWBE does not
42 perform "all" of its responsibilities on a contract, it has not performed a CUF and
43 their Work cannot be counted toward MSVWBE Voluntary Goal.

44
45 To determine whether an MSVWBE is performing a CUF, the Contractor shall
46 evaluate the amount of work subcontracted, industry practices, whether the
47 amount the firm is to be paid under the contract is commensurate with the work
48 it is actually performing and the MSVWBE credit claimed for its performance of
49 the work, and other relevant factors.

50 51 **Leasing of Equipment**

Leasing of equipment from a leasing company is allowed. However, leasing/purchasing equipment from the Contractor is not allowed. Lease agreements shall be readily available for review by the Engineer.

Traffic Control

In order for a MSVWBE traffic control company to be considered to be performing a CUF, the MSVWBE must be in control of its work inclusive of supervision. The MSVWBE shall employ a Traffic Control Supervisor who is directly involved in the management and supervision of the traffic control employees and services.

Joint Checks

Joint checks will only be allowed for the purpose of purchasing supplies and materials. The MSVWBE Subcontractor must submit a request to the Engineer and receive approval from the Engineer prior to using a joint check to pay for supplies and materials. Supplies and materials purchased with an approved joint check shall count toward the voluntary goals.

Joint checks that did not receive prior approval from the Engineer or used for purposes other than the purchase of supplies and materials shall not count towards the voluntary goals.

Prompt Payment

Prompt payment to all subcontractors shall be in accordance with Section 1-08.1. Prompt payment requirements apply to progress payments as well as return of retainage.

Refer to Section 1-08.1 for additional reporting requirements associated with this contract.

Removal from MSVWBE Program

When a MSVWBE is "removed" from the MSVWBE program during the course of the Contract, the participation of that MSVWBE shall continue to count towards the MSVWBE Voluntary Goal as long as the subcontract with the MSVWBE was executed prior to the removal notice.

MSVWBE Participation Plan

A MSVWBE Participation Plan shall be submitted to the Engineer prior to the start of Work on the project. The plan is submitted for the Contracting Agency's information. The plan shall include the information identified in the guidelines at <http://www.wsdot.wa.gov/EqualOpportunity/MSVWBE.htm>.

Approval of the plan is not required; however, an incomplete plan will be returned for correction and resubmittal. An updated MSVWBE Participation Plan will be submitted for Review and Comment annually on the date the original Participation Plan was submitted. The Contractor shall provide a 30 Calendar Day review period for WSDOT Review and Comment on all MSVWBE Participation Plan submittals.

MSVWBE Reporting

The Contractor shall report payments to all firms that were used as Subcontractors, lower tier Subcontractors, manufactures, regular dealers, or service providers on the Contract Work each month between Execution of the Contract and when the Contract

1 final estimate is processed, using the application available at
2 <https://wsdot.diversitycompliance.com>. The monthly report is due 20 Calendar Days
3 following the end of the month, whether payments were made or work occurred.
4
5 The monthly report shall include payments to all businesses regardless of their listing
6 on the MSVWBE Inclusion Plan. If the Contractor is a MSVWBE, the amounts paid
7 by WSDOT for Work performed by the certified Contractor shall also be reported.
8
9 After Execution of the Contract, the Contractor shall send an email to
10 CRP@wsdot.wa.gov containing the following information: the first and last name,
11 email address, title, and phone number of the person who will be submitting the
12 above reports for their company. The email shall include the WSDOT contract
13 number they will be reporting on. After receipt of this information by WSDOT, the
14 Contractor will receive an email providing information about their assignment.
15 Training and instructions are available in the application.
16
17 Refer to Section 1-08.1 for additional reporting requirements associated with this
18 contract.
19
20 **MSVWBE Payment**
21 All costs for implementation of the requirements for Voluntary MSVWBE Participation
22 shall be included in the associated items of Contract Work.
23
24 1-07.16.GR1
25 **Protection and Restoration of Property**
26
27 1-07.16(2).GR1
28 ***Vegetation Protection and Restoration***
29
30 1-07.16(2).INST1.GR1
31 Section 1-07.16(2) is supplemented with the following:
32
33 1-07.16(2).OPT1.GR1
34 (August 2, 2010)
35 Vegetation and soil protection zones for trees shall extend out from the trunk to a
36 distance of 1 foot radius for each inch of trunk diameter at breast height.
37
38 Vegetation and soil protection zones for shrubs shall extend out from the stems at
39 ground level to twice the radius of the shrub.
40
41 Vegetation and soil protection zones for herbaceous vegetation shall extend to
42 encompass the diameter of the plant as measured from the outer edge of the plant.
43
44 1-07.16(2).OPT2_HandToolsFootTraffic.docx
45 All work within temporary easements shall be done by hand held tools and all traffic shall
46 be limited to foot traffic except where Selective Pruning is required for removal of crossed
47 and broken branches, damaged or dead branches, and shaping and corrective pruning
48 to national arboriculture standards in accordance with Section 2-01.3.
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.OPT1.FR1.docx
5 (April 2, 2007)
6 Locations and dimensions shown in the Plans for existing facilities are in accordance with
7 available information obtained without uncovering, measuring, or other verification.
8
9 The following addresses and telephone numbers of utility companies known or suspected
10 of having facilities within the project limits are supplied for the Contractor's convenience:
11
12 ***
13 **Comcast Cable**
14 Mike Sampson
15 1525 75th Street SW, Suite 200
16 Everett, WA 98203
17 (425) 263-5313 office or (425) 319-4899 mobile
18 mike_sampson#@comcast.com
19
20 **Northwest Fiber, LLC dba Ziplly Fiber**
21 Tim Rennick – OSP Engineer, Washington Division
22 1800 41st Street
23 Everett, WA 98203
24 (425) 263-4025 office or (425) 210-0333 mobile
25 timothy.rennick@ziply.com
26
27 **Northwest Fiber, LLC dba Ziplly Fiber**
28 Michael Copeland – Construction
29 13923 Smokey Point Boulevard
30 Marysville, WA 98271
31 (425) 293-9942 office or 877-486-5667 (after hours) Emergency/Repair Line
32 Mike.E.Copeland@ftr.com
33
34 **Northwest Fiber, LLC dba Ziplly Fiber**
35 John Daly – Construction Manager Everett North
36 13923 Smokey Point Boulevard
37 Marysville, WA 98271
38 360-658-2257 office or 360-403-5181 mobile or
39 877-486-5667 (after hours) Emergency/Repair Line
40 John.Daly@ziply.com
41
42 **Lake Stevens Sewer District**
43 Jonathan Dix – Manager of Maintenance & Collections
44 1106 Vernon Road, Suite A
45 Lake Stevens, WA 98258
46 (425) 334-8588 main
47 Johnathan.Dix@lkssd.org
48
49 **Lake Stevens Sewer District (Gray & Osborne, Inc.)**
50 Leigh Nelson – Civil Engineer
51 701 Dexter Avenue North, Suite 200
52 Seattle, WA 98109

1 (206) 284-0860 office
2 lnelson@g-o.com
3
4 **Puget Sound Energy - Gas**
5 Bill Carpentier – Public Improvement Inspector
6 3630 Railway Avenue
7 Everett, WA 98201
8 (206) 396-9354 mobile or 1(888)225-5773 Emergency Line
9 william.carpentier@pse.com
10
11 **Puget Sound Energy - Gas**
12 Mardy Punteney – Public Improvement Inspector
13 3630 Railway Avenue
14 Everett, WA 98201
15 425-754-8053 mobile or 1-888-225-5773 Emergency Line
16 Mardy.Punteney@pse.com
17
18 **Snohomish County PUD No. 1 - Electric**
19 Bryan Gregory Distribution Eng Services Engineer
20 1802 75th St SW
21 PO Box 1107
22 Everett, WA 98206-1107
23 (425)783-4413 office or (425)530-5576 mobile or (425)783-1001 Emergency Line
24 bigregory@snopud.com
25
26 **Snohomish County PUD No. 1 - Water**
27 Paul Federspiel - Principal Engineer, Water Resources Operations & Maintenance
28 PO Box 1107
29 Everett, WA 98206-1107
30 3301 Old Hartford Road
31 Lake Stevens, WA 98258
32 425-397-3032 office or 425-320-9359 mobile or (425)397-3000 main
33 PAFederspiel@SnoPUD.com
34
35 **Snohomish County PUD No. 1 - Water**
36 Dale Aschenbrenner – Water Crew Coordinator
37 Water Operations and Maintenance
38 3301 Old Hartford Road
39 Lake Stevens, WA 98258
40 425-397-3051 office or 425-239-5763 mobile
41 DAAschenbrenner@SnoPUD.com
42
43 **Wave Division Holdings (Black Rock Cable)**
44 Jeremy Anderson – Senior Construction Manager
45 3700 Monte Villa Parkway STE 200
46 Bothell, WA 98021
47 425-319-0216 mobile or 1-888-317-0488 Emergency Line
48 janderson@wavebroadband.com
49
50 **Wave Division Holdings (Black Rock Cable)**
51 Casey Kolling – Construction Manager
52 3700 Monte Villa Parkway STE 200

Bothell, WA 98021
425-754-6317 mobile or 1-888-317-0488 Emergency Line
ckolling@wavebroadband.com

1-07.17.OPT2.FR1.docx

(April 2, 2007)

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

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

*** Snohomish County PUD No. 1 - Water shall adjust their existing valving and appurtenances at 4th Street NE, where noted in the plans, as needed to accommodate roadway construction and paving efforts. The Contractor shall coordinate with Snohomish County PUD No. 1 - Water contact listed above to schedule the work necessary to accommodate construction activities. Contractor shall adjust Puget Sound Energy existing valving and appurtenances, where noted in the plans, for Puget Sound Energy valves. ***

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

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

***** Snohomish County PUD No. 1 - Water**

Paul Federspiel - Principal Engineer, Water Resources Operations & Maintenance
PO Box 1107
Everett, WA 98206-1107
3301 Old Hartford Road
Lake Stevens, WA 98258
425-397-3032 office or 425-320-9359 mobile or (425)397-3000 main
PAFederspiel@SnoPUD.com

Snohomish County PUD No. 1 - Water

Dale Aschenbrenner – Water Crew Coordinator
Water Operations and Maintenance
3301 Old Hartford Road
Lake Stevens, WA 98258
425-397-3051 office or 425-239-5763 mobile
DAAschenbrenner@SnoPUD.com

(*****)

1 Potholing Existing Buried Utilities
2 Potholing to locate buried utilities shall be done prior to beginning any excavation.
3 To be eligible for payment as described below, potholing locations shall be proposed
4 by the Contractor and accepted by the Engineer prior to the potholing. The
5 Contractor shall submit a Type 2 Working Drawing consisting of proposed potholing
6 locations.
7
8 The Contractor shall locate and pothole to determine the vertical and horizontal
9 position of the existing utilities in the planned excavation areas. This Work shall
10 include excavation to locate the utilities and backfilling of the excavation following
11 measurements. Potholing shall be accomplished by using a method that prevents
12 damage to the buried utilities.
13
14 Payment
15 Payment to locate the utilities will be made under the Bid item "Force Account Utility
16 Pothole Location", by force account as provided in Section 1-09.6. To provide a
17 common Proposal for all Bidders, the Contracting Agency has entered an amount in
18 the Proposal to become a part of the Contractor's total Bid.
19
20 1-07.23.GR1
21 **Public Convenience and Safety**
22
23 1-07.23(1).GR1
24 ***Construction Under Traffic***
25
26 1-07.23(1).INST1.GR1
27 Section 1-07.23(1) is supplemented with the following:
28
29 1-07.23(1).OPT2.GR1
30 **(February 3, 2020)**
31 **Work Zone Clear Zone**
32 The Work Zone Clear Zone (WZCZ) applies during working and nonworking
33 hours. The WZCZ applies only to temporary roadside objects introduced by the
34 Contractor's operations and does not apply to preexisting conditions or
35 permanent Work. Those work operations that are actively in progress shall be in
36 accordance with adopted and approved Traffic Control Plans, and other contract
37 requirements.
38
39 During nonworking hours equipment or materials shall not be within the WZCZ
40 unless they are protected by permanent guardrail or temporary concrete barrier.
41 The use of temporary concrete barrier shall be permitted only if the Engineer
42 approves the installation and location.
43
44 During actual hours of work, unless protected as described above, only
45 materials absolutely necessary to construction shall be within the WZCZ and
46 only construction vehicles absolutely necessary to construction shall be allowed
47 within the WZCZ or allowed to stop or park on the shoulder of the roadway.
48
49 The Contractor's nonessential vehicles and employees private vehicles shall not
50 be permitted to park within the WZCZ at any time unless protected as described
51 above.
52

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 50 mph	20
55 to 60 mph	30
65 mph or greater	35

Minimum Work Zone Clear Zone Distance

1-07.23(1).OPT5.FR1.docx
(January 5, 2015)

Lane closures are subject to the following restrictions:

*** Shoulder, Lane, Ramp, Roadway and Other Closures (Closures)

Shoulder Closures, Lane Closures (and/or lane shifts), Ramp Closures, Roadway Closures and Other Closures, are prohibited at all times except as permitted in these Special Provisions.

Shoulder Closures

Unless specified elsewhere, shoulder closures are permitted as follows:

NB & SB SR 9 Shoulder Closures

Monday 8:00 am to 4:00 pm

Tuesday 8:00 am to 4:00 pm

Wednesday 8:00 am to 4:00 pm

Thursday 8:00 am to 4:00 pm

Friday 8:00 am to 4:00 pm

NB SR 9 Right Shoulder Closure with Right Turn Pocket Closure

Sunday 9:00 pm to Monday 5:00 am

Monday 9:00 pm to Tuesday 5:00 am

Tuesday 9:00 pm to Wednesday 5:00 am

Wednesday 9:00 pm to Thursday 5:00 am

Thursday 9:00 pm to Friday 5:00 am

Lane Closures

Unless specified elsewhere, lane closures are permitted as follows:

SB SR 9 Right Lane Closure

Sunday 9:00 pm to Monday 5:00 am

Monday 9:00 pm to Tuesday 5:00 am

Tuesday 9:00 pm to Wednesday 5:00 am

1 Wednesday 9:00 pm to Thursday 5:00 am
2 Thursday 9:00 pm to Friday 5:00 am
3
4 SB SR 9 Alt traffic with flagger at Market Pl. & UPO at SR 204 INT & Detour
5 Sunday 9:30 pm to Monday 5:00 am
6 Monday 9:30 pm to Tuesday 5:00 am
7 Tuesday 9:30 pm to Wednesday 5:00 am
8 Wednesday 9:30 pm to Thursday 5:00 am
9 Thursday 9:30 pm to Friday 5:00 am
10
11 NB SR 9 Alt. traffic with UPO at Market Pl. & Detour
12 Sunday 9:30 pm to Monday 5:00 am
13 Monday 9:30 pm to Tuesday 5:00 am
14 Tuesday 9:30 pm to Wednesday 5:00 am
15 Wednesday 9:30 pm to Thursday 5:00 am
16 Thursday 9:30 pm to Friday 5:00 am
17
18 NB SR 9 Lane shift with SB SR 9 Left Lane closure
19 Sunday 9:30 pm to Monday 5:00 am
20 Monday 9:30 pm to Tuesday 5:00 am
21 Tuesday 9:30 pm to Wednesday 5:00 am
22 Wednesday 9:30 pm to Thursday 5:00 am
23 Thursday 9:30 pm to Friday 5:00 am
24
25 EB SR204 single lane closure
26 Sunday 9:30 pm to Monday 5:00 am
27 Monday 9:30 pm to Tuesday 5:00 am
28 Tuesday 9:30 pm to Wednesday 5:00 am
29 Wednesday 9:30 pm to Thursday 5:00 am
30 Thursday 9:30 pm to Friday 5:00 am***
31
32 **General**
33 Construction vehicles using a closed lane shall travel in the normal direction
34 of traffic flow unless expressly allowed in an accepted traffic control Plan.
35 Construction vehicles shall be equipped with flashing or rotating amber
36 lights.
37
38 **Controlled Access**
39 No special access or egress will be allowed by the Contractor other than
40 normal legal movements or as shown in the Plans.
41
42 **Closure Restrictions**
43 If the Engineer determines the permitted closure hours adversely affect
44 traffic, the Engineer may adjust the hours accordingly. The Engineer will
45 notify the Contractor in writing of any change in the closure hours.
46
47 **Holiday and Event Restrictions**
48 Closures are not allowed during the following:
49
50 1. A holiday,

2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.
 3. For purposes of this section, the weekends prior to and following Independence Day are considered holiday weekends.
 4. After 12:00 PM (noon) on the day prior to the holiday or holiday weekend
 5. Before 12:00 PM (noon) on the day after the holiday or holiday weekend
 6. Two hours prior through two hours after the following special events:
 - Marysville Strawberry Festival (typically in June)
 - Arlington Fly-In (typically in July)
 - Lake Stevens Aquafest (typically in July)
 - Granite Falls Show and Shine Car Show (typically in August)
 - Ride to Conquer Cancer (typically in August)
 - Evergreen State Fair in Monroe (typically in August/September)
- Contractor to confirm all dates and times.

1-07.23(1).OPT6.DT1

(NWR December 31, 2019)

Advance Notification

The Contractor shall notify the Engineer in writing five working days in advance of any lane closure, Shoulder closure, sidewalk closure, or any combination.

The Contractor shall notify the Engineer in writing ten working days in advance of any Roadway closure, ramp closure, or both.

These notifications do not imply that the closure will be approved.

The Contractor shall submit a detailed schedule which includes all dates and times for traffic control needs for each Roadway, ramp, lane, Shoulder, or sidewalk closure associated with approved Traffic Control Plans to the Engineer for review and approval by 12:00 p.m. (noon) of the Monday three weeks prior to implementing the traffic control Plan. The schedule shall include dates, times, and identification of critical path Work activities that require traffic control. Due to other Work in the area, submittal of the detailed traffic control schedule does not ensure approval of the dates and times of the proposed traffic control schedule. Within 14 calendar days of the submittal, the Engineer will notify the Contractor of approval of all or portions of the traffic control schedule. Any change to the schedule shall be resubmitted to the Engineer and shall restart the review and approval process.

1-07.23(1).OPT7.DT1

(NWR December 31, 2019)

Public Notification

The Contractor shall furnish and install information signs that provide advance notification of a ramp closure, Roadway closure, or both, a minimum of five working days prior to the closure. The signs shall have a black legend on a white reflective background. Sign locations, messages, letter sizes, and sign sizes are shown in the Plans.

The Contractor shall notify the Washington State Patrol; local fire, police, emergency service, and city engineering departments; Medic 1 and Metro Transit (206-477-

1140) when applicable; other transit companies; and the affected school district(s) in writing a minimum of five working days prior to each closure. The Contractor shall furnish copies of these notifications to the Engineer.

1-07.23(1).OPT6.DT1

(NWR December 31, 2019)

Advance Notification

The Contractor shall notify the Engineer in writing five working days in advance of any lane closure, Shoulder closure, sidewalk closure, or any combination.

The Contractor shall notify the Engineer in writing ten working days in advance of any Roadway closure, ramp closure, or both.

These notifications do not imply that the closure will be approved.

The Contractor shall submit a detailed schedule which includes all dates and times for traffic control needs for each Roadway, ramp, lane, Shoulder, or sidewalk closure associated with approved Traffic Control Plans to the Engineer for review and approval by 12:00 p.m. (noon) of the Monday three weeks prior to implementing the traffic control Plan. The schedule shall include dates, times, and identification of critical path Work activities that require traffic control. Due to other Work in the area, submittal of the detailed traffic control schedule does not ensure approval of the dates and times of the proposed traffic control schedule. Within 14 calendar days of the submittal, the Engineer will notify the Contractor of approval of all or portions of the traffic control schedule. Any change to the schedule shall be resubmitted to the Engineer and shall restart the review and approval process.

1-07.23(1).OPT7.DT1

(NWR December 31, 2019)

Public Notification

The Contractor shall furnish and install information signs that provide advance notification of a ramp closure, Roadway closure, or both, a minimum of five working days prior to the closure. The signs shall have a black legend on a white reflective background. Sign locations, messages, letter sizes, and sign sizes are shown in the Plans.

The Contractor shall notify the Washington State Patrol; local fire, police, emergency service, and city engineering departments; Medic 1 and Metro Transit (206-477-1140) when applicable; other transit companies; and the affected school district(s) in writing a minimum of five working days prior to each closure. The Contractor shall furnish copies of these notifications to the Engineer.

1-08.GR1

Prosecution and Progress

1-08.3.GR1

Progress Schedule

1-08.3(2).GR1

Progress Schedule Types

1 **1-08.3(2)D.GR1**
2 **Weekly Look-Ahead Schedule**
3
4 1-08.3(2)D.INST1.DT1
5 The first sentence of Section 1-08.3(2)D is revised to read:
6
7 1-08.3(2)D.OPT1.DT1
8 (NWR December 31, 2019)
9 Each week that Work will be performed, the Contractor shall submit a Weekly
10 Look-Ahead Schedule showing the Contractor's and all Subcontractors'
11 proposed Work activities for the next three weeks.
12
13 1-08.3(5).GR1
14 **Payment**
15
16 1-08.3(5).INST1.GR1
17 Section 1-08.3(5) is revised to read:
18
19 1-08.3(5).OPT2.FR1.docx
20 (January 7, 2019)
21 Payment will be made for the following Bid item when it is included in the Proposal:
22
23 "Min Bid Req – Type *** B *** Progress Schedule *** \$25,000 ***", lump sum.
24
25 The lump sum price shall be full pay for all costs for furnishing the Type *** B ***
26 Progress Schedule and preliminary Type *** B *** Progress Schedule.
27
28 Payment of 80 percent of the lump sum price will be made upon approval of the
29 Progress Schedule.
30
31 Payment will be increased to 100 percent of the lump sum price upon completion of
32 80 percent of the original total Contract Award amount.
33
34 All costs for providing Type A Progress Schedules and Weekly Look-Ahead
35 Schedules are considered incidental to other items of Work in the Contract.
36
37 No payment will be made for Schedule Updates that are required due to the
38 Contractor's operations. Schedule Updates required by events that are attributed to
39 the actions of the Contracting Agency will be paid for in accordance with Section 1-
40 09.4.
41
42 1-08.5.GR1
43 **Time for Completion**
44
45 1-08.5.INST2.GR1
46 Section 1-08.5 is supplemented with the following:
47
48 1-08.5.OPT7.FR1.docx
49 (March 13, 1995)
50 This project shall be physically completed within *** 149 *** working days.
51

1-08.9.GR1

Liquidated Damages

1-08.9.INST1.GR1.docx

Section 1-08.9 is supplemented with the following:

1-08.9.OPT1.FT1.docx

(*****)

The closure of SR 9 mainline lanes and ramps will result in substantial traffic impacts. These closures will cause delays to the traveling public, increase fuel consumption, vehicle operating cost, pollution, and other inconveniences and harm.

Accordingly, the Contractor agrees:

1. To pay \$1,050 liquidated damages per 15 minutes for each 15 minute period prorated to the nearest 5 minutes that all lanes are closed on mainline SR 9 in the decreasing direction beyond the scheduled opening time specified in the Subsection Public Convenience and Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
2. To pay \$4,700 liquidated damages per 15 minutes for each minute period prorated to the nearest 5 minutes that all lanes of SR 9 in the increasing and decreasing direction is closed beyond the scheduled opening time specified in the Subsection Public Convenience and Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
3. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

1-08.9.OPT1.ITS.DT1

(NWR ITS August 25, 2020)

Unplanned disruptions to the Intelligent Transportation System (ITS) will result in impacts to the traveling public, increase fuel consumption, vehicle operating costs, pollution, and other inconveniences and harm.

Accordingly, the Contractor agrees:

1. To pay \$250.00 liquidated damages per 15 minutes for each 15 minute period that the Contractor fails to restore the proper operation of an existing ITS element following an unplanned disruption as specified in the Subsection **Existing System Disruption and Restoration** of the Special Provision **ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORTATION SYSTEMS, and ELECTRICAL**.
2. To authorize the Engineer to deduct these liquidated damages from any money due or coming to the Contractor.

1-08.9.OPT1.FT1.docx

(*****)

The closure of SR 9 mainline lanes and ramps will result in substantial traffic impacts. These closures will cause delays to the traveling public, increase fuel consumption, vehicle operating cost, pollution, and other inconveniences and harm.

Accordingly, the Contractor agrees:

1. To pay \$1,050 liquidated damages per 15 minutes for each 15 minute period prorated to the nearest 5 minutes that all lanes are closed on mainline SR 9 in the decreasing direction beyond the scheduled opening time specified in the Subsection Public Convenience and Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
2. To pay \$4,700 liquidated damages per 15 minutes for each minute period prorated to the nearest 5 minutes that all lanes of SR 9 in the increasing and decreasing direction is closed beyond the scheduled opening time specified in the Subsection Public Convenience and Safety of the Special Provision LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.
3. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

1-09.9.GR1

Payments

1-09.9.INST1.GR1

Section 1-09.9 is supplemented with the following:

1-09.9.OPT2.GR1

(April 30, 2020)

The Contractor shall sign electronically using the software provided by the Contracting Agency and return the Final Contract Voucher Certification (FCVC) as indicated in this section. Within 21 days of execution, the Contractor shall submit a Type 1 Working Drawing designating who will sign the FCVC, including their full name, email address, and text-message capable phone number. The designee shall be an authorized signer in accordance with Section 1-02.1.

1-10.GR1

Temporary Traffic Control

1-10.1.GR1

General

1-10.1.INST1.GR1

Section 1-10.1 is supplemented with the following:

1-10.1.OPT3.FR1.docx

Contractor provided Uniformed Police Officer (UPO)

The Contractor shall provide, monitor, and provide direction to Uniformed Police Officer(s) having jurisdiction in the area, to control intersection traffic in accordance with the Plans. All costs associated with performing this Work, including costs for arrangement for and supervision of uniformed law enforcement personnel and vehicle(s) to participate in the Contractor's traffic control activities, are included in the lump sum Bid item "Project Temporary Traffic Control".

1
2 The following contact information for potential service providers is supplied for the
3 Contractor's convenience:
4 Snohomish County Sheriff's Office
5 Deputy Alex Ross
6 (425) 754-9011
7 Email: alex.ross@snoco.org
8
9 Washington State Patrol
10 Anne Foreman and Sarah Martin
11 2700 116th St NE
12 Marysville WA 98271-9425
13 (360) 654-1106
14 Email: D7servicerequest@wsp.wa.gov
15
16 1-10.2.GR1
17 **Traffic Control Management**
18
19 1-10.2(1).GR1
20 ***General***
21
22 1-10.2(1).INST1.GR1
23 Section 1-10.2(1) is supplemented with the following:
24
25 1-10.2(1).OPT1.GR1
26 (January 3, 2017)
27 Only training with WSDOT TCS card and WSDOT training curriculum is recognized
28 in the State of Washington. The Traffic Control Supervisor shall be certified by one
29 of the following:
30
31 The Northwest Laborers-Employers Training Trust
32 27055 Ohio Ave.
33 Kingston, WA 98346
34 (360) 297-3035
35
36 Evergreen Safety Council
37 12545 135th Ave. NE
38 Kirkland, WA 98034-8709
39 1-800-521-0778
40
41 The American Traffic Safety Services Association
42 15 Riverside Parkway, Suite 100
43 Fredericksburg, Virginia 22406-1022
44 Training Dept. Toll Free (877) 642-4637
45 Phone: (540) 368-1701
46
47 1-10.3.GR1
48 **Traffic Control Labor, Procedures and Devices**
49

1 1-10.3(3).GR1
2 **Traffic Control Devices**
3
4 1-10.3(3)A.GR1
5 **Construction Signs**
6
7 1-10.3(3)A.INST1.DT1
8 Section 1-10.3(3)A is supplemented with the following:
9
10 1-10.3(3)A.OPT1.DT1
11 **(NWR December 31, 2019)**
12 **Signal Turn-on/Changeover**
13 Prior to scheduling a turn-on date for a new signal, the Contractor shall install
14 on each leg of the intersection a 48 in. x 48 in. "New Signal Ahead" sign (W20-
15 902) on a 4 in. x 6 in. wood post at a location staked by the Engineer. For a
16 rebuilt signal, the sign shall be a "Signal Revision Ahead" sign (W20-903)
17 meeting the same requirements.
18
19 1-10.4.GR1
20 **Measurement**
21
22 1-10.4(1).GR1
23 **Lump Sum Bid for Project (No Unit Items)**
24
25 1-10.4(1).INST1.GR1
26 Section 1-10.4(1) is supplemented with the following:
27
28 1-10.4(1).OPT1.GR1
29 (August 2, 2004)
30 The proposal contains the item "Project Temporary Traffic Control", lump sum. The
31 provisions of Section 1-10.4(1) shall apply.
32
33 **DIVISION2.GR2**
34 **Division 2**
35 **Earthwork**
36
37 2-01.GR2
38 **Clearing, Grubbing, and Roadside Cleanup**
39
40 2-01.3.GR2
41 **Construction Requirements**
42
43 2-01.3.INST1.LSP.DT1
44 Section 2-01.3 is supplemented with the following:
45
46 2-01.3.OPT2.LSP.docx
47 **(NWR September 12, 2019)**
48 **Selective Pruning**
49 The Contractor shall selectively prune *** The trees adjacent to the work zone *** at the
50 location shown in the Plans.
51

1 The required pruning includes removal of crossed and broken branches, damaged or
2 dead branches, and shaping and corrective pruning to national arboriculture standards.
3 Only an arborist or arboricultural technician showing proof of certification by the
4 International Society of Arboriculture shall perform this Work. The Contractor shall
5 submit a Type 1 Working Drawing to the Engineer providing proof of certification prior to
6 beginning any pruning. This requirement is waived for branches less than 2 inches in
7 diameter.
8
9 All pruned cuttings and vegetation debris from selective pruning shall be disposed of
10 outside of the project limits.
11
12 2-01.3.OPT6.LSP.DT1
13 **(NWR September 12, 2019)**
14 **Roadside Restoration**
15 The Contractor shall avoid and minimize impacts to all portions of the roadside or
16 adjacent landscapes to the maximum extent possible according to Section 1-07.16(1)
17 and Section 1-07.16(2). Vegetated areas that are unavoidably damaged due to the
18 performance or installation of the specified Work shall be restored in kind to the original
19 condition or as approved by the Engineer.
20
21 All materials utilized shall be in accordance with Sections 9-14 and 9-15 and other
22 applicable sections of the Standard Specifications or Special Provisions, whichever may
23 apply.
24
25 All Work shall be performed in accordance with Sections 8-02 and 8-03 and other
26 applicable sections of the Standard Specifications.
27
28 The Contractor shall review the Work with the Engineer and receive approval to proceed
29 prior to commencing roadside restoration Work.
30
31 2-01.3(1).GR2
32 **Clearing**
33
34 2-01.3(1).INST1.GR2
35 Item number 1 of Section 2-01.3(1) is revised to read:
36
37 2-01.3(1).OPT1.GR2
38 (April 2, 2018)
39 1. Trees identified for removal shall be felled into the Contracting Agency right of
40 way or areas that will be cleared of vegetation.
41
42 **2-01.5.GR2**
43 **Payment**
44
45 2-01.5.INST1.LSP.DT1
46 Section 2-01.5 is supplemented with the following:
47
48 2-01.5.SELECTIVE PRUNING.Docx
49 (*****)
50
51 "Force Account Selective Pruning", by force account as provided in Section 1-09.6.
52

1 To provide a common Proposal for Bidders, the Contracting Agency has entered an
2 amount for the item "Force Account Selective Clearing, Grubbing, and Pruning" to
3 become a part of the total Bid by the Contractor.
4

5 **2-02.GR2**
6 **Removal of Structures and Obstructions**
7

8 2-02.1.GR2
9 **Description**
10

11 2-02.1.INST1.GR2
12 Section 2-02.1 is supplemented with the following:
13

14 2-02.1.OPT1.GR2
15 (March 13, 1995)
16 This work shall consist of removing miscellaneous traffic items.
17

18 2-02.3.GR2
19 **Construction Requirements**
20

21 2-02.3.INST1.GR2
22 Section 2-02.3 is supplemented with the following:
23

24 2-02.3.OPT1.FR2.docx
25 **(February 17, 1998)**
26 **Removal of Obstructions**
27 *** The Contractor shall remove and coordinate for removal of items as necessary to
28 construct a completed project as depicted in the Plans.
29 All holes or depressions created as a result of removing Structures and obstructions shall
30 be backfilled with compacted native soil or gravel borrow material to 90% density to form
31 a smooth final grading surface, unless otherwise allowed by the Engineer. All wall ,vault,
32 and foundation materials shall be removed and disposed of to a depth of four feet below
33 existing or finished ground surface as the condition applies except that in the area of
34 embankment fill where materials shall be removed and disposed of to a depth of four feet
35 below existing ground surface. ***
36

37 2-02.3.OPT1_RemoveSDPipe-ConstReq.docx
38 **(*****)**
39 **Removing Storm Sewer Pipe**
40 Where shown in the Plans, or at other locations as determined by the Engineer, the
41 Contractor shall remove pipe regardless of size, type, or depth of pipe. Each pipe shall
42 be removed in its entirety. The void left by the pipe shall be backfilled with select borrow
43 and compacted in accordance with Section 2-03.3(14)C.
44

45 At locations where an existing drainage structure will remain in operation after removing
46 one or more storm sewer pipes, the Contractor shall ensure all openings are watertight
47 by filling the openings with mortar and concrete blocks or bricks. Concrete blocks and
48 bricks shall conform to the requirements of Section 9-12.1 and 9-12.2, respectively. Mortar
49 shall conform to the requirements of Section 9-20.4(3).
50

1 2-02.3.OPT2.FR2.docx
2 **(March 13, 1995)**
3 **Removing Miscellaneous Traffic Items**
4 The following miscellaneous traffic items shall be removed and disposed of:
5
6 *** Guide Posts 13 (EACH)
7 Raised Pavement Markers 7.5 (HUND) ***
8
9 2-02.3.OPT3_RemoveFence-ConstReq.docx
10 **(*****)**
11 **Removing Fence**
12 Where shown in the Plans, or at other locations as determined by the Engineer, the
13 Contractor shall remove fence regardless of size or type. Each fence component,
14 including but not limited to posts and post foundations, tension wires, chain link fabric,
15 and chain link gates shall be removed in its entirety. Any void left by the fence or its
16 components shall be backfilled with select borrow and compacted in accordance with
17 Section 2-03.3(14)C.
18
19 **2-02.4.GR2**
20 **Measurement**
21
22 2-02.4.INST1.GR2
23 Section 2-02.4 is supplemented with the following:
24
25 2-02.4.OPT1_RemoveSDPipe-Measure.docx
26 **(*****)**
27 Removal of storm sewer pipe will be measured by linear foot of pipe removed.
28
29 2-02.4.OPT2_RemoveFence-Measure.docx
30 **(*****)**
31 Removal of fence will be measured by linear foot of fence removed.
32
33 **2-02.5.GR2**
34 **Payment**
35
36 2-02.5.OPT1.FR2.docx
37 (August 7, 2017)
38 Payment will be made for the following bid item when it is included in the proposal.
39
40 All costs for the removal of structures and obstructions shall be included in *** other lump-
41 sum bid items involving removal of existing structures and obstructions ***.
42
43 2-02.5.INST1.GR2
44 Section 2-02.5 is revised by the following:
45
46 2-02.5.OPT1_RemoveSDPipe-Payment.docx
47 **(*****)**
48 "Removing Storm Sewer Pipe", per linear foot.
49
50 The unit Contract price for "Removing Storm Sewer Pipe", shall be full payment for all costs
51 to perform the Work as described in this Section.

1
2 2-02.5.OPT2_RemoveFence-Payment.docx
3 (*****)
4 "Removing Fence", per linear foot.
5
6 The unit Contract price for "Removing Fence", shall be full payment for all costs to perform
7 the Work as described in this Section.
8
9 2-02.5.INST2.GR2
10 Section 2-02.5 is supplemented with the following:
11
12 2-02.5.OPT8.GR2
13 (September 30, 1996)
14 "Removing Miscellaneous Traffic Item", lump sum.
15
16 2-03.GR2
17 **Roadway Excavation and Embankment**
18
19 2-03.1.GR2
20 **Description**
21
22 2-03.1.INST1.GR2.docx
23 Section 2-03.1 is supplemented with the following:
24
25 2-03.1.OPT1_Excavation-Description.docx
26 (*****)
27 This Work shall consist of excavation and grading of the City Pond and Compost
28 Amended Biofiltration Swale (CABS) as designated as Roadway Excavation Incl. Haul –
29 Area _____ in accordance with the Contract Plans and these Specifications.
30 The City Pond area includes excavation and grading of existing Lake Stevens city pond,
31 gravity block wall, stabilized overflow spillway, and adjacent areas.
32
33 The CABS area includes excavation and grading from roadway finished grade for
34 installation of compost, topsoil, quarry spalls, construction geotextile for soil stabilization,
35 biofiltration swale level spreader and other associated areas.
36
37 2-03.3.GR2
38 **Construction Requirements**
39
40 2-03.3(14).GR2
41 **Embankment Construction**
42
43 2-03.3(14)C.GR2
44 **Compacting Earth Embankments**
45
46 2-03.3(14)C.INST1.GR2
47 Section 2-03.3(14)C is supplemented with the following:
48
49 2-03.3(14)C.OPT1.GR2
50 (March 13, 1995)

1 All embankments, except waste embankments, shall be compacted using
2 Method A.
3
4 DIVISION5.GR5
5
6 **Division 5**
7 **Surface Treatments and Pavements**
8
9 5-04.GR5
10 **Hot Mix Asphalt**
11
12 5-04.2.GR5
13 **Materials**
14
15 5-04.2(2).GR5
16 ***Mix Design – Obtaining Project Approval***
17
18 5-04.2(2).INST1.GR5
19 Section 5-04.2(2) is supplemented with the following:
20
21 5-04.2(2).OPT1.FR5.docx
22 **(January 3, 2011)**
23 **ESAL's**
24 The number of ESAL's for the design and acceptance of the HMA shall be ***
25 5.4 *** million.
26
27 5-04.3.GR5
28 **Construction Requirements**
29
30 5-04.3(3).GR5
31 ***Equipment***
32
33 5-04.3(3)D.OPT1.GR5
34 (April 4, 2016)
35 Section 5-04.3(3)D is deleted in its entirety.
36
37 5-04.3(10).GR5
38 ***HMA Compaction Acceptance***
39
40 5-04.3(10).INST1.GR5
41 The column in Table 14 of Section 5-04.3(10), titled "Statistical Evaluation of HMA
42 Compaction is Required for", is supplemented with the following:
43
44 5-04.3(10).OPT1.GR5
45 (April 3, 2017)
46 • Any HMA for which the specified course thickness is greater than 0.10 feet and
47 the HMA is placed in the shoulder.
48
49 5-04.5.GR5
50 **Payment**

5-04.5.INST2.GR5

Section 5-04.5 is supplemented with the following:

5-04.5.OPT2.GR5

(January 2, 2018)

Asphalt Cost Price Adjustment

The Contracting Agency will make an Asphalt Cost Price Adjustment, either a credit or a payment, for qualifying changes in the reference cost of asphalt binder. The adjustment will be applied to partial payments made according to Section 1-09.9 for the following bid items when they are included in the proposal:

“HMA Cl. ____ PG ____”

“HMA for Approach Cl. ____ PG ____”

“HMA for Preleveling Cl. ____ PG ____”

“HMA for Pavement Repair Cl. ____ PG ____”

“Commercial HMA”

The adjustment is not a guarantee of full compensation for changes in the cost of asphalt binder. The Contracting Agency does not guarantee that asphalt binder will be available at the reference cost.

The Contracting Agency will establish the asphalt binder reference cost twice each month and post the information on the Agency website at:

<http://www.wsdot.wa.gov/Business/Construction/EscalationClauses.htm>

The reference cost will be determined using posted prices furnished by Poten & Partners, Inc. If the selected price source ceases to be available for any reason, then the Contracting Agency will select a substitute price source to establish the reference cost.

The base cost established for this contract is the reference cost posted on the Agency website with an effective date immediately preceding the bid opening date.

Adjustments will be based on the most current reference cost for Western Washington or Eastern Washington as posted on the Agency website, depending on where the work is performed. For work completed after all authorized working days are used, the adjustment will be based on the posted reference cost during which contract time was exhausted. The adjustment will be calculated as follows:

No adjustment will be made if the reference cost is within 5% of the base cost.

If the reference cost is greater than or equal to 105% of the base cost, then
Adjustment = (Current Reference Cost – (1.05 x Base Cost)) x (Q x 0.056).

If the reference cost is less than or equal to 95% of the base cost, then
Adjustment = (Current Reference Cost – (0.95 x Base Cost)) x (Q x 0.056).

Where Q = total tons of all classes of HMA paid in the current month's progress payment.

“Asphalt Cost Price Adjustment”, by calculation.

“Asphalt Cost Price Adjustment” will be calculated and paid for as described in this section. For the purpose of providing a common proposal for all bidders, the Contracting

1 Agency has entered an amount in the proposal to become a part of the total bid by the
2 Contractor.
3
4 **DIVISION6.GR6**
5
6 **Division 6**
7 **Structures**
8
9 6-02.GR6
10 **Concrete Structures**
11
12 6-02.2.GR6
13 **Materials**
14
15 6-02.2.INST1.GR6
16 Section 6-02.2 is supplemented with the following:
17
18 6-02.2.OPT1.GR6
19 **(April 1, 2013)**
20 **Resin Bonded Anchors**
21 The resin bonded anchor system shall include the nut, washer, and threaded anchor rod
22 which is installed into hardened concrete with a resin bonding material.
23
24 Resin bonding material used in overhead and horizontal application shall be specifically
25 recommended by the resin manufacturer for those applications.
26
27 Resin bonding material used in submerged liquid environment shall be specifically
28 recommended by the resin manufacturer for this application.
29
30 The resin bonded anchor system shall conform to the following requirements:
31
32 1. Threaded Anchor Rod and Nuts
33 Threaded anchor rods shall conform to ASTM A 193 Grade B7 or ASTM A 449,
34 except as otherwise noted, and be fully threaded. Threaded anchor rods for
35 stainless steel resin bonded anchor systems shall conform to ASTM F 593 and
36 shall be Type 304 unless otherwise specified.
37
38 Nuts shall conform to ASTM A 563, Grade DH, except as otherwise noted. Nuts
39 for stainless steel resin bonded anchor systems shall conform to ASTM F 594
40 and shall be Type 304 unless otherwise specified.
41
42 Washers shall conform to ASTM F 436, and shall meet the same requirements
43 as the supplied anchor rod, except as otherwise noted. Washers for stainless
44 steel resin bonded anchor systems shall conform to ASTM A 240 and the
45 geometric requirements of ASME B18.21.1 and shall be Type 304 Stainless
46 Steel unless otherwise specified.
47
48 Nuts and threaded anchor rods, except those manufactured of stainless steel,
49 shall be galvanized in accordance with AASHTO M 232. Galvanized threaded
50 anchor rods shall be tested for embrittlement after galvanizing, in accordance
51 with Section 9-29.6(5).

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

2. Resin Bonding Material
- Resin bonding material shall be a two component epoxy resin conforming to Type IV ASTM C 881 or be one of the following:
- a. Vinyl ester resin.
 - b. Polyester resin.
 - c. Methacrylate resin.
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

- 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.
- 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.
- 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.

- 1 4. For threaded anchors intended to be installed in submerged liquid environments
2 the Contractor shall submit tests performed by an independent laboratory within
3 the past 24 months which certifies that anchors installed in a submerged
4 environment meet the strength requirements specified in the above table.
5
6 6-02.3.GR6
7 **Construction Requirements**
8
9 6-02.3(14).GR6
10 ***Finishing Concrete Surfaces***
11
12 6-02.3(14)C.GR6
13 **Pigmented Sealer Materials**
14
15 6-02.3(14)C.INST1.GR6
16 Section 6-02.3(14)C is supplemented with the following:
17
18 6-02.3(14)C.OPT2.GB6
19 (April 6, 2009)
20 The color of the pigmented sealer shall be Mt. St. Helens Gray.
21
22 6-02.3(18).GR6
23 ***Placing Anchor Bolts***
24
25 6-02.3(18).INST1.GR6
26 Section 6-02.3(18) is supplemented with the following:
27
28 6-02.3(18).OPT1.GR6
29 **(January 3, 2011)**
30 **Resin Bonded Anchors**
31 The embedment depth of the anchors shall be as specified in the Plans. If the
32 embedment depth of the anchor is not specified in the Plans then the embedment
33 depth shall be as specified in the table of minimum and maximum torque below.
34
35 The anchors shall be installed in accordance with the resin manufacturer's written
36 procedure.
37
38 Holes shall be drilled as specified in the Plans. Holes may be drilled with a rotary
39 hammer drill when core drilling is not specified in the Plans. If holes are core drilled,
40 the sides of the holes shall be roughened with a rotary hammer drill after core drilling.
41
42 Holes shall be prepared in accordance with the resin manufacturer's
43 recommendations and shall meet the minimum requirements as specified herein.
44 Holes drilled into concrete shall be thoroughly cleaned of debris, dust, and laitance
45 prior to installing the threaded rod and resin bonding material. Holes shall not have
46 any standing liquid at the time of installation of the threaded anchor rod.
47
48 The anchor nuts shall be tightened to the following torques when the embedment
49 equals or exceeds the minimum embedment specified.
50
51

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

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.

6-12.GR6 Noise Barrier Walls

6-12.2.GR6 Materials

6-12.2.INST1.GR6

Section 6-12.2 is supplemented with the following:

6-12.2.OPT1.GB6

(September 8, 2020)

Precast Concrete Noise Barrier Walls

Grout for encapsulating dowel bars shall conform to Section 6-02.3(26)H.

Grout pads at the bases of precast concrete panels shall conform to Section 6-02.3(20).

Base plates and anchor bolt templates shall conform to ASTM A 36. Base plates shall be corrosion protected by one of the following methods:

1. One coat of paint conforming to Section 9-08.1(2)F.
2. Galvanized after fabrication in accordance with AASHTO M 111.
3. Galvanized after fabrication in accordance with ASTM B 695, Class 5, Type 1.

Anchor rods shall conform to ASTM F 1554 Grade 105. Nuts shall conform to ASTM A 563. Washers shall conform to ASTM F 436, except that plate washers conforming to ASTM A 36 may be used. Nuts and washers, and a minimum of 1'-0" of the exposed end of the anchor rod, shall be corrosion protected by one of the following methods:

1. One coat of paint conforming to Section 9-08.1(2)F.
2. Galvanized after fabrication in accordance with ASTM F2329.
3. Galvanized after fabrication in accordance with ASTM B 695, Class 5, Type 1.

1
2 The cone head end, 1'-0" minimum, of Rod A and steel reinforcing Bar B, as identified in
3 the Standard Plans, shall be painted with one coat paint conforming to Section 9-08.1(2)F.
4
5 The sealant system for the vertical joint between precast concrete panels shall consist of a
6 polyurethane sealant conforming to Section 9-04.2(3) and a closed cell foam backer rod
7 conforming to ASTM C 1330 Type C. The polyurethane sealant shall be tested for compatibility
8 with the closed cell foam backer rod in accordance with Section 9-04.2(3).
9
10 6-12.3.GR6
11 **Construction Requirements**
12
13 6-12.3(1).GR6
14 ***Submittals***
15
16 6-12.3(1).INST1.GR6
17 Section 6-12.3(1) is supplemented with the following:
18
19 6-12.3(1).OPT1.GB6
20 (August 3, 2015)
21 The Contractor shall submit a field survey of the existing groundline along each noise
22 barrier wall alignment. The Contractor shall obtain field topographical information for
23 the existing ground within ten feet of the noise barrier wall alignment, except as
24 further limited by the Contracting Agency Right of Way and construction easements
25 for this project. The Contractor shall ensure a vertical survey accuracy of 0.1 foot.
26 The Contractor shall establish horizontal survey control at ten foot intervals, or at six
27 inches differential vertical elevation from the adjacent point on the alignment,
28 whichever is less.
29
30 The Contractor shall submit Type 2 Working Drawings consisting of the field survey,
31 including all field notes. If the Engineer confirms that the groundline condition along
32 the noise barrier wall alignment at the time of construction requires revisions to the
33 noise barrier wall details shown in the Plans, the Engineer will provide revised noise
34 barrier wall Plan details to the Contractor within 14 calendar days.
35
36 The Contractor shall complete the field survey as a first item of noise barrier wall
37 work.
38
39 6-12.3(6).GR6
40 ***Precast Concrete Panel Fabrication and Erection***
41
42 6-12.3(6).INST1.GR6
43 Section 6-12.3(6) is supplemented with the following:
44
45 6-12.3(6).OPT1.FB6.docx
46 (April 5, 2004)
47 The Contractor shall form a *** Fractured Granite *** finish, as specified in the Plans
48 and Section 6-02.3(14) as supplemented in these Special Provisions, on the surface
49 of the precast concrete panel facing the traffic side.
50

1 The Contractor shall form a *** Ashlar Stone *** finish, as specified in the Plans and
2 Section 6-02.3(14) as supplemented in these Special Provisions, on the surface of
3 the precast concrete panel facing the residential area, except as otherwise noted.
4 The surfaces of the pilaster shall receive either a Class 2 surface finish in accordance
5 with Section 6-02.3(14)B, if pigmented sealer is being applied, or a Class 1 surface
6 finish in accordance with Section 6-02.3(14)A, if pigmented sealer is not being
7 applied.
8

9 6-12.5.GR6

10 **Payment**

11

12 6-12.5.INST1.GR6

13 Section 6-12.5 is supplemented with the following:

14

15 6-12.5.OPT1.GB6

16 (April 5, 2004)

17 All costs in connection with performing the field survey of the existing groundline of the
18 noise barrier wall alignment, and submitting the field survey to the Engineer, shall be
19 included in the lump sum contract price for "Structure Surveying".
20

21 DIVISION7.GR7

22

Division 7

23

**Drainage Structures, Storm Sewers, Sanitary
24 Sewers, Water Mains, and Conduits**

25

26 7-01.GR7

27 **Drains**

28

29 7-01.1.GR7

30 **Description**

31

32 7-01.1.INST1.GR7.docx

33 Section 7-01.1 is supplemented with the following:

34

35 7-01.1.OPT1_MFD-Descrip.docx

36 (*****)

37 This Work shall consist of constructing Media Filter Drains and placing medium compost
38 as detailed in the Plans. The construction of Media Filter Drain includes furnishing all
39 labor, equipment, and materials to scarify the grass strip areas, construct and install the
40 media filter drain mix at the locations detailed in the Plans including all excavation and
41 disposal of excavated material, Media Filter Drain Mix, compost blanket, underdrain pipe
42 and reducer, gravel backfill for drains, and geotextile for underground drainage.
43

44 7-01.2.GR7

45 **Materials**

46

47 7-01.2.INST1.GR7.docx

48 Section 7-01.2 is supplemented with the following:

49

1 7-01.2.OPT1_MFD-Material.docx

2 (*****)

3 Materials shall meet the requirements of the following sections:

4

5

6	Aggregate for Bituminous Surface Treatment	9-03.4
7	Gravel Backfill for Drains	9-03.12(4)
8	Agricultural Grade Dolomite Lime	9-14.5(5)
9	Agricultural Grade Gypsum	9-14.5(6)
10	Medium Compost	9-14.5(8)
11	Horticultural Grade Perlite	9-14.5(9)
12	Crushed Surfacing Base Course	9-03.9(3)
13	Construction Geotextile for Underground Drainage	
14	(Moderate Survivability – Class C, non-woven)	9-33

15

16 ***Media Filter Drain Mix***

17 Media filter drain mix shall be mixed in the following proportions:

18

19	Mineral Aggregate	3 cubic yards
20	Horticultural Grade Perlite	1 cubic yard
21	Agricultural Grade Dolomite Lime	40 pounds
22	Agricultural Grade Gypsum	12 pounds.

23

24 The Perlite, Dolomite Lime, and Gypsum shall not contain any toxic materials.

25

26 Mineral aggregate shall conform to section 9-03.4 gradation for 3/8-inch to No.4
27 exception the fracture requirement applied to the aggregate retained on the No. 4 sieve
28 shall be two fractured faces.

29

30 Media filter drain mix shall be premixed prior to placement. The use of recycled material
31 is not permitted in the mineral aggregate used in the Media Filter Drain Mix. The
32 finished product shall be clean, uniformly mixed, and free from wood, bark, roots, and
33 other deleterious materials.

34

35 Mineral aggregate will be accepted in accordance with Other Specifications Sieves #4
36 and Larger in Section 3-04.5 Table 2 based on one sample per 1000 tons. Testing for
37 aggregate shall occur prior to mixing with the soil amendments. Horticultural Grade
38 Perlite, Agricultural Grade Dolomite Lime, and Agricultural Grade Gypsum will be
39 accepted by catalog cut or bag label.

40

41 7-01.3.GR7

42 **Construction Requirements**

43

44 7-01.3.INST1.GR7.docx

45 Section 7-01.3 is supplemented with the following:

46

47 7-01.3.OPT1_MFD-ConstReq.docx

48 (*****)

49 Media filter drains shall be constructed in accordance with the details in the Plans, the
50 reviewed Media Filter Drain Placement Plan, and as specified herein.

51

1 Mixing of Media Filter Drain mix shall occur off the project site.
2
3 The Contractor shall conduct the installation of the media filter drain such that the different
4 sections of the media filter drain are not contaminated or displaced by other materials
5 during installation.
6
7 Gravel backfill for drains for the Media Filter Drain shall be placed in horizontal layers no
8 more than 12 inches thick, with each layer compacted by at least three passes of a
9 vibratory compactor accepted by the Engineer.
10
11 Once installed, the Contractor shall not drive vehicles or equipment over the media filter
12 drain area.
13
14 Media Filter Drain excavation shall conform to Section 2-09.3(4). Excavated materials
15 suitable for use in embankment may be used at the discretion of the Engineer. Otherwise,
16 the material excavated shall become property of the Contractor.
17
18 Prior to placement of the medium compost blanket onto the grass strip areas, the
19 application and scarifying methods shall have received the acceptance of the Engineer.
20 The Contractor shall notify the Engineer a minimum of five working days prior to start of
21 compost work.
22
23 Contractor shall scarify the area for the grass strip to a depth of 2 to 3 inches prior to
24 placing the medium compost blanket as shown in the Plans.
25
26 Placing compost blanket shall conform to Section 8-01.3(4). Compost shall not be worked
27 or placed when the ground or compost is frozen or excessively wet. Medium compost
28 used in the compost blanket shall be uniformly and evenly placed in all designated grass
29 strip and media filter drain mix areas to a depth of 3 inches.
30
31 The grass strip and media filter drain areas shall be seeded after the compost blanket
32 has been installed. Seeding shall conform Native Seed, Fertilizing and Mulching per 8-
33 02.
34

35 **Submittals**

36 **Media Filter Drain (MFD) Placement Plan**

37 At least 30 calendar days prior to the anticipated beginning of Media Filter Drain
38 placement, the Contractor shall submit a Type 2 Working Drawing consisting of a
39 media filter drain (MFD) placement plan, including, at a minimum, descriptions of the
40 mixing method and the placement method.
41

42 7-01.4.GR7

43 **Measurement**

44
45 7-01.4.INST1.GR7.docx

46 Section 7-01.4 is supplemented with the following:

47
48 7-01.4.OPT1_MFD-Measure.docx

49 (*****)

50 Media filter drain will be measured by the linear foot of media filter drain constructed,
51 measured along the center line of media filter drain section.

1
2 7-01.5.GR7
3 **Payment**
4
5 7-01.5.INST1.GR7.docx
6 Section 7-01.5 is supplemented with the following:
7
8 7-01.5.OPT1_MFD-Payment.docx
9 (*****)
10 "Media Filter Drain", per linear foot.
11 The unit Contract price per linear foot for "Media Filter Drain" will be full pay for all costs
12 for the Work as specified.
13
14 Seeding, Fertilizing and Mulching for Media Filter Drain will be measured and paid in
15 accordance with Section 8-02, Compost Seeding and Compost Mulch.
16
17 Flexible Guide Post for Media Filter Drain shall be measured and paid in accordance with
18 Section 8-10.
19
20 7-04.GR7
21 **Storm Sewers**
22
23 7-04.2.GR7
24 **Materials**
25
26 7-04.2.INST1.GR7.docx
27 Section 7-04.2 is supplemented with the following:
28
29 7-04.2.OPT1_DIStormSewerPipe-Materials.docx
30 (*****)
31 Ductile Iron Storm Sewer Pipe shall meet the requirements of Section 9-05.13.
32
33 Expansion joints and fitting shall be as recommended by the pipe manufacturer and as
34 accepted by the Engineer.
35
36 7-04.5.GR7
37 **Payment**
38
39 7-04.5.INST1.GR7.docx
40 Section 7-04.5 is supplemented with the following:
41
42 7-04.5.OPT1_DIStormSewerPipe-Payment.docx
43 (*****)
44 "Ductile Iron Storm Sewer Pipe _____ In. Diam.", per linear foot.
45
46
47

1 7-05.GR7
2 **Manholes, Inlets, Catch Basins, and Drywells**
3
4 7-05.1.GR7
5 **Description**
6
7 7-05.1.INST1.GR7.docx
8 Section 7-05.1 is supplemented with the following:
9
10 7-05.1.OPT1_WalledPond-Descrip.docx
11 (*****)
12 **Walled Detention Pond**
13 This Work shall consist of excavating, grading, designing, furnishing, and installing a
14 precast concrete walled detention pond in accordance with the Plans, the Standard
15 Specifications, and these Special Provisions. Alternatively, a cast-in-place concrete
16 walled detention pond may be constructed in lieu of the precast unit. If the Contractor
17 chooses the cast-in-place method, it shall conform to Section 6-02 of the Standard
18 Specifications.
19
20 7-05.2.GR7
21 **Materials**
22
23 7-05.2.INST1.GR7.docx
24 Section 7-05.2 is supplemented with the following:
25
26 7-05.2.OPT1_WalledPond-Material.docx
27 (*****)
28 **Walled Detention Pond**
29 Materials shall meet the requirements of the following sections:
30
31 Concrete 6-02
32 Reinforcing Steel 9-07
33 Waterproofing 9-11
34 Gravel Borrow 9-03.14(1)
35
36 Identification markers for walled detention pond shall meet the requirements of Guide
37 Post Section 8-10. Cable Fence attached to the walled detention pond shall meet the
38 requirements of Section 8-12.2.
39
40 7-05.3.GR7
41 **Construction Requirements**
42
43 7-05.3.INST1.GR7.docx
44 Section 7-05.3 is supplemented with the following:
45
46 7-05.3.OPT1_WalledPond-ConstReq.docx
47 (*****)

1 **Walled Detention Pond**

2 The walled detention pond shall be designed, detailed, and constructed in accordance
3 with sections 6-01 and 6-02 of the Standard Specifications, the Contract Plans, and the
4 Geotechnical Report recommendations. The walled detention pond shall also be
5 designed in accordance with the WSDOT Bridge Design Manual Section 8.3.6 for
6 Detention Vaults and AASTHO LRFD Bridge Design Specifications, 8th Edition,
7 September 2017, and current interims, Section 12.

8
9 Cable Fence shall conform to Section 8-12 as supplemented in these Special Provisions,
10 and the details shown in the Plans.

11
12 The walled detention pond shall be designed to accommodate all hydrostatic pressures
13 and buoyancy effects. Groundwater is estimated to be above the system invert. Refer to
14 geotechnical recommendation in "SR-9/ SR-204 Intersection Improvements – Stage 2
15 Project - Geotechnical Report, dated November 20, 2019.."

16
17 For precast walled detention pond unit, sealing between sections shall be accomplished
18 by placing Portland Cement mortar, compressible neoprene foam gaskets, asphaltic
19 mastic material, or asphalt impregnated gasket materials between sections, as
20 recommended by the manufacturer to produce a water-tight seal. Precast units shall be
21 free from visible leaks. Cold joints shall include water stops to prevent leakage. Concrete
22 mix design and placement shall produce compact, dense and impervious concrete with
23 smooth faces. Admixtures should be included to minimize porosity.

24
25 **Excavation and Shoring**

26 Excavation for the walled detention pond includes excavation for installation of the
27 walled detention pond and the gravel borrow for walled pond footing as detailed in
28 the Plans.

29
30 Structural excavation and structural shoring shall be in accordance with Section 2-
31 09.

32
33 **Subgrade**

34 Subgrade preparation shall be in accordance with the "SR-9/ SR-204 Intersection
35 Improvements – Stage 2 Project - Geotechnical Report, dated November 20, 2019."

36
37 The Contractor shall take care to minimize disturbance to the native subgrade
38 exposed at the bottom of the excavation for the walled detention pond. The
39 groundwater levels at the bottom of the excavation shall be dewatered to a minimum
40 depth of 2 feet below the bottom of the excavation. Groundwater level shall be
41 maintained at least 2 feet below the bottom of the excavation until the walled
42 detention pond structure is in place and the backfill around the walled detention pond
43 reaches at least 2 feet above the groundwater level outside the excavation. The
44 native subgrade soils exposed at the bottom of the excavation shall be compacted
45 to 95-percent of the maximum density determined by the Compaction and Moisture
46 Control Test according to Section 2-03.3(14)D as required by the Engineer.

47
48 If loose, soft, or unstable soil is encountered at the bottom of the excavation it shall
49 be removed and backfilled in accordance with Section 2-09.3(1)C.

50
51 Gravel backfill for the walled detention vault shall be in accordance with Section 2-
52 09 and the details shown in the Plans.

1
2 **Leakage Testing**
3 The walled detention pond shall be tested for leakage. The walled detention pond
4 shall be filled to the 2-year water surface elevation. Pipe plugs shall be inserted into
5 the inlet and outlet piping. The maximum allowable leakage shall not exceed one
6 percent of volume below the 2-year water surface elevation over a 24-hour test
7 period.
8
9 **Submittals**
10 The Contractor shall submit Type 2 Working Drawings consisting of all fabrication
11 shop drawings and associated storage, shipping, and erection procedures.
12
13 Shop drawings shall be prepared in accordance with Section 6-02.3(25)A. Shop
14 drawings shall include plans, elevations, sections, and details including layout,
15 dimensions, foundation, cover, joints, inlets and outlet pipe openings, joints sealing
16 methods, buoyancy calculations, and ladders or step details, and cable fence details.
17 Shop drawings shall be design and stamped by a Structural Engineer licensed in
18 Washington State.
19
20 7-05.5.GR7
21 **Payment**
22
23 7-05.5.INST1.GR7.docx
24 Section 7-05.5 is supplemented with the following:

25 7-05.5.OPT1_WalledPond-Payment.docx
26 (*****)
27 "Walled Detention Pond", lump sum.
28
29 The unit Contract price for "Walled Detention Pond" shall be full payment for performing
30 the Work as specified, including cost for work required to furnish and install the walled
31 pond, complete to finish grade, including precast concrete structure, slab bases, end
32 walls, equipment attachments, openings, embedded items, excavation, bedding, mortar,
33 non-shrink grout, steps, connections to pipelines, sealing of openings, backfill with
34 suitable material, dewatering, waterproofing, leakage testing and all other incidentals
35 necessary to install the walled detention pond as specified herein and shown on the
36 Contract Plans.
37
38 Cost shall also include materials, services, labor, tools, equipment, and incidentals
39 necessary to design, fabricate, transport, and install a precast concrete walled detention
40 pond as specified herein and shown on the Contract Plans.
41
42
43 7-12.GR7
44 **Valves for Water Mains**
45
46 7-12.1.GR7
47 **Description**
48

1 7-12.1.INST1.GR7.docx

2 Section 7-12.1 is supplemented with the following:

3

4 7-12.1.OPT1_ValveBox-Descrip.docx

5 (NWR February 11, 2002)

6 This work consists of adjusting existing valve boxes and covers to grade as designated
7 by the Engineer.

8

9 7-12.2.GR7

10 **Materials**

11

12 7-12.2.INST1.GR7.docx

13 Section 7-12.2 is supplemented with the following:

14

15 7-12.2.OPT1_ValveBox-Material.docx

16 (NWR February 11, 2002)

17 Riser rings shall be cast iron.

18

19 7-12.3.GR7

20 **Construction Requirements**

21

22 7-12.3.INST1.GR7.docx

23 Section 7-12.3 is supplemented with the following:

24

25 7-12.3.OPT1_ValveBox-ConstReq.docx

26 (*****)

27 **Adjust Valve Box**

28 The Contractor shall adjust the valve boxes to grade by one of the following methods as
29 specified in the Plans:

30

31 1. Use of riser rings, or

32

33 2. Removing and resetting the existing valve box and cover, or

34

35 3. Removing and replacing the existing valve box top, cover and top section, and
36 bottom section with new to final grade with Contracting Agency supplied valve
37 box top, cover top section, and bottom section.

38

39 **Contracting Agency Supplied Materials**

40 The Contractor shall notify the Engineer, in writing, two working days in advance
41 of the date the Contracting Agency-supplied materials are required for pick up
42 by the Contractor.

43

44 Contracting Agency-supplied materials will be available for pick up by
45 appointment from the Contracting Agency office located at:

46

47 Everett Project Engineer's Office

48 Mark Sawyer – Project Engineer

49 9021 El Capitan Way

Everett, WA 98208
Telephone: (425) 225-8799

The Contractor shall be responsible for all costs associated with using these Contracting Agency provided materials, including but not limited to loading, transporting, installing the valve box assemblies, and disposing the existing valve box assemblies. Materials damaged shall be replaced to the Engineer's satisfaction at no cost to the Contracting Agency.

If the valve box assembly is to be removed and reset, the patch material used around the valve box shall be the same as the adjacent pavement. The valve box and cover shall be removed and thoroughly cleaned for reinstalling at the new elevation. For asphalt concrete pavement roadways, valve box located in the traveled way shall be adjusted to final grade after final paving in accordance with Section 5-04.3(13). For Portland cement concrete pavement roadways, valve boxes shall be adjusted prior to the surface finish. Removal and resetting operations shall be conducted to prevent damage to the valve, valve box and cover. All parts or materials damaged as a result of the Contractor's operations shall be replaced at no expense to the Contracting Agency.

If the valve box assembly is to be replaced, the Contractor shall excavate down to the bottom of the valve box upper section as detailed in the Plans and the assembly shall be removed from the excavation. A new valve box assembly (top, cover, and upper section) shall be installed as detailed in the Plans. New valve box assemblies that are noted in the Plans to be replaced will be furnished by the Contracting Agency. Removed valve box assemblies shall become property of the Contractor and disposed of outside of the Project limits.

7-12.4.GR7

Measurement

7-12.4.INST1.GR7.docx

Section 7-12.4 is supplemented with the following:

7-12.4.OPT1_ValveBox-Measurement.docx

(NWR February 11, 2002)

Adjusting valve boxes will be measured per each for each valve box adjusted.

7-12.5.GR7

Payment

7-12.5.INST1.GR7.docx

Section 7-12.5 is supplemented with the following:

7-12.5.OPT1_ValveBox-Payment.docx

(NWR February 11, 2002)

"Adjust Valve Box", per each.

The unit contract price per each for "Adjust Valve Box" shall be full pay for all work associated with the adjustment, including furnishing and installing the riser ring(s) and backfilling.

1 DIVISION8.GR8
2 **Division 8**
3 **Miscellaneous Construction**
4
5 8-01.GR8
6 **Erosion Control and Water Pollution Control**
7
8 8-01.3.GR8
9 **Construction Requirements**
10
11 8-01.3(1).GR8
12 ***General***
13
14 8-01.3(1)C.GR8
15 **Water Management**
16
17 8-01.3(1)C4.GR8
18 **Management of Off-Site Water**
19
20 8-01.3(1)C4.INST1.GR8
21 Section 8-01.3(1)C4 is supplemented with the following:
22
23 8-01.3(1)C4.OPT1.FR8.docx
24 **(August 6, 2012)**
25 **Off-site Stormwater**
26 Stormwater is known to enter the project site at the following locations:
27
28 *** Along SR 9 NB Lane outside shoulder:
29
30 Surface flow from outside the WSDOT Right-of-Way from A Line
31 Station 234+00 (LT) to A Line Station 248+00 (LT)
32
33 Surface flow discharge from existing bioswale outside the WSDOT
34 from Fairweather Point Development at A Line Station 247+65 (LT).
35
36 Surface flow from outside the WSDOT Right-of-Way from A Line
37 Station 250+00 (LT) to A Line Station 256+50 (LT)
38
39 Surface flow discharge from existing bioswale outside the WSDOT
40 from Lake Stevens Market Place at A Line Station 260+16 (LT).
41
42 Surface flow discharge from existing wetland outside the WSDOT from
43 Wetland 5 at A Line Station 254+50 (RT).
44
45 Surface flow discharge from existing ditch outside the WSDOT from 4th Street NE at A Line
46 Station 254+93 (RT). ***
47
48 8-01.3(2).GR8
49 ***Temporary Seeding and Mulching***
50

1 8-01.3(2)A.OPT1.LSP.DT1.docx
2 **(NWR November 10, 2014)**
3 **Preparation For Application**
4 Section 8-01.3(2)A is supplemented with the following:
5
6 Weeds in any area to be seeded shall be controlled in accordance with Section
7 8-02.3(3) prior to seeding.
8
9 Disturbed areas requiring seeding, including but not limited to staging areas and
10 access roads, shall be loosened and cultivated to a minimum depth of 10 inches
11 prior to seeding operations.
12
13 No cultivation shall occur in areas within the drip line of existing vegetation
14 scheduled to remain.
15
16 The Contractor shall seed the prepared areas within two calendar weeks of
17 completion of preparation. Temporary erosion control measures may be
18 required to allow seeding and preparation activities to be performed in
19 accordance with the requirements of Section 8-01.3(2)F.
20
21 8-01.3(2)B.GR8
22 **Temporary Seeding**
23
24 8-01.3(2)B.INST1.GR8
25 Section 8-01.3(2)B is supplemented with the following:
26
27 8-01.3(2)B.OPT3.GR8
28 (September 3, 2019)
29 Grass seed shall be a commercially prepared mix, made up of low growing
30 species which will grow without irrigation at the project location, and approved
31 by the Engineer. The application rate shall be two pounds per 1000 square feet.
32 Fertilizer shall be a commercially prepared mix of 10-20-20 and shall be applied
33 at the rate of 10 pounds per 1000 square feet.
34
35 8-01.3(2)B.OPT3.LSP.DT1.docx
36 **(NWR November 10, 2014)**
37 **Erosion Control Seed**
38 Seed of the following composition, proportion, and quality shall be applied at a
39 rate of 45 pounds per acre on areas requiring seeding, fertilizing and mulching:
40
41
42
43
44
45
46
47
48
49
50
51
52

Kind and Variety of Seed in Mixture	Pounds of Pure Live Seed Per Acre
Roemer's fescue (Festuca)	16.0
Western Fescue (Festuca idahoensis)	16.0
Canby's Bluegrass (Poa secunda 'Canbyi')	8.0

1		
2		
3	Sterile Triticale	<u>5.0</u>
4		
5		
6	TOTAL	45.0
7		
8	8-01.3(2)B.OPT6.GR8.docx	
9	(January 3, 2006)	
10	Fertilizer shall be a commercially prepared mix of 10-20-20 and shall be applied	
11	at the rate of 10 pounds per 1000 square feet.	
12		
13	8-01.3(2)B.OPT7.LSP.DT1.docx	
14	(NWR November 10, 2014)	
15	Wet Native Seed	
16	All wet native seed shall be “non-endophyte enhanced.” Seed of the following	
17	composition and proportion shall be applied at a rate of 20 pounds per acre on	
18	all areas requiring wet native seeding within the project:	
19		
20		Pounds of
21	Kind and Variety of	Pure Live Seed
22	<u>Seed in Mixture</u>	<u>Per Acre</u>
23		
24	Western manna grass	12.0
25	(Glyceria occidentalis)	
26		
27	Rice cutgrass	2.0
28	(Leersia oryzoides)	
29		
30	Canada reed	2.0
31	(Calamagrostis canadensis)	
32		
33	Spike bentgrass	3.0
34	(Agrostis exarata)	
35		
36	Wool-grass	<u>1.0</u>
37	(Scirpus cyperinus)	
38		
39	TOTAL	20.0
40		
41	8-01.3(2)D.GR8	
42	Temporary Mulching	
43		
44	8-01.3(2)D.INST1.GR8	
45	Section 8-01.3(2)D is supplemented with the following:	
46		
47	8-01.3(2)D.OPT1.FR8.docx	
48	(January 5, 2015)	
49	*** Moderate Term Mulch *** shall be applied at a rate of *** 2700 *** pounds per	
50	acre with no more than *** 1400*** pounds per acre applied in a single lift.	
51		

1 8-01.3(9).GR8
2 **Sediment Control Barriers**
3
4 8-01.3(9)A.GR8
5 **Fencing**
6
7 8-01.3(9)A1.GR8
8 **High Visibility Fencing**
9
10 8-01.3(9)A1.INST1.GR8.docx
11 Section 8-01.3(9)A1 is supplemented with the following:
12
13 8-01.3(9)A1.OPT1.GR8.docx
14 (*****)
15 High visibility fencing (HVF) shall be orange in color and installed along the site
16 preservation lines shown in the Plans or as specified by the Engineer. Post spacing and
17 attachment of the fencing material to the posts shall be as shown in the Standard Plans.
18 The HVF shall not be fastened to trees.
19
20 Where HVF fencing is shown on the plans within temporary easements, chain link fencing
21 shall be used. This chain link fencing shall be as shown in the standard plans and shall
22 be maintained per Standard Specification 1-07.16(3). This fencing shall be removed after
23 work within the easement is complete.
24
25 8-02.GR8
26 **Roadside Restoration**
27
28 8-02.1.GR8
29 **Description**
30
31 8-02.1.INST1.GR8
32 Section 8-02.1 is supplemented with the following:
33
34 8-02.1.OPT1_CABS,TopsoilTypeA,Spreader,Divider-Descrip.docx
35 (*****)
36 This Work consists of placement of compost and Topsoil Type A as part of the construction
37 of Compost Amended Biofiltration Swale (CABS) as specified in the Contract Plans and
38 these Specifications. This Work shall consist of furnishing and installing biofiltration swale
39 level spreader and biofiltration swale divider in the completed CABS as specified in the
40 Contract Plans.
41
42 8-02.2.GR8
43 **Materials**
44
45 8-02.2.INST1.GR8
46 Section 8-02.2 is supplemented with the following:
47
48 8-02.2.OPT1_CABS,Spreader,Divider-Materials.docx
49 (*****)
50 CABS shall consist of the following:
51
52 Topsoil Type A 9-14.2(1)

1 Medium Compost 9-14.5(8)

2

3 Identification markers for CABS shall meet the requirements of Guide Post Section 8-10.

4

5 The plastic lumber post and plastic lumber plate for biofiltration swale level spreader and

6 biofiltration swale divider shall be structural grade plastic lumber that passes ASTM

7 D6109-97 with a 2750 PSI. The plastic lumber plate may come in any length but the ends

8 of the lumber shall be securely fastened together to prevent water from passing between

9 the ends.

10

11 Acceptance for all material shall be visual acceptance by the Engineer.

12

13 Concrete used in the biofiltration swale level spreader and biofiltration swale divider

14 plastic lumber post encasement shall conform to Concrete Class 3000 in accordance with

15 Section 6-02.

16

17 **8-02.2(9-14).GR8**

18 ***Erosion Control and Roadside Planting***

19

20 **8-02.2(9-14.2).GR8**

21 **Topsoil**

22

23 **8-02.2(9-14.2(1)).DT1**

24 **Topsoil Type A**

25

26 8-02.2(9-14.2(1)).INST1.LSP.DT1

27 Section 9-14.2(1) is supplemented with the following:

28

29 8-02.2(9-14.2(1)).OPT1.LSP.DT1

30 (NWR September 12, 2019)

31 Topsoil Type A shall consist of a uniform blend composed by volume of 60

32 percent to 70 percent Sandy Loam and 30 percent to 40 percent Fine

33 Compost.

34

35 **Sandy Loam**

36 Sandy Loam shall be as defined by the US Department of

37 Agriculture Natural Resource Conservation Services Soil Texture

38 Triangle. Testing shall be performed by a Washington State

39 Department of Ecology accredited testing laboratory approved

40 through the North American Proficiency Testing Performance

41 Assessment Program (NAPT-PAP) on a sample size of no less than

42 2 pounds. Testing shall not occur more than 90 days prior to

43 installation and shall be submitted to the Engineer for approval a

44 minimum of 14 calendar days prior to use or installation. The Sandy

45 Loam analysis shall meet the following requirements:

46

Tested Item	Method*	Units	Specification Range
pH 1:1	S-2.20	S.U.	5.5 – 7.5
E.C. 1:1	S-2.20	mmhos/cm	≤ 2
Nitrate Nitrogen	S-3.10	mg/Kg	***
Ammonium Nitrogen	S-3.50	mg/Kg	***
Organic Matter	S-9.10	%	3 – 10

Phosphorus (P)	S-4.20 (Bray)	mg/Kg	***
Calcium (Ca)	S-5.10 (NH ₄ OAC)	meq/100g	***
Magnesium (Mg)	S-5.10 (NH ₄ OAC) S-6.11 (DTPA/Sorbitol)	meq/100g Mg/Kg	***
Sodium (Na)			***
Potassium (K)			***
Zinc (Zn)			***
Manganese (Mn)	S-6.11 (DTPA/Sorbitol) EPA 908/S-10.10	Mg/Kg meq/100g	***
Copper (Cu)			***
Iron (Fe)			***
Sulfur (SO ₄ -S)			***
Boron (B)			***
Molybdenum (Mo)			***
Cation Exchange (CEC)			5 Min.
Total Nitrogen	AOAC 990.3	%	***
Total Carbon	AOAC 972.3	%	***
C:N Ratio			20:1 or less
Exchangeable Sodium Percentage (ESP)	ESP	%	10 Max.
Particle Size Analysis (Sand, Clay, Silt)	S-14.10 (Hydrometer)	%	Sandy Loam
Heavy Metals Testing	EPA 6010D	mg/Kg	From WAC 173-350- 220 Table 220-B unless otherwise noted
Arsenic			≤ 20
Cadmium			≤ 10
Chromium			≤ 42**
Copper			≤ 100**
Lead			≤ 150
Molybdenum			≤ 9
Nickel			≤ 100**
Selenium			≤ 18
Zinc			≤ 270**
Mercury	EPA 7473		≤ 8
*Methods are from "Soil, Plant, and Water Reference Methods For the Western Region" 2005, 3 rd Ed., Dr. R. Gavlak, Dr. D. Horneck, Dr. R.O. Miller.			**From WAC 173-340- 900 Table 749-2 for Unrestricted Land Uses ***Testing for soil- testing laboratory recommendations for soil treatments and amendments

The soil-testing laboratory shall state recommendations for soil treatments and soil amendments to be incorporated based on the results of the tests. Recommendations shall be in pounds per acre, or volume per cu. yd. for nitrogen, phosphorus, potash nutrients, and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.

Compost

1 Compost shall conform to the requirements of Section 9-14.5(8).
2
3 **Mixing Requirements**
4 Topsoil Type A shall be thoroughly mixed by the supplier prior to
5 delivery to the site. The Contractor shall submit certification from the
6 supplier that the Topsoil Type A has been mixed according to the
7 above percentages at the point of delivery.
8
9 Acceptance of Topsoil Type A for use on a project shall be on the basis of
10 visual verification by the Engineer that the delivered material is
11 representative of the laboratory analysis documentation and certification.
12

13 **8-02.2(9-14.3).DT1**
14 **Seed**

15
16 8-02.COMPOST SEEDING.DOCX
17 Section 8-02.1 is supplemented with the following:
18

19 (*****)
20

21 **Compost Seeding**
22 The Compost Seeding shall meet the following requirements:
23

24 **Mulch**
25 Mulch for Compost Seeding shall be Fine Compost in accordance with Section 9-
26 14.4(8).
27

28 **Fertilizer**
29
30 Fertilizer shall be in accordance with special provision 8-02.2(9-14.4).DT1
31

32 **Seeding**

33
34 **Erosion Control Seed**
35 Seed for Compost Seeding shall be seed of the following composition,
36 proportion, and quality shall be applied at a rate of 30 pounds per acre on
37 areas requiring Compost Seeding:
38

Kind and Variety of Seed in Mixture	Pounds of Pure Live Seed Per Acre
Creeping Red Fescue (Festuca rubra ssp. rubra)	13.0
Rough Bentgrass (Agrostis scabra)	0.6
Western Yarrow (Achillea millefolium)	0.6
White Dutch Clover	4.0

1	(Trifolium repens)	
2		
3	Lolium perenne dwarf	
4	(Dwarf Perennial Ryegrass)	<u>11.8</u>
5	TOTAL	30.0

6

7

8 **Wet Native Seed**

9 All wet native seed shall be “non-endophyte enhanced.” Seed of the following
 10 composition and proportion shall be applied at a rate of 20 pounds per acre on
 11 all areas requiring wet native seeding within the project:

12		
13		Pounds of
14	Kind and Variety of	Pure Live Seed
15	<u>Seed in Mixture</u>	<u>Per Acre</u>
16		
17	Western manna grass	12.0
18	(Glyceria occidentalis)	
19		
20	Rice cutgrass	2.0
21	(Leersia oryzoides)	
22		
23	Canada reed	2.0
24	(Calamagrostis canadensis)	
25		
26	Spike bentgrass	3.0
27	(Agrostis exarata)	
28		
29	Wool-grass	<u>1.0</u>
30	(Scirpus cyperinus)	
31		
32	TOTAL	20.0

33

34

35 All seed shall be certified in accordance with WAC 16-302 and meet the
 36 following requirements:

- 37
- 38 Prohibited Weed 0% max.
- 39 Noxious Weed 0% max.
- 40 Other Weed 0.20% max.
- 41 Other Crop 0.40% max.

42

43 Wet Native Seed shall apply to City Pond by 4th St and Biofiltration swale installed at
 44 approx. A LINE STA 254+00 TO 255+26 57' LT

45

46

47 For seeding applied by compost seeding, the Contractor shall use equipment
 48 equipped with a computer-calibrated seed injection system to apply a mixture of seed
 49 and compost. The device shall have an operating and feed capacity sufficient to
 50 uniformly mix and apply the specified compost and seed.

1 Prior to application of the compost and seed, the Contractor shall ensure that the
2 equipment has been properly calibrated to apply the specified amount of seed.
3 Seeded Compost shall be placed in one application to the depth shown in the plans.
4
5
6 This Work consists of installation and establishment of compost seeding applied by
7 pneumatic blower.
8
9 Compost Seeding will be measured per acre along the ground slope line of surface area.
10
11
12 The unit Contract price per acre for "Compost Seeding" shall be full pay for all costs for
13 the specified Work.
14
15 8-02.S1.docx
16 (*****)
17 **Soil Decomaction**
18 For the locations designated in the Plans, the Contractor shall uniformly decompact
19 the soil to a depth of 18 inches such that a soil penetrometer can be inserted to a
20 minimum depth of 12 inches with no more than 200 PSI of pressure using a ½ inch
21 tip. Soil decompaction operations shall be scheduled between April 1 and September
22 30.
23
24 The Contractor shall notify the Engineer a minimum of five working days prior to the
25 start of soil decompaction work.
26
27 The Contractor shall select a soil decompaction method that has the ability to fracture
28 and shatter compacted soil to the specified depth with uniformity and without
29 negative consequences to the soil structure in three or fewer passes.
30
31 The soil decompaction will be accepted by the Engineer based on a field inspection
32 of soil penetration measurements within the designated soil decompaction area. The
33 Engineer will select random locations to measure soil decompaction using a soil
34 penetrometer. Acceptance is based upon at least 75% of the soil decompaction
35 readings meeting the PSI requirements.
36
37 Following soil decompaction operations, the area shall be graded smooth. Topsoil
38 placement shall not proceed until the Engineer accepted the soil decompaction.
39
40 **8-02.2(9-14.4).DT1**
41 **Fertilizer**
42
43 8-02.2(9-14.4).INST1.LSP.DT1
44 The first paragraph of Section 9-14.4 is replaced with the following:
45
46 8-02.2(9-14.4).OPT1.LSP.DT1
47 (NWR September 12, 2019)
48 Fertilizer shall be registered with the Washington State Department of
49 Agriculture (WSDA) Organic Program. Fertilizer shall not contain raw manure
50 and shall be inoculated with Organic Materials Review Institute (OMRI)
51 certified mycorrhizal fungi in a pelleted or granular form. Mycorrhizal fungi
52 may be added by the manufacturer or it may be added separately to the

1 fertilizer blend at the rate specified by the manufacturer.
2
3 Fertilizer shall have the following Guaranteed Chemical Analysis (N-P-K):
4
5 N: 4 to 8
6 P: 1 to 4
7 K: 1 to 4
8
9 Water insoluble N shall be a minimum of 50% of the total available Nitrogen in
10 the fertilizer.
11
12 Fertilizer shall be furnished in a standard, unopened, container with weight,
13 name of plant nutrients, and manufacturer's guaranteed statement of analysis
14 clearly marked, all in accordance with State and Federal laws. The
15 mycorrhizae product shall have a label specifying the number of viable
16 propagules per unit weight.
17
18 8-02.3.GR8
19 **Construction Requirements**
20
21 8-02.3.INST1.GR8
22 Section 8-02.3 is supplemented with the following:
23
24 8-02.3.OPT1_CABS,TopsoilTypeA,Spreader,Divider-ConstReq.docx
25 (*****)
26 ***Compost Amended Biofiltration Swale (CABS)***
27
28 **Construction**
29 The entire CABS area shall be excavated and constructed as detailed in the Contract
30 Plans and in accordance with these Special Provisions. Excavation of CABS shall be
31 according to "Roadway Excavation Incl. Haul – Area _____" as specified in Section
32 2-03.
33
34 The Contractor shall not convey runoff to the biofiltration swale until the area draining
35 to the swale has been stabilized and authorization is given by the Engineer. The
36 upstream runoff shall be routed around the biofiltration swales with a temporary pipe
37 slope drain prior to the area being stabilized and the swale being seeded and fully
38 established.
39
40 Wheeled or track equipment shall not operate within the swale area once excavation
41 has begun, including during excavation, backfilling or seeding.
42
43 At the locations shown in the Plans, biofiltration swales shall be excavated to
44 accommodate the placement of quarry spalls, topsoil, and concrete encasement for
45 biofiltration swale level spreader and biofiltration swale divider.
46
47 **Topsoil Type A**
48 Topsoil A shall be thoroughly mixed in a location outside the limits of the planting area
49 in which it is to be placed.
50
51 The Contractor shall place and grade the Topsoil Type A in accordance with the
52 Contract Plans and without localized low areas to trap water.

1
2 **Compost**

3 Compost shall be uniformly and evenly placed in designated areas of the CABS to
4 depth and location in accordance with the Contract Plans.

5
6 Placing of compost shall not be done when the ground is frozen, excessively wet or
7 otherwise in a condition detrimental to the Work.

8
9 After placement, the Contractor shall incorporate the three-inch layer of compost
10 uniformly into the top three inches of Topsoil Type A for a total incorporated depth of
11 six inches.

12
13 **Vegetation**

14 After placement of medium compost and Topsoil Type A is complete for CABS, these
15 areas shall be prepared in accordance with Section 8-01.3(2)A. The CABS area shall
16 be seeded as specified in Section 8-02.3(9)C and as supplemented in the Seeding
17 and Fertilizing section of these Contract Provisions.

18
19 Mulching shall be in accordance with Section 8-02.3(11).

20
21
22 **(*****)**

23 ***Biofiltration Swale Level Spreader and Biofiltration Swale Dividers***

24
25 **Construction**

26 The plastic lumber posts and plastic lumber plates for the biofiltration swale level
27 spreaders and biofiltration swale dividers shall be installed in the biofiltration swales
28 as detailed and at locations shown in the Plans.

29
30 The biofiltration swale level spreader shall be installed level to achieve uniform
31 dispersal of flow across the width of the swale.

32
33 8-02.3(3).GR8

34 ***Weed and Pest Control***

35
36 **8-02.3(3)B.GR8**

37 **Planting and Lawn Area Weed Control**

38
39 8-02.3(3)B.INST1.LSP.DT1

40 Section 8-02.3(3)B is supplemented with the following:

41
42 8-02.3(3)B.OPT1.LSP.DT1

43 (NWR September 12, 2019)

44 When full bark coverage is indicated in the Plans, all vegetation that seeds into
45 the planting area shall be controlled. Native vegetation that seeds into the site
46 may be left uncontrolled only when specifically allowed by the Engineer.

47
48 8-02.3(3)B.OPT2.LSP.docx

49 (NWR September 12, 2019)

50 The Contracting Agency has estimated the planting areas to be approximately
51 *** 3.2 ACRES ***.

1 This quantity is listed only for the convenience of the Contractor in determining
2 the extent of the Work involved.
3
4 8-02.3(4)(9-14.1).OPT1_TopsoilTypeA-Materials.docx
5 (*****)
6 **Topsoil Type A**
7 Topsoil Type A shall consist of a uniform blend composed by volume of 30% Topsoil
8 Type C and 70% Fine Aggregate Class 1 meeting the requirements of Section 9-
9 03.1(2).
10
11 Topsoil Type A shall be a homogeneous blend of combined materials.
12
13 **8-02.3(5).GR8**
14 ***Roadside Seeding, Lawn and Planting Area Preparation***
15
16 **8-02.3(5)A.GR8**
17 **Seeding Area Preparation**
18
19 8-02.3(5)A.INST1.LSP.DT1
20 Section 8-02.3(5)A is supplemented with the following:
21
22 8-02.3(5)A.OPT1.LSP.DT1
23 (NWR September 12, 2019)
24 The Contractor shall control weeds in any area to be seeded in accordance with
25 Section 8-02.3(3) prior to seeding.
26
27 The Contractor shall loosen soil to a minimum depth of 10 inches prior to seeding
28 operations in disturbed areas requiring seeding, including but not limited to
29 staging areas and access roads.
30
31 No cultivation shall occur in areas within the drip line of existing vegetation
32 scheduled to remain.
33
34 **8-02.3(6).GR8**
35 ***Soil Amendments***
36
37 8-02.3(6).INST1.LSP.DT1
38 Section 8-02.3(6) is supplemented with the following:
39
40 8-02.3(6).OPT1.LSP.DT1
41 (NWR September 12, 2019)
42 The Contractor shall notify the Engineer a minimum of seven calendar days prior to
43 the start of soil amendment Work. Soil amendment application and incorporation
44 methods shall be approved by the Engineer prior to installation.
45
46 Order of Work:
47
48 1. Initial planting area weed control
49 2. Grading and/or excavation
50 3. Soil placement
51 4. Soil amendment placement and incorporation
52 5. Irrigation installation

Soil amendment shall not be placed when a condition exists that may be detrimental to successful application, incorporation, or soil structure, such as frozen or water saturated soil.

8-02.S1-Irrigation-FINAL.DOCX

Section 8-02.3 is supplemented with the following:

(*****)

Temporary Irrigation System

Description

This work consists of designing, furnishing, installing, operating, and supplying water by permanent metered service connection for a temporary irrigation system in accordance with this Special Provision and the information provided in the Plans.

Construction Requirement

The contractor shall submit for approval a Temporary Irrigation System Plan, showing the irrigation system design, to the engineer a minimum of 60 calendar days before irrigation installation begin. The Temporary Irrigation System Plan shall be developed in accordance with Standard Specifications section 8-03. Written approval shall be received prior to beginning temporary irrigation system construction. The Temporary Irrigation System plan shall include, but is not limited to, scaled drawing, City of Lake Stevens service connection agreement, connection location to local jurisdiction water line, water meter location, backflow preventer location, valve locations, irrigation schedule, materials, equipment, and construction installation methods. The contractor shall install, operate, and maintain the temporary irrigation system in accordance with the approved temporary irrigation system plan. The temporary irrigation system shall remain operational through the life of the contract and turnover to WSDOT at the end of the contract. The mainline shall have shutoff valves included to control or isolate portions of the system in the event of a system failure or leak.

The contractor shall install a water meter and service connection in accordance with section 7-15 and shall obtain the service connection agreement from the City of Lake Stevens Public Work Development Service Center. See www.lakestevens.com or contact them at 425-334-5465. The location of the meter shall be shown on the plans and the service connection agreement shall be in the contracting Agency's name. The contractor shall pay the water service cost during the first year of the plant establishment.

The contractor shall water all the seeding and planting locations from June 1 through August 31 during the first year of plant establishment. Each watering event shall include approximately 134 gallons per 1000 square feet or a one-inch broadcast over the designated areas. Watering shall occur at regular scheduled 2-week intervals. The frequency of watering may need to be increased during periods of drought to ensure survivability of the plants.

The irrigation system shall be secured to the ground and shall not be buried or trenched within environmentally sensitive areas. Any trenching that occurs within the project limits, but outside sensitive areas, shall not exceed a depth of three feet below the existing ground surface.

The contractor shall leave in place the temporary irrigation system at the end of first year of plant establishment. The system shall be in acceptable operating condition as determined by

1 the Engineer prior to final acceptance. The service connection agreement shall remain active
2 and will become the responsibility of the Contracting Agency.
3
4 **Measurement**
5
6 No unit of measurement shall apply to the lump sum price for Temporary Irrigation System.
7
8 **Payment**
9
10 Payment will be made in accordance with section 1-04.1 for the following:
11
12 "Temporary Irrigation System", Lump Sum.
13
14 The lump sum contract price for "Temporary Irrigation System" shall be full pay for the
15 Work as specified; including design, operation, installation, maintenance, meter installation,
16 water service, water, and connection agreement. Watering for planting areas outside of the
17 temporary irrigation system area shall be included in the cost of PSIPe.
18
19
20
21
22 8-02.4.GR8
23 **Measurement**
24
25 8-02.4.INST1.GR8
26 Section 8-02.4 is supplemented with the following:
27
28 8-02.S1MEAS.DOCX
29 (*****)
30 Soil decompaction will be measured per acre.
31
32 8-02.4.OPT1_CABS,TopsoilTypeA,Spreader,Divider-Measure.docx
33 (*****)
34 Biofiltration swale level spreaders and biofiltration swale dividers will be measured by the
35 linear foot along the ground line of completed level spreaders, including the required
36 extension into the side slopes.
37
38 8-02.5.GR8
39 **Payment**
40
41 8-02.5.INST1.GR8
42 Section 8-02.5 is supplemented with the following:
43
44 8-02.S1PAY.DOCX
45 (*****)
46 "Soil decompaction", per acre.
47
48 The unit contract price for "Soil decompaction", per acre shall be full pay for performing
49 the work as specified.
50
51 8-02.5.OPT1_CABS,TopsoilTypeA,Spreader,Divider-Payment.docx
52 (*****)

1 "Biofiltration Swale Level Spreader", per linear foot.
2
3 The unit Contract price per linear foot for "Biofiltration Swale Level Spreader" shall be full
4 payment to complete the Work as specified and as shown in the Plans. This includes but
5 is not limited to excavation below roadway excavation limits, placing and curing of
6 concrete, bolts, plates, posts, and all hardware. Unless listed as a separate Bid item, all
7 materials, labor, equipment, and incidentals necessary to install and adjust the biofiltration
8 swale level spreader and biofiltration swale divider shall be included in these Bid items.
9
10 Excavation for CABS and Infiltration Pond areas will be measured and paid in accordance
11 with Section 2-03.
12
13 Seeding, Fertilizing and Mulching for CABS areas will be measured and paid in
14 accordance with Section 8-02.
15
16 Flexible Guide Post for CABS shall be measured and paid in accordance with Section 8-
17 10.
18
19 Any roadway excavation or placement of borrow required prior to placement of CABS,
20 compost, and topsoil will be measured and paid in accordance with the contract bid items
21 for roadway excavation and borrow, respectively.
22
23 Payment for Topsoil Type A and Medium Compost in the CABS shall be paid separately
24 as specified in Section 8-02.5.
25
26 8-12.GR8
27 **Chain Link Fence and Wire Fence**
28
29 8-12.2.GR8
30 **Materials**
31
32 8-12.2.INST1.GR8
33 Section 8-12.2 is supplemented with the following:
34
35 8-12.2.OPT1.FR8.docx
36 **(January 2, 2018)**
37 **Coated Chain Link Fence**
38 Chain link fence fabric shall be hot-dip galvanized with a minimum of 0.8 ounce per square
39 foot of surface area.
40
41 Fencing materials shall be coated with an ultraviolet-insensitive plastic or other inert
42 material at least 2 mils in thickness. Any pretreatment or coating shall be applied in
43 accordance with the manufacturer's written instructions. The Contractor shall provide the
44 Engineer with the manufacturer's written specifications detailing the product and method
45 of fabrication. The color shall match SAE AMS Standard 595 color number *** 27038 ***,
46 or be as approved by the Engineer.
47
48 Samples of the coated fencing materials shall be approved by the Engineer prior to
49 installation on the project.
50

1 The Contractor shall supply the Engineer with 10 aerosol spray cans containing a
2 minimum of 14 ounces each of paint of the color specified above. The touch-up paint
3 shall be compatible with the coating system used.
4

5 8-12.2.OPT6.GB8

6 **(September 3, 2019)**

7 **Cable Fence**

8 Steel pipe shall conform to ASTM A 53, Grade B, Type E or S.
9

10 Steel bars, plates, and shapes shall conform to ASTM A 36.
11

12 Steel components shall be galvanized after fabrication in accordance with AASHTO M
13 111.
14

15 Resin bonded anchors shall conform to Section 6-02.2 as supplemented in these Special
16 Provisions.
17

18 Proof coil chain shall conform to ASTM A413 Grade 30.
19

20 Spelter sockets and turnbuckles shall conform to the size and breaking strength
21 requirements specific in the Plans, shall be compatible with the wire rope selected by the
22 Contractor, and shall be galvanized after fabrication in accordance with AASHTO M 232.
23

24 Wire rope shall conform to one of the following:
25

- 26 1. ASTM A 603 with Class A weight zinc-coated wires throughout.
27
28 2. ASTM A 1023 with drawn galvanized wires throughout in accordance with ASTM
29 A 1007. Acceptance of ASTM A 1023 wire rope is contingent upon the
30 Contractor furnishing a Type 1 Working Drawing certifying that the lot of supplied
31 wire rope has a minimum modulus of elasticity of 15,000 ksi when tested in
32 accordance with ASTM A 931 Section 3.2.17.
33

- 34 3. Phillystran HPTG 27000 I as manufactured by:
35

36 Phillystran, Inc.
37 151 Commerce Drive
38 Montgomeryville, PA 18936-9628
39 (215) 368-6611
40 www.phillystran.com
41

42 8-12.3.GR8

43 **Construction Requirements**
44

45 8-12.3.INST1.GR8

46 Section 8-12.3 is supplemented with the following:
47

48 8-12.3.OPT1.GB8

49 **Cable Fence**
50

51 8-12.3.OPT1(B).GB8

52 (April 6, 2015)

- 1 The Contractor shall submit shop drawings of the cable fence in accordance with Section
2 6-03.3(7). The shop drawings shall include, at a minimum, the following:
3
4 1. Plan, elevation, and section views of the cable fence and all components, with
5 dimensions and tolerances.
6
7 2. Material designations for all components.
8
9 3. Socketing procedure for the spelter sockets.
10
11 4. Erection plan for installing the posts, installing and connecting the cable to the
12 posts, and tensioning the cable.
13
14 The Contractor shall install resin bonded anchors in accordance with Section 6-02.3(18)
15 as supplemented in these Special Provisions.
16
17 The cable shall be tensioned to 400 pounds with six inches minimum of take up still
18 available in the turnbuckle.
19
20 8-12.3.OPT1(C).GB8
21 (January 2, 2018)
22 After erecting the cable fence posts, but prior to installing the cable, the Contractor shall
23 clean, prepare, and paint all exposed galvanized surfaces in accordance with Section 6-
24 07.3(11)A. The color of the finish coat, when dry, shall match SAE AMS Standard 595
25 Color No. 20045.
26
27 8-12.4.GR8
28 **Measurement**
29
30 8-12.4.INST1.GR8
31 Section 8-12.4 is supplemented with the following:
32
33 8-12.4.OPT1.GB8
34 (April 6, 2015)
35 Cable fence will be measured by the linear foot along the line and slope at the base of
36 the completed fence.
37
38 8-12.5.GR8
39 **Payment**
40
41 8-12.5.INST1.GR8
42 Section 8-12.5 is supplemented with the following:
43
44 8-12.5.OPT1.GR8
45 (April 1, 2002)
46 "Coated Chain Link Fence Type ____", per linear foot.
47 Payment for clearing of fence line for "Coated Chain Link Fence Type ____" shall be in
48 accordance with Section 2-01.5.
49 "Coated End, Gate, Corner, Pull Post for Chain Link Fence", per each.
50 "Double 14 Ft. Coated Chain Link Gate", per each.
51 "Double 20 Ft. Coated Chain Link Gate", per each.
52 "Single 6 Ft. Coated Chain Link Gate", per each.

1
2 8-12.5.OPT6.GB8
3 (April 6, 2015)
4 "Cable Fence", per linear foot.
5
6 8-14.GR8
7 **Cement Concrete Sidewalks**
8
9 8-14.1.GR8
10 **Description**
11
12 8-14.1.INST1.GR8
13 Section 8-14.1 is revised to read:
14
15 8-14.1.OPT1.GR8
16 (April 3, 2017)
17 This Work consists of constructing cement concrete sidewalks, curb ramps, bus stop
18 shelter foundations, masonry sidewalks, and ramp grinding in accordance with details
19 shown in the Plans, Standard Plans, these Specifications, and in conformity to the lines
20 and grades shown in the Plans, Standard Plans, and as established by the Engineer.
21
22 8-14.3.GR8
23 **Construction Requirements**
24
25 8-14.3.INST1.GR8
26 Section 8-14.3 is supplemented with the following:
27
28 8-14.3.OPT2.GR8
29 **(January 7, 2019)**
30 **Timing Restrictions**
31 Curb ramps shall be constructed on one leg of the intersection at a time. The curb ramps
32 shall be completed and open to traffic within five calendar days before construction can
33 begin on another leg of the intersection unless otherwise allowed by the Engineer.
34
35 Unless otherwise allowed by the Engineer, the five calendar day time restriction begins
36 when an existing curb ramp for the quadrant or traffic island/median is closed to
37 pedestrian use and ends when the quadrant or traffic island/median is fully functional and
38 open for pedestrian access.
39
40 8-14.3.OPT3.GR8
41 **(January 7, 2019)**
42 **Layout and Conformance to Grades**
43 Using the information provided in the Contract documents, the Contractor shall lay out,
44 grade, and form each new curb ramp, sidewalk, and curb and gutter.
45
46 8-20.GR8
47 **Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and**
48 **Electrical**
49

1 8-20.1.GR8
2 **Description**
3
4 8-20.1.INST1.ITS.DT1
5 Item No. 3 of Section 8-20.1 is supplemented with the following:
6
7 8-20.1.OPT1.ITS.DT1
8 **(NWR ITS August 25, 2020)**
9 **INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**
10 3a. Traffic Data Accumulation and Ramp Metering System
11 3b. Closed Circuit Television System
12 3c. Variable Message Sign System
13 3d. Active Traffic Management System
14 3e. Communication Conduit System
15 3f. Communication Cables and Interfaces
16 3g. Video, Voice & Data Distribution & Transmission System
17
18 8-20.1.OPT8.ITS.DT1
19 **(NWR ITS August 25, 2020)**
20 **Modular Communications Hub (Hub)**
21 This Work shall consist of providing and installing or modifying an enclosure with
22 mechanical, environmental, and electrical systems including an Uninterruptible Power
23 Supply and diesel generator to support the requirements of the housed equipment in 19-
24 inch and 23-inch rack frames as shown in the Plans.
25
26 8-20.2.GR8
27 **Materials**
28
29 8-20.2.INST1.GR8
30 Section 8-20.2 is supplemented with the following:
31
32 8-20.2.OPT1.ESP.FT1.docx
33 **(*****)**
34 **Contracting Agency-Supplied Materials**
35 The Contracting Agency will supply the following materials for the Temporary Video
36 Detection system and the Signal and Illumination system:
37
38

<u>Description</u>	<u>Quantity</u>
Video Detection Camera	6
Camera Attachment Brackets	6
Video Image Processor	6
Video Splice Enclosures	6
Type 2 Signal Pole	1
Type 3 Signal Pole	2
Luminaire Pole	2

39
40
41
42
43
44
45
46
47
48 When Contracting Agency-supplied materials require foundations, the Contractor may
49 request release of Contracting Agency-supplied materials, except for anchor bolts, only
50 after foundations for the equipment described above have cured.
51

1 The Contractor shall notify the Engineer five working days in advance of the date
2 Contracting Agency-supplied materials are required.
3
4 Contracting Agency-supplied materials for the Temporary Video Detection system will be
5 available for pick up, dimensional verification or bolt pattern verification during normal
6 working hours from the Region Signal Maintenance Office located at:
7
8 WSDOT Signal Shop
9 3700 9th Ave. So.
10 Seattle WA 98134
11 Attention: Supervisor of Stores
12 Glen Nakamichi
13 (206) 442-2120
14
15 Contracting Agency-supplied materials for the Signal and Illumination system will be
16 available for pick up, dimensional verification or bolt pattern verification during normal
17 working hours from the WSDOT Eastmont Maintenance yard located at:
18
19 WSDOT Eastmont Maintenance
20 9025 El Capitan Way
21 Everett, WA
22 Attention: WSDOT Assistant Project Engineer
23 Mark Hammer
24 (425) 225-8794
25
26
27 8-20.2.OPT2.ITS.DT1
28 **(NWR ITS August 25, 2020)**
29 **Video Camera Assembly**
30 Video cameras shall be supplied as a unit including camera with integrated lens, on
31 screen display (OSD), camera controller, video encoder, pressurized environmental
32 enclosure, pan and tilt mechanism, faceplate wiper and rain/sun shade. Each video
33 camera shall be provided with a camera control cable, IP67 RJ45 coupler, PoE++
34 (Power-over-Ethernet++) injector and PoE++ surge protector. Camera mounts shall
35 be provided as shown in the Plans. The camera assembly shall be a RISE 4260HD
36 series camera positioning system, manufactured by CohuHD.
37
38 1. Equipment Model Numbers:
39
40 RISE camera system: Model 4261-1100-0000-02
41 PoE++ Injector: Model 7412007-003
42 PoE++ Surge Protector Model 7412009-001
43 IP67 RJ45 Coupler Model 7610203-002
44 Video camera control cable Model 8194603-xxx (xxx = length in ft.
45
46 025,055,100,150,200,250,300,328)
47
48 Camera Mounts:
49 Side pole mount: Model 8503-0
50 Wall mount: Model 8425-7
51 Pedestal: Model 7411542-001
52

2. Manufacturer Information:

CohuHD Costar
7330 Trade St.
San Diego, CA 92121
Telephone: (858) 391-1800
www.cohuhd.com

8-20.2.OPT12.ITS.DT1

Communication Cables And Interfaces

8-20.2.OPT16.ITS.DT1

(NWR ITS August 25, 2020)

Preterminated Patch Panel

A wiring diagram shall be supplied with each patch panel. The wiring diagram shall identify each fiber terminated in the distribution 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 distribution panel.

The Contractor shall provide, install and connect preterminated patch panels as shown in the Plans. The panels shall be manufactured by Wesco/CSC – Communications Supply Corp. Outside plant cable meeting ITU G652.D and G694.2 shall be utilized for the stubs on all preterminated patch panels and the Contractor shall confirm with the manufacturer that the length of each stub is sufficient for the needs at each location. All openings in the patch panels shall be plugged by the manufacturer. Connections shall be LC\UPC type and shall be terminated by the manufacturer.

1. Equipment Model Numbers (for use in cabinets):

Description	Part Numbers (Both parts are required)
12-Port Preterminated Patch Panel	ADC12CLCXXXMCD00, and FL2-ACC0071
24-Port Preterminated Patch Panel	ADC24CLCXXXMCD00, and FL2-ACC0072
48-Port Preterminated Patch Panel	ADC48CLCXXXMCD00, and FL2-ACC0072
72-Port Preterminated Patch Panel	ADC72CLCXXXMCC00, and FL2-ACC0073
96-Port Preterminated Patch Panel	ADC96CLCXXXMCC00, and FL2-ACC0074

Equipment Model Numbers (For concrete or underground Hubs):

Description	Part Numbers (Both parts are required)
48-Port Preterminated Patch Panel	ADC48CLCXXXDU00, and FL2-ACC0072
72-Port Preterminated Patch Panel	ADC72CLCXXXMDU00, and FL2-ACC0073
96-Port Preterminated Patch Panel	ADC96CLCXXXMDU00, and FL2-ACC0074

- 1 Note: The stub length for each panel (XXX in the part number, in meters)
2 shall be determined by the Contractor for each location and shall
3 include 50 feet of slack in the cable vault.
4
- 5 2. Manufacturer Information:
6
- 7 Wesco/CSC – Communications Supply Corp.
8 951 Monster Road
9 Renton, WA 98057
10 Tel: (425) 203 – 7881
11 Fax: (425) 793 - 5448
12
- 13 8-20.2.OPT17.ITS.DT1
14 **(NWR ITS August 25, 2020)**
15 **Fiber Optic Connector**
16 Unless otherwise noted in the Plans, all fiber optic connectors used on this project
17 shall meet the following:
18
- 19 All shall be LC/UPC (55dB) in accordance with Telcordia 6R-326
20 All shall be factory-connectorized.
21
- 22 8-20.2.OPT18.ITS.DT1
23 **(NWR ITS August 25, 2020)**
24 **Fiber Optic Cable Lubricant**
25 Fiber optic cable lubricant shall be as follows:
26
- 27 Compatible with the cable jacket
28 Non-combustible
29 Water-based leaving little or no residue
30
- 31 8-20.2.OPT19.ITS.DT1
32 **(NWR ITS August 25, 2020)**
33 **Fiber Optic Splice Closure**
34 All fiber optic splice closures shall be re-enterable and reusable and be designed for
35 use on fiber optic cables in an underground, submerged environment. Splice
36 closures shall meet the following requirements:
37
- 38 • Rated for 1310 and 1550 nanometer wavelengths.
39 • Contain a valve to allow pressurization of the housing.
40
- 41 Fiber optic splice closures installed in a pull box shall meet the above requirements,
42 be a maximum of 18 inches in length, and have all cables enter the same end of the
43 closure.
44
- 45 8-20.2.OPT21.ITS.DT1
46 ***Video, Voice & Data Distribution & Transmission System***
47
- 48 8-20.2.OPT22.ITS.DT1
49 (NWR ITS August 25, 2020)
50 If any equipment specified in this section has been superseded by a newer product
51 that is interchangeable, the newer product shall be supplied. If the product is no
52 longer available and has no replacement, the Contractor shall propose a different

1 product meeting the same performance and material specifications as the
2 discontinued one.
3
4 8-20.2.OPT23.ITS.DT1
5 **(NWR ITS August 25, 2020)**
6 **Ethernet Communication Equipment**
7 Ethernet communication equipment shall be manufactured by
8 Siemens/RuggedCom, Inc. and installed in each cabinet and Communication Hub
9 as shown in the Plans. Equipment shall be conformal coated and include a power
10 cord.
11
12 1. Equipment Model Numbers:
13

Device	Model Number	Part Number
8-Port Ethernet Switch	RS900-8	RS900-HI-D-L2-L2-00
9-Port Ethernet Switch	RS900-9	RS900-HI-D-L2-L2-L2
10-Port Gigabit Ethernet Switch	RS900G	RS900G-HI-D-2LC25
10-Port Gigabit Ethernet Switch w/ SFP's	RSG910C	6GK6491-0CB00-1CN0-Z
Number of SFP's identified in the Plans	SFP	6GK6000-8FG53-0AA0
Ethernet Switch w/ Device Server	RS910	RS910-HI-D-S1-FX06-TX
Cabinet Device Server	RMC30	RMC30-HI
Power Cord		99-43-0008-001

14
15 2. Manufacturer:
16
17 Siemens/RuggedCom, Inc.
18 30 Whitmore Rd
19 Woodbridge, Ontario, Canada L4L 7Z4
20 Tel: (905) 856-5288 Fax: (905) 856-1995
21 Toll Free: (888) 264-0006
22 www.ruggedcom.com
23

24 8-20.2(9-29).ESP.DT1
25 ***Illumination, Signal, Electrical***
26
27 8-20.2(9-29.1).ESP.DT1
28 ***Conduit, Innerduct, and Outerduct***
29
30 8-20.2(9-29.1).INST1.ESP.DT1
31 Section 9-29.1 is supplemented with the following:
32

1 8-20.2(9-29.1(11)).GR8
2 **Foam Conduit Sealant**
3 Section 9-29.1(11) is supplemented with the following:
4
5 8-20.2(9-29.1(11)).OPT1.GR8
6 (January 7, 2019)
7 The following products are accepted for use as foam conduit sealant:
8
9 • CRC Minimal Expansion Foam (No. 14077)
10 • Polywater FST Foam Duct Sealant
11 • Superior Industries Foam Seal
12 • Todol Duo Fill 400
13
14 8-20.2(9-29.2).GR8
15 ***Junction Boxes, Cable Vaults, and Pull Boxes***
16 Section 9-29.2 is supplemented with the following:
17
18 8-20.2(9-29.2).OPT1.GR8
19 **(September 3, 2019)**
20 **Slip-Resistant Surfacing for Junction Boxes, Cable Vaults, and Pull Boxes**
21 Where slip-resistant junction boxes, cable vaults, or pull boxes are required, each
22 box or vault shall have slip-resistant surfacing material applied to the steel lid and
23 frame of the box or vault. Where the exposed portion of the frame is ½ inch wide or
24 less, slip-resistant surfacing material may be omitted from that portion of the frame.
25
26 Slip-resistant surfacing material shall be identified with a permanent marking on the
27 underside of each box or vault lid where it is applied. The permanent marking shall
28 be formed with a mild steel weld bead, with a line thickness of at least 1/8 inch. The
29 marking shall include a two character identification code for the type of material used
30 and the year of manufacture or application. The following materials are approved for
31 application as slip-resistant material, and shall use the associated identification
32 codes:
33
34 1. Harsco Industrial IKG, Mebac #1 - Steel: **M1**
35
36 2. W. S. Molnar Co., SlipNOT Grade 3 – Coarse: **S3**
37
38 3. Thermion, SafTrax TH604 Grade #1 – Coarse: **T1**
39
40 8-20.2(9-29.2(2)).ITS.DT1
41 **Cable Vaults and Pull Boxes**
42
43 8-20.2(9-29.2(2)).INST1.ITS.DT1
44 Section 9-29.2(2) is supplemented with the following:
45
46 8-20.2(9-29.2(2)).OPT1.ITS.DT1
47 **(NWR ITS August 25, 2020)**
48 **Cable Vaults and Pull Boxes**
49 Cable vaults and pull boxes shall meet AASHTO M-199, H-20 or H-35 loading
50 requirements. Cable vaults and pull boxes installed in paved shoulders or lanes
51 that will be subjected to vehicular traffic during any phase of this contract or as
52 specified in the Plans shall meet H-35 loading requirements. Cable vaults and

- 1 pull boxes shall be fabricated in accordance with ASTM C857-83 and C858-83.
2 Cable vaults and pull boxes shall be per Standard Plans J-90.10 and J-90.20.
3 All cable vaults and pull boxes shall include the following provisions:
4
5 1. Cable pulling irons positioned to afford bi-directional cable installation
6 through the cable vault or pull box.
7
8 2. All cable racking hardware shall be stainless steel.
9
10 3. Cable vaults meeting H-20 requirements shall have a hinged and
11 spring-assisted double steel plate cover. Cable vaults and pull boxes
12 meeting H-35 requirements shall have round cast iron lids. Pull boxes
13 meeting H-20 requirements shall have a hinged, single plate cover. All
14 cable vault and pull box covers shall be marked with ITS legend
15 according to Standard Plans J-90.10 and J-90.20.
16
17 Above ground pull boxes shall be a minimum 16 inches wide by 16 inches high
18 and 8 inches deep, unless otherwise specified in the Plans. Above-ground
19 boxes shall be fabricated in accordance with NEMA 4X designation for stainless
20 steel enclosures. Pull boxes shall be equipped with a removable front panel for
21 access to all conduits. The front panel shall be hinged and the entire pull box
22 shall be fabricated from stainless steel.
23
24 8-20.2(9-29.2(4)).ESP.DT1
25 **Cover Markings**
26
27 8-20.2(9-29.2(4)).INST1.ESP.DT1
28 Section 9-29.2(4) is supplemented with the following:
29
30 8-20.2(9-29.2(4)).OPT1.ESP.DT1
31 **(NWR ESP August 25, 2020)**
32 **Junction Box Identification**
33 Junction boxes shall be marked "WSDOT" when the junction boxes are to be
34 installed as part of a future raceway system in a bridge structure, vehicle barrier,
35 pedestrian barrier, or roadway crossing and the future raceway system is not
36 connected to an illumination, signal, interconnect, or ITS raceway system.
37
38 Junction boxes, pull boxes and cable vaults containing only Traffic Signal
39 Interconnect (fiber optics) cable shall be marked or embossed with the legend
40 "COMM".
41
42 8-20.2(9-29.3).ITS.DT1
43 ***Fiber Optic Cable, Electrical Conductors, and Cable***
44
45 8-20.2(9-29.3).INST1.ITS.DT1
46 Section 9-29.3 is supplemented with the following:
47
48 8-20.2(9-29.3).OPT1.ITS.DT1
49 **(NWR ITS August 25, 2020)**
50 **Quality Assurance**
51 All materials described in this section shall meet or exceed the applicable provisions
52 of the following documents:

1
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52

1. CFR Title 7, Section 1755.900, RUS Specification for Filled Fiber Optic Cables.
2. ANSI, C8.47-1983, American National Standard for Polyolefin-insulated Thermoplastic Jacketed Communication Cables.
3. TIA/EIA-455-28-C, Method for Measuring Tensile Failure Point of Optical Waveguide Fibers.
4. TIA/EIA-455-34-A, Interconnection Device Insertion Loss Test.
5. TIA/EIA-455-95-A, Absolute Optical Power Test for Optical Fibers and Cables.

8-20.2(9-29.3(1)).ITS.DT1

Fiber Optic Cable

8-20.2(9-29.3(1)).INST1.ITS.DT1

Section 9-29.3(1) is supplemented with the following:

8-20.2(9-29.3(1)).OPT1.ITS.DT1

(NWR ITS August 25, 2020)

Communication Cables And Interfaces

The Contractor shall provide manufacturer's certification that the submitted cable shall comply with the Rural Utilities Service (RUS) Specification 1755.900 as currently amended and with the requirements set forth in this Special Provision. Any deviations from these Specifications shall be conspicuously noted in the Contractor's submittal.

Each cable shall contain the total number of optical fibers as specified in the Plans. The fibers shall be placed in loose buffer tubes in groups of 12.

The fiber optic cable outer jacket shall be marked with the manufacturer's name, the year of manufacture, the words OPTICAL CABLE and sequential meter marks. The markings shall be repeated every one meter. The actual length of the cable shall be within +/- 0.1% of the length marking. The marking shall be in contrasting color to the jacket. The marking shall be 2.5 mm in height and shall be permanent and weatherproof.

Cable shall be of loose tube design. The tubes shall be surrounded by dry moisture blocking filling compound or tape. The tubes may be filled with dry moisture blocking powder surrounding the fibers.

The cable shall be constructed with the following components:

1. A dielectric central strength member
2. Buffer tubes containing optical fibers
3. Aramid (Kevlar) yarn
4. Outer MDPE jacket

The Contractor shall provide all materials required for the installation and

1 splicing of the specified communications cables, power cables and associated
2 interface devices.

3

4 At the request of the Engineer, the Contractor shall submit a 3-foot sample cable
5 section to the Engineer for approval for each type of cable to be provided.

6

7 8-20.2(9-29.3(1)A).ITS.DT1
8 **Singlemode Fiber Optic Cable**
9

10 8-20.2(9-29.3(1)A).INST1.ITS.DT1
11 Section 9-29.3(1)A is supplemented with the following:
12

13 8-20.2(9-29.3(1)A).OPT1.ITS.DT1
14 **(NWR ITS August 25, 2020)**
15 **Communication Cables And Interfaces**
16 The fibers shall support the transmission of wavelengths for Coarse
17 Wavelength Division Multiplexing (CWDM) as defined in ITU G694.2.
18

19 8-20.2(9-29.3(2)).ESP.DT1
20 **Electrical Conductors and Cable**
21

22 8-20.2(9-29.3(2)).INST1.ESP.DT1
23 Section 9-29.3(2) is supplemented with the following:
24

25 8-20.2(9-29.3(2)).OPT1.ESP.DT1
26 **(NWR ESP August 25, 2020)**
27 **Video Detection Cable**
28 Coaxial cable or combination (composite/Siamese) cable for video detection
29 shall be RG59/U with a manufacturer's rating of 600 Volts (Non UL -
30 manufacturer's voltage rating of the insulation is acceptable). Combination
31 cable shall be in accordance with the video detection system manufacturer's
32 recommendations for the length of cable required.
33

34 8-20.2(9-29.3(2)B).ESP.DT1
35 **Multi-Conductor Cable**
36

37 8-20.2(9-29.3(2)B).INST1.ESP.DT1
38 Section 9-29.3(2)B is supplemented with the following:
39

40 8-20.2(9-29.3(2)B).OPT2.ESP.DT1
41 **(NWR ESP August 25, 2020)**
42 Two-conductor through ten-conductor unshielded control cable shall be size
43 16 AWG.
44

45 8-20.2(9-29.3(2)F).ESP.DT1
46 **Detector Loop Wire**
47

48 8-20.2(9-29.3(2)F).INST1.ESP.DT1
49 Section 9-29.3(2)F is revised to read:
50

51 8-20.2(9-29.3(2)F).OPT1.ESP.DT1
52 **(NWR ESP August 25, 2020)**

1 Detector loop wire shall use 14 AWG stranded copper conductors, and shall
2 conform to IMSA Specification 51-7, with cross-linked polyethylene (XLPE)
3 insulation encased in a polyethylene outer jacket (PE tube).
4
5 8-20.2(9-29.3(2)).ITS.DT1
6 **Electrical Conductors and Cable**
7
8 8-20.2(9-29.3(2)I).ITS.DT1
9 **Twisted Pair Communications Cable**
10
11 8-20.2(9-29.3(2)I).INST1.ITS.DT1
12 Section 9-29.3(2)I is supplemented with the following:
13
14 8-20.2(9-29.3(2)I).OPT1.ITS.DT1
15 **(NWR ITS August 25, 2020)**
16 **Outdoor Rated Category 6 Cable**
17 A Category 6 outside plant rated cable shall be provided for connecting
18 Ethernet devices that are in separate cabinets. The cable shall contain four
19 twisted pairs of #23 or #24 AWG solid bare copper wire. Each pair shall be
20 uniquely color coded with a Thermoplastic Polyolefin jacket.
21
22 The cable outer jacket shall be Polyolefin with a minimum wall thickness of
23 0.040 inches. The cable shall be flooded for moisture protection.
24
25 The cable shall have a voltage rating of 300V.
26
27 The cable shall be UL listed. It shall support up to IEEE 802.3 1000Base-
28 T Ethernet and IEEE 802.3af for power over Ethernet.
29
30 The cable shall be terminated on each end with an RJ45 connector.
31
32 8-20.2(9-29.6).GR8
33 ***Light And Signal Standards***
34 Section 9-29.6 is supplemented with the following:
35
36 8-20.2(9-29.6).OPT5.GR8
37 **(April 1, 2019)**
38 **Traffic Signal Standards**
39 Traffic signal standards shall be furnished and installed in accordance with the
40 methods and materials noted in the applicable Standard Plans, pre-approved plans,
41 or special design plans.
42
43 All welds shall comply with the latest AASHTO Standard Specifications for Structural
44 Supports for Highway Signs, Luminaires and Traffic Signals. Welding inspection
45 shall comply with Section 6-03.3(25)A Welding Inspection.
46
47 Hardened washers shall be used with all signal arm connecting bolts instead of
48 lockwashers. All signal arm ASTM F 3125 Grade A325 connecting bolts tightening
49 shall comply with Section 6-03.3(33).
50
51 Traffic signal standard types and applicable characteristics are as follows:
52

1	Type PPB	Pedestrian push button posts shall conform to Standard Plan J-20.10 or to one of the following pre-approved plans:	
2			
3			
4		<u>Fabricator</u>	<u>Drawing No.</u>
5		Valmont Ind. Inc.	DB01165 Rev. B
6			Sheet's 1, 2, 3 & 4 of 4
7			
8		Ameron Pole	WA15TR10-1 Rev. C and
9		Prod. Div.	WA15TR10-3 Rev. B
10			
11	Type PS	Pedestrian signal standards shall conform to Standard Plan J-20.16 or to one of the following pre-approved plans:	
12			
13			
14		<u>Fabricator</u>	<u>Drawing No.</u>
15		Valmont Ind. Inc.	DB01165 Rev. B
16			Sht. 1, 2, 3 & 4 of 4
17			
18		Ameron Pole	WA15TR10-1 Rev. C and
19		Prod. Div.	WA15TR10-2 Rev. C
20			
21	Type I	Type I vehicle signal standards shall conform to Standard Plan J-21.15 or to one of the following pre-approved plans:	
22			
23			
24		<u>Fabricator</u>	<u>Drawing No.</u>
25		Valmont Ind. Inc.	DB01165 Rev. B
26			Sht. 1 2, 3 & 4 of 4
27			
28		Ameron Pole	WA15TR10-1 Rev. C and
29		Prod. Div.	WA15TR10-2 Rev. C
30			
31	Type FB	Type FB flashing beacon standard shall conform to Standard Plan J-21.16 or the following pre-approved plan:	
32			
33			
34		<u>Fabricator</u>	<u>Drawing No.</u>
35		Valmont Ind. Inc.	DB01165 Rev. B
36			Sht. 1 2, 3 & 4 of 4
37			
38		Ameron Pole	WA15TR10-1 Rev. C and
39		Prod. Div.	WA15TR10-2 Rev. C
40			
41	Type RM	Type RM ramp meter standard shall conform to Standard Plan J-22.15 or the following pre-approved plan:	
42			
43			
44		<u>Fabricator</u>	<u>Drawing No.</u>
45		Valmont Ind. Inc.	DB01165 Rev. B
46			Sht. 1, 2, 3 & 4 of 4
47			
48		Ameron Pole	WA15TR10-1 Rev. C and
49		Prod. Div.	WA15TR10-2 Rev. C
50			

1	Type CCTV	Type CCTV camera pole standards shall conform to one of the	
2		following pre-approved Plans:	
3			
4		<u>Fabricator</u>	<u>Drawing No.</u>
5		Valmont Industries, Inc.	DB 01166 Rev. B
6			Sheet 1, 2, 3 and 4 of 4
7			
8		Ameron Pole Product Div.	WA15CCTV01 Rev. B
9			Sheet 1 and 2 of 2
10			
11	Type II	Characteristics:	
12			
13		Luminaire mounting height	N.A.
14		Luminaire arms	N.A.
15		Luminaire arm length	N.A.
16		Signal arms	One Only
17			
18		Type II standards shall conform to one of the following pre-	
19		approved plans, provided all other requirements noted herein have	
20		been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic	
21		feet are noted after fabricator.	
22			
23		Signal Arm	
24		<u>Length (max)</u>	<u>Fabricator-(x) (y) (z)</u>
25			<u>Drawing No.</u>
26		65 ft.	Valmont Ind. Inc.-(2894)
27			DB01162 Rev. B,
28			Shts. 1, 2,3, 4 & 5 of 5
29		65 ft.	Ameron Pole-(2900)
30			Prod. Div.
31			WA15TR3724-1 Rev. C and
32			WA15TR3724-2 Rev. D
33			Sheet 1 and 2 of 2
34	Type III	Characteristics:	
35			
36		Luminaire mounting height	30 ft.,
37			35 ft.,
38			40 ft.,
39			or 50 ft.
40		Luminaire arms	One Only
41		Luminaire arm type	Type 1
42		Luminaire arm length (max.)	16 ft.
43		Signal arms	One Only
44			
45		Type III standards shall conform to one of the following pre-	
46		approved plans, provided all other requirements noted herein have	
47		been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic	
48		feet are noted after fabricator.	
49			
50		Signal Arm	
51		<u>Length (max)</u>	<u>Fabricator-(x) (y) (z)</u>
52			<u>Drawing No.</u>
		65 ft.	Valmont Ind. Inc.-(2947)
			DB01162 Rev. B,

1			Shts. 1, 2, 3, 4 & 5 of 5
2			and "J" luminaire arm
3			
4	65 ft.	Ameron Pole-(2900)	WA3724-1 Rev. C and
5		Prod. Div.	WA3724-2 Rev. D
6			and "J" luminaire arm
7			
8	Type IV	Type IV strain pole standards shall be consistent with details in the	
9		plans and Standard Plan J-27.15 or one of the following pre-	
10		approved plans:	
11			
12		<u>Fabricator</u>	<u>Drawing No.</u>
13		Valmont Industries, Inc.	DB01167, Rev. B
14			Sheets 1 and 2
15			
16		Ameron Pole	WA15TR15 Rev. A
17		Prod. Div.	Sheet 1 and 2 of 2
18			
19	Type V	Type V combination strain pole and lighting standards shall be	
20		consistent with details in the plans and Standard Plan J-27.15 or	
21		one of the following pre-approved plans:	
22			
23		<u>Fabricator</u>	<u>Drawing No.</u>
24		Valmont Industries, Inc.	DB01167, Rev. B
25			Sheets 1 and 2
26			
27		Ameron Pole	WA 15TR15 Rev. A
28		Prod. Div.	Sheet 1 and 2 of 2
29			
30		The luminaire arm shall be Type 1, 16 foot maximum and the	
31		luminaire mounting height shall be 40 feet or 50 feet as noted in	
32		the plans.	
33			
34	Type SD	Type SD standards require special design. All special design shall	
35		be based on the latest AASHTO Standard Specifications for	
36		Structural Supports for Highway Signs, Luminaires and Traffic	
37		Signals and pre-approved plans and as follows:	
38			
39		1. A 115 mph wind loading shall be used.	
40			
41		2. The Mean Recurrence Interval shall be 1700 years.	
42			
43		3. Fatigue category shall be III.	
44			
45		Complete calculations for structural design, including anchor bolt	
46		details, shall be prepared by a Professional Engineer, licensed	
47		under Title 18 RCW, State of Washington, in the branch of Civil or	
48		Structural Engineering or by an individual holding valid registration	
49		in another state as a civil or structural Engineer.	
50			
51		All shop drawings and the cover page of all calculation submittals	
52		shall carry the Professional Engineer's original signature, date of	

signature, original seal, registration number, and date of expiration. The cover page shall include the contract number, contract title, and sequential index to calculation page numbers. Two copies of the associated design calculations shall be submitted for approval along with shop drawings.

Details for handholes and luminaire arm connections are available from the Bridges and Structures Office.

Foundations for various types of standards shall be as follows:

Type PPB	As noted on Standard Plan J-20.10
Type PS	As noted on Standard Plan J-21.10
Type I	As noted on Standard Plan J-21.10
Type FB	As noted on Standard Plan J-21.10
Type RM	As noted on Standard Plan J-21.10
Type CCTV	As noted on Standard Plan J-29.15
Type II	As noted in the Plans.
Type III	As noted in the Plans.
Type IV	As noted in the Plans and Standard Plan J-27.10
Type V	As noted in the Plans and Standard Plan J-27.10
Type SD	As noted in the Plans.

8-20.2(9-29.6(1)).ESP.DT1

Steel Light and Signal Standards

8-20.2(9-29.6(1)).INST1.ESP.DT1

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

8-20.2(9-29.6(1)).OPT1.ESP.DT1

(NWR ESP August 25, 2020)

Light and Signal Standard Painting

Galvanized steel light and signal standards shall not be painted.

8-20.2(9-29.12).ESP.DT1

Electrical Splice Materials

8-20.2(9-29.12(2)).ESP.DT1

Traffic Signal Splice Material

8-20.2(9-29.12(2)).INST1.ESP.DT1

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

8-20.2(9-29.12(2)).OPT1.ESP.DT1

(NWR ESP August 25, 2020)

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

8-20.2(9-29.13).GR8

Control Cabinet Assemblies

Section 9-29.13 is supplemented with the following:

2 (January 2, 2018)

3 **Uninterruptible Power Supply (UPS)**

4 Each UPS System shall provide battery backup power to the cabinet to which it is
5 connected in the event of loss or failure of normal utility power. Each UPS system
6 shall be constructed for full on line configuration (line interactive type), providing
7 automatic voltage regulation and power conditioning when operating on normal utility
8 power. The transfer between utility power and battery power shall not interfere with
9 the normal operation of the connected downstream cabinet.

10
11 Each UPS System shall be capable of supplying a minimum 1000W load at 120 VAC
12 for a minimum number of hours depending on the number of batteries specified:

- 13
- 14 • Four batteries: Minimum 4 hours run time.
- 15
- 16 • Eight batteries: Minimum 8 hours run time.
- 17

18 Each UPS System shall be composed of the following equipment:

19
20 **UPS Cabinet Construction**

21 Each UPS Cabinet shall be constructed as follows. The equipment shall be
22 installed within the cabinet as shown in the Plans.

- 23
- 24 1. The cabinet shall be designated Type 331, consisting of Housing 1B
25 and Mounting Cage 1 as described in the CalTrans TEES. The
26 housing shall use 0.125 inch minimum thickness 5052 H32 ASTM
27 B209 alloy aluminum, with bare mill finish. The exterior shall not be
28 anodized or painted.
- 29
- 30 2. Each cabinet door shall be provided with:
 - 31
 - 32 a. A three point latch system. Locks shall be spring loaded
 - 33 construction locks capable of accepting a Best 6 pin core. A 6 pin
 - 34 construction core of the type (blue, green, or red) specified in the
 - 35 contract shall be installed in each core lock. One core removal key
 - 36 and two standard keys shall be included with each cabinet and
 - 37 delivered to the Engineer.
 - 38
 - 39 b. A one piece, closed cell, neoprene gasket.
 - 40
 - 41 c. A two position doorstop assembly. The doorstops shall hold the
 - 42 door open at both 90 degrees and 180 +/- 10 degrees.
 - 43
- 44 3. Cabinet lighting shall be provided by two LED light strips. Each LED
- 45 light strip shall be approximately 12 inches long, have a minimum
- 46 output of 320 lumens, and have a color temperature of 4000K (cool
- 47 white) plus or minus 400K. Lighting shall not interfere with the proper
- 48 operation of any other ceiling or shelf mounted equipment. All lighting
- 49 fixtures shall energize whenever any door is opened. Each door
- 50 switch shall be labeled "Light". Both light strips shall be ceiling
- 51 mounted - rack mounted lights are not allowed. One light strip shall
- 52 be installed over the front face of the rack and the second shall be

- 1 installed over the rear face of the rack. Each light strip shall be
2 oriented parallel to the door face, and placed such that the associated
3 face of the rack and the rack mounted equipment is illuminated.
4
5 4. Cabinet ventilation shall be as described in the TEES for a Type 332L
6 cabinet. The door vent filter shall be a 12 inch by 16 inch by 1 inch
7 thick (nominal) disposable paper filter.
8
9 5. A UPS Service Panel, installed on the left side of the cabinet as
10 viewed from the front. This service panel shall include the following,
11 positioned as shown in the Plans:
12
13 a. Two three-position terminal blocks. Each terminal block shall be
14 labeled "Power IN" or "Power OUT" as appropriate.
15
16 b. Two 120V 1P-15A circuit breakers, one each for the cabinet
17 lighting and the cabinet ventilation (fan and thermostat).
18
19 c. A Tesco TES-10B (or equivalent) Surge Suppressor.
20
21 d. A HESCORLS LF60X (or equivalent) Line Filter.
22
23 e. A neutral (AC-) bus bar, with minimum 10 connections.
24
25 f. A ground bus bar, with minimum 10 connections.
26
27 6. Three battery shelves, each 0.5U (Rack Unit) in height. Each shelf
28 shall be vented and capable of supporting three AlphaCell 240XTV
29 batteries without visibly flexing. Each shelf shall span the full width
30 and depth of the rack, and be secured to all of the rack verticals.
31
32 7. One drawer shelf, 1U in height.
33
34 8. A Generator Transfer Switch (GTS) and enclosure, meeting the
35 requirements of Section 9-29.13(8). The GTS shall be installed in
36 place of the Police Panel Switch enclosure as shown on a Type 332L
37 cabinet. The lock shall have an aluminum rain shield cover riveted to
38 the cabinet housing.
39

40 **UPS System Components**

41 The following UPS System Equipment shall be provided and installed within the
42 cabinet as shown in the Plans. All equipment shall be from Alpha Technologies
43 unless otherwise noted.
44

- 45 1. One UPS Controller, model FXM 2000 w/SNMP module operating at
46 120 VAC, Part Number (P/N) 017-232-31. The UPS Controller shall
47 include the 19" EIA rack mount kit, P/N 740-697-21, and support
48 shelf, P/N 3610030085.
49
50 2. One Universal Automatic Transfer Switch (UATS) Accessory Shelf
51 Assembly (P/N 020-168-25), consisting of a Surge Arrestor Assembly

(P/N 740-755-21), UATS (P/N 020-165-21), and 120V Single Duplex Plate (P/N 740-748-23).

3. Four or eight AlphaCell 240XTV Batteries, as required by the Contract. Where four batteries are required, they shall be installed with two each on the middle and lower battery shelves. Where eight batteries are required, the upper and middle battery shelves shall hold three batteries each, with the remaining two installed on the lower battery shelf. Batteries shall be labeled with their string ID and number in the string. The first four batteries shall be labeled A1 through A4, and the second four batteries (when required) shall be labeled B1 through B4.
4. Remote Battery Monitoring System Plus. Use P/N 03760260-002 for cabinets requiring four batteries. Use P/N 03760260-003 for cabinets requiring eight batteries.
5. 48V Battery Cable Kit, 10ft in length with 1/4-20 termination(s), P/N 740-628-27. Where eight batteries are required, a second battery cable kit and a Y-Connector (P/N 870-601-21) shall also be included.
6. Battery Heater Mats, one per shelf with batteries installed, sized for the number of batteries present on that shelf. Each mat shall run on 120VAC and be plugged into the duplex receptacle on the Accessory Shelf Assembly.

Three sets of cabinet drawings and maintenance and operations manuals shall be provided. Two sets shall be hard copies in paper format and placed in the cabinet drawer shelf. The third shall be electronic in PDF format and provided on a portable USB flash drive (stick) and placed in the cabinet drawer shelf.

Contact information for Alpha Technologies:

Alpha Technologies, Inc.
3767 Alpha Way
Bellingham, WA 98226
Phone: (360) 647-2360
E-mail: alpha@alpha.com
Website: www.alpha.ca

8-20.2(9-29.13(11)).ITS.DT1

Traffic Data Accumulator and Ramp Meters

8-20.2(9-29.13(11)).INST1.ITS.DT1

Section 9-29.13(11) is supplemented with the following:

8-20.2(9-29.13(11)).OPT2.ITS.DT1

(NWR ITS August 25, 2020)

Rack Mount Vehicle Loop Detectors

The Contractor shall provide, install and connect inductive loop detectors manufactured by Reno A&E.

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1. Equipment Model Numbers:

332/170 type with solid-state outputs C-1101-SS
and TrueCount outputs
2. Manufacturer Information:

Reno A&E
4655 Aircenter Circle
Reno, NV 89502
Telephone: (775) 826-2020
www.renoae.com

8-20.2(9-29.13(11)).OPT5.ITS.DT1

(NWR ITS August 25, 2020)

Advanced Transportation Controller (ATC)

All new Traffic Data Accumulator (Data Station) and Ramp Meter cabinets shall be provided with a Type ATC 2070 Controller as shown in the Plans. Each controller shall comply with Advanced Transportation Controller (ATC) Standard Version 06 (ATC 5201 v06.25), and shall support both C12S serial bus operation and C1S (104 pin) parallel bus operation. Each controller shall be supplied with the following:

1. Board Support Package, in electronic format (see ATC 5201, Paragraph 3.3.1)
2. 2070-3B or 2070-3D Front Panel
3. 2070-1C Engine Board (CPU Module)
4. 2070-2E Field I/O Module
5. One spare Blank Cover (4X wide) to replace the 2070-2E Field I/O Module

The following controller has been verified to be compatible with Contracting Agency ITS operating software:

Model: **Intelight 2070-LDX**

Manufacturer:

Q-Free America

5962 La Place Ct, Ste. 150

Carlsbad, CA 92008

1 (833) MAXHELP (833-629-4357)

info@intelight-its.com

www.intelight-its.com

8-20.2(9-29.13(6)).ESP.DT1

Emergency Preemption

8-20.2(9-29.13(6)).INST1.ESP.DT1

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

1 8-20.2(9-29.13(6)).OPT2.ESP.docx
2 (*****)
3 **Preemption:**
4 The system shall be capable of preempting the controller to the phases shown
5 in the Plans when a signal is received from the field detector.
6
7 Pre-emption equipment shall be Opticom.
8
9 **Opticom**
10 If Opticom pre-emption equipment is used, the Contractor shall furnish and
11 install the following:
12
13 1. Pre-emption detectors shall be Opticom Model 711.
14
15 2. Discriminators shall be four-channel model 454 units. One is
16 required at each controller.
17
18 In addition, where auxiliary Opticom pre-emption is used, the Contractor
19 shall furnish and install the following:
20
21 3. A 757 auxiliary optical detector wiring harness where more than
22 one detector is called for per channel.
23
24 4. A twelve position terminal block of the barrier type rated for 20A at
25 600 volts RMS minimum and meeting the requirements of Chapter
26 11 of the Type 170 Hardware Specification, FHWA IP-78-16 as
27 currently amended.
28
29
30 8-20.2(9-29.16).ESP.DT1
31 ***Vehicular Signal Heads, Displays, and Housing***
32
33 8-20.2(9-29.16).INST1.ESP.DT1
34 Section 9-29.16 is supplemented with the following:
35
36 8-20.2(9-29.16).OPT1.ESP.DT1
37 **(NWR ESP August 25, 2020)**
38 **Back Plate**
39 Back plates shall be constructed of louvered anodized aluminum.
40
41 8-20.2(9-29.16(2)).ESP.DT1
42 **Conventional Traffic Signal Heads**
43
44 8-20.2(9-29.16(2)A).ESP.DT1
45 **Optical Units**
46
47 8-20.2(9-29.16(2)A).INST1.ESP.DT1
48 Section 9-29.16(2)A is supplemented with the following:
49
50 8-20.2(9-29.16(2)A).OPT1.ESP.DT1
51 **(NWR ESP August 25, 2020)**
52 **LED Signal Displays**

1 All traffic signal displays shall be the Light Emitting Diode (LED) type and
2 shall be from one of the following manufacturers:

3
4 Dialight Corporation
5 1913 Atlantic Avenue
6 Manasquan, NJ 08736
7 Telephone: (732) 223-9400
8 Fax: (732) 223-8788
9

10 GELcore, LLC
11 6810 Halle Drive
12 Valley View, OH 44125
13 Telephone: (216) 606-6555
14 Fax: (216) 606-6556
15

16 Precision Solar Controls, Inc.
17 2960 Market Street
18 Garland, TX 75041
19 Telephone: (972) 278-0553
20 Fax: (972) 271-9583
21

22 Each LED signal module shall be designed to be installed in the door frame
23 of a standard traffic signal housing. The lamp socket, reflector holder and
24 lens used with an incandescent lamp shall not be used in a signal section
25 in which a LED signal module is installed. The installation of a LED signal
26 module shall not require any modification to the housing. The LED signal
27 module shall be a single, self-contained device, not requiring onsite
28 assembly for installation into an existing traffic signal housing.
29

30 All red and yellow LED signal modules shall be manufactured with a matrix
31 of AlInGaP LED light sources and green LED signal modules shall be
32 manufactured with a matrix of InGaN LED light sources. The LED traffic
33 signal module shall be operationally compatible with controllers and conflict
34 monitors on this project. The LED lamp unit shall contain a disconnect that
35 will show an open switch to the conflict monitor when less than 60% of the
36 LEDs in the unit are operational.
37

38 Each LED module shall conform to the current standards in Institute of
39 Transportation Engineers (ITE) VTC SH Part 2 and a Certificate of
40 Compliance with these standards shall be submitted by the manufacturer
41 for each type of signal head. The certificate shall state that the lot of signal
42 heads meets the current ITE specification. A label shall be placed on each
43 LED signal module certifying conformance to this specification. The
44 manufacturer's name, trademark, serial number and other necessary
45 identification shall be permanently marked on the backside of the LED
46 signal module. LED signal modules used on this project shall be from the
47 same manufacturer. A label shall be provided on the LED housing and the
48 Contractor shall mark the label with a permanent marker to note the
49 installation date.
50

51 The manufacturer shall provide a written warranty against defects in
52 materials and workmanship for the LED signal modules for a period of 60

1 months after the installation of the modules. All warranty documentation
2 shall be given to the Engineer prior to installation.
3
4 8-20.2(9-29.16(4)).ESP.DT1
5 **Traffic Signal Cover**
6
7 8-20.2(9-29.16(4)).INST1.ESP.DT1
8 Section 9-29.16(4) is supplemented with the following:
9
10 8-20.2(9-29.16(4)).OPT1.ESP.DT1.docx
11 (*****)
12 **Covering Material**
13 Signal head covers shall cover the entire signal head assembly, including the
14 back plate.
15
16 8-20.2(9-29.18).ESP.DT1
17 **Vehicle Detector**
18
19 8-20.2(9-29.18).INST1.ESP.DT1
20 Section 9-29.18 is supplemented with the following:
21
22 8-20.2(9-29.18).OPT1.ESP.DT1.docx
23 (*****)
24 **Loop Amplifier**
25 Loop detector amplifiers shall be as follows:
26
27 Model: Model C-1103-SS
28
29 Manufacturer: Reno A&E
30 4655Circle
31 Reno, NV 89502
32 Ph: (775) 826-2020
33 www.renoe.com
34
35 8-20.2(9-29.18).OPT2.ESP.DT1
36 **(NWR ESP August 25, 2020)**
37 **Loop Sealant**
38 Loop sealant for use in HMA pavement shall be one of the following:
39
40 1. RAI Pro-Seal 6006EX
41 2. QCM EAS-14
42 3. 3M Black 5000
43 4. Craftco Inc. Part #34271
44
45 Loop sealant for use on concrete bridge decks and PCC pavement shall be one of
46 the following:
47
48 1. 3M Black 5000
49 2. Gold Label Flex 1P
50 3. QCM EAS-14
51 4. Craftco Inc. Part #34271
52

1 8-20.2(9-29.18).OPT3.ESP.DT1.docx
2 (*****)
3 **Video detection**
4 All components needed to provide a complete video detection system shall be
5 supplied and installed per manufacturer's recommendation.
6
7 The video detection equipment shall include, but not be limited to, Cameras,
8 Camera Housings, Camera Lens, Camera Mounting Hardware, Video Image
9 Processors, Input File Adapters, lens Adjustment Modules, Keypad and Monitor.
10
11 The video detection system shall be capable of supplying video detection to the
12 signal controller phases as indicated in the plans.
13
14 The video detection system shall be one of the following:
15
16 1. Flir Systems, Inc
17 Traficon NV
18 Bissegemsestraat 45
19 B-8501 Heule
20 Belgium, Europe
21
22
23 8-20.2(9-29.19).GR8
24 ***Pedestrian Push Buttons***
25 Section 9-29.19 is supplemented with the following:
26
27 8-20.2(9-29.19).OPT1.ESP.DT1.docx
28 (*****)
29 **APS Pushbutton Station**
30 Pedestrian pushbutton station equipment shall be from one of the following
31 manufacturers:
32
33 Polara Navigator EN4 (4-wire system)
34 Polara Manufacturing
35 9153 Stellar Court
36 Corona, CA 92883
37 888-340-4872
38 <http://www.polara.com/navigator.html>
39 Distributed by:
40 Advanced Traffic Products
41 909 SE Everett Mall Wy
42 Suite B280
43 Everett, WA 98208
44 425-347-6208
45
46 Novax SoundSafe APS
47 Novax Industries Corporation
48 202-1525 Cliveden Ave
49 Delta, BC V3M 6L2
50 604-525-5644
51 <http://www.novax.com/#!/products/vstc1=soundsafe>
52 Distributed by:

1 Northwest Signal Supply
2 12965 SW Herman Rd
3 Tualatin, OR 97062
4 503-635-4351
5
6 Campbell Company Advisor Guide APS
7 Campbell Company
8 450 W McGregor Dr
9 Boise, ID 83705
10 208-345-7459
11 <http://www.pedsafety.com/advisor-guide-aps/>
12

13 No WA distributor listed.
14

15 The pushbutton stations and adapters shall be Forest Green in color. The sign shall
16 be 9 inch by 15 inch, option G (MUTCD R10-3e), when used in conjunction with a
17 countdown type pedestrian signal display. The sign shall include a frame adapter
18 plate.
19

20 A pole adaptor, from the pushbutton station manufacturer, shall be utilized when a
21 pole adaptor is required.
22

23 Each pedestrian signal pushbutton station shall include one pedestrian signal head
24 control unit, mountable in the associated pedestrian signal display enclosure.
25

26 All manufacturer recommended setup equipment, required to program, adjust and
27 make operational the pedestrian pushbutton stations, shall be furnished with each
28 complete pushbutton system.
29

30 All pedestrian pushbutton station equipment shall be the same make or model from
31 one manufacturer.
32

33 8-20.2(9-29.19).OPT1.FR8.docx

34 **(August 6, 2018)**

35 **Accessible Pedestrian Signal (APS) Pushbuttons**

36 When required in the Contract, APS Pushbuttons shall be provided. Each accessible
37 pedestrian signal (APS) shall be a complete APS pushbutton system at each
38 pedestrian pushbutton location shown in the Plans. Equipment shall be one of the
39 following systems:
40

- 41 1. Campbell Company: Advisor Guide Accessible Pedestrian Station (AGPS);
42 Part Number: AGPS 915
43
- 44 2. Novax / Pelco Products: IntelliCross Intelligent Pedestrian System APS;
45 Part Number: SE-2901-P30 9x15
46
- 47 3. Polara Engineering: EZ Communicator Navigator 4-Wire (EN4); Part
48 Number: EN43TN1-G
49

50 Only one brand of equipment shall be used for the entire Contract.
51

52 Each pushbutton station shall include the following:

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1. Flat dark green colored housing.
2. High contrast pushbutton arrow (dark on a light background or light on a dark background). White on silver or silver on white are not acceptable as high contrast.
3. Integral 9" x 15" R10-3e Sign. Braille shall not be included. Adaptor plates shall be included if required to accommodate the sign.
4. Appropriate interface unit for installation in associated pedestrian display:
 - a. Campbell: Signal Power Interface (SPI) Unit
 - b. Novax/Pelco: Power Interface Module (PIM)
 - c. Polara: Ped Head Control Unit For 4 Wire Navigator (PHCU4W) Module
5. Percussive tone / rapid tick walk indication.
6. Voice messages, as specified below, pre-installed. Voice shall be male.
7. Interconnect cable for installation between pushbutton station and pedestrian display interface unit. Unless otherwise specified in the Contract, cable shall be provided by the pushbutton manufacturer. Cable may be standard four conductor cable meeting the requirements of Standard Specification 9-29.3(2)B if it meets the pushbutton manufacturers requirements.

The following shall be provided at each intersection:

1. One USB flash drive with copies of all voice message audio files for that intersection, placed in the traffic signal cabinet drawer or drawing envelope. A separate flash drive is required for each intersection.
2. One USB cable of the appropriate type (A to A, A to B, male/female, etc.), placed in the traffic signal cabinet drawer or drawing envelope.

Any other equipment or software required by the manufacturer for setup, operation, and maintenance of the pushbutton stations shall be provided. For Polara systems only, do provide one EConfigurator for the entire Contract.

Dual button adaptor brackets are required for all installations with two APS pushbuttons on the same Type PPB, Type PS, or Type I Signal Standard. Where dual button adaptor brackets or extension brackets are required, they shall be obtained from the same manufacturer as the pushbutton station. Brackets and extensions from other manufacturers shall not be used.

APS Speech Messages

Speech messages shall be provided in the following format:

- "Wait."
- "Wait to cross ____ (A) ____ at ____ (B) ____."
- "Walk sign is on to cross ____ (A) ____."

The following table lists the entries for (A) and (B) above, as well as quantities for button and arrow orientations:

See Contract Plans for table.

Order forms shall be completed by the Contractor using the information presented above.

8-20.2(1).GR8

Equipment List And Drawings

8-20.2(1).INST1.GR8

Section 8-20.2(1) is supplemented with the following:

8-20.2(1).OPT1.ESP.DT1

(NWR ESP August 25, 2020)

Manufacturer's data for materials proposed for use in the Contract which require approval shall be submitted in one complete package.

8-20.2(1).OPT3.GR8

(March 13, 1995)

If traffic signal standards, strain pole standards, or combination traffic signal and lighting standards are required, final verified dimensions including pole base to signal mast arm connection point, pole base to light source distances (H1), mast arm length, offset distances to mast arm mounted appurtenances, and orientations of pole mounted appurtenances will be furnished by the Engineer as part of the final approved shop drawings prior to fabrication.

8-20.3.GR8

Construction Requirements

8-20.3.INST1.ITS.DT1

Section 8-20.3 is supplemented with the following:

8-20.3.OPT2.ITS.DT1

Closed Circuit Television System

8-20.3.OPT3.ITS.DT1

(NWR ITS August 25, 2020)

CCTV Test

The Contractor shall test the CCTV Camera System (camera, pan-and-tilt unit, encoder, and camera control unit) using a Contractor-supplied computer and software. The laptop computer and software shall remain the property of the Contractor. All test cables and connections shall be the responsibility of the Contractor.

During each testing phase, the Contractor shall repair, replace, or reconfigure each

failed CCTV Camera System at no additional cost to the Contracting Agency.

Bench CCTV Test

The Contractor shall perform a bench test on each CCTV Camera System prior to installation. The bench test shall be performed at a location proposed by the Contractor and approved by the Engineer. The bench test shall consist of the following:

1. Program the CCTV Camera System with IP Settings (IP Address, Subnet Mask, and Gateway) provided by the Engineer.
2. Display CCTV Camera System video on a Contractor-provided laptop computer and verify that there is a clear image.
3. Program the camera's I.D. generator to display the State Route on line 1 and the CCTV camera number on line 2.
4. Pan and tilt the camera and verify that it moves through its full range.
5. Zoom and focus the camera in Fast, Medium and Slow modes and verify proper operation in each mode.
6. In Auto Focus Mode, fully zoom the camera in and out and verify that the camera stays in focus throughout the entire range.
7. Verify that the CCTV Camera System can be focused in Manual Focus Mode.
8. Change the iris between Auto and Manual Modes and verify proper operation for each mode.
9. Reboot the camera and verify that all settings remain as they were before the reboot.

Field CCTV Test

At each camera control cabinet the Contractor shall connect the camera's Ethernet cable to a Contractor-provided laptop computer. The Contractor shall demonstrate to the Engineer the following features of the camera installation:

1. Verify the CCTV Camera System IP Settings are correct as provided by the Engineer for the CCTV Camera System location under test. Correct the IP Settings as necessary.
2. Display the CCTV Camera System video on the Contractor-provided laptop computer and verify that there is a clear image.
3. Program the camera's I.D. generator to display "WSDOT" followed by the State Route on line 1 and the CCTV camera number on line 2. Verify that the ID is correct for the CCTV Camera System location under test.
4. Pan and tilt the camera and verify that it moves through its full range.
5. Zoom and focus the camera in Fast, Medium and Slow modes and verify proper operation in each mode.
6. In Auto Focus Mode, zoom the camera in and out and verify that the camera stays in focus throughout the entire range.
7. Verify that the CCTV Camera System can be focused in Manual Focus Mode.
8. Change the iris between Auto and Manual Modes and verify proper operation in each mode.
9. Reboot the camera and verify that all settings remain as they were before the reboot.

1 8-20.3.OPT8.ITS.DT1

2 **Communication Conduit System**

3
4 8-20.3.OPT9.ITS.DT1

5 **(NWR ITS August 25, 2020)**

6 **Location Wire**

7 Wire conductor shall be installed above conduit in continuous sections for all
8 underground fiber optic conduit installation where trenching is required. If conduit is
9 being installed by boring, the location wire shall be installed inside the conduit. A
10 minimum of 6 feet of location wire shall be extended into each cable vault or pull box.
11 The locate wire shall be attached to the "C" channel or the cover hinge bracket with
12 stainless steel bolts and straps. A 1-foot loop of locate wire shall be provided above
13 the channel as shown in the Plans. Locator wire shall be placed between the
14 conduits in dual conduit installations or on top of conduits for single conduit
15 installations.

16
17 8-20.3.OPT11.ITS.DT1

18 **Communication Cables And Interfaces**

19
20 8-20.3.OPT12.ITS.DT1

21 **(NWR ITS August 25, 2020)**

22 **Submittals**

23 Within a minimum of 30 calendar days prior to anticipated construction, the
24 Contractor shall provide to the Engineer all documentation pertaining to the materials
25 and methods of execution proposed to satisfy the requirements of this section. The
26 Engineer's approval is required prior to the committing of any materials or the
27 commencement of any Work.

28
29 The Engineer will either approve or disapprove each submitted item within 30
30 calendar days of submittal subject to the completeness of the Contractor's submittal.
31 Actual elapsed time for the Engineer's review is dependent upon the completeness
32 and appropriateness of the documentation being submitted. Any deficiencies in the
33 Contractor's submittals shall require additional time for approval. Any delays caused
34 by such deficiencies shall not be grounds for extension of project consideration
35 dates. The Contractor shall anticipate review intervals and schedule submittals
36 accordingly to ensure project progress in accordance with Section 1-08.3.

37
38 The Engineer's approval of any submitted documentation shall in no way relieve the
39 Contractor from compliance with the safety and performance requirements as
40 specified herein.

41
42 Submittals required by this item shall include, but not be limited to, the following:

- 43
44 1. A material staging plan, should the Contractor propose Contracting Agency
45 owned property as a staging area.
46
47 2. Manufacturer's complete specifications for all communication system
48 cables and, associated electronics and hardware components.
49
50 3. Manufacturer's complete specifications for twisted-pair cable splice
51 enclosures.
52

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4. A detailed fiber optic and twisted-pair cable installation procedure including the following:
 - a. Fiber optic cable cutting lengths reflecting the cable order and reel allocations.
 - b. Cable pulling plan which shall state the exact operational procedures to be utilized and which identifies the physical locations for equipment placement, proposed equipment setup at each location, pulling tension on all cables for each pull, staffing, and the pulling methodology for each type of cable.
 - c. Exact splice points as provided for herein.
 - d. Workforce proposed for all equipment, safety, and manual assist operations
 5. Factory test data sheets for each reel of cable delivered.

20 8-20.3.OPT11(B).ITS.docx

21 (*****)

22 **Location Wire**

23 Wire conductor shall be installed above conduit in continuous sections for all
24 underground fiber optic conduit installation where trenching is required. If
25 conduit is being installed by boring, the location wire shall be installed inside the
26 conduit. A minimum of 6 feet of location wire shall be extended into each cable
27 vault or pull box. The locate wire shall be attached to the "C" channel or the
28 cover hinge bracket with stainless steel bolts and straps. A 1-foot loop of locate
29 wire shall be provided above the channel as shown in the Plans. Locator wire
30 shall be placed between the conduits in dual conduit installations or on top of
31 conduits for single conduit installations.

32
33
34 8-20.3.OPT13.ITS.DT1

35 **(NWR ITS August 25, 2020)**

36 **Cable Installation - General**

37 The Contractor shall determine a suitable cable installation method to ensure that all
38 cable installation requirements shall be met in all conduit sections. All Work shall be
39 carried out in accordance and consistent with the highest standards of quality and
40 craftsmanship in the communication industry with regard to the electrical and
41 mechanical integrity of the connections; the finished appearance of the installation;
42 as well as the accuracy and completeness of the documentation.

43
44 The Contractor shall make a physical survey of the project site for the purpose of
45 establishing the exact cable routing and cutting lengths prior to the commencement
46 of any fiber optic Work or committing any fiber optic materials. Splicing is only
47 allowed for the programmed connection of reels and as shown in the Plans to
48 connect a lateral fiber optic cable to the mainline distribution fiber optic cable. The
49 Contractor shall submit a cable routing plan that shows the locations of all splices.
50 All splice locations other than those shown in the Plans must be approved by the
51 Engineer.
52

1 All work areas shall be clean and orderly at the completion of Work and at times
2 required by the Engineer during the progress of Work.
3
4 8-20.3.OPT14.ITS.DT1
5 **(NWR ITS August 25, 2020)**
6 **Fiber Optic Cable Installation**
7 Fiber optic cables shall be installed in continuous lengths without intermediate splices
8 throughout the project, except at the location(s) specified in the Plans, or as approved
9 in writing by the Engineer.
10
11 The Contractor shall comply with the cable manufacturer's specifications and
12 recommended procedures including, but not limited to the following:
13
14 1. Installation.
15 2. Proper attachment to the cable strength elements for pulling during
16 installation.
17 3. Bi-directional pulling.
18 4. Cable tensile limitations and the tension monitoring procedure.
19 5. Cable bending radius limitations.
20
21 The Contractor shall protect the loops from tangling or kinking. At no time during the
22 length of the project shall the cable's minimum bending radius specification be
23 violated.
24
25 To accommodate long, continuous installation lengths, bi-directional pulling of the
26 fiber optic cable shall be permitted.
27
28 In all cable vaults, pull boxes, and at all splice locations cable slack of 50 feet shall
29 be left by the Contractor, unless otherwise specified in the Plans. The 50 feet length
30 of fiber optic cable shall be coiled and secured with tie wraps to racking hardware or
31 as specified in the Plans.
32
33 Installation shall involve the placement of fiber optic cables in a specified inner duct
34 as defined in the Plans. The Contractor shall ensure that inner ducts are secured to
35 prevent movement during the cable installation process.
36
37 The pulling eye/sheath termination hardware on the fiber optic cables shall not be
38 pulled over any sheave blocks.
39
40 When power equipment is used to install fiber optic cabling, the pulling speed shall
41 not exceed 100 feet per minute. The pulling tension limitation for fiber optic cables
42 shall not be exceeded under any circumstances.
43
44 Large diameter wheels, pulling sheaves, and cable guides shall be used to maintain
45 the appropriate bending radius. Tension monitoring shall be accomplished using
46 commercial dynamometers or load-cell instruments.
47
48 Fiber optic cable lubricant shall be used to reduce pulling tensions for the installation
49 of each fiber optic cable.
50
51 **Patch Cord Installation**
52 Patch Cords installed within a cabinet shall adhere to the following:

1. Patch cords contained within a patch panel shall not be more than 1 foot longer than required to make the connection.
2. Patch cords between two patch panels shall not be more than 1 foot longer than required to make the connection.
3. Patch cords between a patch panel and a device shall not be more than 2 feet longer than required to make the connection.
4. Patch cords between a patch panel and a device shall be contained inside of 1/2 inch or 3/8 inch split yellow loom.
5. Boots shall be glued to the jacket of the patch cord.

8-20.3.OPT15.ITS.DT1

(NWR ITS August 25, 2020)

Fiber Optic Cable Splicing

Field splices shall be located as shown in the Plans. No additional splices shall be allowed without the approval of the Engineer.

All fusion splicing equipment shall be in good working order, properly calibrated, and meeting all industry standards and safety regulations. Cable preparation, closure installation and splicing shall be accomplished in accordance with accepted and approved industry standards.

Upon completion of the splicing operation, all waste material shall be deposited in suitable containers for fiber optic disposal, removed from the job site, and disposed of in an environmentally acceptable manner.

The Contractor shall use the fusion method for fiber optic splicing. Acceptable fusion splicing techniques are:

Local Injections and Detection
Profile Alignment System

The Contractor shall seal all cables where the cable jacket is removed. The cable shall be sealed per the cable manufacturer's recommendation with an approved blocking material.

The Contractor shall seal all buffer tubes with an approved blocking material to prevent migration of gel into splice trays.

All splices shall be contained in splice trays utilizing strain relief, such as heat shrink wraps, as recommended by the splice tray manufacturer.

8-20.3.OPT16.ITS.DT1

(NWR ITS August 25, 2020)

Fiber Optic Splice Closure

Mainline and distribution cables shall not occupy the same splice closure. Only cables that are being spliced to each other may occupy a single splice closure. Only one preterminated patch panel stub shall occupy any one splice closure except where more than one preterminated patch panel is needed to terminate a single cable.

Upon sealing the splice closure, the Contractor shall pressurize the closure to 5 psi

and test for leaks using a soap-and-water solution per manufacturer's recommendations. Any leaks found shall be repaired and the test shall be repeated until no leaks are present. Following a successful leak test, the Contractor shall depressurize the closure.

8-20.3.OPT17.ITS.DT1

(NWR ITS August 25, 2020)

Fiber Optic Cable Labeling

Permanent cable labels shall be used to identify fiber optic cables at each termination point and in every pull box and cable vault at the conduit entrance and at the splice closure. The cable labels shall consist of a self-laminating plastic black and yellow tag with the words "CAUTION FIBER OPTIC CABLE" and with a space for a custom description of the cable being labeled. The custom portion of the tag shall contain the fiber count, fiber type (SMFO or MMFO), use (mainline, distribution, or other), and cable direction (north, east, south, west), nearest footage as shown on the cable footage markers and the name of the next device where the cable lands. This text shall be machine-printed on adhesive labels and encapsulated by the tag's self-laminating cover.

Patch panels shall be labeled with 3/8 in.-1/2 in. printed laminated labels. The labels shall be located inside the patch panel where they can be read with the door open. The labels shall provide a description of what fibers are spliced to each port in the panel. The description shall include port number, fiber purpose, cable direction and fiber numbers (i.e. "Ports 13-24: Distribution South 1-12").

8-20.3.OPT18.ITS.DT1

(NWR ITS August 25, 2020)

Cable Racking in Pull Boxes and Cable Vaults

The Contractor shall rack the cable in vertical figure eight loops, which shall permit pulling slack from the vaults without introducing twist to the cable.

Cables shall be secured in racked positions with nylon ties. Identification or warning tags shall be securely attached to the cables in at least two locations in each pull box or cable vault.

All coiled cable shall be protected to prevent damage to the cable and fibers. Racking shall include securing cables to brackets (racking hardware) that extend from the side walls of the pull box.

All racking hardware shall be stainless steel.

8-20.3.OPT19.ITS.DT1

(NWR ITS August 25, 2020)

Fiber Optic Cable Testing

Installed optical fiber cable shall be tested for compliance with the transmission requirements of this Special Provision, the cable and hardware manufacturer's specifications, and prescribed industry standards and practices.

Prior to commencing acceptance testing, the Contractor shall complete the installation of the fiber optic system. This includes sealing the splice closures, completing the splicing and racking the cables in the pull boxes and cable vaults.

All testing values shall be in metric.

Types of Testing

The two required acceptance tests for optical fiber cable system certification are:

Power Meter testing

Optical Time Domain Reflectometer (OTDR) testing

Power Meter Testing

Power meter testing shall be used to measure the end-to-end attenuation of each new fiber installed between a field device and a communications hub as well as between communications hubs. Power meter testing shall be performed at the 1310 and 1550 nanometer wavelength in both directions.

Prior to commencing testing, the Contractor shall submit the manufacturer and model number of the test equipment along with certification that the power meter has been calibrated within 12 months of the proposed test dates.

The following information shall be documented for each fiber test measurement:

1. Fiber/Strand #
2. Fiber type (Singlemode or Multimode)
3. Cable, tube, and fiber IDs
4. Near end and far end test locations
Use device names in Contract Plans
5. End-to-end attenuation
In each direction and the bidirectional average
6. Length of span being tested
7. Date, time, and operator
8. Wavelength

Optical Time Domain Reflectometer (OTDR) Testing

An optical time domain reflectometer (OTDR) with recording capability shall be utilized to test the end-to-end transmission quality of each optical fiber. Quality tests shall consider attenuation, reflectance, and discontinuities. The OTDR shall be equipped with 1310 nanometer and 1550 nanometer light sources for singlemode optical fibers. The OTDR shall be capable of providing electronic and hard copy records of each test measurement.

The Contractor shall utilize a dead-zone box (a.k.a. launch reel) containing 1 km of optical fiber, when performing OTDR tests. The dead-zone box shall be located between the OTDR and the fiber optic connector of each strand tested.

Each new fiber shall be tested in both directions at the 1310 and 1550 nanometer wavelengths. Existing fibers that are spliced to or re-spliced as part of this Contract shall also be tested in both directions and at both wavelengths.

The following information shall be documented for each fiber test measurement:

1. Fiber/Strand #
2. Fiber type (Singlemode or Multimode)

3. Cable and fiber IDs
4. X-Y plot scaled for fiber length
 - The X-axis (Distance) shall be scaled such that the beginning of the trace starts with the OTDR/dead-zone interface. The end of the trace shall extend no more than 1 km beyond the end of the test span.
 - The Y-axis (dB) shall be set to maximize the trace. The bottom of the Y scale shall begin above the noise floor and the top of the scale shall be no more than 5 dB higher than the largest event. No events or reflections shall be cut off.
5. Near end and far end test locations
 - Use device names in Contract Plans
6. Date, time, and operator
7. Wavelength
8. OTDR Settings
 - Index of Refraction
 - Averaging time (Minimum of 30 seconds)
 - Pulse Width (to provide a smooth trace, excluding events)
9. Table of Events that includes: Event ID, Type, Location, Loss, and Reflection.
 - Events are defined as:
 1. Any reflectance event in excess of -60 dB
 2. Any loss occurrence in excess of 0.05 dB
 3. Any splice location regardless of loss
 4. Beginning and end of span
 - The beginning of the span shall be denoted by the "A-Marker". This marker shall be placed just to the left of the spike of the dead-zone box / fiber interface.
 - The end of the span shall be denoted by the "B-marker". This marker shall be placed just to the left of the end-of span reflection spike.

Fiber Optic Performance Requirements

1. Splice Loss:
 - Shall not exceed 0.20 dB in one direction
 - Bidirectional Average shall not exceed 0.15 dB
2. Reflectance:
 - Shall not exceed -55 dB

Fiber Cable Testing Documentation

The Contractor shall submit one hard copy and one electronic copy of the fiber test results to the Engineer for approval. Only one OTDR test result shall be on each page. The Contractor shall take corrective actions on portions of the fiber installation determined to be out of compliance with these Specifications.

Upon acceptance of the cable installation and test results, the Contractor shall submit three hard copies and three electronic copies of the fiber test results to the Engineer.

Hard copy submittals shall be bound in 3-ring binders. Each 3-ring binder shall have the following information on the front and side:

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1. The title “Fiber Optic Test Results”
2. The name of the roadway(s) where fiber was installed
3. Contract name and number
4. Date

The front cover shall also include the following:

1. The size of each cable installed and the beginning and ending mileposts of each cable replaced.
2. The company name address and phone number that did the fiber optic Work.

Each 3-ring binder shall also include a table of contents and index dividers for each cable segment and each direction tested. The electronic submittals shall be on compact discs and include one licensed copy of the applicable OTDR reader program.

The following information shall be included in each test result submittal:

1. Contract number, Contract name, Contractor name and address
2. Dates of cable manufacture, installation, and testing
3. Cable specifications
 - Manufacturer data sheet
 - Helix Factor
 - Date of manufacture
4. Fiber (Glass) specifications
 - Manufacturer and Part #
 - Index of Refraction
 - Optical performance (loss/km)
 - Mode Field Diameter
5. As-Built Records (In accordance with the Special Provisions)
6. OTDR test results – No more than one test per page
7. Power Meter test results

Within 30 days of submitting the test results, the Contractor, in the presence of the Engineer, shall re-test a minimum of 5% of the previously tested locations to validate the test results. A 5% sample will be selected randomly from the terminal device locations.

8-20.3.OPT20.ITS.DT1

(NWR ITS August 25, 2020)
Ethernet Switches IP Addresses

The Contractor shall submit a list of all Ethernet devices and the associated cabinet identification numbers to the Engineer. The Contractor shall program all supplied information into the devices including, time server, gateway, mask, and address, system name, and location. The Contractor shall allow 10 working days to receive the Ethernet IP information from the Engineer.

8-20.3(1).GR8

General

2 Section 8-20.3(1) is supplemented with the following:

3
4 8-20.3(1).OPT1.ITS.docx

5 (*****)

6 **Existing System Disruption and Restoration**

7 The Contractor shall use every precaution to ensure that no contract work causes
8 disruptions to the existing systems, except those disruptions that are planned and
9 approved in advance, as defined herein.

10
11 Existing systems include, but are not limited to, the following:

12
13 A. All ITS field devices, such as ramp meter, data collection, and CCTV
14 systems, within the project construction limits.

15
16 B. Fiber optic and TWP data and video communication systems on *** SR 9
17 ***.

18
19 **Planned Disruptions**

20 Contract work may require disruptions to existing systems, circuits, and
21 equipment. The Contractor shall schedule the work and predetermine the
22 affected system(s), extent, start time, and duration of planned disruptions.
23 Planned disruptions shall be scheduled between the hours of 8 P.M. and 4 A.M.
24 If traffic control is required for this work, the Contractor shall also adhere to the
25 allowable closure hours listed in the Special Provisions. Failure of the Contractor
26 to restore disrupted systems and equipment prior to 4 A.M will constitute an
27 unplanned disruption, and the "Restoration Procedure" below will apply.

28
29 **Requirements**

30 Twenty-one calendar days prior to planned disruptions of any existing system,
31 circuit, or equipment, the Contractor shall submit to the Engineer for approval a
32 written Disruption Request. Each Disruption Request shall include the
33 system(s) to be affected, the disruption start date and time, and the estimated
34 duration required. The Contractor shall submit a separate, numbered Disruption
35 Request for each planned disruption. Disruption Request approval or rejection
36 will be returned to the Contractor in writing by the Engineer at least seven
37 calendar days prior to the proposed start of the disruption. The Engineer may
38 reject a requested time or duration and verbally recommend an alternate time or
39 duration agreeable to both the Contractor and the Contracting Agency.

40
41 **Restoration Procedure**

42 Any unplanned disruptions determined by the Engineer to be caused by the
43 actions of the Contractor or the Contractor's representative(s) shall be corrected
44 by the Contractor at no additional cost to the Contracting Agency.

45
46 Upon the occurrence of an unplanned disruption and subsequent notification by
47 the Engineer, the Contractor shall immediately stop all other ITS work in
48 progress, in accordance with Section 1-08.6, and shall expend all efforts to
49 restore the disrupted system(s) or correct the problem causing the disruption.
50 The Contractor will not be granted an extension of time for delays caused by the
51 repair of disrupted systems. Unplanned disruptions shall result in the
52 assessment of liquidated damages in accordance with the subsection

1 **Liquidated Damages** of the Special Provision **PROSECUTION AND**
2 **PROGRESS.**
3
4 8-20.3(1).OPT2.ESP.DT1
5 **(NWR ESP August 25, 2020)**
6 **Energized Equipment**
7 Work shall be coordinated so that electrical equipment, with the exception of the
8 service cabinet, is energized within 72 hours of installation.
9
10 8-20.3(1).OPT3.ESP.DT1
11 **(NWR ESP August 25, 2020)**
12 **Pole Removal**
13 Poles designated for removal shall not be removed prior to approval of the Engineer.
14
15 8-20.3(1).OPT4.ESP.DT1
16 **(NWR ESP August 25, 2020)**
17 **Signal Display Installation**
18 Signal displays shall be installed no more than 30 days prior to scheduled signal turn
19 on or changeover.
20
21 8-20.3(1).OPT6.ESP.DT1
22 **(NWR ESP August 25, 2020)**
23 **Electrical Equipment Removals**
24 Removals associated with the electrical or ITS systems shall not be stockpiled within
25 the project limits without the Engineer's approval.
26
27 8-20.3(1).OPT7.ESP.FT1.docx
28 **(*****)**
29 **Contracting Agency Owned Equipment**
30 A portion of the temporary or existing equipment to be removed shall remain the
31 property of the Contracting Agency.
32
33 The following shall be disconnected, dismantled, and delivered to the Contracting
34 Agency:
35
36 Video Detection Camera 6
37 Camera Attachment Brackets 6
38 Video Image Processor 6
39 Video Splice Enclosures 6
40
41 Removed electrical equipment which remains the property of the Contracting Agency
42 shall be delivered to:
43
44 WSDOT Signal Shop
45 3700 9th Ave. So.
46 Seattle WA 98134
47 Attention: Supervisor of Stores
48 Glen Nakamichi
49 (206) 442-2120
50
51 Five days written advance notice shall be delivered to both the Engineer and the
52 Supervisor of Stores at the address listed above. Delivery shall occur during the

1 hours of 7:00 a.m. to 2:00 p.m. Monday through Thursday. Poles and arms are to
2 be stripped, tagged and kept together for delivery. Cabinets and other small items
3 shall be strapped and palletized. Material will not be accepted without the required
4 advance notice.
5
6 Equipment damaged during removal or delivery shall be repaired or replaced to the
7 Engineer's satisfaction at no cost to the Contracting Agency.
8
9 The Contractor shall be responsible for unloading the equipment where directed by
10 the Engineer at the delivery site.
11
12 8-20.3(1).OPT8.ESP.DT1
13 **(NWR ESP August 25, 2020)**
14 **Wire Removal**
15 Remove all wires from salvaged light and signal standards.
16
17 8-20.3(1).OPT11.ESP.DT1
18 **(NWR ESP August 25, 2020)**
19 **Contractor Owned Removals**
20 All removals associated with electrical or ITS systems, which are not designated to
21 remain the property of the Contracting Agency, shall become the property of the
22 Contractor and shall be removed from the project.
23
24 The Contractor shall:
25
26 Remove all wires for discontinued circuits from the conduit system.
27
28 Remove elbow sections of abandoned conduit entering junction boxes.
29
30 Abandoned conduit encountered during excavation shall be removed to the
31 nearest outlets or as directed by the Engineer.
32
33 Remove foundations entirely, unless the Plans state otherwise.
34
35 Backfill voids created by removal of foundations and junction boxes. Backfilling
36 and compaction shall be performed in accordance with Section 2-09.3(1)E.
37
38 8-20.3(1).OPT12.ESP.DT1
39 **(NWR ESP August 25, 2020)**
40 **Surface Mounted Appurtenances**
41 Electrical appurtenances to be surface mounted on structures shall be mounted so
42 that a minimum 1/4 inch space is maintained between the appurtenance and
43 structure.
44
45 8-20.3(5).GR8
46 **Conduit**
47
48 8-20.3(5).INST1.ITS.DT1
49 Section 8-20.3(5) is supplemented with the following:
50
51 8-20.3(5).OPT1.ITS.DT1
52 **(NWR ITS August 25, 2020)**

Cabinet Conduit Sealing

All conduits entering pad mounted cabinets and all conduits entering ITS hubs shall be sealed with an approved mechanical plug at both ends of the conduit run. Conduit duct seal will not be accepted. This applies to all new conduits and all existing conduits that cables have been added to or removed from.

Pad mounted cabinets shall include all cabinets installed on a concrete foundation.

8-20.3(6).GR8

Junction Boxes, Cable Vaults, and Pull boxes

8-20.3(6).INST1.ESP.DT1

Section 8-20.3(6) is supplemented with the following:

8-20.3(6).OPT1.ESP.DT1.docx

(*****)

Unless otherwise noted in the Plans or approved by the Engineer, junction boxes, cable vaults and pull boxes shall not be placed within the traveled way or paved shoulders.

All junction boxes, cable vaults, and pull boxes placed within the traveled way or paved shoulders shall be heavy-duty.

Wiring shall not be pulled into any conduit until all associated junction boxes have been adjusted to, or installed in, their final grade and location, unless installation is necessary to maintain system operation. If wire is installed for this reason, sufficient slack shall be left to allow for future adjustment.

Prior to installing new cables or reinstalling existing cables into new or existing cable vaults, pull boxes or junction boxes, the cable vault, pull box or junction box shall be cleaned of all dirt and debris.

When junction boxes, cable vaults and pull boxes are installed or adjusted prior to construction of finished grade, pre-molded joint filler for expansion joints may be placed around the junction boxes, cable vaults and pull boxes. The joint filler shall be removed prior to adjustment to finished grade.

When junction boxes, cable vaults or pull boxes are adjusted to finished grade, the six-inch gravel pad requirements shall be maintained. When existing junction boxes pull boxes or cable vaults do not have this gravel pad, or the gravel pad does not meet these specifications, a gravel pad, meeting these specifications shall be installed as part of the adjustment to finished grade.

Heavy-duty Type 4, 5 and 6 junction boxes, cable vaults and pull boxes shall be installed in accordance with the following:

1. Excavation shall be sufficient to leave one foot in the clear between their outer surface and the earth bank.
2. Junction boxes, cable vaults and pull boxes shall be installed on a level 6-inch layer of crushed surfacing top course, in accordance with 9-03.9(3),

- 1 placed on a compacted or undisturbed foundation. The crushed surfacing
- 2 shall be compacted in accordance with Section 2-09.3(1)E.
- 3
- 4 3. After installation, the lid/cover shall be kept bolted down during periods
- 5 when work is not actively in progress at the junction box, cable vault or pull
- 6 box.
- 7
- 8 4. Before closing the lid/cover, the lid/cover and the frame/ring shall be
- 9 thoroughly brushed and cleaned of all debris. There shall be absolutely no
- 10 visible dirt, sand or other foreign matter between the bearing surfaces.
- 11
- 12 5. When the lid/cover is closed for the final time, a liberal coating of anti-seize
- 13 compound shall be applied to the bolts and nuts and the lid shall be securely
- 14 tightened.
- 15
- 16 6. Hinges on the Type 4, 5 and 6 junction boxes shall be located on the side
- 17 of the box, to allow the lid to open away from traffic. Hinges shall allow the
- 18 lid to open 180 degrees.
- 19

20 8-20.3(8).GR8

21 **Wiring**

22 8-20.3(8).INST1.GR8

23 Section 8-20.3(8) is supplemented with the following:

24 8-20.3(8).OPT1.GR8

25 **(March 13, 1995)**

26 **Field Wiring Chart**

27 501	AC+ Input	516-520 Railroad Pre-empt
28 502	AC- Input	5A1-5D5 Emergency Pre-empt
29 503-510	Control-Display	541-580 Coordination
30 511-515	Sign Lights	581-599 Spare

31 Movement Number	32 1	33 2	34 3	35 4	36 5	37 6	38 7	39 8	40 9
41 Vehicle Head									
42 Red	611	621	631	641	651	661	671	681	691
43 Yellow	612	622	632	642	652	662	672	682	692
44 Green	613	623	633	643	653	663	673	683	693
45 Spare	614	624	634	644	654	664	674	684	694
46 Spare	615	625	635	645	655	665	675	685	695
47 AC-	616	626	636	646	656	666	676	686	696
48 Red Auxiliary	617	627	637	647	657	667	677	687	697
49 Yellow Auxiliary	618	628	638	648	658	668	678	688	698
50 Green Auxiliary	619	629	639	649	659	669	679	689	699
51 Pedestrian Heads & Dets.									
52 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

1	Spare	717	727	737	747	757	767	777	787	797
2	Spare	718	728	738	748	758	768	778	788	798
3	Spare	719	729	739	749	759	769	779	789	799
4	Detection									
5	AC+	811	821	831	841	851	861	871	881	891
6	AC-	812	822	832	842	852	862	872	882	892
7	Common-Detection	813	823	833	843	853	863	873	883	893
8	Detection A	814	824	834	844	854	864	874	884	894
9	Detection B	815	825	835	845	855	865	875	885	895
10	Loop 1 Out	816	826	836	846	856	866	876	886	896
11	Loop 1 In	817	827	837	847	857	867	877	887	897
12	Loop 2 Out	818	828	838	848	858	868	878	888	898
13	Loop 2 In	819	829	839	849	859	869	879	889	899
14	Supplemental Detection									
15	Loop 3 Out	911	921	931	941	951	961	971	981	991
16	Loop 3 In	912	922	932	942	952	962	972	982	992
17	Loop 4 Out	913	923	933	943	953	963	973	983	993
18	Loop 4 In	914	924	934	944	954	964	974	984	994
19	Loop 5 Out	915	925	935	945	955	965	975	985	995
20	Loop 5 In	916	926	936	946	956	966	976	986	996
21	Loop 6 Out	917	927	937	947	957	967	977	987	997
22	Loop 6 In	918	928	938	948	958	968	978	988	998
23	Spare	919	929	939	949	959	969	979	989	999

24

25 8-20.3(8).OPT1.ESP.DT1

26 **(NWR ESP August 25, 2020)**

27 **Wire Labels**

28 At each junction box, all illumination wires, power supply wires, and communication

29 cable shall be labeled with a PVC marking sleeve. For illumination and power supply

30 circuits the sleeve shall bear the circuit number. For communication cable the sleeve

31 shall be marked "Comm".

32

33 8-20.3(8).OPT2.ESP.DT1

34 **(NWR ESP August 25, 2020)**

35 **Wire Splices**

36 All splices shall be made in the presence of the Engineer.

37

38 8-20.3(9).GR8

39 ***Bonding, Grounding***

40

41 8-20.3(9).INST1.ITS.DT1

42 Section 8-20.3(9) is supplemented with the following:

43

44 8-20.3(9).OPT1.ITS.DT1

45 (NWR ITS August 25, 2020)

46 Where existing ITS conduits are utilized, an equipment-grounding conductor shall be

47 installed except for conduits with innerduct.

48

49 In addition to the conductors called for in the Contract, all ITS conduits without

50 innerduct shall be installed with an equipment-grounding conductor and bonding

51 jumpers sized per NEC 250-122, with the exception that the minimum size shall be

52 8 AWG.

1
2 All new and existing junction boxes, cable vaults and pull boxes that an equipment-
3 grounding conductor is pulled to shall be bonded in accordance with Section 8-
4 20.3(9).
5

6 Location wires shall not be connected to the equipment-grounding system. For
7 attachment of location wires, see Subsection **Location Wire** in the Special Provision
8 **COMMUNICATION CONDUIT SYSTEM**.
9

10 Supplemental grounding shall be provided at signal standards for ramp meters and
11 steel sign posts for advance warning signs. Foundations for these standards shall
12 be installed with a bare 4 AWG copper wire, which is connected to the reinforcing
13 cage with an approved acorn clamp or exothermic weld and routed to connect to the
14 pole at the grounding lug.
15

16 8-20.3(9).INST1.ESP.DT1

17 Section 8-20.3(9) is supplemented with the following:
18

19 8-20.3(9).OPT1.ESP.DT1

20 (NWR ESP August 25, 2020)

21 Where shown in the Plans or where designated by the Engineer, the metal frame and
22 lid of existing junction boxes shall be grounded to the existing equipment grounding
23 system. The existing equipment grounding system shall be derived from the service
24 serving the raceway system of which the existing junction box is a part.
25

26 8-20.3(10).GR8

27 ***Service, Transformer, and Intelligent Transportation System (ITS) Cabinets***
28

29 8-20.3(10).INST1.ITS.DT1

30 Section 8-20.3(10) is supplemented with the following:
31

32 8-20.3(10).OPT1.ITS.DT1

33 (NWR ITS August 25, 2020)

34 **Cabinet Labeling**

35 The Contractor shall mark each ITS device cabinet and transformer cabinet by
36 affixing vinyl lettering which matches the alphanumeric device number as shown in
37 the Plans to the outside of the cabinet. The vinyl letters shall be black on unpainted
38 cabinets and white on painted cabinets. The lettering shall be Highway Font Series
39 C, 4-inch font. The lettering shall be centered horizontally and begin at the top of the
40 cabinet. The first line of text shall be the three number designation of the State
41 Route. The following line(s) shall be the seven character designation of the
42 device(s). The lettering shall be on the side of the cabinet most visible from the
43 roadway. The alphabetical portion of the name shall be in lowercase.
44

45 The Contractor shall install an engraved nameplate, identifying the power source for
46 each cabinet. The nameplate shall consist of white letters on a red background and
47 be permanently affixed to the inside of the cabinet door. The nameplate text shall
48 read "Cabinet Power Source" in ½ inch nominal letters followed by the service name
49 or transformer name (e.g. SUA173 or 005xf17850), as appropriate, in 1 inch nominal
50 letters.
51

(NWR ITS August 25, 2020)

Model 330 & Model 334 Cabinet Testing

Traffic data accumulation and ramp metering equipment shall undergo two separate sets of tests prior to final acceptance. The Contractor or vendor shall deliver the equipment to the Contracting Agency in Seattle, Washington for the first test. After installation in the field, Contracting Agency personnel will perform a second test.

Shop Test

The Contractor or Vendor shall arrange to deliver the equipment for testing to the Northwest Region Signal Maintenance Shop (Shop) located at:

3700 9th Ave S
Seattle, WA 98134
Attention: Northwest Region Signals Purchasing
(206) 442-2120

Delivery shall be by appointment only. The Contractor or Vendor shall label all equipment and paperwork with the Contract number prior to delivery.

The Contracting Agency will limit testing to 25 calendar days for two controller and cabinet assemblies with 2 additional calendar days for each additional controller and cabinet assembly. Shop testing may extend beyond the allowed test period if a cabinet assembly fails any test.

Shop Testing shall consist of a Compliance Test, a Cabinet Functional Test, and a Controller Functional Test.

Compliance Test

Contracting Agency personnel will verify that all equipment provided meets the requirements of the Plans and all applicable Specifications. This includes verification of cabinet documentation, including two cabinet wiring diagrams and a wiring diagram and maintenance manual for all auxiliary equipment furnished in each cabinet. Any documents found to be in error shall be corrected by the Vendor and delivered to the Shop before the cabinet will be released. Equipment such as display panel labels, fiber optic patch panels and communications equipment that is to be installed in the field by the contractor is not required for shop testing.

Cabinet Functional Test

Contracting Agency personnel will energize each cabinet and verify that all equipment operates correctly according to all applicable Specifications.

Controller Functional Test

Contracting Agency personnel will test all controllers provided for proper operation per all applicable Specifications. Controllers may be tested separately or in conjunction with the Cabinet Functional Test.

If a cabinet fails any part of the test, the Engineer will be notified and the cause of the failure shall be corrected by the Contractor or Vendor.

A failed component that can be easily removed without the use of tools (e.g., load

switch, loop amp, etc.) shall be replaced by the Contractor or Vendor. After replacement of the faulty component, the cabinet shall be tested again.

Any cabinet that requires troubleshooting or repairs beyond replacement of a pluggable component shall be rejected and removed from the Shop by the Contractor or Vendor for repairs or replacement. The repaired or replaced cabinet shall be returned to the Shop and fully tested per the above requirements.

A failed controller shall be repaired or replaced by the Contractor or Vendor and will be re-tested by Contracting Agency personnel. A failed controller will not delay the release of the cabinet.

The Engineer will notify the Contractor of all rejections. The Contractor or Vendor shall remove all rejected equipment from the Shop within seven calendar days following receipt of the rejection notice. If not removed accordingly, the Shop will forward the equipment to the Contractor, freight collect.

All equipment except accepted controllers shall be removed from the Shop within seven working days following notice of final approval and acceptance. If not removed accordingly, the shop will forward the equipment to the Contractor freight collect. Accepted controllers shall remain in the shop until requested by the Contractor for the turn-on test.

The Contractor will not be granted an extension of time for delays caused by rejected equipment.

Field Test

Field testing will commence following the complete installation of the cabinet and controller, including all field wiring, ramp meter signal displays, flashers, loops, etc., as required by the contract. This testing will consist of Set-up, System Compliance Test, System Functional Test and a Turn-on Test for Ramp Meter installations.

Set-up

Following notification from the Engineer that the data station or ramp meter system is fully installed, Contracting Agency personnel will install the controller and set up the cabinet for operation. This includes connecting the controller to the communications system, assigning and setting the controller's drop address and tuning loop amplifiers.

System Compliance Test

Contracting Agency personnel will verify that all equipment is installed per the Plans and all applicable Specifications. This will include communications gear, fiber-optic patch panels, field wiring, cabinet labels, display panel labels, ramp meter signal display placement, stop line placement, loop placement and alignment, signage and any other equipment required by the Contract.

System Functional Test

Contracting Agency personnel will verify that the cabinet and control assembly and all associated field equipment operate correctly according to all applicable Specifications. This includes verification of communications with the TMC, verification that all inductive loops are installed and terminated per the Plans, verification that all loops detect traffic in the lanes specified in the Plans,

1 verification that all flashers operate correctly, verification that all ramp meter
2 signal displays turn on and operate correctly.
3
4 **Ramp Meter Turn-On**
5 In any cabinet that is to be used as a ramp meter, the Advanced Warning Sign
6 (AWS) flasher and ramp meter signal displays shall be disabled until the ramp
7 meter is ready to be turned on. Ramp metering shall not begin until all three
8 field tests above are completed satisfactorily. Any failures or discrepancies shall
9 be corrected by the Contractor prior to operating the ramp meter. Within 72
10 hours before ramp metering is scheduled to begin, Contracting Agency
11 personnel will verify that all cabinet equipment is set up and ready for metering
12 operations. This includes ensuring the AWS flasher and all ramp meter signal
13 displays functioning properly.
14
15 8-20.3(11).GR8
16 **Testing**
17
18 8-20.3(11).INST1.ESP.DT1
19 Section 8-20.3(11) is supplemented with the following:
20
21 8-20.3(11).OPT2.ESP.DT1
22 **(NWR ESP August 25, 2020)**
23 **Traffic Signal Turn-on**
24 Prior to a Traffic Signal Turn-on event, the Contractor shall conduct a Pre Turn-on
25 coordination meeting with the following Contracting Agency personnel included as
26 invited attendees:
27
28 Project Engineer
29 Project Chief Inspector
30 Electrical Inspector
31 Signal Operations Engineer
32 Signal Maintenance Technician
33
34 The Contractor shall provide the Engineer a minimum of five working days written
35 notice of the proposed Pre Turn-on coordination meeting date and time.
36
37 Prior to the Pre Turn-on coordination meeting, the Contractor shall complete the
38 items of Work detailed in the Traffic Signal Turn-on Checklist and submit the
39 completed checklist to the Engineer. The Traffic Signal Turn-on Checklist form will
40 be furnished to the Contractor by the Engineer.
41
42 Prior to scheduling a turn-on date, the Contractor shall provide verification to the
43 Engineer that tests 1, 2, and 3 as specified in this Section have been completed.
44
45 8-20.3(14).GR8
46 **Signal Systems**
47
48 8-20.3(14).INST1.GR8
49 Section 8-20.3(14) is supplemented with the following:
50
51 8-20.3(14).OPT1.ESP.DT1
52 **(NWR ESP August 25, 2020)**

1 **Temporary Video Detection System**
2 Temporary video detection systems shall be completely installed and made
3 operational prior to any associated induction loop being disabled.
4
5 8-20.3(14).OPT1.GR8
6 **(January 2, 2018)**
7 **Uninterruptible Power Supply (UPS)**
8 UPS Systems shall be tested before and after field installation.
9
10 **Contractor Quality Control Testing**
11 Prior to delivery of the UPS system to the Washington State Department of
12 Transportation Materials Laboratory (State Materials Laboratory), all components
13 and equipment, including the batteries shall be fully installed in the cabinet and the
14 UPS system operations shall be successfully tested by the Contractor's
15 representative. A testing certification (letter or similar) shall be provided with the
16 cabinet.
17
18 After the UPS system has been successfully tested, the batteries shall be removed
19 from the cabinet and the cabinet and batteries shall be delivered, independently, to
20 the State Materials Laboratory, located in Tumwater, Washington, for pre-installation
21 testing.
22
23 **UPS System Laboratory Testing**
24 The UPS system testing shall simulate the operations as installed in the field. The
25 tests shall check the operation of each individual component as well as the overall
26 operation of the system.
27
28 The State Materials Laboratory testing of the UPS system will consist of the following
29 four separate stages:
30
31 1. Delivery and Assembly
32
33 2. Documentation
34
35 3. Demonstration
36
37 4. Performance Test
38
39 Testing will follow in the listed order with no time gaps between stages unless
40 mutually agreed upon by the Contractor and State Materials Laboratory.
41
42 The Contractor shall designate a qualified representative for these tests. All
43 communications and actions regarding testing of all equipment submitted to the State
44 Materials Laboratory shall be made through this representative. These
45 communications and actions shall include, but not be limited to, all notifications of
46 failure or rejection, demonstration of the equipment, and the return of rejected
47 equipment.
48
49 **Stage 1: Delivery and Assembly**
50 The Contractor shall provide all Work necessary to assemble the UPS system
51 and make ready for demonstration at the State Materials Laboratory. Upon
52 delivery, the batteries shall be reinstalled in the cabinet and the UPS system

shall be made fully operational. All components for the complete UPS system, including the necessary test equipment, shall be ready for testing within 14 calendar days of delivery to the State Materials Laboratory.

Stage 2: Documentation

All documentation shall be furnished with the UPS system equipment prior to the start of testing. The documents to be supplied shall consist of the following:

1. Serial numbers when applicable.
2. Wiring diagrams for all equipment in the required quantities and formats.
3. Complete operations and maintenance manuals in the required quantities and formats.
4. A description of the functions and the capabilities of individual components and of the overall UPS system.

Stage 3: Demonstration

The Contractor shall provide the following:

1. A presentation on how to operate the system.
2. A complete and thorough demonstration to show that all components of the UPS system are in good condition and operating properly.

The demonstration shall be performed by the Contractor's representative in the presence of State Materials Laboratory personnel.

Stage 4: Performance Test

The performance test will be conducted by State Personnel to determine if the UPS system performs correctly. The performance test shall include the testing of the following specifications:

1. Battery Discharge Rate
2. Battery Recharge Rate
3. Power Transfer Rate
4. Operational Duration

Test results for items 1-3 shall be within the manufacturers recommended values in order for the tests to be considered successful. For item 4, the test is considered successful if the system maintains the test load for the required minimum duration for the battery configuration.

Equipment Failure or Rejection

All component or system failures shall be documented. This documentation shall provide the following information:

1. A detailed description of the failure.
2. The steps undertaken to correct the failure.
3. A list of parts that were replaced, if any.

All failed or rejected equipment shall be removed from the Materials Laboratory within three calendar days following notification; otherwise, the failed or rejected equipment will be returned, freight collect, to the Contractor.

Following final approval by the State Materials Laboratory, all equipment shall be removed from the State Materials Laboratory by the Contractor and delivered to the appropriate site(s) as designated elsewhere in this Contract.

UPS System Field Testing

After installation, the Contractor shall field test the UPS system to ensure the system operates in accordance with Plans, Specifications and manufacturer's instructions. The test shall ensure that all components are operational within manufacturer's tolerances. The Contractor shall provide a testing procedure to the Engineer for approval. The testing procedure shall provide for operational testing of the following:

1. UPS Power Module
2. Surge Suppressor
3. Automatic Transfer Switch
4. Generator Power Transfer Switch

The field test shall demonstrate the loss of utility power and the switch over to battery power without interference with the normal operation of the connected downstream cabinet. For traffic signal systems, this includes the traffic signal controller including conflict monitor and any other peripheral devices within the traffic controller assembly.

8-20.3(14)B.GR8

Signal Heads

8-20.3(14)B.INST1.ESP.DT1

The first paragraph of Section 8-20.3(14)B is supplemented with the following:

8-20.3(14)B.OPT1.ESP.DT1

(NWR ESP August 25, 2020)

Signal Head Installation with Back Plates

Signal heads shall be installed with back plates.

Where the yellow reflective tape is applied, the application surface of the back plate shall be cleaned, degreased with isopropyl alcohol and dried prior to application of the sheeting.

- 1 8-20.3(14)C.GR8
2 **Induction Loop Vehicle Detectors**
3
- 4 8-20.3(14)C.INST1.ESP.DT1
5 Item No. 1 and the last sentence of Item No. 3 of Section 8-20.3(14)C are deleted.
6
- 7 8-20.3(14)C.OPT1.ESP.DT1
8 **(NWR ESP August 25, 2020)**
9 **Round Loops**
10 Round loops shall be constructed in accordance with the following requirements:
11
- 12 1. Loop conductor and lead in cable shall conform to these Special
13 Provisions.
14
 - 15 2. Round sawcuts shall be six feet in diameter and shall be constructed
16 using equipment designed for cutting round loops. The equipment
17 shall use a concave, diamond-segmented blade. The sawcuts shall be
18 normal to the pavement surface and shall be a minimum of 0.25 inches
19 wide. The sawcut depth shall be a minimum of 2-5/8 inches and a
20 maximum of 3 inches measured at any point along the perimeter,
21 except on bridge decks. Other methods of constructing the round
22 sawcut, such as anchoring a router or flat blade saw, will not be
23 allowed.
24
 - 25 3. The bottom of the sawcut shall be smooth. No edges created by
26 differences in sawcut depths will be allowed.
27
 - 28 4. All sawcut corners shall be rounded to a minimum 1.5 inch radius.
29
 - 30 5. All sawcuts shall be cleaned with a 1000 psi high pressure washer as
31 certified by the manufacturer's label on the machine or as measured
32 by an in line pressure gauge. Wash water and slurry shall be
33 vacuumed out and the sawcut shall be blown dry with compressed air.
34 Disposal of the wash water and slurry shall comply with the
35 requirements of Section 1-07.5(3) and the Special Provision **LEGAL**
36 **RELATIONS AND RESPONSIBILITIES TO THE PUBLIC.**
37
 - 38 6. Loops shall be installed after grinding and prior to the final lift of
39 roadway surfacing material.
40
 - 41 7. The conductor shall be installed one turn on top of the previous turn.
42 All turns shall be installed in a clockwise direction. The conductors
43 shall be secured to prevent floating with 2-inch lengths of high
44 temperature foam backer rod sized for a snug fit. The backer rod shall
45 be spaced at 2-foot intervals around the perimeter of the sawcut and
46 at corners.
47
 - 48 8. Installation of the sealant shall completely encapsulate the loop
49 conductors. A minimum of one inch of sealant shall be provided
50 between the top of the conductors and the top of the sawcut. The top
51 of the sealant shall be flush to 1/8 inch below the top of the sawcut.
52

1 9. Use of kerosene solvent is prohibited.
2
3 8-20.3(14)C.OPT2.ESP.DT1
4 **(NWR ESP August 25, 2020)**
5 **Loop Sealant**
6 Loop sealants shall be installed per manufacturer's recommendations.
7
8 If 3M Black 5000 sealant is used, it shall be installed so that the sealant is
9 protected from wheel tracking prior to the sealant being fully cured. When 3M
10 Black 5000 loop sealant is installed below the final lift of an HMA installation, a
11 minimum of 5 consecutive days of cure time is required before the final lift is
12 installed.
13
14 8-20.3(14)C.OPT1.ITS.DT1
15 **(NWR ITS August 25, 2020)**
16 **ITS Traffic Data and Speed Induction Loop Detectors - Spacing**
17 Traffic data and speed loops shall be installed 17 feet (\pm 1 inch) apart, measured
18 from leading edge to leading edge in each lane, as detailed in the ITS Plans.
19 Loop spacing not meeting this requirement shall be reinstalled, by the
20 Contractor, in accordance with these provisions at no additional charge to the
21 Contracting Agency.
22
23 With the approval of the Engineer, the loop lead in junction box and the entire
24 loop array (set) may be shifted up to 100 ft maximum, where the plan loop
25 locations call for the loops to be installed in existing pavement with joints or
26 severe cracking. If required, additional conduit and junction boxes necessary
27 for loop shifting shall be addressed in accordance with Section 1-04.4.
28
29 8-20.3(14)D.GR8
30 **Test for Induction Loops and Lead-in Cable**
31
32 8-20.3(14)D.INST1.ESP.DT1
33 Section 8-20.3(14)D is supplemented with the following:
34
35 8-20.3(14)D.OPT1.ESP.DT1
36 **(NWR ESP August 25, 2020)**
37 **Existing Induction Loop Tests**
38 Test A and Test D are revised as follows:
39
40 Test A - The DC resistance between the 2 lead-in cable wires, including the
41 loop, shall be measured by a volt ohmmeter. The resistance shall not
42 exceed 5-ohms or lower the Q of the circuit below 5 where Q is equal to the
43 "Inductive Impedance @ 50 kHz" divided by "Resistance".
44
45 Test D - An inductance test shall be made to determine the inductance level
46 of each inductance loop. The Contractor shall record the inductance level
47 of each inductance loop installed on the project and shall furnish the
48 findings to the Engineer. An induction level, as measured from the controller
49 cabinet, below 50-microhenries is considered a failure.
50

1 8-20.3(17).GR8
2 **"As Built" Plans**
3
4 8-20.3(17).INST1.ITS.DT1
5 Section 8-20.3(17) is supplemented with the following:
6
7 8-20.3(17).OPT1.ITS.DT1
8 **(NWR ITS August 25, 2020)**
9 **As-Built Records**
10 The Contractor shall provide the Engineer with a cable route diagram for all installed
11 fiber optic and twisted pair cables. The diagram shall show the actual cable routes
12 and "meter marks" where each cable enters and exits pull boxes, cable vaults,
13 junction boxes, splices and termination points. The Contractor shall record these
14 points during cable installation. The diagram shall also include all ITS device
15 locations as well as the location and quantity of slack cable. The cable route diagram
16 shall be submitted to the Engineer as part of the Fiber Cable Testing documentation.
17
18 8-20.5.GR8
19 **Payment**
20
21 8-20.5.INST1.GR8
22 Section 8-20.5 is supplemented with the following:
23
24 8-20.5.INST1.ESP.DT1
25 The first two paragraphs of Section 8-20.5 are supplemented with the following:
26
27 8-20.5.OPT6.ESP.DT1
28 (NWR ESP August 25, 2020)
29 "Traffic Signal Interconnect System __", lump sum.
30
31 8-20.5.OPT8.ESP.docx
32 (*****)
33 "Traffic Signal Removal", lump sum.
34
35 8-20.5.INST2.ESP.DT1
36 The paragraph following the Bid item "Directional Boring" is revised to read:
37
38 8-20.5.OPT20.ESP.DT1
39 (NWR ESP August 25, 2020)
40 The unit Contract price per linear foot for "Directional Boring", shall be full pay for
41 furnishing all labor, materials, equipment and electrical supervision associated with the
42 directional boring regardless of the number of conduits installed in the boring tunnel.
43
44 8-21.GR8
45 **Permanent Signing**
46
47 8-21.2.GR8
48 **Materials**
49
50 8-21.2(9-06.16).GR8
51 **Roadside Sign Structures**
52 Section 9-06.16 is supplemented with the following:

8-21.2(9-06.16).OPT1.GR8

(January 3, 2011)

Perforated Steel Square Sign Post System

Where noted in the Plans, steel sign post systems shall be square, pre-punched galvanized steel tubing, that are NCHRP 350 Test Level 3 Certified and FHWA approved. The steel sign post system shall include all anchor sleeves, and other hardware required for a complete sign installation.

System Acceptance

Systems listed in the current QPL will be accepted per the QPL approval code. Systems not listed in the QPL will be accepted based on a Supplier's Certificate of Compliance. The Supplier's Certificate of Compliance will be a contract specific letter from the supplier stating the system is NCHRP 350 Test Level 3 compliant.

8-21.2(9-28.14).GR8

Sign Support Structures

Section 9-28.14 is supplemented with the following:

8-21.2(9-28.14).OPT6.GR8

(September 8, 2020)

Manufacturers for Steel Roadside Sign Supports

The Standard Plans lists several steel sign support types. These supports are patented devices and many are sole-source. All of the sign support types listed below are acceptable when shown in the Plans.

<u>Steel Sign Support Type</u>	<u>Manufacturer</u>
Type TP-A & TP-B	Transpo Industries, Inc.
Type PL, PL-T & PL-U	Northwest Pipe Co.
Type AS	Transpo Industries, Inc.
Type AP	Transpo Industries, Inc.
Type ST 1, ST 2, ST 3, & ST 4	Ultimate Highway Solutions, Inc., Allied Tube & Conduit Corp. (Mechanical Division), Trinity Highway Products, LLC.
Type SB-1, SB-2, & SB-3	Ultimate Highway Solutions, Inc., Xcessories Squared Development and Manufacturing Incorporated, Trinity Highway Products, LLC.

8-24.GR8

Rock and Gravity Block Wall and Gabion Cribbing

8-24.2.GR8

Materials

1 8-24.2.INST1.GR8
2 Section 8-24.2 is supplemented with the following:
3
4 8-24.2.OPT1.GR8
5 **(January 7, 2002)**
6 **Gravity Block Wall**
7 Gravity block wall blocks shall be rectangular prisms with dimensions 2'-5 1/2" by 2'-5
8 1/2" by 4'-11", except for special blocks which shall be as dimensioned in the Plans. All
9 dimensions shall be $\pm 1/2"$.
10
11 Except as otherwise specified, gravity block wall blocks will be accepted by the Engineer
12 based on visual inspection only, with no minimum compressive strength and no air content
13 requirements for the concrete used in the block.
14
15 Gravity block wall blocks for permanent walls of heights greater than six feet and less
16 than 15 feet shall be cast with Class 3000 concrete, conforming to the air content
17 requirements of Section 6-02.3(2)A. Commercial concrete shall not be used. Gravity
18 block wall blocks for permanent walls of these heights will be accepted based on visual
19 inspection, and conformance to Section 6-02.3(27) and the specified concrete strength
20 and air content requirements.
21
22 8-24.3.GR8
23 **Construction Requirements**
24
25 8-24.3(2).GR8
26 **Gravity Block Wall**
27
28 8-24.3(2).INST1.GR8
29 Section 8-24.3(2) is supplemented with the following:
30
31 8-24.3(2).OPT1.GR8
32 **(January 7, 2002)**
33 **Definitions**
34 Temporary Gravity Block Wall: A gravity block wall that is constructed and removed
35 under the same contract. Temporary gravity block walls shall not exceed ten feet in
36 height, measured from the bottom of the bottom row of blocks to the top of the highest
37 block.
38
39 Permanent Gravity Block Wall: A gravity block wall that remains in place after the
40 conclusion of the contract under which the gravity block wall was constructed.
41 Permanent gravity block walls shall not exceed 15 feet in height, measured from the
42 bottom of the bottom row of blocks to the top of the highest block.
43
44 **Submittals**
45 The Contractor shall submit working drawings of the gravity block wall to the
46 Engineer for approval in accordance with Section 6-01.9. The working drawings shall
47 include, but not be limited to, the following:
48
49 1. Plan, elevation, and section views of the wall, showing the layout, batter,
50 and orientation of the blocks.
51

- 1 2. Dimensions and details of the blocks, including details and locations of
2 block erection lifting loops and inserts, and the features designed to
3 interlock blocks together if the blocks have such features.
4
5 3. Method and equipment used to erect the blocks.
6
7 4. Erection sequence.
8

9 The Contractor shall not begin fabricating gravity block wall blocks until receiving the
10 Engineer's approval of the working drawing submittal.
11

12 **Gravity Block Wall Erection**

13 After excavating for the wall base, the Contractor shall grade the excavation for a
14 width equal to or exceeding the width of the bottom row of blocks. The base shall be
15 graded to the base elevation shown in the Plans and working drawings as approved
16 by the Engineer, and shall accommodate the batter of the bottom row of blocks.
17

18 The Contractor shall erect the gravity block wall and place the backfill in accordance
19 with the erection sequence as approved by the Engineer. The top of the gravity block
20 wall shall be within two inches of the line and grade shown in the Plans. The backfill
21 shall be compacted in accordance with Section 2-03.3(14)C, Method C.
22

23 The Contractor shall repair all large blemishes, honeycombed areas, and chipped
24 surfaces, (25 square inches and larger) on the exposed face of the erected wall using
25 methods and materials as approved by the Engineer.
26

27 APPENDIX2.FR9.docx

28 **Appendices** 29 **(January 2, 2012)**

30 The following appendices are attached and made a part of this contract:
31

- 32 ***• SR9/SR204 Intersection Improvements Project Stage 1, Page 1 through Page 23
33 • Historical Geotechnical Data Report (HGDR), Page 1 through Page 142
34 • Hazard Material Analysis Report (HMAR), Page 1 through Page 450***
35

36 STDPLANS.GR9 37 **(September 30, 2020)** 38 **Standard Plans**

39 The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-
40 01, effective September 30, 2020, is made a part of this contract.
41

42 The Standard Plans are revised as follows:
43

44 A-50.10
45 DELETED
46

47 A-50.20
48 DELETED
49

50 A-50.30

1 DELETED
2
3 A-50.40
4 DELETED
5
6 B-90.40
7 Valve Detail – DELETED
8
9 C-1a
10 DELETED
11
12 C-8
13 Add new Note 5, “5. Type 2 Barrier and Barrier Terminals are allowed in temporary
14 installations only. New Type 2 Barrier and Barrier Terminals are not allowed to be
15 fabricated after December 31, 2019. The plan is provided as a means to verify that any
16 Type 2 barrier and Barrier Terminals fabricated prior to December 31, 2019 meets the
17 plan requirements and cross-sectional dimensions as specified in Standard Specifications
18 6-10.3(5).”
19
20 C-8a
21 Add new Note 2, “2. Type 4 Barrier and Barrier Transition are allowed in temporary
22 installations only. New Type 4 Barrier and Barrier Transition are not allowed to be
23 fabricated after December 31, 2019. The plan is provided as a means to verify that any
24 Type 4 barrier and Barrier Transition fabricated prior to December 31, 2019 meets the
25 plan requirements and cross-sectional dimensions as specified in Standard Specifications
26 6-10.3(5).”
27
28 C-8b
29 DELETED
30
31 C-8e
32 DELETED
33
34 C-8f
35 DELETED
36
37 C-16a
38 DELETED
39
40 C-20.10
41 The following table is added:

SLOPE \ EMBANKMENT TABLE (FOR 8', 9', 11' LONG POSTS)		
POST LENGTH	SLOPE	W (FT)
8-FOOT	1H : 1V OR FLATTER	2.5 MIN.
8-FOOT	2H : 1V OR FLATTER	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
9-FOOT	1.5H : 1V OR FLATTER	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
11-FOOT	1H : 1V OR FLATTER	0

		(FACE OF BARRIER AT SLOPE BREAK POINT)
--	--	---

1
 2
 3
 4 C-20.11
 5 DELETED
 6
 7 C-20.19
 8 DELETED
 9
 10 C-40.16
 11 DELETED
 12
 13 C-40.18
 14 DELETED
 15
 16 C-80.50
 17 DELETED
 18
 19 C-85.14
 20 DELETED
 21
 22 D-2.14
 23 DELETED
 24
 25 D-2.16
 26 DELETED
 27
 28 D-2.18
 29 DELETED
 30
 31 D-2.20
 32 DELETED
 33
 34 D-2.42
 35 DELETED
 36
 37 D-2.44
 38 DELETED
 39
 40 D-2.46
 41 DELETED
 42
 43 D-2.48
 44 DELETED
 45
 46 D-2.82
 47 DELETED
 48
 49 D-2.86
 50 DELETED

1
2 D-10.10
3 Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
4 barriers attached on top of the wall are considered non-standard and shall be designed
5 in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions
6 stated in the 11/3/15 Bridge Design memorandum.
7
8 D-10.15
9 Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
10 barriers attached on top of the wall are considered non-standard and shall be designed
11 in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15
12 Bridge Design memorandum.
13
14 D-10.30
15 Wall Type 5 may be used in all cases.
16
17 D-10.35
18 Wall Type 6 may be used in all cases.
19
20 D-10.40
21 Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
22 barriers attached on top of the wall are considered non-standard and shall be designed
23 in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15
24 Bridge Design memorandum.
25
26 D-10.45
27 Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic
28 barriers attached on top of the wall are considered non-standard and shall be designed
29 in accordance with the current WSDOT BDM and the revisions stated in the revisions
30 stated in the 11/3/15 Bridge Design memorandum.
31
32 D-15.10
33 STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls"
34 are withdrawn. Special designs in accordance with the current WSDOT BDM are required
35 in place of these STD Plans.
36
37 D-15.20
38 STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls"
39 are withdrawn. Special designs in accordance with the current WSDOT BDM are required
40 in place of these STD Plans.
41
42 D-15.30
43 STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls"
44 are withdrawn. Special designs in accordance with the current WSDOT BDM are required
45 in place of these STD Plans.
46
47 G-20.10
48 SIGN INSTALLATION BEHIND TRAFFIC BARRIER detail, dimension callout "3' MIN.", is
49 revised to read "5' MIN.".
50
51 H-70.20

1 Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is
2 revised to H-70.10
3
4 H-70.30
5 DELETED
6
7 J-20.26
8 Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton
9 post."
10
11 J-20.16
12 View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE
13
14 J-21.10
15 Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – "ANCHOR BOLTS
16 ~ 3/4" (IN) x 30" (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED TO
17 READ: "ANCHOR BOLTS ~ 3/4" (IN) x 30" (IN) FULL THREAD ~ FOUR REQ'D. PER
18 ASSEMBLY"
19 Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top
20 of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR.. Delete "(TYP.)" from
21 the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find
22 2 # 4 reinf. Bar.
23 Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top
24 of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from
25 the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find
26 1 # 4 reinf. Bar.
27 Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top
28 of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from
29 the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find
30 2 # 4 reinf. Bar.
31 Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top
32 of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from
33 the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find
34 1 # 4 reinf. Bar.
35 Detail F, callout, "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam. Torque Clamping
36 Bolts (see Note 3)" is revised to read; "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam.
37 Torque Clamping Bolts (see Note 1)"
38 Detail F, callout, "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Four Required (See Note 4)" is
39 revised to read; "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Three Required (See Note 2)"
40
41 J-21.15
42 Partial View, callout, was – LOCK NIPPLE ~ 1 1/2" DIAM., is revised to read; CHASE
43 NIPPLE ~ 1 1/2" (IN) DIAM.
44
45 J-21.16
46 Detail A, callout, was – LOCKNIPPLE, is revised to read; CHASE NIPPLE
47
48 J-22.15
49 Ramp Meter Signal Standard, elevation, dimension 4' - 6" is revised to read; 6'-0"
50 (2x) Detail A, callout, was – LOCK NIPPLE ~ 1 1/2" DIAM. is revised to read; CHASE
51 NIPPLE ~ 1 1/2" (IN) DIAM.
52

1	<u>J-40.10</u>		
2	Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 12" S. S.		
3	FLAT WASHER" is revised to read; "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 1/2"		
4	(IN) S. S. FLAT WASHER"		
5			
6	<u>J-75.20</u>		
7	Key Notes, note 16, second bullet point, was: "1/2" (IN) x 0.45" (IN) Stainless Steel		
8	Bands", add the following to the end of the note: "Alternate: Stainless steel cable with		
9	stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel		
10	bands and associated hardware."		
11			
12	<u>J-81.10</u>		
13	All references to "Type 170 Controller" are replaced with "Controller".		
14			
15	<u>L-40.10</u>		
16	DELETED		
17			
18	The following are the Standard Plan numbers applicable at the time this project was		
19	advertised. The date shown with each plan number is the publication approval date		
20	shown in the lower right-hand corner of that plan. Standard Plans showing different dates		
21	shall not be used in this contract.		
22			
	A-10.10-00.....8/7/07	A-30.35-00.....10/12/07	A-60.10-03.....12/23/14
	A-10.20-00.....10/5/07	A-40.00-00.....8/11/09	A-60.20-03.....12/23/14
	A-10.30-00.....10/5/07	A-40.10-04.....7/31/19	A-60.30-01.....6/28/18
	A-20.10-00.....8/31/07	A-40.15-00.....8/11/09	A-60.40-00.....8/31/07
	A-30.10-00.....11/8/07	A-40.20-04.....1/18/17	
	A-30.30-01.....6/16/11	A-40.50-02.....12/23/14	
23			
	B-5.20-03.....9/9/20	B-30.50-03.....2/27/18	B-75.20-02.....2/27/18
	B-5.40-02.....1/26/17	B-30.60-00.....9/9/20	B-75.50-01.....6/10/08
	B-5.60-02.....1/26/17	B-30.70-04.....2/27/18	B-75.60-00.....6/8/06
	B-10.20-02.....3/2/18	B-30.80-01.....2/27/18	B-80.20-00.....6/8/06
	B-10.40-01.....1/26/17	B-30.90-02.....1/26/17	B-80.40-00.....6/1/06
	B-10.70-01.....9/9/20	B-35.20-00.....6/8/06	B-85.10-01.....6/10/08
	B-15.20-01.....2/7/12	B-35.40-00.....6/8/06	B-85.20-00.....6/1/06
	B-15.40-01.....2/7/12	B-40.20-00.....6/1/06	B-85.30-00.....6/1/06
	B-15.60-02.....1/26/17	B-40.40-02.....1/26/17	B-85.40-00.....6/8/06
	B-20.20-02.....3/16/12	B-45.20-01.....7/11/17	B-85.50-01.....6/10/08
	B-20.40-04.....2/27/18	B-45.40-01.....7/21/17	B-90.10-00.....6/8/06
	B-20.60-03.....3/15/12	B-50.20-00.....6/1/06	B-90.20-00.....6/8/06
	B-25.20-02.....2/27/18	B-55.20-02.....2/27/18	B-90.30-00.....6/8/06
	B-25.60-02.....2/27/18	B-60.20-02.....9/9/20	B-90.40-01.....1/26/17
	B-30.05-00.....9/9/20	B-60.40-01.....2/27/18	B-90.50-00.....6/8/06
	B-30.10-03.....2/27/18	B-65.20-01.....4/26/12	B-95.20-01.....2/3/09
	B-30.15-00.....2/27/18	B-65.40-00.....6/1/06	B-95.40-01.....6/28/18
	B-30.20-04.....2/27/18	B-70.20-00.....6/1/06	
	B-30.30-03.....2/27/18	B-70.60-01.....1/26/17	
	B-30.40-03.....2/27/18		
24			
	C-1.....9/9/20	C-20.42-05.....7/14/15	C-70.10-02.....9/16/20
	C-1b.....9/9/20	C-20.45.02.....8/12/19	C-75.10-02.....9/16/20

	C-1d.....10/31/03	C-22.16-07.....9/16/20	C-75.20-02.....9/16/20
	C-2c.....8/12/19	C-22.40-08.....9/16/20	C-75.30-02.....9/16/20
	C-4f.....8/12/19	C-22.45-05.....9/16/20	C-80.10-02.....9/16/20
	C-6a.....10/14/09	C-23.60-04.....7/21/17	C-80.20-01.....6/11/14
	C-7.....6/16/11	C-24.10-02.....8/12/19	C-80.30-01.....6/11/14
	C-7a.....6/16/11	C-25.20-06.....7/14/15	C-80.40-01.....6/11/14
	C-8.....2/10/09	C-25.22-05.....7/14/15	C-85.10-00.....4/8/12
	C-8a.....7/25/97	C-25.26-04.....8/12/19	C-85.11-01.....9/16/20
	C-20.10-06.....9/16/20	C-25.30-00.....6/28/18	C-85.15-01.....6/30/14
	C-20.14-04.....8/12/19	C-25.80-05.....8/12/19	C-85.16-01.....6/17/14
	C-20.15-02.....6/11/14	C-60.10-01.....9/24/20	C-85.18-01.....6/11/14
	C-20.18-03.....8/12/19	C-60.20-00.....9/24/20	C-85.20-01.....6/11/14
	C-20.40-07.....8/12/19	C-60.30-00.....9/24/20	
	C-20.41-02.....8/12/19	C-60.70-00.....9/24/20	
1	D-2.04-00.....11/10/05	D-2.80-00.....11/10/05	D-6.....6/19/98
	D-2.06-01.....1/6/09	D-2.84-00.....11/10/05	D-10.10-01.....12/2/08
	D-2.08-00.....11/10/05	D-2.88-00.....11/10/05	D-10.15-01.....12/2/08
	D-2.32-00.....11/10/05	D-2.92-00.....11/10/05	D-10.20-01.....8/7/19
	D-2.34-01.....1/6/09	D-3.09-00.....5/17/12	D-10.25-01.....8/7/19
	D-2.36-03.....6/11/14	D-3.10-01.....5/29/13	D-10.30-00.....7/8/08
	D-2.60-00.....11/10/05	D-3.11-03.....6/11/14	D-10.35-00.....7/8/08
	D-2.62-00.....11/10/05	D-3.15-02.....6/10/13	D-10.40-01.....12/2/08
	D-2.64-01.....1/6/09	D-3.16-02.....5/29/13	D-10.45-01.....12/2/08
	D-2.66-00.....11/10/05	D-3.17-02.....5/9/16	
	D-2.68-00.....11/10/05	D-4.....12/11/98	
2	E-1.....2/21/07	E-4.....8/27/03	
	E-2.....5/29/98	E-4a.....8/27/03	
3	F-10.12-04.....9/24/20	F-10.62-02.....4/22/14	F-40.15-04.....9/25/20
	F-10.16-00.....12/20/06	F-10.64-03.....4/22/14	F-40.16-03.....6/29/16
	F-10.18-02.....9/24/20	F-30.10-04.....9/25/20	F-45.10-02.....7/15/16
	F-10.40-04.....9/24/20	F-40.12-03.....6/29/16	F-80.10-04.....7/15/16
	F-10.42-00.....1/23/07	F-40.14-03.....6/29/16	
4	G-10.10-00.....9/20/07	G-25.10-05.....9/16/20	G-95.10-02.....6/28/18
	G-20.10-02.....6/23/15	G-26.10-00.....7/31/19	G-95.20-03.....6/28/18
	G-22.10-04.....6/28/18	G-30.10-04.....6/23/15	G-95.30-03.....6/28/18
	G-24.10-00.....11/8/07	G-50.10-03.....6/28/18	
	G-24.20-01.....2/7/12	G-90.10-03.....7/11/17	
	G-24.30-02.....6/28/18	G-90.11-00.....4/28/16	
	G-24.40-07.....6/28/18	G-90.20-05.....7/11/17	
	G-24.50-05.....8/7/19	G-90.30-04.....7/11/17	
	G-24.60-05.....6/28/18	G-90.40-02.....4/28/16	
5	H-10.10-00.....7/3/08	H-32.10-00.....9/20/07	H-70.10-01.....2/7/12
	H-10.15-00.....7/3/08	H-60.10-01.....7/3/08	H-70.20-01.....2/16/12
	H-30.10-00.....10/12/07	H-60.20-01.....7/3/08	
6	I-10.10-01.....8/11/09	I-30.20-00.....9/20/07	I-40.20-00.....9/20/07

1	I-30.10-02.....3/22/13	I-30.30-02.....6/12/19	I-50.20-01.....6/10/13
	I-30.15-02.....3/22/13	I-30.40-02.....6/12/19	I-60.10-01.....6/10/13
	I-30.16-01.....7/11/19	I-30.60-02.....6/12/19	I-60.20-01.....6/10/13
	I-30.17-01.....6/12/19	I-40.10-00.....9/20/07	I-80.10-02.....7/15/16
2	J-10.....7/18/97	J-28.40-02.....6/11/14	J-60.13-00.....6/16/10
	J-10.10-04.....9/16/20	J-28.42-01.....6/11/14	J-60.14-01.....7/31/19
	J-10.12-00.....9/16/20	J-28.43-01.....6/28/18	J-75.10-02.....7/10/15
	J-10.14-00.....9/16/20	J-28.45-03.....7/21/16	J-75.20-01.....7/10/15
	J-10.15-01.....6/11/14	J-28.50-03.....7/21/16	J-75.30-02.....7/10/15
	J-10.16-01.....9/16/20	J-28.60-02.....7/21/16	J-75.40-02.....6/1/16
	J-10.17-01.....9/16/20	J-28.70-03.....7/21/17	J-75.41-01.....6/29/16
	J-10.18-01.....9/16/20	J-29.10-01.....7/21/16	J-75.45-02.....6/1/16
	J-10.20-03.....9/16/20	J-29.15-01.....7/21/16	J-80.10-00.....6/28/18
	J-10.21-01.....9/16/20	J-29.16-02.....7/21/16	J-80.15-00.....6/28/18
	J-10.22-01.....9/16/20	J-30.10-00.....6/18/15	J-81.10-01.....9/16/20
	J-10.25-00.....7/11/17	J-40.05-00.....7/21/16	J-86.10-00.....6/28/18
	J-12.15-00.....6/28/18	J-40.10-04.....4/28/16	J-90.10-03.....6/28/18
	J-12.16-00.....6/28/18	J-40.20-03.....4/28/16	J-90.20-03.....6/28/18
	J-15.10-01.....6/11/14	J-40.30-04.....4/28/16	J-90.21-02.....6/28/18
	J-15.15-02.....7/10/15	J-40.35-01.....5/29/13	J-90.50-00.....6/28/18
	J-20.10-04.....7/31/19	J-40.36-02.....7/21/17	
	J-20.11-03.....7/31/19	J-40.37-02.....7/21/17	
	J-20.15-03.....6/30/14	J-40.38-01.....5/20/13	
	J-20.16-02.....6/30/14	J-40.39-00.....5/20/13	
	J-20.20-02.....5/20/13	J-40.40-02.....7/31/19	
	J-20.26-01.....7/12/12	J-45.36-00.....7/21/17	
	J-21.10-04.....6/30/14	J-50.05-00.....7/21/17	
	J-21.15-01.....6/10/13	J-50.10-01.....7/31/19	
	J-21.16-01.....6/10/13	J-50.11-02.....7/31/19	
	J-21.17-01.....6/10/13	J-50.12-02.....8/7/19	
	J-21.20-01.....6/10/13	J-50.13-00.....8/22/19	
	J-22.15-02.....7/10/15	J-50.15-01.....7/21/17	
	J-22.16-03.....7/10/15	J-50.16-01.....3/22/13	
	J-26.10-03.....7/21/16	J-50.18-00.....8/7/19	
	J-26.15-01.....5/17/12	J-50.19-00.....8/7/19	
	J-26.20-01.....6/28/18	J-50.20-00.....6/3/11	
	J-27.10-01.....7/21/16	J-50.25-00.....6/3/11	
	J-27.15-00.....3/15/12	J-50.30-00.....6/3/11	
	J-28.10-02.....8/7/19	J-60.05-01.....7/21/16	
	J-28.22-00.....8/07/07	J-60.11-00.....5/20/13	
	J-28.24-02.....9/16/20	J-60.12-00.....5/20/13	
	J-28.26-01.....12/02/08		
	J-28.30-03.....6/11/14		
3	K-70.20-01.....6/1/16		
	K-80.10-02.....9/25/20		
	K-80.20-00.....12/20/06		
	K-80.35-01.....9/16/20		
	K-80.37-01.....9/16/20		
	L-10.10-02.....6/21/12	L-70.10-01.....5/21/08	

1	L-20.10-03.....7/14/15	L-40.15-01.....6/16/11	L-70.20-01.....5/21/08
	L-30.10-02.....6/11/14	L-40.20-02.....6/21/12	
2	M-1.20-04.....9/25/20	M-11.10-03.....8/7/19	M-40.20-00...10/12/07
	M-1.40-03.....9/25/20	M-12.10-02.....9/25/20	M-40.30-01.....7/11/17
	M-1.60-03.....9/25/20	M-15.10-01.....2/6/07	M-40.40-00.....9/20/07
	M-1.80-03.....6/3/11	M-17.10-02.....7/3/08	M-40.50-00.....9/20/07
	M-2.20-03.....7/10/15	M-20.10-03.....9/25/20	M-40.60-00.....9/20/07
	M-2.21-00.....7/10/15	M-20.20-02.....4/20/15	M-60.10-01.....6/3/11
	M-3.10-04.....9/25/20	M-20.30-04.....2/29/16	M-60.20-02.....6/27/11
	M-3.20-03.....9/25/20	M-20.40-03.....6/24/14	M-65.10-02.....5/11/11
	M-3.30-04.....9/25/20	M-20.50-02.....6/3/11	M-80.10-01.....6/3/11
	M-3.40-04.....9/25/20	M-24.20-02.....4/20/15	M-80.20-00.....6/10/08
	M-3.50-03.....9/25/20	M-24.40-02.....4/20/15	M-80.30-00.....6/10/08
	M-5.10-03.....9/25/20	M-24.60-04.....6/24/14	
	M-7.50-01.....1/30/07	M-24.65-00.....7/11/17	
	M-9.50-02.....6/24/14	M-24.66-00.....7/11/17	
	M-9.60-00.....2/10/09	M-40.10-03.....6/24/14	
3			