

**COVERSHEET
DOCUMENTS POSTED ON BUILDER'S EXCHANGE OF WASHINGTON**



Project Name	West Marine View Drive / Alverson Blvd and 41st Street / Grand Avenue Pedestrian Improvements, City of Everett, WA #3630
Contractor Name	Diverse Earthworks, Inc
Bid Opening Date	8/20/2024 @ 2:00 pm PDT
City Clerk's Digital Certification Stamp	

CITY OF EVERETT
DEPARTMENT OF PUBLIC WORKS

**SPECIFICATIONS, PROPOSAL AND CONTRACT DOCUMENTS
FOR**

**West Marine View Drive/Alverson Blvd and
41st St/Grand Ave Pedestrian Improvements**

COE PW# 3630

STATE FUND# HLP-PB15(032)



PREPARED BY:

CITY OF EVERETT

PUBLIC WORKS - ENGINEERING & PUBLIC SERVICES DEPARTMENT
3200 CEDAR STREET
EVERETT, WA 98201

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CITY OF EVERETT, WASHINGTON
SPECIFICATIONS, PROPOSAL AND CONTRACT DOCUMENTS

**WEST MARINE VIEW DRIVE/ALVERSON BLVD AND
41st St/GRAND AVE PEDESTRIAN IMPROVEMENTS**

COE PW# 3630
STATE FUND# HLP-PB(032)

July 2024

Prepared By:

Laura L Claywell
City of Everett, Public Works Department
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7/24/2024

City of Everett
Principal Engineer

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**CITY OF EVERETT, WASHINGTON
SPECIFICATIONS, PROPOSAL AND CONTRACT DOCUMENTS FOR**

**WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS**

COE PW# 3630

STATE FUND #HLP-PB15(032)

NOTICE TO CONTRACTORS

Notice is hereby given that sealed proposals for the **WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE PEDESTRIAN IMPROVEMENTS** will be received at the office of the City Clerk, 1st Floor Everett Municipal Building, 2930 Wetmore, Everett, Washington 98201, until 2:00 p.m., on **Tuesday, August 20th, 2024**. At the appointed time, all bids will be opened at the Procurement Office on the 9th floor and read aloud publicly via live streaming. Interested parties are encouraged to watch via live streaming; however, bidders may also attend the bid opening in person. The link for the webcast is located at <https://everettwa.gov/319/Procurement>

The engineer's estimate for this project is **\$602,643**.

The work includes, but is not limited to: the replacement of the existing pedestrian path in Hibulb park with HMA in the same location. All path excavated material is considered hazardous materials to be disposed of at an approved site. The path will be extended north to the West Marine View Drive and Alverson intersection where it will join new cement concrete sidewalk that terminates at the existing south end of the rapid flashing beacon. New ADA ramp, new raised median on West Marine View Drive at the Rapid Flashing Beacon, a short landscape retaining wall, signage, and illumination. At 41st/Grand Ave upgrade existing crosswalk with new ADA ramps and Rapid Flashing Beacons with an advance notice flasher and performing all Work as required by the Contract Documents.

Free-of-charge access to project bid documents (plans, specifications, addenda, and Bidders List) is provided to Prime Bidders, Subcontractors, and Vendors by going to www.bxwa.com and clicking on "Posted Projects", "Public Works", and "City of Everett". This online plan room provides Bidders with fully usable online documents with the ability to: download, view, print, order full/partial plan sets from numerous reprographic sources, and a free online digitizer/take-off tool. It is recommended that Bidders "Register" in order to receive automatic e-mail notification of future addenda and to place themselves on the "Self-Registered Bidders List". Bidders that do not register will not be automatically notified of addenda and will need to periodically check the on-line plan room for addenda issued on this project. Contact Builders Exchange of Washington at (425) 258-1303 should you require assistance with access or registration.

All bids must be made upon the forms provided in the bidding documents for this purpose and must be accompanied by a bid bond or certified check or cashier's check in an amount not less than five percent (5%) of the total amount of the Bid.

The City reserves the right to reject any and all bids and waive any irregularities or informalities. No bidder may withdraw his bid after the hour set for the opening thereof. The City further

CITY OF EVERETT – WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
STATE FUND# HLP-PB15(032)
WO #3630

July 10, 2024



reserves the right to make the bid award as deemed in the best interest of the City. The right is reserved by the City to postpone the award for a period of forty-five (45) days after bid opening.

The Contractor will be required to comply with all local, State, and Federal laws and regulations pertaining to equal employment opportunities.

The City of Everett, in accordance with Title VI of the Civil Rights Act of 1964, (78 Stat. 252, 42 U.S.C. 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

By order of the City Council, Everett, Washington.

Dated at Everett, Washington.

TABLE OF CONTENTS

TITLE SHEET

SIGNATURE PAGE

VICINITY MAP

NOTICE TO CONTRACTORS

INSTRUCTIONS TO BIDDERS

TABLE OF CONTENTS FOR THE SPECIAL PROVISIONS

INSTRUCTION TO BIDDERS

SPECIAL PROVISIONS

BID PROPOSAL

LETTER TO COUNCIL

PROPOSAL

PROPOSAL SIGNATURE SHEET

CITY OF EVERETT DISADVANTAGED/WOMEN'S BUSINESS ENTERPRISE CERTIFICATION (RCW
35.22.650)

NON-COLLUSION DECLARATION (272-036I)

BID GUARANTY AND BID BOND

PROPOSAL FOR INCORPORATING RECYCLED MATERIALS INTO THE PROJECT

CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

CONTRACT

CONTRACT WITH SIGNATURE PAGE

PUBLIC WORKS PERFORMANCE BOND (272-002A)

PUBLIC WORKS PAYMENT BOND (272-003A)

APPENDICES

APPENDIX A: STATE PREVAILING WAGE RATES

L&I POLICY STATEMENT

BENEFITS CODE KEY

STATE PREVAILING WAGES

APPENDIX B: EXCERPTS OF AIR QUALITY RULES

APPENDIX C: SAMPLE CHANGE ORDER FORMS

AGREED

UNILATERAL

APPENDIX D: HIBULB SOILS_REPORT

*NOTE: PDF FILLABLE WSDOT FORMS AT <http://www.wsdot.wa.gov/forms/pdfforms.html> MAY BE
SUBSTITUTED FOR PROVIDED FORMS IF MATCHING FORM NUMBER AND REVISION DATE IS USED.*

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**CITY OF EVERETT, WASHINGTON
CONTRACT PROVISIONS FOR
WORK ORDER NO.: PW 3630**

INSTRUCTIONS TO BIDDERS

1.0 Design Engineer

Questions and inquiries about these Contract Provisions should be directed to the attention of Laura Claywell, (425) 257-8909 or lclaywell@everettwa.gov.

2.0 Bidder's Check List

The bidder's attention is directed to the following City-provided forms which must be executed in full as required and submitted with the bid:

1. **Proposal:** The lump sum and unit price items must be shown in the space provided. Show unit prices in figures.
2. **Proposal Signature Sheet:** To be filled in and signed by the Bidder.
3. **RCW 35.22.650 Certification:** To be filled in and signed by the bidder.
4. **Non-Collusion Declaration:** To be submitted with the bid.
5. **Bid Bond:** This form provided by the City is to be executed by the Bidder and the surety company unless bid is accompanied by a certified check or cashier's check. The amount of this bond shall be not less than five percent (5%) of the total amount bid and may be shown in dollars or on a percentage basis. Cash will not be accepted.
6. **Proposal For Incorporating Recycled Materials Into The Project:** To be filled in and signed by the bidder.

Failure to complete the aforementioned forms and to submit said forms with the bid may be due cause for rejection of bid. All protests by Bidders must be in accordance with Chapter 3.46 of the Everett Municipal Code, "Bid Protest Procedures."

3.0 Pre-Award Forms

The following form is required to be signed and submitted prior to award of Contract:

1. **Certification of Compliance with Wage Payment Statutes:** To be filled in and signed. This certification is not required to be submitted with the bid proposal and may be submitted after bid opening. The Contract cannot be awarded without this certification.

4.0 Contract Forms

The following forms are to be executed and/or delivered after the award of Contract:

1. **Contract:** This Contract to be executed by the successful bidder with the City's AdobeSign system within twenty (20) calendar days after the award date.

**CITY OF EVERETT, WASHINGTON
CONTRACT PROVISIONS FOR
WORK ORDER NO.: PW 3630**

2. **Performance Bond:** This form is to be executed by the successful bidder and its surety company in duplicate and delivered to the City within twenty (20) calendar days after the award date. The amount of this bond shall be one hundred percent (100%) of the amount of the bid and shall be submitted with the contract.
3. **Payment Bond:** This form is to be executed by the successful bidder and its surety company in duplicate and delivered to the City within twenty (20) calendar days after the award date. The amount of this bond shall be one hundred percent (100%) of the amount of the bid and shall be submitted with the contract.
4. **Proof of Insurance:** Insurance certificates and endorsements in pdf form shall be obtained, delivered to the City within twenty (20) calendar days after the award date, and maintained in force in accordance with Section 1-07.18 of the Special Provisions.
5. **Power of Attorney:** Attorneys-in-fact who sign bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.
6. **Statement of Intent to Pay Prevailing Wage (L&I Form 700-29) and Affidavit of Wages Paid (K-700-007-000)** from the Contractor, Subcontractor and any agent to the Subcontractor shall be submitted to the Employment Standards Division, State Department of Labor and Industries, Olympia, Washington.
7. **Weekly Statement with Respect to Payment of Wages (Form WH347):** Contractors, Subcontractors, and agents to Subcontractors using Payroll Form WH347) may use State of Compliance found on back of form. Contractors, Subcontractors, or agents to Subcontractors not using Payroll Form WH347 shall attach the Statement of Compliance Form WH348 to each payroll. Submittal of Certified Payrolls and Statements of Compliance is required for projects utilizing federal funds, or when requested in writing by the Engineer.

**CITY OF EVERETT, WASHINGTON
WEST MARINE VIEW DRIVE/ALVERSON BLVD AND
41ST ST/GRAND AVE PEDESTRIAN IMPROVEMENTS
COE # 3630**

SPECIAL PROVISIONS

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1	CONTENTS	
2		<u>PAGE</u>
3		
4		
5	INTRODUCTION -----	1
6	AMENDMENTS TO THE STANDARD SPECIFICATIONS	
7	SPECIAL PROVISIONS	
8	DIVISION 1	
9	GENERAL REQUIREMENTS	
10	Definitions -----	2
11	BID PROCEDURES AND CONDITIONS -----	3
12	BID PROCEDURES AND CONDITIONS -----	4
13	1-02.2 Plans and Specifications -----	4
14	Proposal Forms -----	4
15	Preparation of Proposal -----	5
16	Recycled Materials Proposal -----	5
17	Bid Deposit -----	6
18	Withdrawing, Revising, or Supplementing Proposal -----	6
19	Irregular Proposals -----	7
20	Disqualification of Bidders -----	8
21	Pre Award Information -----	8
22	AWARD AND EXECUTION OF CONTRACT -----	8
23	Consideration of Bids -----	9
24	Identical Bid Totals -----	9
25	Execution of Contract -----	9
26	Contract Bond -----	10
27	Judicial Review -----	11
28	SCOPE OF THE WORK -----	11
29	Coordination of Contract Documents, Plans, Special Provisions, -----	11
30	Minor Changes -----	11
31	Variation in Estimated Quantities -----	12
32	CONTROL OF WORK -----	12
33	Conformity with and Deviations from Plans and Stakes -----	12
34	Contractor Surveying - Roadway -----	12

1	Contractor Surveying – ADA Features-----	15
2	Removal of Defective and Unauthorized Work -----	15
3	Final Inspection -----	16
4	One-Year Guarantee Period-----	18
5	Superintendents, Labor and Equipment of Contractor-----	18
6	Water and Power -----	19
7	Record Drawings -----	19
8	CONTROL OF MATERIAL -----	21
9	Approval of Materials Prior to Use -----	21
10	Recycled Materials -----	21
11	LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC -----	21
12	Laws to be Observed-----	21
13	State Sales Tax -----	22
14	Sanitation -----	23
15	Health Hazards-----	23
16	Load Limits -----	28
17	Requirements For Nondiscrimination -----	28
18	Vegetation Protection and Restoration -----	29
19	Utilities and Similar Facilities -----	29
20	Public Liability and Property Damage Insurance -----	32
21	Excess or Umbrella Liability -----	35
22	Pollution Liability-----	35
23	Public Convenience and Safety -----	35
24	Construction Under Traffic -----	36
25	Rights of Way-----	38
26	PROSECUTION AND PROGRESS-----	39
27	Prosecution and Progress-----	39
28	Preliminary Matters -----	39
29	Preconstruction Conference -----	39
30	Hours of Work -----	40
31	Subcontracting -----	40
32	Progress Schedule-----	41
33	General Requirements -----	41

1	Type A Progress Schedule -----	41
2	Time for Completion -----	41
3	Suspension of Work -----	42
4	Liquidated Damages-----	43
5	MEASUREMENT AND PAYMENT -----	44
6	Measurement-----	44
7	Force Account-----	44
8	Payments-----	44
9	Payments-----	46
10	Retainage-----	46
11	Time Limitation and Jurisdiction -----	46
12	Arbitration General -----	47
13	Venue for Litigation -----	47
14	TEMPORARY TRAFFIC CONTROL-----	47
15	Traffic Control Management -----	47
16	General-----	47
17	Reinstating Unit Items With Lump Sum Traffic Control -----	48
18	DIVISION 2	
19	EARTHWORK	
20	CLEARING, GRUBBING, AND ROADSIDE CLEANUP -----	50
21	Description -----	50
22	8-26 UNIFORMED POLICE OFFICER -----	50
23	REMOVAL OF STRUCTURES AND OBSTRUCTIONS -----	51
24	Description -----	51
25	Construction Requirements-----	51
26	Removing Miscellaneous Traffic Items -----	51
27	2-02.5Payment -----	53
28	Measurement-----	53
29	Payment -----	54
30	DIVISION 4	
31	BASES	
32	BALLAST AND CRUSHED SURFACING -----	55
33	4-04.1Description -----	55

1	DIVISION 5	
2	SURFACE TREATMENTS AND PAVEMENTS	
3	HOT MIX ASPHALT-----	56
4	Hot Mix Asphalt-----	56
5	5-06 PAVEMENT PATCHING-----	80
6	DIVISION 7	
7	DRAINAGE STRUCTURES, STORM SEWERS, SANITARY	
8	SEWERS, WATER MAINS, AND CONDUITS	
9	7-05.3(6) Furnish and Install Vaned Grate-----	87
10	VALVES FOR WATER MAINS-----	87
11	7-12 VALVES FOR WATER MAINS-----	87
12	7-20 WATER METER BOX-----	89
13	7-10 WATER METER BOX-----	90
14	DIVISION 8	
15	MISCELLANEOUS CONSTRUCTION	
16	EROSION CONTROL AND WATER POLLUTION CONTROL-----	92
17	8-01.3(1)A Submittals-----	92
18	Temporary Seeding and Mulching-----	92
19	Temporary Seeding-----	92
20	8-01.3(2)A Preparation for Application-----	93
21	8-01.3(2)B SEEDING AND FERTILIZING-----	93
22	8-01.3(2)D Mulching-----	94
23	ROADSIDE RESTORATION-----	94
24	Description-----	94
25	Roadside Seeding, Lawn and Planting Area Preparation-----	94
26	Mulch and Amendments-----	95
27	Mulch-----	95
28	Payment-----	95
29	8-04 CURBS, GUTTERS, AND SPILLWAYS-----	96
30	8-14 CEMENT CONCRETE SIDEWALKS-----	97
31	CEMENT CONCRETE SIDEWALKS-----	99
32	Construction Requirements-----	99
33	ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORTATION	
34	SYSTEMS, AND ELECTRICAL-----	99

1	Materials -----	99
2	Equipment List And Drawings-----	99
3	Conduit, Innerduct, and Outerduct -----	100
4	Rigid Metal Conduit Fittings and Appurtenances -----	101
5	Non-Metallic Conduit-----	101
6	9-29.2Junction Boxes, Cable Vaults, and Pull Boxes-----	101
7	Cover Markings-----	102
8	Traffic Signal Standards -----	102
9	Traffic Signal Controller -----	106
10	Flashing Beacon Control-----	106
11	Pedestrian Push Buttons -----	107
12	Pedestrian Signals-----	108
13	8-20 (9-29.21) FLASHING BEACONS-----	108
14	Construction Requirements -----	109
15	8-20.3(1)General -----	109
16	Removing and Replacing Improvements -----	110
17	8-20.3(6)Junction Boxes, Cable Vaults, and Pull boxes -----	111
18	8-20.3(10)Service, Transformer, and Intelligent Transportation System-----	113
19	8-20.3(11)Testing -----	113
20	8-20.3(13)Illumination Systems-----	113
21	8-20.3(17)AsBuilt Plans-----	116
22	8-20.3(18) Potholing -----	116
23	Measurement -----	117
24	Payment-----	118
25	8-21PERMANENT SIGNING-----	118
26	8-22PAVEMENT MARKING-----	119
27	SECTION 8-23 TEMPORARY PAVEMENT MARKINGS-----	122
28	8-32 RESOLVED UNANTICIPATED CONFLICTS -----	131
29	8-32.3(1) Aboveground Conflicts-----	131
30	8-32.3(2) Underground Conflicts -----	132
31	8-33 PRIVATE IMPROVEMENT RESTORATION-----	132
32	8-32 ELECTRONIC FILES-----	133
33	APPENDICES-----	134

INTRODUCTION TO THE SPECIAL PROVISIONS

(December 10, 2020 APWA GSP)

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2024 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). The Standard Specifications, as modified or supplemented by these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The project-specific Special Provisions are not labeled as such. The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)

(April 1, 2013 WSDOT GSP)

(May 1, 2013 City of Everett GSP)

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
- *Standard Plans for Road, Bridge and Municipal Construction*, WSDOT/APWA, current edition
- *Design and Construction Standards & Specifications for Development*, City of Everett, current edition

Contractor shall obtain copies of these publications, at Contractor's own expense.

DIVISION1.GR1

Division 1 General Requirements

FDESWORK1

(March 13, 1995)

This Contract provides for the improvement of *** upgrading and extending existing pedestrian path in Hibulb Lookout Park with the removal of up to 800 tons of hazardous material excavation and disposal and replacing with a HMA path up to 250 tons and extending to the W. Marine View Drive intersection. Sidewalk with curb and ADA ramp at the Alverson intersection. Light pole foundation removal, installation and relocation, and installing a raised median at existing rapid flashing beacon on W. Marine View Drive.; at 41st and Grand Ave two AC-powered rectangular rapid flashing beacons including foundations and wiring with

1 additional solar powered advance beacon; plastic pavement line, plastic pavement markings,
2 and signage *** and other work, all in accordance with the attached Contract Plans, these
3 Contract Provisions, and the Standard Specifications.
4
5

6 1-01.3.RTF

7 **1-01.3 Definitions**

8 (January 19, 2022 APWA GSP)
9

10 Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace
11 them with the following:
12

13 **Dates**

14 ***Bid Opening Date***

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

16 ***Award Date***

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

19 ***Contract Execution Date***

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

21 ***Notice to Proceed Date***

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

23 ***Substantial Completion Date***

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

29 ***Physical Completion Date***

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

33 ***Completion Date***

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

38 ***Final Acceptance Date***

39 The date on which the Contracting Agency accepts the Work as complete.
40

41 Supplement this Section with the following:
42

43 All references in the Standard Specifications or WSDOT General Special Provisions, to
44 the terms "Department of Transportation", "Washington State Transportation
45 Commission", "Commission", "Secretary of Transportation", "Secretary", "Headquarters",
46 and "State Treasurer" shall be revised to read "Contracting Agency".
47

48 All references to the terms "State" or "state" shall be revised to read "Contracting Agency"
49 unless the reference is to an administrative agency of the State of Washington, a State
50 statute or regulation, or the context reasonably indicates otherwise.

1
2 All references to "State Materials Laboratory" shall be revised to read "Contracting
3 Agency designated location".
4
5 All references to "final contract voucher certification" shall be interpreted to mean the
6 Contracting Agency form(s) by which final payment is authorized, and final completion
7 and acceptance granted.
8
9 **Additive**
10 A supplemental unit of work or group of bid items, identified separately in the Bid
11 Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition
12 to the base bid.
13
14 **Alternate**
15 One of two or more units of work or groups of bid items, identified separately in the Bid
16 Proposal, from which the Contracting Agency may make a choice between different
17 methods or material of construction for performing the same work.
18
19 **Business Day**
20 A business day is any day from Monday through Friday except holidays as listed in
21 Section 1-08.5.
22
23 **Contract Bond**
24 The definition in the Standard Specifications for "Contract Bond" applies to whatever bond
25 form(s) are required by the Contract Documents, which may be a combination of a
26 Payment Bond and a Performance Bond.
27
28 **Contract Documents**
29 See definition for "Contract".
30
31 **Contract Time**
32 The period of time established by the terms and conditions of the Contract within which
33 the Work must be physically completed.
34
35 **Notice of Award**
36 The written notice from the Contracting Agency to the successful Bidder signifying the
37 Contracting Agency's acceptance of the Bid Proposal.
38
39 **Notice to Proceed**
40 The written notice from the Contracting Agency or Engineer to the Contractor authorizing
41 and directing the Contractor to proceed with the Work and establishing the date on which
42 the Contract time begins.
43
44 **Traffic**
45 Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and
46 equestrian traffic.
47
48 1-02.GR1
49 **Bid Procedures and Conditions**
50

1 1-02.1.RTF

2 **1-02 BID PROCEDURES AND CONDITIONS**

3
4 **1-02.1 Prequalification of Bidders**

5
6 Delete this section and replace it with the following:

7
8 **1-02.1 Qualifications of Bidder**

9 *(January 24, 2011 APWA GSP)*

10
11 Before award of a public works contract, a bidder must meet at least the minimum
12 qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to
13 be awarded a public works project.

14
15 **COE 1-02.2.RTF**

16 **1-02.2 Plans and Specifications**

17 *(June 27, 2011 APWA GSP)*

18
19 Delete this section and replace it with the following:

20
21 Information as to where Bid Documents can be obtained or reviewed can be found in the
22 Call for Bids (Advertisement for Bids) for the work.

23
24 After award of the contract, plans and specifications will be issued to the Contractor at no
25 cost as detailed below:

26

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced plans (11" x 17")	5	Furnished automatically upon award.
Contract Provisions	5	Furnished automatically upon award.
Large plans (e.g., 22" x 34")	3	Furnished only upon request.

27
28 Additional plans and Contract Provisions may be obtained by the Contractor from the
29 source stated in the Call for Bids, at the Contractor's own expense.

30
31 **1-02.5.RTF**

32 **1-02.5 Proposal Forms**

33 *(July 31, 2017 APWA GSP)*

34
35 Delete this section and replace it with the following:

36
37 The Proposal Form will identify the project and its location and describe the work. It will
38 also list estimated quantities, units of measurement, the items of work, and the materials
39 to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal
40 form that call for, but are not limited to, unit prices; extensions; summations; the total bid

amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6.GR1

Preparation of Proposal

1-02.6.OptionB.RTF

(January 4, 2024 APWA GSP 1-02.6, Option B)

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.
5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the last two paragraphs, and replace them with the following:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

1-02.6(1).RTF

Add the following new section:

1-02.6(1) Recycled Materials Proposal

(January 4, 2016 APWA GSP)

1
2 The Bidder shall submit with the Bid, its proposal for incorporating recycled materials into
3 the project, using the form provided in the Contract Provisions.

4
5 1-02.7.RTF

6 **1-02.7 Bid Deposit**
7 *(March 8, 2013 APWA GSP)*

8
9 Supplement this section with the following:

- 10
11 Bid bonds shall contain the following:
- 12 1. Contracting Agency-assigned number for the project;
 - 13 2. Name of the project;
 - 14 3. The Contracting Agency named as obligee;
 - 15 4. The amount of the bid bond stated either as a dollar figure or as a percentage which
 - 16 represents five percent of the maximum bid amount that could be awarded;
 - 17 5. Signature of the bidder's officer empowered to sign official statements. The signature
 - 18 of the person authorized to submit the bid should agree with the signature on the
 - 19 bond, and the title of the person must accompany the said signature;
 - 20 6. The signature of the surety's officer empowered to sign the bond and the power of
 - 21 attorney.

22
23 If so stated in the Contract Provisions, bidder must use the bond form included in the
24 Contract Provisions.

25
26 If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

27
28 1-02.10.RTF

29 **1-02.10 Withdrawing, Revising, or Supplementing Proposal**
30 *(July 23, 2015 APWA GSP)*

31
32 Delete this section, and replace it with the following:

33
34 After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may
35 withdraw, revise, or supplement it if:

- 36
- 37 1. The Bidder submits a written request signed by an authorized person and
 - 38 physically delivers it to the place designated for receipt of Bid Proposals, and
 - 39 2. The Contracting Agency receives the request before the time set for receipt of
 - 40 Bid Proposals, and
 - 41 3. The revised or supplemented Bid Proposal (if any) is received by the Contracting
 - 42 Agency before the time set for receipt of Bid Proposals.

43
44 If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received
45 before the time set for receipt of Bid Proposals, the Contracting Agency will return the
46 unopened Proposal package to the Bidder. The Bidder must then submit the revised or
47 supplemented package in its entirety. If the Bidder does not submit a revised or
48 supplemented package, then its bid shall be considered withdrawn.

49

1 Late revised or supplemented Bid Proposals or late withdrawal requests will be date
2 recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed
3 requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.
4

5 1-02.13.RTF

6 **1-02.13 Irregular Proposals**

7 *(January 4, 2024 APWA GSP)*
8

9 Delete this section and replace it with the following:
10

- 11 1. A Proposal will be considered irregular and will be rejected if:
 - 12 a. The Bidder is not prequalified when so required;
 - 13 b. The Bidder adds provisions reserving the right to reject or accept the Award,
14 or enter into the Contract;
 - 15 c. A price per unit cannot be determined from the Bid Proposal;
 - 16 d. The Proposal form is not properly executed;
 - 17 e. The Bidder fails to submit or properly complete a subcontractor list (WSDOT
18 Form 271-015), if applicable, as required in Section 1-02.6;
 - 19 f. The Bidder fails to submit or properly complete a Disadvantaged Business
20 Enterprise Certification (WSDOT Form 272-056), if applicable, as required in
21 Section 1-02.6;
 - 22 g. The Bidder fails to submit Written Confirmations (WSDOT Form 422-031) from
23 each DBE firm listed on the Bidder's completed DBE Utilization Certification
24 that they are in agreement with the bidder's DBE participation commitment, if
25 applicable, as required in Section 1-02.6, or if the written confirmation that is
26 submitted fails to meet the requirements of the Special Provisions;
 - 27 h. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable,
28 as required in Section 1-02.6, or if the documentation that is submitted fails to
29 demonstrate that a Good Faith Effort to meet the Condition of Award in
30 accordance with Section 1-07.11;
 - 31 i. The Bidder fails to submit a DBE Bid Item Breakdown (WSDOT Form 272-
32 054), if applicable, as required in Section 1-02.6, or if the documentation that
33 is submitted fails to meet the requirements of the Special Provisions;
 - 34 j. The Bid Proposal does not constitute a definite and unqualified offer to meet
35 the material terms of the Bid invitation.
36
- 37 2. A Proposal may be considered irregular and may be rejected if:
 - 38 a. The Proposal does not include a unit price for every Bid item;
 - 39 b. Any of the unit prices are excessively unbalanced (either above or below the
40 amount of a reasonable Bid) to the potential detriment of the Contracting
41 Agency;
 - 42 c. The authorized Proposal Form furnished by the Contracting Agency is not
43 used or is altered;
 - 44 d. The completed Proposal form contains unauthorized additions, deletions,
45 alternate Bids, or conditions;
 - 46 e. Receipt of Addenda is not acknowledged;
 - 47 f. A member of a joint venture or partnership and the joint venture or partnership
48 submit Proposals for the same project (in such an instance, both Bids may be
49 rejected); or
 - 50 g. If Proposal form entries are not made in ink.
51

1-02.14.Option.A.RTF

1-02.14 Disqualification of Bidders

(May 17, 2018 APWA GSP, Option A)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1). To assess bidder responsibility, the Contracting Agency reserves the right to request documentation as needed from the Bidder and third parties concerning the Bidder's compliance with the mandatory bidder responsibility criteria.

If the Contracting Agency determines the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1) and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency's determination by presenting its appeal and any additional information to the Contracting Agency. The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder determined to be not responsible has received the Contracting Agency's final determination.

1-02.15.RTF

1-02.15 Pre Award Information

(December 30, 2022 APWA GSP)

Revise this section to read:

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

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

1-03.GR1

Award and Execution of Contract

1 **1-03.1.RTF**

2 **1-03.1 Consideration of Bids**

3 *(December 30, 2022 APWA GSP)*

4
5 Revise the first paragraph to read:

6
7 After opening and reading proposals, the Contracting Agency will check them for
8 correctness of extensions of the prices per unit and the total price. If a discrepancy exists
9 between the price per unit and the extended amount of any bid item, the price per unit will
10 control. If a minimum bid amount has been established for any item and the bidder's unit or
11 lump sum price is less than the minimum specified amount, the Contracting Agency will
12 unilaterally revise the unit or lump sum price, to the minimum specified amount and
13 recalculate the extension. The total of extensions, corrected where necessary, including
14 sales taxes where applicable and such additives and/or alternates as selected by the
15 Contracting Agency, will be used by the Contracting Agency for award purposes and to fix
16 the Awarded Contract Price amount and the amount of the contract bond.

17
18 1-03.1(1).RTF

19 **1-03.1(1) Identical Bid Totals**

20 *(December 30, 2022 APWA GSP)*

21
22 Revise this section to read:

23
24 After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the
25 tie-breaker will be the Bidder with an equal lowest bid, that proposed to use the highest
26 percentage of recycled materials in the Project, per the form submitted with the Bid
27 Proposal. If those percentages are also exactly equal, then the tie-breaker will be
28 determined by drawing as follows: Two or more slips of paper will be marked as follows:
29 one marked "Winner" and the other(s) marked "unsuccessful". The slips will be folded to
30 make the marking unseen. The slips will be placed inside a box. One authorized
31 representative of each Bidder shall draw a slip from the box. Bidders shall draw in
32 alphabetic order by the name of the firm as registered with the Washington State
33 Department of Licensing. The slips shall be unfolded and the firm with the slip marked
34 "Winner" will be determined to be the successful Bidder and eligible for Award of the
35 Contract. Only those Bidders who submitted a Bid total that is exactly equal to the lowest
36 responsive Bid, and with a proposed recycled materials percentage that is exactly equal
37 to the highest proposed recycled materials amount, are eligible to draw.

38
39 **COE 1-03.3.RTF**

40 **1-03.3 Execution of Contract**

41 *(January 19, 2022 APWA GSP)*

42
43 Revise this section to read:

44
45 Within 3 calendar days of Award date (not including Saturdays, Sundays and Holidays),
46 the successful Bidder shall provide the information necessary to execute the Contract to
47 the Contracting Agency. The Bidder shall send the contact information, including the full
48 name, email address, and phone number, for the authorized signer and bonding agent to
49 the Contracting Agency.

50
51 Copies of the Contract Provisions, including the unsigned Form of Contract, will be
52 available for signature by the successful bidder on the first business day following award.

1 The number of copies to be executed by the Contractor will be determined by the
2 Contracting Agency.

3
4 Within 20 calendar days after the award date, the successful bidder shall return
5 the signed Contracting Agency-prepared contract, an insurance certification as required
6 by Section 1-07.18, a satisfactory bond as required by law and Section 1-03.4, the
7 Transfer of Coverage form for the Construction Stormwater General Permit with sections
8 I, III, and VIII completed when provided. Before execution of the contract by the
9 Contracting Agency, the successful bidder shall provide any pre-award information the
10 Contracting Agency may require under Section 1-02.15.

11
12 Until the Contracting Agency executes a contract, no proposal shall bind the Contracting
13 Agency nor shall any work begin within the project limits or within Contracting Agency-
14 furnished sites. The Contractor shall bear all risks for any work begun outside such areas
15 and for any materials ordered before the contract is executed by the Contracting Agency.

16
17 If the bidder experiences circumstances beyond their control that prevents return of the
18 contract documents within the calendar days after the award date stated above, the
19 Contracting Agency may grant up to a maximum of 20 additional calendar days
20 for return of the documents, provided the Contracting Agency deems the circumstances
21 warrant it.

22
23 1-03.4.RTF

24 **1-03.4 Contract Bond**

25 *(July 23, 2015 APWA GSP)*

26
27 Delete the first paragraph and replace it with the following:

28
29 The successful bidder shall provide executed payment and performance bond(s) for the
30 full contract amount. The bond may be a combined payment and performance bond; or
31 be separate payment and performance bonds. In the case of separate payment and
32 performance bonds, each shall be for the full contract amount. The bond(s) shall:

- 33 1. Be on Contracting Agency-furnished form(s);
- 34 2. Be signed by an approved surety (or sureties) that:
 - 35 a. Is registered with the Washington State Insurance Commissioner, and
 - 36 b. Appears on the current Authorized Insurance List in the State of Washington
37 published by the Office of the Insurance Commissioner,
- 38 3. Guarantee that the Contractor will perform and comply with all obligations, duties, and
39 conditions under the Contract, including but not limited to the duty and obligation to
40 indemnify, defend, and protect the Contracting Agency against all losses and claims
41 related directly or indirectly from any failure:
 - 42 a. Of the Contractor (or any of the employees, subcontractors, or lower tier
43 subcontractors of the Contractor) to faithfully perform and comply with all contract
44 obligations, conditions, and duties, or
 - 45 b. Of the Contractor (or the subcontractors or lower tier subcontractors of the
46 Contractor) to pay all laborers, mechanics, subcontractors, lower tier
47 subcontractors, material person, or any other person who provides supplies or
48 provisions for carrying out the work;
- 49 4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the
50 project under titles 50, 51, and 82 RCW; and

- 1 5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the
2 bond; and
3 6. Be signed by an officer of the Contractor empowered to sign official statements (sole
4 proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by
5 the president or vice president, unless accompanied by written proof of the authority
6 of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution,
7 power of attorney, or a letter to such effect signed by the president or vice president).
8

9 1-03.7.RTF

10 **1-03.7 Judicial Review**

11 *(December 30, 2022 APWA GSP)*

12

13 Revise this section to read:

14

15 All decisions made by the Contracting Agency regarding the Award and execution of the
16 Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted
17 under Washington Law. Such review, if any, shall be timely filed in the Superior Court of
18 the county where the Contracting Agency headquarters is located, provided that where an
19 action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.
20

21 1-04.GR1

22 **Scope of the Work**

23

24 1-04.2.RTF

25 **1-04.2 Coordination of Contract Documents, Plans, Special Provisions,
26 Specifications, and Addenda**

27 *(December 30, 2022 APWA GSP)*

28

29 Revise the second paragraph to read:

30

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

- 33 1. Addenda,
34 2. Proposal Form,
35 3. Special Provisions,
36 4. Contract Plans,
37 5. Standard Specifications,
38 6. Contracting Agency's Standard Plans or Details (if any), and
39 7. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.
40

41 **F1-04.4(1).docx**

42 **1-04.4(1) Minor Changes**

43 *(May 30, 2019 APWA GSP)*

44

45 Delete the first paragraph and replace it with the following:

46

47 Payments or credits for changes amounting to ***** \$25,000 ***** or less may be made under
48 the Bid item "Minor Change". At the discretion of the Contracting Agency, this procedure

for Minor Changes may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes. All "Minor Change" work will be within the scope of the Contract Work and will not change Contract Time.

F1-04.6.docx

1-04.6 Variation in Estimated Quantities

(May 25, 2006 APWA GSP; may not be used on FHWA-funded projects)

Supplement this section with the following:

The quantities for *****Seeding, Fertilizing and Mulching, Sod Installation, and Topsoil Type C***** have been entered into the Proposal only to provide a common proposal for bidders. Actual quantities will be determined in the field as the work progresses, and will be paid at the original bid price, regardless of final quantity. These bid items shall not be subject to the provisions of 1-04.6 of the Standard Specifications.

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.OPT2.GR1

(January 13, 2021)

Contractor Surveying - Roadway

The Contracting Agency has provided primary survey control in the Plans.

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

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

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

1 The survey work shall include but not be limited to the following:
2

- 3 1. Verify the primary horizontal and vertical control furnished by the Contracting
4 Agency, and expand into secondary control by adding stakes and hubs as well
5 as additional survey control needed for the project. Provide descriptions of
6 secondary control to the Contracting Agency. The description shall include
7 coordinates and elevations of all secondary control points.
8
- 9 2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on
10 centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and
11 at points on the alignments spaced no further than 50 feet.
12
- 13 3. Establish clearing limits, placing stakes at all angle points and at intermediate
14 points not more than 50 feet apart. The clearing and grubbing limits shall be 5
15 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise
16 shown in the Plans.
17
- 18 4. Establish grading limits, placing slope stakes at centerline increments not more
19 than 50 feet apart. Establish offset reference to all slope stakes. If Global
20 Positioning Satellite (GPS) Machine Controls are used to provide grade control,
21 then slope stakes may be omitted at the discretion of the Contractor
22
- 23 5. Establish the horizontal and vertical location of all drainage features, placing
24 offset stakes to all drainage structures and to pipes at a horizontal interval not
25 greater than 25 feet.
26
- 27 6. Establish roadbed and surfacing elevations by placing stakes at the top of
28 subgrade and at the top of each course of surfacing. Subgrade and surfacing
29 stakes shall be set at horizontal intervals not greater than 50 feet in tangent
30 sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot
31 intervals in intersection radii with a radius less than 10 feet. Transversely, stakes
32 shall be placed at all locations where the roadway slope changes and at
33 additional points such that the transverse spacing of stakes is not more than 12
34 feet. If GPS Machine Controls are used to provide grade control, then roadbed
35 and surfacing stakes may be omitted at the discretion of the Contractor.
36
- 37 7. Establish intermediate elevation benchmarks as needed to check work
38 throughout the project.
39
- 40 8. Provide references for paving pins at 25-foot intervals or provide simultaneous
41 surveying to establish location and elevation of paving pins as they are being
42 placed.
43
- 44 9. For all other types of construction included in this provision, (including but not
45 limited to channelization and pavement marking, illumination and signals,
46 guardrails and barriers, and signing) provide staking and layout as necessary to
47 adequately locate, construct, and check the specific construction activity.
48
- 49 10. Contractor shall determine if changes are needed to the profiles or roadway
50 sections shown in the Contract Plans in order to achieve proper smoothness and
51 drainage where matching into existing features, such as a smooth transition from
52 new pavement to existing pavement. The Contractor shall submit these

1 changes to the Engineer for review and approval 10 days prior to the beginning
2 of work.
3
4 The Contractor shall provide the Contracting Agency copies of any calculations and
5 staking data when requested by the Engineer.
6
7 The Contractor shall ensure a surveying accuracy within the following tolerances:
8
9

	<u>Vertical</u>	<u>Horizontal</u>
10 Slope stakes	±0.10 feet	±0.10 feet
11 Subgrade grade stakes set		
12 0.04 feet below grade	±0.01 feet	±0.5 feet
13		(parallel to alignment)
14		±0.1 feet
15		(normal to alignment)
16		
17 Stationing on roadway	N/A	±0.1 feet
18 Alignment on roadway	N/A	±0.04 feet
19 Surfacing grade stakes	±0.01 feet	±0.5 feet
20		(parallel to alignment)
21		±0.1 feet
22		(normal to alignment)
23		
24 Roadway paving pins for		
25 surfacing or paving	±0.01 feet	±0.2 feet
26		(parallel to alignment)
27		±0.1 feet
28		(normal to alignment)
29		
30 The Contracting Agency may spot-check the Contractor's surveying. These spot-checks		
31 will not change the requirements for normal checking by the Contractor.		
32		
33 When staking roadway alignment and stationing, the Contractor shall perform independent		
34 checks from different secondary control to ensure that the points staked are within the		
35 specified survey accuracy tolerances.		
36		
37 The Contractor shall calculate coordinates for the alignment. The Contracting Agency will		
38 verify these coordinates prior to issuing approval to the Contractor for commencing with		
39 the work. The Contracting Agency will require up to seven calendar days from the date		
40 the data is received.		
41		
42 Contract work to be performed using contractor-provided stakes shall not begin until the		
43 stakes are approved by the Contracting Agency. Such approval shall not relieve the		
44 Contractor of responsibility for the accuracy of the stakes.		
45		
46 Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are		
47 needed that are not described in the Plans, then those stakes shall be marked, at no		
48 additional cost to the Contracting Agency as ordered by the Engineer.		
49		
50 Payment		
51 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

(March 9, 2023)

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 Contract Compliance

The Contractor shall be responsible for completing measurements to verify all ADA features comply with the Contract in the presence of the Engineer.

ADA Feature As-Built Measurements

The Contractor shall be responsible for providing the latitude and longitude of each ADA feature as indicated on the ADA Inspection Form(s) (WSDOT Form 224-020).

The completed ADA Inspection Form(s) (WSDOT Form 224-020) shall be submitted as a Type 3 Working Drawing and transmitted to the Engineer within 30 calendar days of completing the ADA feature. After acceptance, the Contracting Agency will submit the final form(s) to the WSDOT ADA Steward.

Payment

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

"ADA Features Surveying", lump sum.

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

In the instance where an ADA feature does not meet accessibility requirements, all work to replace non-compliant 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.

1 1-05.7.RTF

2 **1-05.7 Removal of Defective and Unauthorized Work**

3 *(October 1, 2005 APWA GSP)*

4
5 Supplement this section with the following:

6
7 If the Contractor fails to remedy defective or unauthorized work within the time specified in
8 a written notice from the Engineer, or fails to perform any part of the work required by the
9 Contract Documents, the Engineer may correct and remedy such work as may be
10 identified in the written notice, with Contracting Agency forces or by such other means as
11 the Contracting Agency may deem necessary.

12
13 If the Contractor fails to comply with a written order to remedy what the Engineer
14 determines to be an emergency situation, the Engineer may have the defective and
15 unauthorized work corrected immediately, have the rejected work removed and replaced,
16 or have work the Contractor refuses to perform completed by using Contracting Agency or
17 other forces. An emergency situation is any situation when, in the opinion of the Engineer,
18 a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or
19 damage to the public.

20
21 Direct or indirect costs incurred by the Contracting Agency attributable to correcting and
22 remedying defective or unauthorized work, or work the Contractor failed or refused to
23 perform, shall be paid by the Contractor. Payment will be deducted by the Engineer from
24 monies due, or to become due, the Contractor. Such direct and indirect costs shall include
25 in particular, but without limitation, compensation for additional professional services
26 required, and costs for repair and replacement of work of others destroyed or damaged by
27 correction, removal, or replacement of the Contractor's unauthorized work.

28
29 No adjustment in contract time or compensation will be allowed because of the delay in
30 the performance of the work attributable to the exercise of the Contracting Agency's rights
31 provided by this Section.

32
33 The rights exercised under the provisions of this section shall not diminish the Contracting
34 Agency's right to pursue any other avenue for additional remedy or damages with respect
35 to the Contractor's failure to perform the work as required.

36
37
38 1-05.11.RTF

39 **1-05.11 Final Inspection**

40
41 Delete this section and replace it with the following:

42
43 **1-05.11 Final Inspections and Operational Testing**
44 *(October 1, 2005 APWA GSP)*

45
46 **1-05.11(1) Substantial Completion Date**

47
48 When the Contractor considers the work to be substantially complete, the Contractor shall
49 so notify the Engineer and request the Engineer establish the Substantial Completion
50 Date. The Contractor's request shall list the specific items of work that remain to be
51 completed in order to reach physical completion. The Engineer will

1 schedule an inspection of the work with the Contractor to determine the status of
2 completion. The Engineer may also establish the Substantial Completion Date
3 unilaterally.

4
5 If, after this inspection, the Engineer concurs with the Contractor that the work is
6 substantially complete and ready for its intended use, the Engineer, by written notice to
7 the Contractor, will set the Substantial Completion Date. If, after this inspection the
8 Engineer does not consider the work substantially complete and ready for its intended
9 use, the Engineer will, by written notice, so notify the Contractor giving the reasons
10 therefor.

11
12 Upon receipt of written notice concurring in or denying substantial completion, whichever
13 is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized
14 interruption, the work necessary to reach Substantial and Physical Completion. The
15 Contractor shall provide the Engineer with a revised schedule indicating when the
16 Contractor expects to reach substantial and physical completion of the work.

17
18 The above process shall be repeated until the Engineer establishes the Substantial
19 Completion Date and the Contractor considers the work physically complete and ready for
20 final inspection.

21 22 **1-05.11(2) Final Inspection and Physical Completion Date**

23
24 When the Contractor considers the work physically complete and ready for final
25 inspection, the Contractor by written notice, shall request the Engineer to schedule a final
26 inspection. The Engineer will set a date for final inspection. The Engineer and the
27 Contractor will then make a final inspection and the Engineer will notify the Contractor in
28 writing of all particulars in which the final inspection reveals the work incomplete or
29 unacceptable. The Contractor shall immediately take such corrective measures as are
30 necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously,
31 diligently, and without interruption until physical completion of the listed deficiencies. This
32 process will continue until the Engineer is satisfied the listed deficiencies have been
33 corrected.

34
35 If action to correct the listed deficiencies is not initiated within 7 days after receipt of the
36 written notice listing the deficiencies, the Engineer may, upon written notice to the
37 Contractor, take whatever steps are necessary to correct those deficiencies pursuant to
38 Section 1-05.7.

39 The Contractor will not be allowed an extension of contract time because of a delay in the
40 performance of the work attributable to the exercise of the Engineer's right hereunder.

41
42 Upon correction of all deficiencies, the Engineer will notify the Contractor and the
43 Contracting Agency, in writing, of the date upon which the work was considered physically
44 complete. That date shall constitute the Physical Completion Date of the contract, but shall
45 not imply acceptance of the work or that all the obligations of the Contractor under the
46 contract have been fulfilled.

47 48 **1-05.11(3) Operational Testing**

49
50 It is the intent of the Contracting Agency to have at the Physical Completion Date a
51 complete and operable system. Therefore when the work involves the installation of

1 machinery or other mechanical equipment; street lighting, electrical distribution or signal
2 systems; irrigation systems; buildings; or other similar work it may be desirable for the
3 Engineer to have the Contractor operate and test the work for a period of time after final
4 inspection but prior to the physical completion date. Whenever items of work are listed in
5 the Contract Provisions for operational testing they shall be fully tested under operating
6 conditions for the time period specified to ensure their acceptability prior to the Physical
7 Completion Date. During and following the test period, the Contractor shall correct any
8 items of workmanship, materials, or equipment which prove faulty, or that are not in first
9 class operating condition. Equipment, electrical controls, meters, or other devices and
10 equipment to be tested during this period shall be tested under the observation of the
11 Engineer, so that the Engineer may determine their suitability for the purpose for which
12 they were installed. The Physical Completion Date cannot be established until testing and
13 corrections have been completed to the satisfaction of the Engineer.

14
15 The costs for power, gas, labor, material, supplies, and everything else needed to
16 successfully complete operational testing, shall be included in the unit contract prices
17 related to the system being tested, unless specifically set forth otherwise in the proposal.

18
19 Operational and test periods, when required by the Engineer, shall not affect a
20 manufacturer's guaranties or warranties furnished under the terms of the contract.

21
22
23 1-05.12(1).RTF
24 Add the following new section:

25
26 **1-05.12(1) One-Year Guarantee Period**
27 *(March 8, 2013 APWA GSP)*
28

29 The Contractor shall return to the project and repair or replace all defects in
30 workmanship and material discovered within one year after Final Acceptance of the
31 Work. The Contractor shall start work to remedy any such defects within 7 calendar
32 days of receiving Contracting Agency's written notice of a defect, and shall complete
33 such work within the time stated in the Contracting Agency's notice. In case of an
34 emergency, where damage may result from delay or where loss of services may
35 result, such corrections may be made by the Contracting Agency's own forces or
36 another contractor, in which case the cost of corrections shall be paid by the
37 Contractor. In the event the Contractor does not accomplish corrections within the
38 time specified, the work will be otherwise accomplished and the cost of same shall
39 be paid by the Contractor.

40
41 When corrections of defects are made, the Contractor shall then be responsible for
42 correcting all defects in workmanship and materials in the corrected work for one
43 year after acceptance of the corrections by Contracting Agency.

44
45 This guarantee is supplemental to and does not limit or affect the requirements that
46 the Contractor's work comply with the requirements of the Contract or any other legal
47 rights or remedies of the Contracting Agency.
48

1 1-05.13.RTF

2 **1-05.13 Superintendents, Labor and Equipment of Contractor**
3 *(August 14, 2013 APWA GSP)*

4
5 Delete the sixth and seventh paragraphs of this section.

6
7 1-05.16.RTF

8 Add the following new section:

9
10 **1-05.16 Water and Power**
11 *(October 1, 2005 APWA GSP)*

12
13 The Contractor shall make necessary arrangements, and shall bear the costs for power
14 and water necessary for the performance of the work, unless the contract includes power
15 and water as a pay item.

16
17 **F1-05.18.docx**

18 Add the following new section:

19
20 **1-05.18 Record Drawings**
21 *(March 8, 2013 APWA GSP)*

22
23 The Contractor shall maintain one set of full size plans for Record Drawings, updated with
24 clear and accurate red-lined field revisions on a daily basis, and within 2 business days
25 after receipt of information that a change in Work has occurred. The Contractor shall not
26 conceal any work until the required information is recorded.

27
28 This Record Drawing set shall be used for this purpose alone, shall be kept separate from
29 other Plan sheets, and shall be clearly marked as Record Drawings. These Record
30 Drawings shall be kept on site at the Contractor's field office, and shall be available for
31 review by the Contracting Agency at all times. The Contractor shall bring the Record
32 Drawings to each progress meeting for review.

33
34 The preparation and upkeep of the Record Drawings is to be the assigned responsibility
35 of a single, experienced, and qualified individual. The quality of the Record Drawings, in
36 terms of accuracy, clarity, and completeness, is to be adequate to allow the Contracting
37 Agency to modify the computer-aided drafting (CAD) Contract Drawings to produce a
38 complete set of Record Drawings for the Contracting Agency without further investigative
39 effort by the Contracting Agency.

40
41 The Record Drawing markups shall document all changes in the Work, both concealed
42 and visible. Items that must be shown on the markups include but are not limited to:

- 43
44
 - Actual dimensions, arrangement, and materials used when different than shown in the Plans.
 - Changes made by Change Order or Field Order.
 - Changes made by the Contractor.
 - Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement

45
46
47
48
49
50

1 markings, etc. Include pipe invert elevations, top of castings (manholes, inlets,
 2 etc.).
 3
 4 If the Contract calls for the Contracting Agency to do all surveying and staking, the
 5 Contracting Agency will provide the elevations at the tolerances the Contracting Agency
 6 requires for the Record Drawings.
 7
 8 When the Contract calls for the Contractor to do the surveying/staking, the applicable
 9 tolerance limits include, but are not limited to the following:

	Vertical	Horizontal
As-built sanitary & storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.001 foot	± 0.001 foot
As-built waterlines, inverts, valves, hydrants	± 0.10 foot	± 0.10 foot
As-built ponds/swales/water features	± 0.10 foot	± 0.10 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.10 foot
As-built gas lines, power, TV, Tel, Com	± 0.10 foot	± 0.10 foot
As-built signs, signals, etc.	N/A	± 0.10 foot

10
 11 Making Entries on the Record Drawings:

- 12
- 13 • Use erasable colored pencil (not ink) for all markings on the Record Drawings,
 14 conforming to the following color code:
- 15 • Additions - Red
- 16 • Deletions - Green
- 17 • Comments - Blue
- 18 • Dimensions - Graphite
- 19 • Provide the applicable reference for all entries, such as the change order number,
 20 the request for information (RFI) number, or the approved shop drawing number.
- 21 • Date all entries.
- 22 • Clearly identify all items in the entry with notes similar to those in the Contract
 23 Drawings (such as pipe symbols, centerline elevations, materials, pipe joint
 24 abbreviations, etc.).
- 25

26 The Contractor shall certify on the Record Drawings that said drawings are an accurate
 27 depiction of built conditions, and in conformance with the requirements detailed above.
 28 The Contractor shall submit final Record Drawings to the Contracting Agency.
 29 Contracting Agency acceptance of the Record Drawings is one of the requirements for
 30 achieving Physical Completion.

31
 32 Payment will be made for the following bid item:

Record Drawings (Minimum Bid \$ *** \$1,000 ***)	Lump Sum
---	----------

34
 35 Payment for this item will be made on a prorated monthly basis for work completed in
 36 accordance with this section up to 75% of the lump sum bid. The final 25% of the lump

1 sum item will be paid upon submittal and approval of the completed Record Drawings set
2 prepared in conformance with these Special Provisions.
3
4 A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor
5 must bid at least that amount.
6

7 1-06.GR1

8 **Control of Material**
9

10 1-06.1.GR1

11 **Approval of Materials Prior to Use**
12

13 1-06.1.INST1.GR1

14 Section 1-06.1 is supplemented with the following:
15

16 1-06.1.OPT1.GR1

17 (April 3, 2017)

18 For each proposed material that is required to be submitted for approval using either the
19 QPL or RAM process the Contractor will be allowed to submit for approval two material
20 sources or manufacturers per material type at no cost. Additional material sources or
21 manufacturers may be submitted for approval and will be processed at a cost of \$125.00
22 per material source or manufacturer submitted by QPL submittal and \$400.00 per material
23 submitted by RAM. All costs for processing additional material sources or manufacturers
24 will be deducted from monies due or that may come due to the Contractor. Subject to a
25 request by the Contractor and a determination by the Engineer the costs for processing
26 may be waived.
27

28 1-06.6.RTF

29 **1-06.6 Recycled Materials**

30 *(January 4, 2016 APWA GSP)*
31

32 Delete this section, including its subsections, and replace it with the following:
33

34 The Contractor shall make their best effort to utilize recycled materials in the construction
35 of the project. Approval of such material use shall be as detailed elsewhere in the
36 Standard Specifications.
37

38 Prior to Physical Completion the Contractor shall report the quantity of recycled materials
39 that were utilized in the construction of the project for each of the items listed in Section 9-
40 03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled
41 glass, steel furnace slag and other recycled materials (e.g. utilization of on-site material
42 and aggregates from concrete returned to the supplier). The Contractor's report shall be
43 provided on DOT form 350-075 Recycled Materials Reporting.
44

45 1-07.GR1

46 **Legal Relations and Responsibilities to the Public**
47

1 1-07.1.RTF

2 **1-07.1 Laws to be Observed**

3 *(October 1, 2005 APWA GSP)*

4
5 Supplement this section with the following:

6
7 In cases of conflict between different safety regulations, the more stringent regulation
8 shall apply.

9
10 The Washington State Department of Labor and Industries shall be the sole and
11 paramount administrative agency responsible for the administration of the provisions of
12 the Washington Industrial Safety and Health Act of 1973 (WISHA).

13
14 The Contractor shall maintain at the project site office, or other well known place at the
15 project site, all articles necessary for providing first aid to the injured. The Contractor
16 shall establish, publish, and make known to all employees, procedures for ensuring
17 immediate removal to a hospital, or doctor's care, persons, including employees, who
18 may have been injured on the project site. Employees should not be permitted to work on
19 the project site before the Contractor has established and made known procedures for
20 removal of injured persons to a hospital or a doctor's care.

21
22 The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of
23 the Contractor's plant, appliances, and methods, and for any damage or injury resulting
24 from their failure, or improper maintenance, use, or operation. The Contractor shall be
25 solely and completely responsible for the conditions of the project site, including safety for
26 all persons and property in the performance of the work. This requirement shall apply
27 continuously, and not be limited to normal working hours. The required or implied duty of
28 the Engineer to conduct construction review of the Contractor's performance does not,
29 and shall not, be intended to include review and adequacy of the Contractor's safety
30 measures in, on, or near the project site.

31
32
33 1-07.2.RTF

34 **1-07.2 State Taxes**

35
36 Delete this section, including its sub-sections, in its entirety and replace it with the following:

37
38 **1-07.2 State Sales Tax**

39 *(June 27, 2011 APWA GSP)*

40
41 The Washington State Department of Revenue has issued special rules on the State
42 sales tax. Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The
43 Contractor should contact the Washington State Department of Revenue for answers to
44 questions in this area. The Contracting Agency will not adjust its payment if the
45 Contractor bases a bid on a misunderstood tax liability.

46
47 The Contractor shall include all Contractor-paid taxes in the unit bid prices or other
48 contract amounts. In some cases, however, state retail sales tax will not be included.
49 Section 1-07.2(2) describes this exception.

50
51 The Contracting Agency will pay the retained percentage (or release the Contract Bond if
52 a FHWA-funded Project) only if the Contractor has obtained from the Washington State

1 Department of Revenue a certificate showing that all contract-related taxes have been
2 paid (RCW 60.28.051). The Contracting Agency may deduct from its payments to the
3 Contractor any amount the Contractor may owe the Washington State Department of
4 Revenue, whether the amount owed relates to this contract or not. Any amount so
5 deducted will be paid into the proper State fund.
6

7 **1-07.2(1) State Sales Tax — Rule 171**

8

9 WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets,
10 roads, etc., which are owned by a municipal corporation, or political subdivision of the
11 state, or by the United States, and which are used primarily for foot or vehicular traffic.
12 This includes storm or combined sewer systems within and included as a part of the street
13 or road drainage system and power lines when such are part of the roadway lighting
14 system. For work performed in such cases, the Contractor shall include Washington
15 State Retail Sales Taxes in the various unit bid item prices, or other contract amounts,
16 including those that the Contractor pays on the purchase of the materials, equipment, or
17 supplies used or consumed in doing the work.
18

19 **1-07.2(2) State Sales Tax — Rule 170**

20

21 WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or
22 existing buildings, or other structures, upon real property. This includes, but is not limited
23 to, the construction of streets, roads, highways, etc., owned by the state of Washington;
24 water mains and their appurtenances; sanitary sewers and sewage disposal systems
25 unless such sewers and disposal systems are within, and a part of, a street or road
26 drainage system; telephone, telegraph, electrical power distribution lines, or other
27 conduits or lines in or above streets or roads, unless such power lines become a part of a
28 street or road lighting system; and installing or attaching of any article of tangible personal
29 property in or to real property, whether or not such personal property becomes a part of
30 the realty by virtue of installation.
31

32 For work performed in such cases, the Contractor shall collect from the Contracting
33 Agency, retail sales tax on the full contract price. The Contracting Agency will
34 automatically add this sales tax to each payment to the Contractor. For this reason, the
35 Contractor shall not include the retail sales tax in the unit bid item prices, or in any other
36 contract amount subject to Rule 170, with the following exception.
37

38 Exception: The Contracting Agency will not add in sales tax for a payment the Contractor
39 or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or
40 consumable supplies not integrated into the project. Such sales taxes shall be included in
41 the unit bid item prices or in any other contract amount.
42

43 **1-07.2(3) Services**

44

45 The Contractor shall not collect retail sales tax from the Contracting Agency on any
46 contract wholly for professional or other services (as defined in Washington State
47 Department of Revenue Rules 138 and 244).
48

49 1-07.4.GR1

50 **Sanitation**

51

1 1-07.4(2).GR1

2 **Health Hazards**

3
4 1-07.4(2).INST1.GR1

5 Section 1-07.4(2) is revised to read:

6
7 COE 1-07.4(2).OPT1.FR1.RTF

8 (August 7, 2017)

9 This project site is known to be occupied by transients and therefore contains
10 biological hazards and associated physical hazards. These may include, but not be
11 limited to violent and dangerous individuals, hypodermic needles, garbage, broken
12 glass, human and animal excrement, drug paraphernalia, and other hazards.

13
14 The Contractor shall take precautions and perform any necessary Work required to
15 provide and maintain a safe and healthful jobsite for all workers and the public for the
16 duration of the project in accordance with all applicable laws and contract
17 requirements.

18
19 The Contractor shall ensure that the public, including persons who may be non-
20 English speaking or those who may not be able to recognize potential safety and
21 health hazards within the project area, are not harmed by the Contractors activities.

22
23 Nothing required by this Specification shall operate as a waiver of the Contractor's
24 responsibility for taking all steps necessary to ensure the safety of the public under
25 Section 1-07.23 or responsibility for liability and damages under Section 1-07.14 or
26 for any other responsibility under the Contract or as may be required by law.

27
28 **Health and Safety Plan**

29 The Contractor shall prepare a written Health and Safety Plan. The plan shall be
30 prepared under the supervision of a certified industrial hygienist and shall
31 incorporate all required County, State, and Federal health and safety provisions.
32 The plan shall include requirements of the Federal Occupational Safety and
33 Health Act of 1970 (OSHA), all amendments, and all other applicable health
34 regulations.

35
36 Preparation of the Health and Safety Plan shall include an initial site assessment
37 by the industrial hygienist. The plan shall break initial cleanup of the project into
38 identifiable construction areas. The plan shall be submitted to the Engineer prior
39 to commencing cleanup Work. At least one copy of the plan shall be posted at
40 the work site while cleanup Work is in progress. The industrial hygienist shall
41 perform one or more follow-up site assessments as needed to approve the site
42 following completion of the initial site cleanup.

43
44 **Public Notification**

45 The Contractor shall furnish and install the "No Trespassing" signs shown in the
46 Plans at locations staked by the Engineer at least 72 hours prior to performing
47 site cleanup or any potentially hazardous Work (such as clearing or operating
48 equipment).

49
50 At the same time that "No Trespassing" signs are posted, provide written
51 notification of the following to the Engineer and to the chief law enforcement
52 officer of the local governmental entity where the Work will occur:

1. The precise location of each area that is posted “No Trespassing”;
2. The date and time that each site was posted “No Trespassing”;
3. The date, time, description and duration of the Work to be performed at each site.

At least 72 hours prior to performing site cleanup in Work areas containing encampments (such as tents, makeshift dwellings, sleeping sites, or accumulations of personal property that are not refuse), the Contractor shall post a notification at each encampment area. Each notice shall:

1. Be weather resistant, and written in both English and Spanish.
2. Be affixed to each dwelling or post mounted within 10-feet of each encampment;
3. State the Prime Contractor’s company name as the entity that performed the cleanup as required by the Washington State Department of Transportation;
4. Provide the date that the notice is posted;
5. Provide date(s) and time(s) that cleanup will occur;
6. Provide the telephone number, business hours and physical address of the location where stored personal property may be claimed.
7. State that personal property will be stored for 70-days from the date of removal, and if unclaimed within that time, will be disposed of.

At the same time that notifications are posted at encampment areas, provide written notification of the schedule to perform site cleanup to the Engineer and to the following advocacy groups:

Everett Police Department
Community Outreach and Enforcement Team
425-407-3999

Acceptance of signs and notifications will be based on visual inspection that the sign and notifications meet these requirements.

Site Cleanup of Biological and Physical Hazards

An initial cleanup of the site, including all preparatory work required to make the worksite sanitary and safe in accordance with applicable laws and with the Contract, shall be completed to remove all individuals, encampments, and personal property from areas signed “No Trespassing”, and to address all biological and associated physical hazards present on the project. Necessary worker training, on and off site preparations, and personal protective equipment

shall be provided by the Contractor to complete this Work. If aggressive or violent individuals are encountered, the Contractor shall notify the local law enforcement agency to assist them in clearing the Work area.

Site cleanup of individual areas identified in the Health and Safety Plan shall be performed no more than 30 days in advance of performing other Work in each area.

The refuse generated by the site cleanup shall become the property of the Contractor and shall be removed from the project. Personal property shall be handled as required by this Specification and applicable laws.

Removal, Storage and Return of Personal Property

Personal property may include radios, audio and video equipment, sleeping bags, tents, stoves and cooking utensils, lanterns, flashlights, bed rolls, tarps, foam, canvas, mats, blankets, pillows, medication, personal papers, photographs, books and other reading materials, luggage, backpacks or other storage containers, clothing, towels, shoes, toiletries and cosmetics, clocks and watches, and eye glasses. Personal property does not include building materials such as wood products, metal, or rigid plastic.

Personal property items that are not refuse, contaminated, illegal or hazardous shall be removed from the Work area and stored at a location near the project site for return to the property owner. Items shall be placed in large transparent plastic bags and stored in a manner that protects them from adverse weather and theft. Reasonable efforts shall be made to place all items from each encampment into a separate bag. Each bag shall be labeled with an inventory to include a brief description of the contents, a description of the location that it was removed from, and the date that it was removed from the Work area. The Contractor shall not open closed items of personal property unless, in its determination, it is necessary to do so to protect public safety.

The Contractor shall retain the property for 70-days.

If the name and contact information of the owner of a personal property item is identified on that item, then for a period of not less than 10-days after removing the property from the Work area, the Contractor shall attempt to notify the apparent owner of the property and make arrangements for the owner to claim the property.

The Contractor shall release the property to any individual who claims ownership provided they are able to establish ownership by identifying the property and its approximate location. The Contractor shall maintain a record of all property that is claimed. The record shall include a description of the property, the date claimed, and the name of the claimant.

If personal property is not claimed within 70-days of removal from the encampment, then the property shall become the property of the Contractor and shall be removed from the project.

Site Preservation

The Contractor shall preserve the site after initial cleanup of biological and physical hazards.

On a daily basis and prior to performing any Work in areas where pedestrians or encampments may be present, the Contractor shall verify that the Work area is cleared of all persons not associated with the project. Individuals may seek shelter in dumpsters, equipment, under blankets, or other places hidden from view. Individuals may be disabled, or under the influence of alcohol or drugs and it should not be assumed that loud construction noise will wake them.

If the worksite becomes unsanitary or unsafe due to new encampments or new biological and associated physical hazards after initial cleanup is completed, then the Contractor shall perform additional site assessment, additional notification and additional cleanup.

The Engineer may authorize additional site preservation measures. The nature and frequency of these measures will be as agreed to by the Engineer. Additional site preservation measures may include the use of fencing, lighting, or security, provided it is approved in advance by the Engineer. Work performed without Engineer authorization will not be eligible for payment.

Measurement

No trespassing signs will be measured per each.

Payment

Payment will be made for the following bid items when they are included in the proposal:

“No Trespassing Sign”, per each.

The unit contract price per each “No Trespassing Sign” shall be full payment for all Work required to furnish, install, maintain and remove the signs.

“Health and Safety Plan”, lump sum.

The lump sum unit contract price for “Health and Safety Plan” shall be full payment for all Work associated with the preparation and implementation of the Health and Safety Plan including the initial and follow up assessment(s) for initial site cleanup, worker training and personal protective equipment, and providing required notifications.

“FA-Site Cleanup of Bio. And Physical Hazards”, by force account as provided in Section 1-09.6.

Removal and disposal of biological and physical hazards; removal of individuals and encampments; removal, storage, and return of personal property; disposal of unclaimed personal property; additional site assessment, notifications, worker training and personal protective equipment required after the initial site cleanup is completed; and site preservation Work authorized by the Engineer will be paid for by force account in accordance with Section 1-09.6.

1 For the purpose of providing a common proposal for all bidders, the Contracting
2 Agency has entered an amount for the item "FA-Site Cleanup of Bio. And
3 Physical Hazards" in the bid proposal to become a part of the total bid by the
4 Contractor.
5
6 1-07.7.GR1
7 **Load Limits**
8
9 1-07.7.INST1.GR1
10 Section 1-07.7 is supplemented with the following:
11
12 1-07.7.OPT6.GR1
13 (March 13, 1995)
14 If the sources of materials provided by the Contractor necessitates hauling over roads
15 other than State Highways, the Contractor shall, at the Contractor's expense, make all
16 arrangements for the use of the haul routes.
17
18 1-07.11.GR1
19 **Requirements for Nondiscrimination**
20
21 1-07.11.INST1.GR1
22 Section 1-07.11 is supplemented with the following:
23
24 1-07.11(2).OPT1.2025.GR1
25 (January 24, 2024)
26 11. The Contractor shall comply with the following nondiscrimination provisions, and
27 the Contractor shall ensure the nondiscrimination provisions are included in all
28 subcontracts:
29
30 a. Nondiscrimination Requirement. During the term of this Contract, the
31 Contractor, including all subcontractors, shall not discriminate on the bases
32 enumerated at RCW 49.60.530(3). In addition, the Contractor, including all
33 subcontractors, shall give written notice of this nondiscrimination
34 requirement to any labor organizations with which the Contractor, or
35 subcontractor, has a collective bargaining or other agreement.
36
37 b. Obligation to Cooperate. The Contractor, including all subcontractors, shall
38 cooperate and comply with any Washington state agency investigation
39 regarding any allegation that the Contractor, including any subcontractor,
40 has engaged in discrimination prohibited by this Contract pursuant to RCW
41 49.60.530(3).
42
43 c. Default. Notwithstanding any provision to the contrary, the Contracting
44 Agency may suspend the Contract in accordance with Section 1-08.6, upon
45 notice of a failure to participate and cooperate with any state agency
46 investigation into alleged discrimination prohibited by this Contract, pursuant
47 to RCW 49.60.530(3). Any such suspension will remain in place until the
48 Contracting Agency receives notification that Contractor, including any
49 subcontractor, is cooperating with the investigating state agency. In the
50 event the Contractor, or subcontractor, is determined to have engaged in
51 discrimination identified at RCW 49.60.530(3), the Contracting Agency may

1 terminate this Contract in whole or in part in accordance with Section 1-
2 08.10(1), and in addition to the sanctions listed in Section 1-07.11(5), the
3 Contractor, subcontractor, or both, may be referred for debarment as
4 provided in RCW 39.26.200. The Contractor or subcontractor may be given
5 a reasonable time in which to cure this noncompliance, including
6 implementing conditions consistent with any court-ordered injunctive relief
7 or settlement agreement.
8

- 9 d. Remedies for Breach. Notwithstanding any provision to the contrary, in the
10 event of Contract termination or suspension for engaging in discrimination,
11 the Contractor, subcontractor, or both, shall be liable for contract damages
12 as authorized by law including, but not limited to, any cost difference
13 between the original contract and the replacement or cover contract and all
14 administrative costs directly related to the replacement contract, which
15 damages are distinct from any penalties imposed under Chapter 49.60,
16 RCW. The Contracting Agency shall have the right to deduct from any
17 monies due to Contractor or subcontractor, or that thereafter become due,
18 an amount for damages Contractor or subcontractor will owe Contracting
19 Agency for default under this Provision.
20

21 1-07.16(2).GR1

22 ***Vegetation Protection and Restoration***

23
24 1-07.16(2).INST1.GR1

25 Section 1-07.16(2) is supplemented with the following:
26

27 1-07.16(2).OPT1.GR1

28 (August 2, 2010)

29 Vegetation and soil protection zones for trees shall extend out from the trunk to a
30 distance of 1 foot radius for each inch of trunk diameter at breast height.
31

32 Vegetation and soil protection zones for shrubs shall extend out from the stems at
33 ground level to twice the radius of the shrub.
34

35 Vegetation and soil protection zones for herbaceous vegetation shall extend to
36 encompass the diameter of the plant as measured from the outer edge of the plant.
37

38 1-07.17.GR1

39 **Utilities and Similar Facilities**

40
41 **COE 1-07.17.OPT1.RTF**

42 (April 2, 2007)

43 Locations and dimensions shown in the Plans for existing facilities are in accordance with
44 available information obtained without uncovering, measuring, or other verification.
45

46 The following addresses and telephone numbers of utility companies known or suspected
47 of having facilities within the project limits are supplied for the Contractor's convenience:
48

49 ***

50 **CITY OF EVERETT UTILITIES (SANITARY SEWER, STORMWATER, WATER)**

51 ATTENTION: GRANT MOEN

1 TELEPHONE: (425) 257-8800
2 EMAIL: GMOEN@EVERETTWA.GOV
3 ADDRESS: PUBLIC WORKS DEPARTMENT
4 3200 CEDAR ST
5 EVERETT, WA 98201
6

7 **ALDERWOOD WATER & WASTEWATER DISTRICT**

8 ATTENTION: JOE SKEENS
9 DESK PHONE: (425) 743-8912
10 CELL PHONE: (425) 478-8839
11 EMAIL: JSKEENS@AWWD.COM
12 ADDRESS: 15204 35TH AVE W
13 LYNNWOOD, WA 98087-5021
14

15 **LUMEN**

16 ATTENTION: CHRISTIAN MARSHALL
17 DESK PHONE: (206) 485-5322
18 CELL PHONE: (206) 485-5322
19 EMAIL: CHRISTIAN.MARSHALL@LUMEN.COM
20 ADDRESS: 1208 NE 64TH STREET
21 SEATTLE, WA 98115-6722
22

23 **COMCAST**

24 ATTENTION: JOHN WARRICK – RESIDENTIAL
25 DESK PHONE: (425) 263-5328
26 CELL PHONE: (425) 757-1794
27 EMAIL: JOHN_WARRICK@CABLE.COMCAST.COM
28 ADDRESS: 1525 – 75TH ST SW STE #200
29 EVERETT, WA 98203
30

31 ATTENTION: CASEY BROWN
32 DESK PHONE: (425) 263-5345
33 CELL PHONE: (425) 754-0064
34 EMAIL: CASEY_BROWN2@CABLE.COMCAST.COM
35 ADDRESS: 1525 – 75TH ST SW STE #200
36 EVERETT, WA 98203
37

38 ATTENTION: SHANE TURNER
39 DESK PHONE:
40 CELL PHONE: (425) 316-9405
41 EMAIL: SHANE_TURNER2@CABLE.COMCAST.COM
42 ADDRESS: 400 SEQUIOA DR
43 BELLINGHAM, WA 98226
44

45 **ZIPLY COMMUNICATIONS**

46 ATTENTION: SAMANTHA JOHNSTON (EVERETT)
47 DESK PHONE:
48 CELL PHONE: (208) 810-5640
49 EMAIL: SAMANTHA.JOHNSTON1@ZIPLY.COM
50 ADDRESS:
51

52 ATTENTION: MIKE HAKAHAN (SILVER LAKE)

1 DESK PHONE:
2 CELL PHONE: (425) 949-0230
3 EMAIL: MIKE.HAKAHAN@ZIPLY.COM
4 ADDRESS:
5

6 **MUKILTEO WATER DISTRICT**
7 ATTENTION: RICK MATTHEWS
8 DESK PHONE: (425) 355-3355
9 CELL PHONE: (425) 359-1021
10 EMAIL: RICKM@MUKILTEOWWD.ORG
11 ADDRESS: 7824 MUKILTEO SPEEDWAY
12 MUKILTEO, WA 98275
13

14 **PUGET SOUND ENERGY**
15 ATTENTION: MARDY PUNTENEY
16 DESK PHONE:
17 CELL PHONE: (425) 754-8053
18 EMAIL: MARDY.PUNTENEY@PSE.COM
19 ADDRESS: 3630 RAILWAY AVE
20 EVERETT, WA 98201
21

22 **RUBATINO REFUSE**
23 ATTENTION:
24 DESK PHONE: (425) 259-0044
25 CELL PHONE:
26 EMAIL: INFO@RUBATINO.COM
27 MAILING
28 ADDRESS: P.O. BOX 1029
29 EVERETT, WA 98206
30

31 **SILVER LAKE WATER DISTRICT**
32 ATTENTION: SCOTT SMITH
33 DESK PHONE: (425) 337-3647 EXT. 216
34 CELL PHONE:
35 EMAIL: SSMITH@SLWSD.COM
36 ADDRESS: 15205 41ST AVE SE
37 BOTHELL, WA 98201-6114
38
39

40 **SNOHOMISH COUNTY PUD #1**
41 ATTENTION: ANDRA SHAUGHNESSY FLAHERTY
42 DESK PHONE: (425) 783-4419
43 CELL PHONE: (425) 345-0312
44 EMAIL: ALFLAHERTY@SNOPUD.COM
45 ADDRESS: P.O. BOX 1107
46 EVERETT, WA 98206
47

48 **WAVE/ASTOUND COMMUNICATION**
49 ATTENTION: JIM BIGGS
50 DESK PHONE: (206) 786-8720
51 CELL PHONE:
52 EMAIL: JIM.BIGGS@ASTOUND.COM

1 WA-CONSTRUCTION@ASTOUND.COM
2 ADDRESS: 4766 1ST AVE S
3 SEATTLE, WA 98134
4 ***
5
6 COE 1-07.18.RTF
7 **1-07.18 Public Liability and Property Damage Insurance**
8
9 Delete this section in its entirety, and replace it with the following:
10
11 **1-07.18 Insurance**
12 *(January 4, 2024 APWA GSP)*
13
14 **1-07.18(1) General Requirements**
15 A. The Contractor shall procure and maintain the insurance described in all subsections of
16 section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating
17 of not less than A-: VII and licensed to do business in the State of Washington. The
18 Contracting Agency reserves the right to approve or reject the insurance provided, based
19 on the insurer's financial condition.
20
21 B. The Contractor shall keep this insurance in force without interruption from the
22 commencement of the Contractor's Work through the term of the Contract and for thirty
23 (30) days after the Physical Completion date, unless otherwise indicated below.
24
25 C. If any insurance policy is written on a claims-made form, its retroactive date, and that of
26 all subsequent renewals, shall be no later than the effective date of this Contract. The
27 policy shall state that coverage is claims made and state the retroactive date. Claims-
28 made form coverage shall be maintained by the Contractor for a minimum of 36 months
29 following the Completion Date or earlier termination of this Contract, and the Contractor
30 shall annually provide the Contracting Agency with proof of renewal. If renewal of the
31 claims made form of coverage becomes unavailable, or economically prohibitive, the
32 Contractor shall purchase an extended reporting period ("tail") or execute another form of
33 guarantee acceptable to the Contracting Agency to assure financial responsibility for
34 liability for services performed.
35
36 D. The Contractor's Automobile Liability, Commercial General Liability and Excess or
37 Umbrella Liability insurance policies shall be primary and non-contributory insurance as
38 respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage.
39 Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting
40 Agency shall be excess of the Contractor's insurance and shall not contribute with it.
41
42 E. The Contractor shall provide the Contracting Agency and all additional insureds with written
43 notice of any policy cancellation, within two business days of their receipt of such notice.
44
45 F. The Contractor shall not begin work under the Contract until the required insurance has
46 been obtained and approved by the Contracting Agency
47
48 G. Failure on the part of the Contractor to maintain the insurance as required shall constitute
49 a material breach of contract, upon which the Contracting Agency may, after

- 1 giving five business days' notice to the Contractor to correct the breach, immediately
2 terminate the Contract or, at its discretion, procure or renew such insurance and pay any
3 and all premiums in connection therewith, with any sums so expended to be repaid to the
4 Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset
5 against funds due the Contractor from the Contracting Agency.
6
- 7 H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of
8 the Contract and no additional payment will be made.
9
- 10 I. Under no circumstances shall a wrap up policy be obtained, for either initiating or
11 maintaining coverage, to satisfy insurance requirements for any policy required under this
12 Section. A "wrap up policy" is defined as an insurance agreement or arrangement under
13 which all the parties working on a specified or designated project are insured under one
14 policy for liability arising out of that specified or designated project.
15

16 **1-07.18(2) Additional Insured**

17 All insurance policies, with the exception of Workers Compensation, and of Professional
18 Liability and Builder's Risk (if required by this Contract) shall name the following listed entities
19 as additional insured(s) using the forms or endorsements required herein:

- 20 ▪ the Contracting Agency and its officers, elected officials, employees, agents, and
21 volunteers
22

23 The above-listed entities shall be additional insured(s) for the full available limits of liability
24 maintained by the Contractor, irrespective of whether such limits maintained by the
25 Contractor are greater than those required by this Contract, and irrespective of whether the
26 Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits
27 lower than those maintained by the Contractor.
28

29 For Commercial General Liability insurance coverage, the required additional insured
30 endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations
31 and CG 20 37 10 01 for completed operations.
32

33 **1-07.18(3) Subcontractors**

34 The Contractor shall cause each subcontractor of every tier to provide insurance coverage that
35 complies with all applicable requirements of the Contractor-provided insurance as set forth
36 herein, except the Contractor shall have sole responsibility for determining the limits of
37 coverage required to be obtained by subcontractors.
38

39 The Contractor shall ensure that all subcontractors of every tier add all entities listed in
40 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by
41 that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20
42 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.
43

44 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting
45 Agency evidence of insurance and copies of the additional insured endorsements of each
46 subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.
47

48 **1-07.18(4) Verification of Coverage**

49 The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and
50 endorsements for each policy of insurance meeting the requirements set forth herein when
51 the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to
52 demand such verification of coverage with these insurance requirements or failure of

- 1 Contracting Agency to identify a deficiency from the insurance documentation provided shall
2 not be construed as a waiver of Contractor's obligation to maintain such insurance.
3
4 Verification of coverage shall include:
- 5 1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
 - 6 2. Copies of all endorsements naming Contracting Agency and all other entities listed in
7 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may
8 submit a copy of any blanket additional insured clause from its policies instead of a
9 separate endorsement.
 - 10 3. Any other amendatory endorsements to show the coverage required herein.
 - 11 4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy
12 these requirements – actual endorsements must be submitted.
13
- 14 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting
15 Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is
16 required on this Project, a full and certified copy of that policy is required when the Contractor
17 delivers the signed Contract for the work.
18
- 19 **1-07.18(5) Coverages and Limits**
- 20 The insurance shall provide the minimum coverages and limits set forth below. Contractor's
21 maintenance of insurance, its scope of coverage, and limits as required herein shall not be
22 construed to limit the liability of the Contractor to the coverage provided by such insurance, or
23 otherwise limit the Contracting Agency's recourse to any remedy available at law or in equity.
24
- 25 All deductibles and self-insured retentions must be disclosed and are subject to approval by
26 the Contracting Agency. The cost of any claim payments falling within the deductible or self-
27 insured retention shall be the responsibility of the Contractor. In the event an additional
28 insured incurs a liability subject to any policy's deductibles or self-insured retention, said
29 deductibles or self-insured retention shall be the responsibility of the Contractor.
30
- 31 **1-07.18(5)A Commercial General Liability**
- 32 Commercial General Liability insurance shall be written on coverage forms at least as broad
33 as ISO occurrence form CG 00 01, including but not limited to liability arising from premises,
34 operations, stop gap liability, independent contractors, products-completed operations,
35 personal and advertising injury, and liability assumed under an insured contract. There shall
36 be no exclusion for liability arising from explosion, collapse or underground property damage.
37
- 38 The Commercial General Liability insurance shall be endorsed to provide a per project
39 general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.
40
- 41 Contractor shall maintain Commercial General Liability Insurance arising out of the
42 Contractor's completed operations for at least three years following Substantial Completion of
43 the Work.
44
- 45 Such policy must provide the following minimum limits:
- | | | |
|----|-------------|---|
| 46 | \$2,000,000 | Each Occurrence |
| 47 | \$3,000,000 | General Aggregate |
| 48 | \$3,000,000 | Products & Completed Operations Aggregate |

1 \$2,000,000 Personal & Advertising Injury each offence
2 \$2,000,000 Stop Gap / Employers' Liability each accident
3

4 **1-07.18(5)B Automobile Liability**

5 Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be
6 written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the
7 transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48
8 endorsements.
9

10 Such policy must provide the following minimum limit:

11 \$1,000,000 Combined single limit each accident
12

13 **1-07.18(5)C Workers' Compensation**

14 The Contractor shall comply with Workers' Compensation coverage as required by the
15 Industrial Insurance laws of the State of Washington.
16

17 COE 1-07.18(5)D.RTF

18 **1-07.18(5)D Excess or Umbrella Liability**

19 *(January 4, 2016 APWA GSP)*
20

21 The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than
22 *** **Two** *** million each occurrence and annual aggregate. This excess or umbrella liability
23 coverage shall be excess over and as least as broad in coverage as the Contractor's
24 Commercial General and Auto Liability insurance
25

26 All entities listed under 1-07.18(2) of these Special Provisions shall be named as additional
27 insureds on the Contractor's Excess or Umbrella Liability insurance policy.
28

29 This requirement may be satisfied instead through the Contractor's primary Commercial
30 General and Automobile Liability coverages, or any combination thereof that achieves the
31 overall required limits of insurance.
32

33 COE 1-07.18(5)J.RTF

34 **1-07.18(5)J Pollution Liability**

35 *(January 4, 2016 APWA GSP)*
36

37 The Contractor shall provide a Contractors Pollution Liability policy, providing coverage for
38 claims involving bodily injury, property damage (including loss of use of tangible property that
39 has not been physically injured), cleanup costs, remediation, disposal or other handling of
40 pollutants, including costs and expenses incurred in the investigation, defense, or settlement
41 of claims, arising out of any one or more of the following:

- 42 1. Contractor's operations related to this project.
- 43 2. Remediation, abatement, repair, maintenance or other work with lead-based paint or
44 materials containing asbestos.
- 45 3. Transportation of hazardous materials away from any site related to this project.
46

47 All entities listed under 1-07.18(2) of these Special Provisions shall be named by
48 endorsement as additional insureds on the Contractors Pollution Liability insurance policy.
49

50 Such Pollution Liability policy shall provide the following minimum limits:

51 *** **\$2,000,000** *** each loss and annual aggregate
52

1 1-07.23.GR1

2 **Public Convenience and Safety**

3
4 **1-07.23(1).RTF**

5 **1-07.23(1) Construction Under Traffic**

6 (May 2, 2017 APWA GSP)

7
8 Revise the third sentence of the second paragraph to read:

9
10 Accessibility to existing or temporary pedestrian push buttons shall not be impaired; if
11 approved by the Contracting Agency activating pedestrian recall timing or other
12 accommodation may be allowed during construction.

13
14 1-07.23(1).INST1.GR1

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

16
17 **COE 1-07.23(1).OPT5.Lane Closures.DOCX**

18 (October 3, 2022)

19 Lane, ramp, shoulder, and roadway closures are subject to the following restrictions:

20
21 ***** West Marine View Drive**

22 Two way traffic shall be maintained at all times. At no time shall any lane closures be in
23 place longer then 72 hours

24
25 **Alverson Blvd** 5 Days before any lane or shoulder closure the Contractor shall notify
26 City of Everett Parks of closure. Parks Contact: Cory Rettenmier at 425 257-7314.

27
28
29 **41st St / Grand Ave** No lane closures shall be permitted between 2:30 pm and 6:00pm.

30
31 *******

32
33 If the Engineer determines the permitted closure hours adversely affect traffic, the
34 Engineer may adjust the hours accordingly. The Engineer will notify the Contractor in
35 writing of any change in the closure hours. Exceptions to these restrictions may be
36 considered by the Engineer on a case-by-case basis following a written request by
37 the Contractor.

38
39 Lane, ramp, shoulder, and roadway closures are not allowed on any of the following:

- 40
41 1. A holiday,
- 42
43 2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or
44 Monday are considered a holiday weekend. A holiday weekend includes
45 Saturday, Sunday, and the holiday.
- 46
47 3. After ***** 2:30 P.M. ***** on the day prior to a holiday or holiday weekend, and
48
- 49 4. Before ***** 7:00 A.M. ***** on the day after the holiday or holiday weekend.
- 50
51 5. The two-hour period prior to and the two-hour period after the following
52 special events:

1
2 *** Mill Town Half Marathon ***
3

4 It shall be the Contractor's responsibility to obtain the dates and times of all
5 events.
6

7 **Traffic Delays**

8 When AFADs or flaggers are used to control traffic, traffic shall not be stopped for
9 more than *** 20 *** minutes at any time. All traffic congestion shall be allowed to clear
10 before traffic is delayed again.
11

12 If the delay becomes greater than *** 20 *** minutes, the Contractor shall immediately
13 begin to take action to cease the operations that are causing the delays. If the *** 20
14 *** minute delay limit has been exceeded, as determined by the Engineer, the
15 Contractor shall provide to the Engineer, a written proposal to revise his work
16 operations to meet the *** 20 *** minute limit. This proposal shall be accepted by the
17 Engineer prior to resuming any work requiring traffic control.
18

19 There shall be no delay to medical, fire, or other emergency vehicles. The Contractor
20 shall alert all flaggers and personnel of this requirement.
21

22 **General Restrictions**

23 Construction vehicles using a closed traffic lane shall travel only in the normal
24 direction of traffic flow unless expressly allowed in an accepted traffic control plan.
25 Construction vehicles shall be equipped with flashing or rotating amber lights.
26

27 No two consecutive on-ramps, off-ramps, or intersections shall be closed at the same
28 time and only one ramp at an interchange shall be closed, unless specifically shown
29 in the Plans.
30

31 Roads or ramps that are designated as part of a detour shall not be closed or restricted
32 during the implementation of that detour, unless specifically shown in the Plans.
33

34 **Controlled Access**

35 No special access or egress shall be allowed by the Contractor other than normal
36 legal movements or as shown in the Plans.
37

38 Contractor's vehicles of 10,000 GVW or greater shall not exit or enter a lane open to
39 public traffic except as follows:
40

41 Egress and ingress shall only occur during the hours of allowable lane closures,
42 and:
43

- 44 1. For exiting an open lane of traffic, by decelerating in a lane that is closed
45 during the allowable hours for lane closures.
- 46 2. For entering an open lane of traffic, by accelerating in a closed lane
47 during the allowable hours for lane closures.
48
49

1 Traffic control vehicles are excluded from the gross vehicle weight requirement. If
2 placing construction signs will restrict traveled lanes, then the work will be permitted
3 during the hours of allowable lane closures.
4
5 **Advance Notification**
6 The Contractor shall notify the Engineer in writing of any traffic impacts related to lane
7 closure, shoulder closure, sidewalk closure, or any combination for the week by 12:00
8 p.m. (noon) Wednesday the week prior to the stated impacts.
9
10 The Contractor shall notify the Engineer in writing ten working days in advance of any
11 traffic impacts related to full roadway closure, ramp closure, or both.
12
13 The Contractor shall notify the Engineer in writing of any changes to the stated traffic
14 impacts a minimum of 48 hours prior to the traffic impacts.
15
16 1-07.23(1).OPT10.GR1
17 (October 3, 2022)
18 If July 4 occurs on a Tuesday, the prior Monday and Friday are considered to be part
19 of a holiday weekend. If July 4 occurs on a Thursday, the following Friday and Monday
20 are considered to be part of a holiday weekend.
21
22 1-07.24.RTF
23 **1-07.24 Rights of Way**
24 *(July 23, 2015 APWA GSP)*
25
26 Delete this section and replace it with the following:
27
28 Street Right of Way lines, limits of easements, and limits of construction permits are
29 indicated in the Plans. The Contractor's construction activities shall be confined within
30 these limits, unless arrangements for use of private property are made.
31
32 Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of
33 way and easements, both permanent and temporary, necessary for carrying out the work.
34 Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's
35 attention by a duly issued Addendum.
36
37 Whenever any of the work is accomplished on or through property other than public Right
38 of Way, the Contractor shall meet and fulfill all covenants and stipulations of any
39 easement agreement obtained by the Contracting Agency from the owner of the private
40 property. Copies of the easement agreements may be included in the Contract
41 Provisions or made available to the Contractor as soon as practical after they have been
42 obtained by the Engineer.
43
44 Whenever easements or rights of entry have not been acquired prior to advertising, these
45 areas are so noted in the Plans. The Contractor shall not proceed with any portion of the
46 work in areas where right of way, easements or rights of entry have not been acquired
47 until the Engineer certifies to the Contractor that the right of way or easement is available
48 or that the right of entry has been received. If the Contractor is delayed due to acts of
49 omission on the part of the Contracting Agency in obtaining easements, rights of entry or
50 right of way, the Contractor will be entitled to an extension of time. The Contractor agrees
51 that such delay shall not be a breach of contract.
52

1 Each property owner shall be given 48 hours notice prior to entry by the Contractor. This
2 includes entry onto easements and private property where private improvements must be
3 adjusted.
4
5 The Contractor shall be responsible for providing, without expense or liability to the
6 Contracting Agency, any additional land and access thereto that the Contractor may
7 desire for temporary construction facilities, storage of materials, or other Contractor
8 needs. However, before using any private property, whether adjoining the work or not,
9 the Contractor shall file with the Engineer a written permission of the private property
10 owner, and, upon vacating the premises, a written release from the property owner of
11 each property disturbed or otherwise interfered with by reasons of construction pursued
12 under this contract. The statement shall be signed by the private property owner, or
13 proper authority acting for the owner of the private property affected, stating that
14 permission has been granted to use the property and all necessary permits have been
15 obtained or, in the case of a release, that the restoration of the property has been
16 satisfactorily accomplished. The statement shall include the parcel number, address, and
17 date of signature. Written releases must be filed with the Engineer before the Completion
18 Date will be established.

19
20 1-08.GR1

21 **Prosecution and Progress**

22

23 1-08.0.RTF

24 **1-08 PROSECUTION AND PROGRESS**

25

26 Add the following new section:

27

28 **1-08.0 Preliminary Matters**

29 (May 25, 2006 APWA GSP)

30

31 1-08.0(1).RTF

32 Add the following new section:

33

34 **1-08.0(1) Preconstruction Conference**

35 (July 8, 2024APWA GSP)

36

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

- 40 1. To review the initial progress schedule;
- 41 2. To establish a working understanding among the various parties associated or
42 affected by the work;
- 43 3. To establish and review procedures for progress payment, notifications, approvals,
44 submittals, etc.;
- 45 4. To review DBE Requirements, Training Plans, and Apprenticeship Plans, when
46 applicable.
- 47 5. To establish normal working hours for the work;
- 48 6. To review safety standards and traffic control; and

1 7. To discuss such other related items as may be pertinent to the work.

2

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

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

7

8 **F1-08.0(2).docx**

9 Add the following new section:

10

11 **1-08.0(2) Hours of Work**

12 *(December 8, 2014 APWA GSP)*

13

14 Except in the case of emergency or unless otherwise approved by the Engineer, the
15 normal working hours for the Contract shall be any consecutive 8-hour period between
16 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the
17 Contractor desires different than the normal working hours stated above, the request must
18 be submitted in writing prior to the preconstruction conference, subject to the provisions
19 below. The working hours for the Contract shall be established at or prior to the
20 preconstruction conference.

21

22 All working hours and days are also subject to local permit and ordinance conditions (such
23 as noise ordinances).

24

25 If the Contractor wishes to deviate from the established working hours, the Contractor
26 shall submit a written request to the Engineer for consideration. This request shall state
27 what hours are being requested, and why. Requests shall be submitted for review no
28 later than ***** 5 working days and 30 working days for night work ***** prior to the day(s) the
29 Contractor is requesting to change the hours.

30

31 If the Contracting Agency approves such a deviation, such approval may be subject to
32 certain other conditions, which will be detailed in writing. For example:

33 1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting
34 Agency for the costs in excess of straight-time costs for Contracting Agency
35 representatives who worked during such times. (The Engineer may require
36 designated representatives to be present during the work. Representatives who
37 may be deemed necessary by the Engineer include, but are not limited to: survey
38 crews; personnel from the Contracting Agency's material testing lab; inspectors;
39 and other Contracting Agency employees or third party consultants when, in the
40 opinion of the Engineer, such work necessitates their presence.)

41 2. Considering the work performed on Saturdays, Sundays, and holidays as working
42 days with regard to the contract time.

43 3. Considering multiple work shifts as multiple working days with respect to contract
44 time even though the multiple shifts occur in a single 24-hour period.

45 4. If a 4-10 work schedule is requested and approved the non working day for the
46 week will be charged as a working day.

47 5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and
48 recorded properly on certified payroll

49

1 1-08.1.GR1

2 **Subcontracting**

3
4 1-08.1.INST1.GR1

5 Section 1-08.1 is supplemented with the following:

6
7 1-08.1(9)B.OPT1.2025.GR1

8 (January 24, 2024)

9 16. 1-07.11 **Requirements for Nondiscrimination** – Item 11 from Section 1-
10 07.11(2).

11
12 1-08.3.GR1

13 **Progress Schedule**

14
15 1-08.3(2).NEW.GR1

16 **General Requirements**

17
18 COE 1-08.3(2)A.RTF

19 **1-08.3(2)A Type A Progress Schedule**

20 (December 30, 2022 APWA GSP)

21
22 Revise this section to read:

23
24 The Contractor shall submit **3** copies of a Type A Progress Schedule no later than at the
25 preconstruction conference, or some other mutually agreed upon submittal time. The
26 schedule may be a critical path method (CPM) schedule, bar chart, or other standard
27 schedule format. Regardless of which format used, the schedule shall identify the critical
28 path. The Engineer will evaluate the Type A Progress Schedule and approve or return the
29 schedule for corrections within 15 calendar days of receiving the submittal.

30
31
32 1-08.5.OptionA.RTF

33 **1-08.5 Time for Completion**

34 (December 30, 2022 APWA GSP, Option A)

35
36
37 Revise the third and fourth paragraphs to read:

38
39 Contract time shall begin on the first working day following the Notice to Proceed Date.

40
41 Each working day shall be charged to the contract as it occurs, until the contract work is
42 physically complete. If substantial completion has been granted and all the authorized
43 working days have been used, charging of working days will cease. Each week the
44 Engineer will provide the Contractor a statement that shows the number of working days:
45 (1) charged to the contract the week before; (2) specified for the physical completion of
46 the contract; and (3) remaining for the physical completion of the contract. The statement
47 will also show the nonworking days and all partial or whole days the Engineer declares as
48 unworkable The statement will be identified as a Written Determination by the Engineer. If
49 the Contractor does not agree with the Written Determination of working days, the
50 Contractor shall pursue the protest procedures in accordance with Section 1-04.5. By
51 failing to follow the procedures of Section 1-04.5, the Contractor shall be deemed as
52 having accepted the statement as correct. If the Contractor is approved to

1 work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in
2 which a 4-10 shift is worked would ordinarily be charged as a working day then the fifth
3 day of that week will be charged as a working day whether or not the Contractor works on
4 that day.

5
6 Revise the sixth paragraph to read:

7
8 The Engineer will give the Contractor written notice of the completion date of the contract
9 after all the Contractor's obligations under the contract have been performed by the
10 Contractor. The following events must occur before the Completion Date can be
11 established:

- 12 1. The physical work on the project must be complete; and
- 13 2. The Contractor must furnish all documentation required by the contract and required
14 by law, to allow the Contracting Agency to process final acceptance of the contract.
15 The following documents must be received by the Project Engineer prior to
16 establishing a completion date:
 - 17 a. Certified Payrolls (per Section 1-07.9(5)).
 - 18 b. Material Acceptance Certification Documents
 - 19 c. Monthly Reports of Amounts Credited as DBE Participation, as required by the
20 Contract Provisions.
 - 21 d. Final Contract Voucher Certification
 - 22 e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and
23 all Subcontractors
 - 24 f. A copy of the Notice of Termination sent to the Washington State Department of
25 Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the
26 Notice of Termination by Ecology; and no rejection of the Notice of Termination by
27 Ecology. This requirement will not apply if the Construction Stormwater General
28 Permit is transferred back to the Contracting Agency in accordance with Section
29 8-01.3(16).
 - 30 g. Property owner releases per Section 1-07.24

31
32 **F1-08.5.OPT7.Working Days.docx**

33 (March 13, 1995)

34 This project shall be physically completed within *** sixty (60) *** working days.

35
36 **1-08.6.GR1**

37 **Suspension of Work**

38
39 **1-08.6.INST1.GR1**

40 Section 1-08.6 is supplemented with the following:

41
42 **F1-08.6.OPT2.Long Lead Items.docx**

43 (February 6, 2023)

44 Contract time may be suspended for procurement of critical materials (Procurement
45 Suspension). In order to receive a Procurement Suspension, the Contractor shall within
46 21 calendar days after execution by the Contracting Agency, place purchase orders for all
47 materials deemed critical by the Contracting Agency for physical completion of the
48 contract. The Contractor shall provide copies of purchase orders for the critical materials.
49 Such purchase orders shall disclose the purchase order date and estimated delivery dates
50 for such critical material.

The Contractor shall show procurement of the materials listed below as activities in the Progress Schedule. If the approved Progress Schedule indicates that the materials procurement are critical activities, and if the Contractor has provided documentation that purchase orders are placed for the critical materials within the prescribed 21 calendar days, then contract time will be suspended upon physical completion of all critical work except that work dependent upon the below listed critical materials:

*** PPB POLES
PEDESTRIAN PUSHBUTTON
RECTANGULAR RAPID FLASHING BEACON SYSTEM

Charging of contract time will resume upon delivery of the critical materials to the Contractor or *** 120 *** calendar days after execution by the Contracting Agency, whichever occurs first.

1-08.9.OptionB.RTF

1-08.9 Liquidated Damages

(March 3, 2021 APWA GSP, Option B)

Revise the second and third paragraphs to read:

Accordingly, the Contractor agrees:

1. To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for Physical Completion, and
2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

Liquidated Damages Formula

$$LD=0.15C/T$$

Where:

LD = liquidated damages per working day (rounded to the nearest dollar)

C = original Contract amount

T = original time for Physical Completion

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine the Contract Work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the

1 Contractor shall furnish a written schedule for completing the physical Work on the
2 Contract.
3
4 1-09.GR1
5 **Measurement and Payment**
6
7 1-09.2(5).RTF
8 **1-09.2(5) Measurement**
9 *(December 30, 2022 APWA GSP)*
10
11 Revise the first paragraph to read:
12
13 **Scale Verification Checks** – At the Engineer’s discretion, the Engineer may perform
14 verification checks on the accuracy of each batch, hopper, or platform scale used in
15 weighing contract items of Work.
16
17 1-09.6.RTF
18 **1-09.6 Force Account**
19 *(December 30, 2022 APWA GSP)*
20
21 Supplement this section with the following:
22
23 The Contracting Agency has estimated and included in the Proposal, dollar amounts for all
24 items to be paid per force account, only to provide a common proposal for Bidders. All such
25 dollar amounts are to become a part of Contractor's total bid. However, the Contracting
26 Agency does not warrant expressly or by implication, that the actual amount of work will
27 correspond with those estimates. Payment will be made on the basis of the amount of work
28 actually authorized by the Engineer.
29
30 1-09.9(Payments).RTF
31 **1-09.9 Payments**
32 *(December 30, 2022 APWA GSP)*
33
34 Section 1-09.9 is revised to read:
35
36 The basis of payment will be the actual quantities of Work performed according to the
37 Contract and as specified for payment.
38
39 The Contractor shall submit a breakdown of the cost of lump sum bid items at the
40 Preconstruction Conference, to enable the Project Engineer to determine the Work
41 performed on a monthly basis. A breakdown is not required for lump sum items that
42 include a basis for incremental payments as part of the respective Specification. Absent a
43 lump sum breakdown, the Project Engineer will make a determination based on
44 information available. The Project Engineer’s determination of the cost of work shall be
45 final.
46
47 Progress payments for completed work and material on hand will be based upon progress
48 estimates prepared by the Engineer. A progress estimate cutoff date will be established at
49 the preconstruction conference.
50

1 The initial progress estimate will be made not later than 30 days after the Contractor
2 commences the work, and successive progress estimates will be made every month
3 thereafter until the Completion Date. Progress estimates made during progress of the
4 work are tentative, and made only for the purpose of determining progress payments. The
5 progress estimates are subject to change at any time prior to the calculation of the final
6 payment.
7

8 The value of the progress estimate will be the sum of the following:

- 9 1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of
10 work completed multiplied by the unit price.
- 11 2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum
12 breakdown for that item, or absent such a breakdown, based on the Engineer's
13 determination.
- 14 3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site
15 or other storage area approved by the Engineer.
- 16 4. Change Orders — entitlement for approved extra cost or completed extra work as
17 determined by the Engineer.
18

19 Progress payments will be made in accordance with the progress estimate less:

- 20 1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
- 21 2. The amount of progress payments previously made; and
- 22 3. Funds withheld by the Contracting Agency for disbursement in accordance with the
23 Contract Documents.
24

25 Progress payments for work performed shall not be evidence of acceptable performance
26 or an admission by the Contracting Agency that any work has been satisfactorily
27 completed. The determination of payments under the contract will be final in accordance
28 with Section 1-05.1.
29

30 Failure to perform obligations under the Contract by the Contractor may be decreed by the
31 Contracting Agency to be adequate reason for withholding any payments until compliance
32 is achieved.
33

34 Upon completion of all Work and after final inspection (Section 1-05.11), the amount due
35 the Contractor under the Contract will be paid based upon the final estimate made by the
36 Engineer and presentation of a Final Contract Voucher Certification to be signed by the
37 Contractor. The Contractor's signature on such voucher shall be deemed a release of all
38 claims of the Contractor unless a Certified Claim is filed in accordance with the
39 requirements of Section 1-09.11 and is expressly excepted from the Contractor's
40 certification on the Final Contract Voucher Certification. The date the Contracting Agency
41 signs the Final Contract Voucher Certification constitutes the final acceptance date (Section
42 1-05.12).
43

44 If the Contractor fails, refuses, or is unable to sign and return the Final Contract Voucher
45 Certification or any other documentation required for completion and final acceptance of
46 the Contract, the Contracting Agency reserves the right to establish a Completion Date (for
47 the purpose of meeting the requirements of RCW 60.28) and unilaterally accept the
48 Contract. Unilateral final acceptance will occur only after the Contractor has been provided
49 the opportunity, by written request from the Engineer, to voluntarily submit such

1 documents. If voluntary compliance is not achieved, formal notification of the impending
2 establishment of a Completion Date and unilateral final acceptance will be provided by
3 email with delivery confirmation from the Contracting Agency to the Contractor, which will
4 provide 30 calendar days for the Contractor to submit the necessary documents. The 30
5 calendar day period will begin on the date the email with delivery confirmation is received
6 by the Contractor. The date the Contracting Agency unilaterally signs the Final Contract
7 Voucher Certification shall constitute the Completion Date and the final acceptance date
8 (Section 1-05.12). The reservation by the Contracting Agency to unilaterally accept the
9 Contract will apply to Contracts that are Physically Completed in accordance with Section
10 1-08.5, or for Contracts that are terminated in accordance with Section 1-08.10. Unilateral
11 final acceptance of the Contract by the Contracting Agency does not in any way relieve the
12 Contractor of their responsibility to comply with all Federal, State, tribal, or local laws,
13 ordinances, and regulations that affect the Work under the Contract.

14
15 Payment to the Contractor of partial estimates, final estimates, and retained percentages
16 shall be subject to controlling laws.

17
18 1-09.9(LS).RTF

19 **1-09.9 Payments**

20 *(March 13, 2012 APWA GSP)*

21

22 Supplement this section with the following:

23

24 Lump sum item breakdowns are not required when the bid price for the lump sum item is
25 less than \$20,000.

26

27 1-09.9(1).GR1

28 ***Retainage***

29

30 1-09.9(1).INST1.GR1

31 Section 1-09.9(1) content and title is deleted and replaced with the following:

32

33 1-09.9(1).OPT1.GR1

34 ***(June 27, 2011)***

35 ***Vacant***

36

37 1-09.11(3).RTF

38 **1-09.11(3) Time Limitation and Jurisdiction**

39 *(December 30, 2022 APWA GSP)*

40

41 Revise this section to read:

42

43 For the convenience of the parties to the Contract it is mutually agreed by the parties that
44 all claims or causes of action which the Contractor has against the Contracting Agency
45 arising from the Contract shall be brought within 180 calendar days from the date of final
46 acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further
47 agreed that all such claims or causes of action shall be brought only in the Superior Court
48 of the county where the Contracting Agency headquarters is located, provided that where
49 an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.
50 The parties understand and agree that the Contractor's failure to bring suit within the time
51 period provided, shall be a complete bar to all such claims or causes of action. It is further

mutually agreed by the parties that when claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13(3)A.RTF

1-09.13(3)A Arbitration General

(January 19, 2022 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-09.13(4).RTF

1-09.13(4) Venue for Litigation

(December 30, 2022 APWA GSP)

Revise this section to read:

Litigation shall be brought in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. It is mutually agreed by the parties that when litigation occurs, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-10.GR1

Temporary Traffic Control

1-10.2.GR1

Traffic Control Management

1-10.2(1).GR1

General

1-10.2(1).INST1.GR1

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

1-10.2(1).OPT1.GR1

(October 3, 2022)

The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346

1 (360) 297-3035
2 <https://www.nwlett.edu>
3
4 Evergreen Safety Council
5 12545 135th Ave. NE
6 Kirkland, WA 98034-8709
7 1-800-521-0778
8 <https://www.esc.org>
9
10 The American Traffic Safety Services Association
11 15 Riverside Parkway, Suite 100
12 Fredericksburg, Virginia 22406-1022
13 Training Dept. Toll Free (877) 642-4637
14 Phone: (540) 368-1701
15 <https://atssa.com/training>
16
17 Integrity Safety
18 13912 NE 20th Ave.
19 Vancouver, WA 98686
20 (360) 574-6071
21 <https://www.integritysafety.com>
22
23 US Safety Alliance
24 (904) 705-5660
25 <https://www.ussafetyalliance.com>
26
27 K&D Services Inc.
28 2719 Rockefeller Ave.
29 Everett, WA 98201
30 (800) 343-4049
31 <https://www.kndservices.net>
32
33 1-10.4(3).GR1
34 ***Reinstating Unit Items With Lump Sum Traffic Control***
35
36 **1-10.4(3).OPT1.FR1.docx**
37 (November 2, 2022)
38 The bid proposal contains the item “Project Temporary Traffic Control,” lump sum and
39 the additional temporary traffic control items listed below. The provisions of Section
40 1-10.4(1), Section 1-10.4(3), and Section 1-10.5(3) shall apply.
41
42 *** Traffic control supervisor ***
43
44 **1-10.5(2).OPT7.GR1**
45 (November 2, 2022)
46 “Work Zone Safety Contingency”, by force account.
47
48 All costs as authorized by the Engineer will be paid for by force account as specified
49 in Section 1-09.6.
50

1 For purpose of providing a common proposal for all bidders, the Contracting Agency
2 has entered an amount for the item "Work Zone Safety Contingency" in the Proposal
3 to become a part of the Contractor's total bid.
4
5 The Engineer may choose to use existing bid items for the implementation of the
6 agreed upon enhancement.
7
8 **F1-10.4(3).OPT1.Reinstated Traffic Control Items.docx**
9 (November 2, 2022)
10 The bid proposal contains the item "Project Temporary Traffic Control," lump sum and
11 the additional temporary traffic control items listed below. The provisions of Section
12 1-10.4(1), Section 1-10.4(3), and Section 1-10.5(3) shall apply.
13
14 ***
15 "Flaggers", per hour
16 "Pedestrian Traffic Control", by Lump Sum
17 "Traffic Control Superviosr", by Lump Sum
18 ***
19
20 END DIVISION1.RTF
21
22 **END DIVISION 1**

DIVISION2.GR2

Division 2 Earthwork

2-01.GR2

Clearing, Grubbing, and Roadside Cleanup

2-01.1.GR2

Description

2-01.1.INST1.GR2

Section 2-01.1 is supplemented with the following:

F2-01.1.OPT1.FR2.Clear and Grub.docx

(March 13, 1995)

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

*** within the project limits as identified in the plans and as necessary to complete work ***

2-01.3(4).IRRIGATION.docx

(*****)

The Contractor shall remove existing irrigation system and associated appurtenances within the project limits and cap the irrigation system at the project limits to allow for continued use of the remaining irrigation system and for connection to a new system to be installed by others.

All portions of the removed irrigation system shall be disposed of as "Debris" in accordance with the provisions in Section 2-01.2(2).

(*****)

CAC 2-01 IRRIGATION.docx

2-01 Irrigation Systems

2-01.1 Description

Section 2-01.1 is supplemented with the following:

(*****)

The Contractor shall remove existing irrigation system and associated appurtenances within the project limits and cap the irrigation system at the project limits to allow for

1 continued use of the remaining irrigation system and for connection to a new system to
2 be installed by others.
3
4
5 **2-01.5 Payment**
6
7 Section 2-01.5 is supplemented with the following:
8
9 All costs incurred to remove and cap existing irrigation system shall be included in the
10 payment for "Clearing and Grubbing".
11
12
13
14
15 2-02.GR2
16 **Removal of Structures and Obstructions**
17
18 2-02.1.GR2
19 **Description**
20
21 2-02.1.INST1.GR2
22 Section 2-02.1 is supplemented with the following:
23
24 2-02.1.OPT1.GR2
25 (March 13, 1995)
26 This work shall consist of removing miscellaneous traffic items.
27
28 2-02.3.GR2
29 **Construction Requirements**
30
31 2-02.3.INST1.GR2
32 Section 2-02.3 is supplemented with the following:
33
34 **F2-02.3.OPT2.FR2.Removing Misc Traffic Items.docx**
35 **(March 13, 1995)**
36 ***Removing Miscellaneous Traffic Items***
37 The following miscellaneous traffic items shall be removed and disposed of:
38
39 ***** Tubular Traffic Markers at West Marine View Drive**
40 **Wood Fence at 41st/Grand Ave *****
41
42 **F2-02.3.OPT3.FR2.Haz Mat.docx**
43 **(June 6, 2022)**
44 ***Removal and Disposal of Hazardous Material***
45 Hazardous material is suspected to exist on this project. Approximate limits of
46 contamination are identified in the Plans. The site history, prior studies and/or test results
47 indicate a potential for encountering ***** arsenic and lead, is suspected to exist in Legion**

1 Park, Alverson Blvd adjacent to Legion Park, and W Marine View Dr at the intersection
2 with Alverson Blvd. ***.

3
4 Copies of the environmental reports are available for review at
5 <https://ftp.wsdot.wa.gov/contracts/>. All necessary permits for this work will be furnished by
6 the Contracting Agency. The Contractor is responsible for all work, records, and reports
7 required to perform the work described in this section. The Contracting Agency will perform
8 all testing of suspected hazardous or contaminated material.
9

10 The Contractor shall notify the Engineer 10 working days prior to beginning work in the
11 area identified in the Plans as contaminated. The Contractor shall notify the Engineer
12 immediately if contamination is discovered in areas other than those identified in the Plans
13 or is suspected through observations such as an oily sheen or discolored soils that may or
14 may not emit strong chemical odors.
15

16 ***Contaminated Soil and Hazardous Material***

17 The Engineer will determine the limits of excavation required. All material that is
18 designated by the Engineer to be removed shall be handled and stored in a manner that
19 prevents the spread of contamination to adjacent soil or water. Separate stockpiles shall
20 be maintained for known hazardous or contaminated material and for suspected
21 hazardous or contaminated material. The Contractor shall transport hazardous or
22 contaminated material and dispose of it at a permitted facility. The Contractor shall provide
23 the Engineer with a copy of the shipping manifest or bill of lading indicating the amount of
24 material hauled to disposal and bearing the disposal site operator's confirmation for receipt
25 of the material. Manifests shall be submitted in accordance with Section 1-07.5(7).
26

27 ***Contaminated Water***

28 All water that is removed from the areas of contamination, including free water that leaches
29 from contaminated soil stockpiles or water that is suspected of being contaminated, shall
30 be collected, handled and stored in a manner that prevents the spread of contamination
31 to adjacent soil or water. The Contractor shall transport contaminated water and dispose
32 of it at a permitted facility. The Contractor shall provide the Engineer with a copy of the
33 shipping manifest or bill of lading indicating the amount of material hauled to disposal and
34 bearing the disposal site operator's confirmation for receipt of the material. Manifests shall
35 be submitted in accordance with Section 1-07.5(7).
36

37 **COE 2-02.3(4).docx**

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

39
40 Section 2-02.3 is supplemented with the following:

41 **2-02.3(4) Saw-cutting**

42 (City of Everett, May 21, 2018)

43 Curb, gutter, sidewalk shall be saw cut full height and width.

44
45 Asphalt shall be saw cut full depth.

46
47 When the drawings indicate or the Engineer requires sawcutting pavement which
48 comprises of rigid base and asphalt overlay, the minimum saw cut-depth for the
49 rigid base shall be full depth.
50
51

1
2 For rigid base constructed with mortared decorative or special pavement (e.g.,
3 brick, cobblestone, paver block, etc.) or any combination of such materials the
4 depth shall be full thickness of the rigid base along a neat line with intent to
5 salvage as many special pavement units as possible.
6
7
8 **GSL 2-02 SAWCUT.docx**
9 **2-02.5 Payment**
10
11 Section 2-02.5 is supplemented with the following:
12
13 **(*****)**
14
15 “Sawcut”, per linear foot.
16
17 Saw-cutting shall be performed in accordance with Sections 2-02.3(3).
18
19 Measurement for saw-cutting will be per linear foot along the true length of the surface cut.
20
21 The unit price per linear foot for the final saw-cutting of asphalt concrete and cement
22 concrete pavement shall be full pay for all labor, materials, tools, and equipment necessary
23 to satisfactorily complete the Work as specified in Section 2-02.3(3) of the Standard
24 Specifications and disposal of cuttings slurry, including vacuum collection.
25
26
27 COE 2-02.3(8) Waste Disposal.RTF
28 Section 2-02.3(8) is new with the following:
29
30 **(*****)**
31 **2-02.3(8) Waste Disposal (New Section)**
32
33 The Contractor shall provide the waste site for disposal of materials not required for
34 the construction. The Contractor shall arrange to dispose of waste at no expense to
35 the City and any such disposal shall meet the requirements of Section 2-03.3(7)C of
36 the Standard Specifications.
37
38
39 2-02.4.GR2
40 **Measurement**
41
42 2-02.4.INST1.GR2
43 Section 2-02.4 is supplemented with the following:
44
45 2-02.4.OPT1.GR2
46 (December 4, 2006)
47 Hazardous material excavation including haul will be measured by the cubic yard. All
48 excavated material will be measured in the position it occupied before the excavation was
49 performed. An original ground measurement will be taken using cross-section or digital

1 terrain modeling survey techniques. The original ground will be compared with a survey
2 of the excavation area taken after the work is completed.
3
4 2-02.5.GR2
5 **Payment**
6
7 2-02.5.INST1.GR2
8 Section 2-02.5 is revised by the following:
9
10 **F2-02.5.OPT1.FR2.Incl in Rd Ex Incl Haul.docx**
11 (August 7, 2017)
12 Payment will be made for the following bid item when it is included in the proposal.
13
14 All costs for the removal of structures and obstructions shall be included in ***** Road**
15 **Excavation Incl. Haul ***.**
16
17 2-02.5.INST2.GR2
18 Section 2-02.5 is supplemented with the following:
19
20 2-02.5.OPT7.GR2
21 (December 4, 2006)
22 "Hazardous Material Handling And Disposal", by force account as provided in Section 1-
23 09.6.
24
25 All costs associated with storing stockpiled hazardous waste and contaminated soils,
26 collecting, handling and storing contaminated water, loading the stockpiled material into
27 the hauling conveyance for transport to the disposal site, and transporting and disposing
28 of hazardous or contaminated materials at an approved facility will be paid by force
29 account under the item "Hazardous Material Handling And Disposal".
30
31 To provide a common basis for all bidders, the Contracting Agency has entered an amount
32 in the proposal to become a part of the Contractor's total bid.
33
34 "Hazardous Material Excavation Incl. Haul", per cubic yard.
35 The unit contract price for "Hazardous Material Excavation Incl. Haul" shall be full pay for
36 all costs associated with excavating the material designated to be removed, hauling it to
37 the stockpile location, and stockpiling the excavated material.
38
39 2-02.5.OPT8.GR2
40 (September 30, 1996)
41 "Removing Miscellaneous Traffic Item", lump sum.
42
43 END DIVISION2.RTF
44 **END DIVISION 2**
45

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DIVISION4.GR4

Division 4
Bases

4-04.GR4

Ballast and Crushed Surfacing

COE 4-04.1 CSTC&CSBC.RTF

Section 4-04.1 is supplemented with the following:

4-04.1 Description

(*****)

Where shown in the Plans, or as directed by the Engineer, the Contractor shall place, smooth, and compact "Crushed Surfacing Base Course", and/or "Crushed Surfacing Top Course."

Crushed surfacing can also be used as driveway maintenance, and in gravel driveway restoration to a minimum of 3" depth.

All materials, labor, tools, and equipment required to place the crushed surfacing to its final grade shall be included in the contract unit price.

END DIVISION4.RTF

END DIVISION 4

DIVISION5.GR5

Division 5 Surface Treatments and Pavements

5-04.GR5

Hot Mix Asphalt

COE 5-04.RTF

5-04 Hot Mix Asphalt

(December 3, 2018 City of Everett based on APWA GSP)

Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

5-04.1 Description

This Work shall consist of providing and placing one or more layers of plant mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

5-04.2 Materials

Materials shall meet the requirements of the following sections:

Asphalt Binder 9-02.1(4)

Cationic Emulsified Asphalt 9-02.1(6)

Anti-Stripping Additive 9-02.4

HMA Additive 9-02.5

Aggregates 9-03.8

Recycled Asphalt Pavement 9-03.8(3)B

Mineral Filler 9-03.8(5)

Recycled Material 9-03.21

Portland Cement 9-01

Sand 9-03.1(2)

(As noted in 5-04.3(5)C for crack sealing)

Joint Sealant 9-04.2

Foam Backer Rod 9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the

1 amounts required for the designated mix. Mineral materials include coarse and fine
2 aggregates, and mineral filler.
3
4 The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production
5 of HMA. The RAP may be from pavements removed under the Contract, if any, or
6 pavement material from an existing stockpile.
7
8 The Contractor may use up to 20 percent RAP by total weight of HMA with no additional
9 sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of
10 one sample for every 1,000 tons produced and not less than ten samples per project. The
11 asphalt content and gradation test data shall be reported to the Contracting Agency when
12 submitting the mix design for approval on the QPL. The Contractor shall include the RAP
13 as part of the mix design as defined in these Specifications.
14
15 The grade of asphalt binder shall be as required by the Contract. Blending of asphalt
16 binder from different sources is not permitted.
17
18 The Contractor may only use warm mix asphalt (WMA) processes in the production of
19 HMA with 20 percent or less RAP by total weight of HMA. The Contractor shall submit to
20 the Engineer for approval the process that is proposed and how it will be used in the
21 manufacture of HMA.
22
23 Production of aggregates shall comply with the requirements of Section 3-01.
24 Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates
25 from stockpiles shall comply with the requirements of Section 3-02.
26
27 **5-04.2(1) How to Get an HMA Mix Design on the QPL**
28 If the contractor wishes to submit a mix design for inclusion in the Qualified Products List
29 (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).
30
31 **5-04.2(2) Mix Design – Obtaining Project Approval**
32 No paving shall begin prior to the approval of the mix design by the Engineer.
33
34 **Nonstatistical** evaluation will be used for all HMA not designated as Commercial HMA in
35 the contract documents.
36
37 **Commercial** evaluation will be used for Commercial HMA and for other classes of HMA
38 in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails,
39 gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted
40 by commercial evaluation shall be as approved by the Project Engineer. Sampling and
41 testing of HMA accepted by commercial evaluation will be at the option of the Project
42 Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be
43 excluded from the quantities used in the determination of nonstatistical evaluation.
44
45 **Nonstatistical Mix Design.** Fifteen days prior to the first day of paving the contractor
46 shall provide one of the following mix design verification certifications for Contracting
47 Agency review;
48

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & signature) of a valid licensed Washington State Professional Engineer.
- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.**

The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for "Commercial Evaluation" will be based on a review of the Contractor's submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL's) appropriate for the required use.

5-04.2(2)A Vacant

5-04.2(2)B Using Warm Mix Asphalt Processes

The Contractor may elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.

- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

Minimum Surface Temperature for Paving

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55°F	45°F
0.10 to .20	45°F	35°F
More than 0.20	35°F	35°F

5-04.3(2) Paving Under Traffic

When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements shall be included in the unit Contract prices for the various Bid items involved in the Contract.

1 **5-04.3(3) Equipment**

2
3 **5-04.3(3)A Mixing Plant**

4 Plants used for the preparation of HMA shall conform to the following requirements:

- 5
6 1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt
7 binder shall be equipped to heat and hold the material at the required
8 temperatures. The heating shall be accomplished by steam coils, electricity, or
9 other approved means so that no flame shall be in contact with the storage tank.
10 The circulating system for the asphalt binder shall be designed to ensure proper
11 and continuous circulation during the operating period. A valve for the purpose of
12 sampling the asphalt binder shall be placed in either the storage tank or in the
13 supply line to the mixer.
- 14 2. **Thermometric Equipment** – An armored thermometer, capable of detecting
15 temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder
16 feed line at a location near the charging valve at the mixer unit. The thermometer
17 location shall be convenient and safe for access by Inspectors. The plant shall
18 also be equipped with an approved dial-scale thermometer, a mercury actuated
19 thermometer, an electric pyrometer, or another approved thermometric instrument
20 placed at the discharge chute of the drier to automatically register or indicate the
21 temperature of the heated aggregates. This device shall be in full view of the plant
22 operator.
- 23 3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not
24 exceed the maximum recommended by the asphalt binder manufacturer nor shall
25 it be below the minimum temperature required to maintain the asphalt binder in a
26 homogeneous state. The asphalt binder shall be heated in a manner that will
27 avoid local variations in heating. The heating method shall provide a continuous
28 supply of asphalt binder to the mixer at a uniform average temperature with no
29 individual variations exceeding 25°F. Also, when a WMA additive is included in the
30 asphalt binder, the temperature of the asphalt binder shall not exceed the
31 maximum recommended by the manufacturer of the WMA additive.
- 32 4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped
33 with a mechanical sampler for the sampling of the mineral materials. The
34 mechanical sampler shall meet the requirements of Section 1-05.6 for the
35 crushing and screening operation. The Contractor shall provide for the setup and
36 operation of the field testing facilities of the Contracting Agency as provided for in
37 Section 3-01.2(2).
- 38 5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the
39 following methods:
- 40 a. A mechanical sampling device attached to the HMA plant.
- 41 b. Platforms or devices to enable sampling from the hauling vehicle without
42 entering the hauling vehicle.

43
44 **5-04.3(3)B Hauling Equipment**

45 Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a
46 cover of canvas or other suitable material of sufficient size to protect the mixture from
47 adverse weather. Whenever the weather conditions during the work shift include, or are
48 forecast to include, precipitation or an air temperature less than 45°F or when time from

loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C Pavers

HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

The HMA paver shall be in good condition and shall have the most current equipment available from the manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in working order. The equipment certification shall list the make, model, and year of the paver and any equipment that has been retrofitted.

The screed shall be operated in accordance with the manufacturer's recommendations and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or gouging the mixture. A copy of the manufacturer's recommendations shall be provided upon request by the Contracting Agency. Extensions will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. Extensions without augers and an internally heated vibratory screed shall not be used in the Traveled Way.

When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from reference lines or by means of a mat referencing device and a slope control device. When the finish of the grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The reference line may be removed after the completion of the first course of HMA when approved by the Engineer. Whenever the Engineer determines that any of these methods are failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories necessary for satisfactory operation of the automatic control equipment.

If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly removed before paving proceeds.

1
2 **5-04.3(3)D Material Transfer Device or Material Transfer Vehicle**

3 A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer's
4 approval, unless otherwise required by the contract.
5

6 Where an MTD/V is required by the contract, the Engineer may approve paving without
7 an MTD/V, at the request of the Contractor. The Engineer will determine if an equitable
8 adjustment in cost or time is due.
9

10 When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and
11 prior to laydown by the paving machine. Mixing of the HMA shall be sufficient to obtain a
12 uniform temperature throughout the mixture. If a windrow elevator is used, the length of
13 the windrow may be limited in urban areas or through intersections, at the discretion of
14 the Engineer.
15

16 To be approved for use, an MTV:

- 17
- 18 1. Shall be self-propelled vehicle, separate from the hauling vehicle or paver.
 - 19 2. Shall not be connected to the hauling vehicle or paver.
 - 20 3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
 - 21 4. Shall mix the HMA after delivery by the hauling equipment and prior to
 - 22 placement into the paving machine.
 - 23 5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the
 - 24 mixture.
25

26 To be approved for use, an MTD:

- 27
- 28 1. Shall be positively connected to the paver.
 - 29 2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
 - 30 3. Shall mix the HMA after delivery by the hauling equipment and prior to
 - 31 placement into the paving machine.
 - 32 4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the
 - 33 mixture.
34

35 **5-04.3(3)E Rollers**

36 Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good
37 condition and capable of reversing without backlash. Operation of the roller shall be in
38 accordance with the manufacturer's recommendations. When ordered by the Engineer for
39 any roller planned for use on the project, the Contractor shall provide a copy of the
40 manufacturer's recommendation for the use of that roller for compaction of HMA. The
41 number and weight of rollers shall be sufficient to compact the mixture in compliance with
42 the requirements of Section 5-04.3(10). The use of equipment that results in crushing of
43 the aggregate will not be permitted. Rollers producing pickup, washboard, uneven
44 compaction of the surface, displacement of the mixture or other undesirable results shall
45 not be used.
46

1 **5-04.3(4) Preparation of Existing Paved Surfaces**

2 When the surface of the existing pavement or old base is irregular, the Contractor shall
3 bring it to a uniform grade and cross section as shown on the Plans or approved by the
4 Engineer.

5

6 Preleveling of uneven or broken surfaces over which HMA is to be placed may be
7 accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as
8 approved by the Engineer.

9

10 Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may
11 require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to
12 avoid bridging across preleveled areas by the compaction equipment. Equipment used for
13 the compaction of preleveling HMA shall be approved by the Engineer.

14

15 Before construction of HMA on an existing paved surface, the entire surface of the
16 pavement shall be clean. All fatty asphalt patches, grease drippings, and other
17 objectionable matter shall be entirely removed from the existing pavement. All pavements
18 or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and
19 other foreign matter. All holes and small depressions shall be filled with an appropriate
20 class of HMA. The surface of the patched area shall be leveled and compacted
21 thoroughly. Prior to the application of tack coat, or paving, the condition of the surface
22 shall be approved by the Engineer.

23

24 A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA
25 is to be placed or abutted; except that tack coat may be omitted from clean, newly paved
26 surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover
27 the existing pavement with a thin film of residual asphalt free of streaks and bare spots at
28 a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of
29 application shall be approved by the Engineer. A heavy application of tack coat shall be
30 applied to all joints. For Roadways open to traffic, the application of tack coat shall be
31 limited to surfaces that will be paved during the same working shift. The spreading
32 equipment shall be equipped with a thermometer to indicate the temperature of the tack
33 coat material.

34

35 Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the
36 Contractor's operation damages the tack coat it shall be repaired prior to placement of the
37 HMA.

38

39 The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h
40 emulsified asphalt may be diluted once with water at a rate not to exceed one part water
41 to one part emulsified asphalt. The tack coat shall have sufficient temperature such that it
42 may be applied uniformly at the specified rate of application and shall not exceed the
43 maximum temperature recommended by the emulsified asphalt manufacturer.

44

45 **5-04.3(4)A Crack Sealing**

46

47 **5-04.3(4)A1 General**

When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.

Joint sealant shall be used for transverse joints in paving.

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the cracks. Strike off the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.

The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full. The following day, any cracks or joints that are not completely filled shall be topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The requirements of Section 1-06 will not apply to the portland cement and sand used in the sand slurry.

In areas where HMA will be placed, use sand slurry to fill the cracks.

In areas where HMA will not be placed, fill the cracks as follows:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.

Hot Poured Sealant: For cracks that are to be filled with hot poured sealant, apply the material in accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1 Working Drawing of the manufacturer's product information and recommendations to the Engineer prior to the start of work, including the manufacturer's recommended heating time and temperatures, allowable storage time and temperatures after initial heating, allowable reheating criteria, and application temperature range. Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

5-04.3(4)A2 Crack Sealing Areas Prior to Paving

1 In areas where HMA will be placed, use sand slurry to fill the cracks.

2

3 **5-04.3(4)A3 Crack Sealing Areas Not to be Paved**

4 In areas where HMA will not be placed, fill the cracks as follows:

5

6 A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.

7 B. Cracks greater than 1 inch in width – fill with sand slurry.

8

9 **5-04.3(4)B Vacant**

10

11 **5-04.3(4)C Pavement Repair**

12 The Contractor shall excavate pavement repair areas and shall backfill these with HMA in
13 accordance with the details shown in the Plans and as marked in the field. The Contractor
14 shall conduct the excavation operations in a manner that will protect the pavement that is
15 to remain. Pavement not designated to be removed that is damaged as a result of the
16 Contractor's operations shall be repaired by the Contractor to the satisfaction of the
17 Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within
18 one lane at a time unless approved otherwise by the Engineer. The Contractor shall not
19 excavate more area than can be completely finished during the same shift, unless
20 approved by the Engineer.

21

22 Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth
23 of 1.0 feet. The Engineer will make the final determination of the excavation depth
24 required. The minimum width of any pavement repair area shall be 40 inches unless
25 shown otherwise in the Plans. Before any excavation, the existing pavement shall be
26 sawcut or shall be removed by a pavement grinder. Excavated materials will become the
27 property of the Contractor and shall be disposed of in a Contractor provided site off the
28 Right of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

29

30 Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy
31 application of tack coat shall be applied to all surfaces of existing pavement in the
32 pavement repair area.

33

34 Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot
35 compacted depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished
36 with the approval of the Engineer. Each lift shall be thoroughly compacted by a
37 mechanical tamper or a roller.

38

39 **5-04.3(5) Producing/Stockpiling Aggregates and RAP**

40 Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02.
41 Sufficient storage space shall be provided for each size of aggregate and RAP. Materials
42 shall be removed from stockpile(s) in a manner to ensure minimal segregation when
43 being moved to the HMA plant for processing into the final mixture. Different aggregate
44 sizes shall be kept separated until they have been delivered to the HMA plant.

45

46 **5-04.3(6) Mixing**

1 After the required amount of mineral materials, asphalt binder, recycling agent and anti-
2 stripping additives have been introduced into the mixer the HMA shall be mixed until
3 complete and uniform coating of the particles and thorough distribution of the asphalt
4 binder throughout the mineral materials is ensured.
5

6 When discharged, the temperature of the HMA shall not exceed the optimum mixing
7 temperature by more than 25°F as shown on the reference mix design report or as
8 approved by the Engineer. Also, when a WMA additive is included in the manufacture of
9 HMA, the discharge temperature of the HMA shall not exceed the maximum
10 recommended by the manufacturer of the WMA additive. A maximum water content of 2
11 percent in the mix, at discharge, will be allowed providing the water causes no problems
12 with handling, stripping, or flushing. If the water in the HMA causes any of these
13 problems, the moisture content shall be reduced as directed by the Engineer.
14

15 Storing or holding of the HMA in approved storage facilities will be permitted with approval
16 of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held
17 for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of
18 by the Contractor at no expense to the Contracting Agency. The storage facility shall have
19 an accessible device located at the top of the cone or about the third point. The device
20 shall indicate the amount of material in storage. No HMA shall be accepted from the
21 storage facility when the HMA in storage is below the top of the cone of the storage
22 facility, except as the storage facility is being emptied at the end of the working shift.
23

24 Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to
25 entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is
26 evidence of the recycled asphalt pavement not breaking down during the heating and
27 mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until
28 changes have been approved by the Engineer. After the required amount of mineral
29 materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the
30 mixer the HMA shall be mixed until complete and uniform coating of the particles and
31 thorough distribution of the asphalt binder throughout the mineral materials, and RAP is
32 ensured.
33

34 **5-04.3(7) Spreading and Finishing**

35 The mixture shall be laid upon an approved surface, spread, and struck off to the grade
36 and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to
37 distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted
38 depth of any layer of any course shall not exceed the following:
39

40	HMA Class 1"	0.35 feet
41	HMA Class ¾" and HMA Class ½"	
42	wearing course	0.30 feet
43	other courses	0.35 feet
44	HMA Class ⅜"	0.15 feet
45		

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the paving may be done with other equipment or by hand.

When more than one JMF is being utilized to produce HMA, the material produced for each JMF shall be placed by separate spreading and compacting equipment. The intermingling of HMA produced from more than one JMF is prohibited. Each strip of HMA placed during a work shift shall conform to a single JMF established for the class of HMA specified unless there is a need to make an adjustment in the JMF.

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA

For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(8)A1 General

Nonstatistical evaluation shall be used for the acceptance of HMA for this project.

The Equivalent Single Axle Load (ESAL) for the mix design for the following area:

Broadway – 7,000,000.00
Hewitt – 7,500,000.00
Rucker Avenue – 8,500,000.00

The mix design will be the initial JMF for the class of HMA. The contractor may request a change in the JMF. Any adjustment to the JMF will require the approval of the Project Engineer and may be made in accordance with Section 9-03.8(7).

5-04.3(9) HMA Mixture Acceptance

Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is specified.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance with this section.

HMA Tolerances and Adjustments

1. **Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance shall be within tolerance. The tolerance limits will be established as follows:

For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the tolerances below to the approved JMF values. These values will also be the Upper Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

For Aggregates in the mixture:

a. First, determine preliminary upper and lower acceptance limits by applying the following tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-6%	+/- 8%
No. 8 Sieve	+/- 6%	+/-8%
No. 200 sieve	+/- 2.0%	+/- 3.0%

b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

2. **Job Mix Formula Adjustments** – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.

a. **Aggregates** –2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).

b. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent

5-04.3(9)A Vacant

5-04.3(9)B Vacant

5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation

HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency by dividing the HMA tonnage into lots.

5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be

1 equal to one day's production or 800 tons, whichever is less except that the final subplot
2 will be a minimum of 400 tons and may be increased to 1200 tons.

3
4 All of the test results obtained from the acceptance samples from a given lot shall be
5 evaluated collectively. If the Contractor requests a change to the JMF that is approved,
6 the material produced after the change will be evaluated on the basis of the new JMF for
7 the remaining sublots in the current lot and for acceptance of subsequent lots. For a lot in
8 progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after
9 the Engineer is satisfied that material conforming to the Specifications can be produced.

10
11 Sampling and testing for evaluation shall be performed on the frequency of one sample
12 per subplot.

13
14 **5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling**

15 Samples for acceptance testing shall be obtained by the Contractor when ordered by the
16 Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer
17 and in accordance with AASHTO T 168. A minimum of three samples should be taken for
18 each class of HMA placed on a project. If used in a structural application, at least one of
19 the three samples shall to be tested.

20
21 Sampling and testing HMA in a Structural application where quantities are less than 400
22 tons is at the discretion of the Engineer.

23
24 For HMA used in a structural application and with a total project quantity less than 800
25 tons but more than 400 tons, a minimum of one acceptance test shall be performed. In all
26 cases, a minimum of 3 samples will be obtained at the point of acceptance, a minimum of
27 one of the three samples will be tested for conformance to the JMF:

- 28
29
 - If the test results are found to be within specification requirements, additional
 - 30 testing will be at the Engineer's discretion.
 - 31
 - If test results are found not to be within specification requirements, additional
 - 32 testing of the remaining samples to determine a Composite Pay Factor (CPF) shall
 - 33 be performed.

34
35 **5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing**

36 Testing of HMA for compliance of Va will at the option of the Contracting Agency. If
37 tested, compliance of Va will use WSDOT SOP 731.

38
39 Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T
40 308.

41
42 Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

43
44 **5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors**

For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will determine a Composite Pay Factor (CPF) using the following price adjustment factors:

Table of Price Adjustment Factors	
Constituent	Factor “f”
All aggregate passing: 1½", 1", ¾", ½", ⅜" and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C5 Vacant

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments

For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests

The Contractor may request a subplot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, Va. The results of the retest will be used for the acceptance of the HMA in place of the original subplot sample test results. The cost of testing will be deducted from any monies due or that may come due the Contractor under the Contract at the rate of \$500 per sample.

5-04.3(9)D Mixture Acceptance – Commercial Evaluation

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(10) HMA Compaction Acceptance

HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 91.0 (minimum of 91 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

Tests for the determination of the pavement density will be taken in accordance with the required procedures for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to traffic.

Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with WSDOT FOP for AASHTO T 166.

1
2 If the Contract includes the Bid item "Roadway Core" the cores shall be obtained by the
3 Contractor in the presence of the Engineer on the same day the mix is placed and at
4 locations designated by the Engineer. If the Contract does not include the Bid item
5 "Roadway Core" the Contracting Agency will obtain the cores.
6

7 For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's
8 request after the Engineer is satisfied that material conforming to the Specifications can
9 be produced.
10

11 HMA mixture accepted by commercial evaluation and HMA constructed under conditions
12 other than those listed above shall be compacted on the basis of a test point evaluation of
13 the compaction train. The test point evaluation shall be performed in accordance with
14 instructions from the Engineer. The number of passes with an approved compaction train,
15 required to attain the maximum test point density, shall be used on all subsequent paving.
16

17 HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling
18 wheel rutting shall be compacted with a pneumatic tire roller unless otherwise approved
19 by the Engineer.
20

21 **Test Results**

22 For a subplot that has been tested with a nuclear density gauge that did not meet the
23 minimum of 91 percent of the reference maximum density in a compaction lot with a CPF
24 below 1.00 and thus subject to a price reduction or rejection, the Contractor may request
25 that a core be used for determination of the relative density of the subplot. The relative
26 density of the core will replace the relative density determined by the nuclear density
27 gauge for the subplot and will be used for calculation of the CPF and acceptance of HMA
28 compaction lot.
29

30 When cores are taken by the Contracting Agency at the request of the Contractor, they
31 shall be requested by noon of the next workday after the test results for the subplot have
32 been provided or made available to the Contractor. Core locations shall be outside of
33 wheel paths and as determined by the Engineer. Traffic control shall be provided by the
34 Contractor as requested by the Engineer. Failure by the Contractor to provide the
35 requested traffic control will result in forfeiture of the request for cores. When the CPF for
36 the lot based on the results of the HMA cores is less than 1.00, the cost for the coring will
37 be deducted from any monies due or that may become due the Contractor under the
38 Contract at the rate of \$200 per core and the Contractor shall pay for the cost of the traffic
39 control.
40

41 **5-04.3(10)A HMA Compaction – General Compaction Requirements**

42 Compaction shall take place when the mixture is in the proper condition so that no undue
43 displacement, cracking, or shoving occurs. Areas inaccessible to large compaction
44 equipment shall be compacted by other mechanical means. Any HMA that becomes
45 loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way
46 defective, shall be removed and replaced with new hot mix that shall be immediately
47 compacted to conform to the surrounding area.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided the specified densities are attained. Unless the Engineer has approved otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

5-04.3(10)B HMA Compaction – Cyclic Density

Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the theoretical maximum density. At the Engineer's discretion, the Engineer may evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733. A \$500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent of the theoretical maximum density.

5-04.3(10)C Vacant

5-04.3(10)D HMA Nonstatistical Compaction

5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots

HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing performed by the Contracting Agency dividing the project into compaction lots.

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production or 400 tons, whichever is less except that the final subplot will be a minimum of 200 tons and may be increased to 800 tons. Testing for compaction will be at the rate of 5 tests per subplot per WSDOT T 738.

The subplot locations within each density lot will be determined by the Engineer. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

1
2 **5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing**

3 The location of the HMA compaction acceptance tests will be randomly selected by the
4 Engineer from within each subplot, with one test per subplot.
5

6 **5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments**

7 For each compaction lot with one or two sublots, having all sublots attain a relative
8 density that is 91 percent of the reference maximum density the HMA shall be accepted at
9 the unit Contract price with no further evaluation. When a subplot does not attain a relative
10 density that is 91 percent of the reference maximum density, the lot shall be evaluated in
11 accordance with Section 1-06.2 to determine the appropriate CPF. The maximum CPF
12 shall be 1.00, however, lots with a calculated CPF in excess of 1.00 will be used to offset
13 lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will
14 be evaluated for compliance per 5-04.3(11). Additional testing by either a nuclear
15 moisture-density gauge or cores will be completed as required to provide a minimum of
16 three tests for evaluation.
17

18 For compaction below the required 91% a Non-Conforming Compaction Factor (NCCF)
19 will be determined. The NCCF equals the algebraic difference of CPF minus 1.00
20 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the
21 product of CPF, the quantity of HMA in the compaction control lot in tons, and the unit
22 Contract price per ton of mix.
23

24 **5-04.3(11) Reject Work**

25
26 **5-04.3(11)A Reject Work General**

27 Work that is defective or does not conform to Contract requirements shall be rejected.
28 The Contractor may propose, in writing, alternatives to removal and replacement of
29 rejected material. Acceptability of such alternative proposals will be determined at the sole
30 discretion of the Engineer. HMA that has been rejected is subject to the requirements in
31 Section 1-06.2(2) and this specification, and the Contractor shall submit a corrective
32 action proposal to the Engineer for approval.
33

34 **5-04.3(11)B Rejection by Contractor**

35 The Contractor may, prior to sampling, elect to remove any defective material and replace
36 it with new material. Any such new material will be sampled, tested, and evaluated for
37 acceptance.
38

39 **5-04.3(11)C Rejection Without Testing (Mixture or Compaction)**

40 The Engineer may, without sampling, reject any batch, load, or section of Roadway that
41 appears defective. Material rejected before placement shall not be incorporated into the
42 pavement. Any rejected section of Roadway shall be removed.
43

44 No payment will be made for the rejected materials or the removal of the materials unless
45 the Contractor requests that the rejected material be tested. If the Contractor elects to
46 have the rejected material tested, a minimum of three representative samples will be
47 obtained and tested. Acceptance of rejected material will be based on

conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D Rejection - A Partial Sublot

In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E Rejection - An Entire Sublot

An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F Rejection - A Lot in Progress

The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced:

1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is taking no corrective action, or
2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the Contractor is taking no corrective action, or
3. When either the PFi for any constituent or the CPF of a lot in progress is less than 0.75.

5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)

An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12) Joints

5-04.3(12)A HMA Joints

5-04.3(12)A1 Transverse Joints

The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the

1 freshly laid mixture only when the placement of the course must be discontinued for such
2 a length of time that the mixture will cool below compaction temperature. When the Work
3 is resumed, the previously compacted mixture shall be cut back to produce a slightly
4 beveled edge for the full thickness of the course.

5
6 A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a
7 transverse joint as a result of paving or planing is open to traffic. The HMA in the
8 temporary wedge shall be separated from the permanent HMA by strips of heavy
9 wrapping paper or other methods approved by the Engineer. The wrapping paper shall be
10 removed and the joint trimmed to a slightly beveled edge for the full thickness of the
11 course prior to resumption of paving.

12
13 The material that is cut away shall be wasted and new mix shall be laid against the cut.
14 Rollers or tamping irons shall be used to seal the joint.

15
16 **5-04.3(12)A2 Longitudinal Joints**

17 The longitudinal joint in any one course shall be offset from the course immediately below
18 by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the
19 wearing course shall be located at a lane line or an edge line of the Traveled Way. A
20 notched wedge joint shall be constructed along all longitudinal joints in the wearing
21 surface of new HMA unless otherwise approved by the Engineer. The notched wedge
22 joint shall have a vertical edge of not less than the maximum aggregate size or more than
23 $\frac{1}{2}$ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V.
24 The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

25
26 **5-04.3(12)B Bridge Paving Joint Seals**

27
28 **5-04.3(12)B1 HMA Sawcut and Seal**

29 Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends
30 of the bridge paving joint seals to be placed at the bridge ends, and at interior joints within
31 the bridge deck when and where shown in the Plans. Establish the sawcut alignment
32 points in a manner that they remain functional for use in aligning the sawcut after placing
33 the overlay.

34
35 Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application
36 procedure.

37
38 Construct the bridge paving joint seal as specified on the Plans and in accordance with
39 the detail shown in the Standard Plans. Construct the sawcut in accordance with the
40 detail shown in the Standard Plan. Construct the sawcut in accordance with Section 5-
41 05.3(8)B and the manufacturer's application procedure.

42
43 **5-04.3(12)B2 Paved Panel Joint Seal**

44 Construct the paved panel joint seal in accordance with the requirements specified in
45 section 5-04.3(12)B1 and the following requirement:
46

1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and the details shown in the Standard Plans.

5-04.3(13) Surface Smoothness

The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds. The completed surface of the wearing course shall not vary more than $\frac{1}{8}$ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than $\frac{1}{4}$ inch in 10 feet from the rate of transverse slope shown in the Plans.

When deviations in excess of the above tolerances are found that result from a high place in the HMA, the pavement surface shall be corrected by one of the following methods:

1. Removal of material from high places by grinding with an approved grinding machine, or
2. Removal and replacement of the wearing course of HMA, or
3. By other method approved by the Engineer.

Correction of defects shall be carried out until there are no deviations anywhere greater than the allowable tolerances.

Deviations in excess of the above tolerances that result from a low place in the HMA and deviations resulting from a high place where corrective action, in the opinion of the Engineer, will not produce satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies due or that may become due to the Contractor the sum of \$500.00 for each and every section of single traffic lane 100 feet in length in which any excessive deviations described above are found.

When utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This requirement may be waived when requested by the Contractor, at the discretion of the Engineer or when the adjustment details provided in the project plan or specifications call for utility appurtenance adjustments after the completion of paving.

Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of paving.

5-04.3(14) Planing (Milling) Bituminous Pavement

The Contractor shall call for locates before planing any HMA pavement. Any induction loop vehicle detectors which are within the planing area shall be discussed with the inspector prior to planing to see if the planing limits can be modified to save the loops. Any loops which are damaged in the planing process shall be replaced prior to the final overlay. The electrical subcontractor shall be on-call and the loops shall be replaced within **5 working days** of the planing operation and paved within **3 working days** of the

1 loop installation. See Section 8-20 of the Specifications for details on loop installation and
2 payment.
3
4 Planing shall be performed in such a manner that the underlying pavement is not torn,
5 broken, or otherwise damaged by the planing operation. The surface of the underlying
6 pavement shall be slightly grooved or roughened sufficiently to ensure a bond when
7 overlaid. All areas to be ground shall be completed with a grinder. The use of other
8 methods must be approved by the Engineer.
9
10 If, after planing a thin veneer layer remains, the contractor shall replane the roadway as
11 directed by the Engineer, paid under "Additional Planing Bituminous Pavement". The
12 Contractor shall adjust their schedule at no additional cost to the owner.
13
14 The planings shall become the property of the Contractor and shall be removed from the
15 right-of-way. The planings may be utilized as RAP, within the requirements of Section 5-
16 04.2 or 9-03.21. The Contractor shall immediately dispose of all other debris resulting
17 from the planing operation in a Contractor-provided site off the right-of-way.
18
19 Immediately after grinding, the Contractor shall construct an asphalt transition (temporary
20 paper joints or ramps), on all traveled ways, wheel chair ramps, and exposed manholes,
21 inlets, catch basins, monuments, valve boxes, and other structures on the street,
22 regardless of depth in grinding. Asphalt transition must be removed prior to overlay. Cast
23 iron structures left higher than 2" must be removed and steel plates installed to protect the
24 opening and provide a suitable driving surface.
25
26 Sweeping of roadway surface shall immediately follow all grinding. Sweeping of roadway
27 surface is required prior to tack placement and paving.
28
29 The road shall be overlaid within **3 working days** after planing operation for streets
30 without loops. On streets where loops will be replaced, the overlay shall be completed
31 within **8 working days** after planing operation.
32
33 Sweepers following the grinding work will not be paid separately, and is included in the
34 bid item "Planing Bituminous Pavement (2" Deep)", per square yard.
35
36 For mainline planing operations, the equipment shall have automatic controls, with
37 sensors for either or both sides of the equipment. The controls shall be capable of
38 sensing the proper grade from an outside reference line, or a mat-referencing device.
39 The automatic controls shall also be capable of maintaining the desired transverse slope.
40 The transverse slope controller shall be capable of maintaining the mandrel at the desired
41 slope (expressed as a percentage) within plus or minus 0.1 percent.
42
43 Pre-level course is not anticipated on any of the selected streets. If, however, after
44 planing operations, drivability issues cannot be resolved with 2" overlay, pre-level will be
45 required as directed and paid for by "HMA Class 1/2" PG 64-22", per ton. Contractor is
46 strongly encouraged to bid the work to cover their cost of pre-level operations.
47
48 **5-04.3(14)A Paving and Planing Under Traffic**
49
50 **5-04.3(14)A1 General**

1 In addition the requirements of Section 1-07.23 and the traffic controls required in Section
2 1-10, and unless the Contract specifies otherwise or the Engineer approves, the
3 Contractor must comply with the following:
4

5 1. Intersections:

6 a. Keep intersections open to traffic at all times, except when paving or planing
7 operations through an intersection requires closure. Such closure must be kept to
8 the minimum time required to place and compact the HMA mixture, or plane as
9 appropriate. For paving, schedule such closure to individual lanes or portions
10 thereof that allows the traffic volumes and schedule of traffic volumes required in
11 the approved traffic control plan. Schedule work so that adjacent intersections are
12 not impacted at the same time and comply with the traffic control restrictions
13 required by the Contracting Agency. Each individual intersection closure or partial
14 closure, must be addressed in the traffic control plan, which must be submitted to
15 and accepted by the Engineer, see Section 1-10.2(2).

16 b. When planing or paving and related construction must occur in an intersection,
17 schedule and sequence such work into quarters of the intersection, or half or
18 more of an intersection with side street detours unless otherwise directed by the
19 Engineer. Be prepared to sequence the work to individual lanes or portions
20 thereof.

21 c. Allow new compacted HMA asphalt to cool to ambient temperature before any
22 traffic is allowed on it. Traffic is not allowed on newly placed asphalt until
23 approval has been obtained from the Engineer.

24 2. Temporary centerline marking, post-paving temporary marking, temporary stop
25 bars, and maintaining temporary pavement marking must comply with Section 8-
26 23.

27 3. Permanent pavement marking must comply with Section 8-22.
28
29

30 **5-04.3(15) Vacant**
31

32 **5-04.3(16) HMA Road Approaches**

33 HMA approaches shall be constructed at the locations shown in the Plans or where
34 staked by the Engineer. The Work shall be performed in accordance with Section 5-04.
35

36 **5-04.4 Measurement**

37 "Planing Bituminous Pavement (2" Deep)", shall be measured by the square yard.
38

39 "HMA Class ½", PG 64-22", shall be measured by the ton.
40

41 **5-04.5 Payment**

42 Payment will be made in accordance with Section 1-04.1, for each of the following bid
43 items that are included in the proposal:
44

45 "HMA Class ½" PG 64-22", per ton.
46

47 The unit contract price per ton for "HMA Class ½" PG 64-22", shall be full compensation
48 for all costs incurred to carry out the requirements of Section 5-04 except for those costs

1 included in other items which are included in the sub-section and which are included in the
2 proposal.
3
4 All costs for "Asphalt Tack Coat", "Anti Stripping Additive", "Compaction Adjustment" and
5 "Joint Sealing Transverse Joints in Paving" shall be included in the unit contract price per
6 ton for "HMA Class ½" PG 64-22", per ton.
7
8 "Planing Bituminous Pavement (2" Deep)", per square yard.
9
10 The Unit contract price for "Planing Bituminous Pavement (2" Deep), per square yard shall
11 be full payment for all costs incurred to perform the work described in Section 5-04.3(14).
12
13
14 COE 5-06 PVMT PATCHING.rtf
15 **5-06 PAVEMENT PATCHING**

16 **(*****)**

17
18 Section 5-06 is new and is supplemented with the following:
19

20 **5-06.1 Description**

21
22 This work shall consist of the reconstruction and patching of trenches and other
23 excavations in paved streets and other paved areas.
24

25 **5-06.2 Materials**

26
27 All materials shall conform to the requirements specified for the materials in Sections 5-04
28 & 5-05 of the Standard Specifications except as modified by these Special Provisions.
29

30 HMA pavement for patching shall be HMA Class ½", PG 64-22 as specified in Section 5-
31 04 of the Standard Specifications.
32

33 Asphalt for temporary pavement patch shall be cold mix asphalt (MC 250) per Section 9-
34 02 of the Standard Specifications. Mineral aggregate shall meet the same requirements
35 as the aggregates used in HMA Class ½", PG 64-22.
36

37 Tack coat shall be emulsified asphalt grade CSS-1 as specified in Section 9-02 of the
38 Standard Specifications.
39

40 Cement concrete for pavement patching shall be Class 4000, HES. Curing time for Class
41 4000 HES concrete shall be 5 days.
42

43 Crushed surfacing top course used for pavement patching shall conform to the
44 requirements of Section 9-03.9(3) of the Standard Specifications.
45

46
47 **5-06.3 Construction Requirements**
48

1 **5-06.3(1) General**

2
3 Pavement patching shall be scheduled to accommodate the demands of traffic and
4 shall be performed as rapidly as possible to provide maximum safety and convenience
5 to public traffic.
6

7 The placing and compaction of the trench backfill and the preparation and compaction
8 of the subgrade shall be in accordance with the various applicable sections of the
9 Standard Specifications except as modified by these Special Provisions.
10

11 Before the pavement patch is to be constructed the pavement shall be saw cut so that
12 the marginal edges of the patch will form a rectangular shape with straight edges and
13 vertical faces.
14

15 Signs, barricades, lights and other warning devices shall be installed per the
16 requirements of the "Manual on Uniform Traffic Control Devices" and they shall be
17 maintained 24 hours a day until the patching work is completed and ready for traffic.
18

19 Compaction of the subgrade shall be completed prior to the required patching.
20 Subgrade compaction shall be to 95% as determined by the ASTM D2922 (nuclear
21 method).
22

23 **5-06.3(2) Cement Concrete Pavement**

24
25 After the Crushed Surfacing Top Course subgrade for the pavement has been
26 constructed and compacted to line and grade, the cement concrete pavement patch
27 shall be placed and struck off to a thickness of 1" greater than the existing pavement
28 or 8" minimum, whichever is greater. All work shall be in accordance with Section 5-
29 05 of the Standard Specifications, except as modified by these Special Provisions and
30 Standard Drawing No. 326.
31

32 Through joints and dummy joints shall be placed to match existing or as directed by
33 the Engineer. The surface of the concrete patch shall be finished and brushed with a
34 fiber brush. Approved curing compound shall be placed on the finished concrete
35 immediately after finishing.
36

37 **5-06.3(3) Cement Concrete Pavement Resurfaced with HMA**

38
39 Streets which have cement concrete pavements surfaced with HMA shall be patched
40 as shown on Standard Drawing No. 326.
41

42 The cement concrete portion of the patch shall be Class 4000, HES. The thickness
43 shall be 1" thicker than the existing concrete base or 6" whichever is greater. The top
44 surface of the concrete patch shall match the top surface of the existing concrete
45 base; in no case shall the top of the concrete be higher than the top of the existing
46 concrete base. Brush finishing will not be required. Joints shall be placed to match
47 existing or as directed by the Engineer.
48

49 HMA plant mix shall not be placed until 3 days after the cement concrete base has
50 been placed or otherwise permitted by the Engineer. The HMA plant mix shall not be
51 placed until the concrete base has received a tack coat of CRS-2 at a rate of 0.12

1 to 0.20 gallons per square yard. The edges of the existing asphalt and castings shall
2 also be painted with the tack coat. The HMA pavement shall then be placed, leveled,
3 and compacted to conform to the surface of the existing HMA. Immediately thereafter,
4 all joints between the new and original asphalt pavement shall be painted with CSS-
5 1 asphalt emulsion and covered with dry sand before the asphalt solidifies.

6
7 Asphalt shall be compacted to 92% of maximum density as determined by WSDOT
8 Test Method 705.
9

10 **5-06.3(4) HMA on Granular Base**

11
12 After the Crushed Surfacing Top Course subgrade has been leveled and compacted,
13 HMA Class ½" Page 64-22 shall be placed to a thickness of 1" greater than the
14 existing asphalt pavement depth or to a minimum of 3", whichever is greater. Asphalt
15 shall be compacted to 92% of maximum density as determined by WSDOT Test
16 Method 705.
17

18 **5-06.3(5) Untreated Roadway Surfaces**

19
20 Existing crushed rock, gravel, and oil mat streets shall be restored with Crushed
21 Surfacing Top Course to a compacted depth of 4" within the neat lines of the trench.
22 Crushed surfacing shall be mixed, placed, spread and shaped in accordance with the
23 requirements of Section 4-04 of the Standard Specifications.
24

25 **5-06.3(6) Temporary Pavement Patching**

26
27 The Contractor shall furnish, place and maintain temporary pavement patching, at
28 locations as directed by the Engineer, until such time as a permanent patch of
29 permanent paving can be made.
30

31 Temporary pavement patch shall consist of a 2" thick course of cold mix asphalt (MC
32 250) over a 4" course of Crushed Surfacing Top Course. The crushed surfacing top
33 course shall be compacted to 95% maximum density as determined by WSDOT test
34 method No. 606. Asphalt shall be compacted to 90% of maximum density as
35 determined by WSDOT Test Method 705.
36

37 Temporary asphalt patching shall be required where roadway or walk is needed for
38 vehicular or pedestrian traffic, during the construction period, until permanent
39 pavement and sidewalks can be constructed.
40

41 In the event that the temporary surface subsides after the initial placement, additional
42 MC 250 and crushed surfacing shall be applied to maintain the surface.
43

44 Stockpile of plant mix and crushed surfacing for temporary patching shall be provided
45 on the site by the Contractor.
46

47 Prior to final restoration of the pavement, the Contractor shall be responsible for
48 removing and disposing of temporary pavement patching materials.
49

50 **5-06.3(7) Incidental Pavement Patching**

51

Incidental pavement patching shall be done only at the direction of the Engineer for patching and restoring areas between the back of new sidewalks and adjacent asphalt driveways, paving ramps at the ends of sidewalks, and gutters that are adjusted to grade.

Asphalt for incidental pavement patching shall be HMA Class ½" PG 64-22.

5-06.4 Measurement

Measurement of cement concrete pavement patching quantities shall be by the cubic yard.
Measurement for HMA pavement patch shall be the square yard of patch area.
Measurement for temporary MC 250 pavement patching and incidental asphalt shall be by the ton.

Measurement for Crushed Surfacing Top Course shall be by the ton.

5-06.5 Payment

Compensation for the cost associated with completing the work as described in Sections 5-04, 5-05 and 5-06 will be made at the unit contract prices bid for the pay items listed below:

"Cement Concrete Class 4000, HES, Pavement Patch", per ton, or per cubic yard
 "HMA Class ½" PG 64-22, Pavement Patch", per ton or per cubic yard
 "Temporary MC 250, Pavement Patch", per ton or per cubic yard

The unit contract price bid for pavement patching of the type required shall be limited to the actual quantities used and shall include the costs for all work described herein and not otherwise provided for in this section. Labor and materials required to install joints and joint materials shall be incidental. Payment for "Temporary MC 250, Pavement Patch" shall include reimbursement for removal and disposal of temporary patch materials prior to final patching.

The costs of additional MC 250 and crushed surfacing material required to maintain temporary pavement patches after the initial installation shall be borne by the Contractor.

Payment for imported backfill shall be paid separately by the appropriate bid items.

If a separate bid item is not provided for tack coat CSS-1, this work shall be considered incidental to the available bid items for patching.

END DIVISION5.RTF

END DIVISION 5

Division 7
Drainage Structures, Storm Sewers, Sanitary
Sewers, Water Mains, and Conduits

COE 7-05 Manholes and Catch basins.docx

7-05 MANHOLES, INLETS, AND CATCH BASINS

7-05.1 Description

Revise the first paragraph in 7-05.1 to read as follows:

This Work consists of constructing manholes, inlets, drywells, and catch basins and connecting to existing Structures of the types and sizes designated in accordance with the Plans, these Special Provisions, the Specifications, and the COE Standard Drawings, in conformity with the lines and grades staked.

Further supplement 7-05.1 as follows:

7-05.1(1) Submittals

(*****)

Provide Type 2 Working Drawings for all materials and Standard Plans.

7-05.2 Materials

Supplement 7-05.2 by adding the following at the end of the material list:

Mortar, nonshrink	9-20.3(2)	Standard Specifications
Commercial Concrete	6-02.3(2)B	Standard Specifications
Watertight Connection Boots	9-05.30	Special Provisions
Flexible Couplings	9-05.40	Special Provisions
Polypropylene Manhole Steps	9-05.64	Special Provisions
& Hand Holds		
Polypropylene Manhole Ladder	9-05.66	Special Provisions

7-05.3 Construction Requirements

Supplement 7-05.3 by adding the following after the last sentence of the third paragraph:
Install PAMREX, East Jordan Iron Works, or equal, hinged manhole frame and cover in accordance with manufacturer recommendations and applicable City standards and details.

Coordinate manhole cover and frame hinge location with manhole steps and traffic lanes. Hinge orientation to be determined during the shop drawing review of precast manhole structures.

Delete the tenth paragraph in 7-05.3.

Revise the eleventh paragraph in 7-05.3 to read as follows:

Provide Kor-N-Seal, or equal, watertight flexible pipe to manhole connectors for pipes up to 48-inch diameter connecting to new sanitary sewer manholes. Place no pipe joint in PVC or HDPE pipe within 10-feet of the outside face of the manhole.

Revise the last sentence in the sixteenth paragraph in 7-05.3 to read as follows:

1 Provide manholes, inlets, and catch basins that upon final acceptance of the Work
2 conforms to the following COE Standard Drawings requirements:

- 3 1. Manholes No. 605, 606 and 607 as applicable.
- 4 2. Inlets No. 401
- 5 3. Catch Basins No. 402, 403, 404 and 405 as applicable.

6
7 Revise the last paragraph to read:

8
9 See Sections 7-05.3(3) and 7-08 for pipe connection requirements.

10
11 **7-05.3(1) Adjusting Manholes and Catch Basins to Grade**

12 Delete both paragraphs of 7-05.3(1) and substitute the following:

13 Adjust manholes, catch basins and other structures to final grade after
14 completing pavement operations. Carefully re-establish the center of each
15 structure from Contractor's previously established references.

16
17 Cut pavement in neat circle having a minimum diameter of 2-feet beyond the
18 casting cover. Remove pavement and base material, maintaining the neat circle,
19 to permit casting and frame removal. Adjust casting and frame to proper grade.
20 Place cast iron frame on concrete blocks or concrete adjusting rings and wedge
21 up to the desired grade using plastic wedges. Wood or metal wedges are not
22 allowed. The Backfill around finished casting frame to within 1-1/2 inches of
23 finished pavement surface using commercial concrete.

24
25 After concrete has set a full 24-hours, paint the edges of the asphalt concrete
26 pavement and the outer edge of the casting with hot asphalt cement. Place hot
27 asphalt concrete to match finished pavement surface and compact with hand
28 tampers and a patching roller. Asphalt concrete and cement concrete shall be
29 considered incidental to the unit price of the structure being adjusted.

30
31 Match the new patch with existing paved surface for texture, density, and
32 uniformity of grade. Carefully paint the joint between the patch and the existing
33 pavement shall then be carefully painted with hot asphalt cement or asphalt
34 emulsion and immediately cover with dry paving sand before the asphalt cement
35 solidifies.

36
37 Thoroughly mortar and plaster the inside throat of the structure.

38
39 **7-05.3(3) Connections to Existing Manholes**

40 Delete all three paragraphs of 7-05.3(3) and substitute the following:

41 Verify existing manhole rim and invert elevations prior to construction. Provide
42 verification documentation by means of a Submittal to the Engineer for approval.
43 Submittal shall be in accordance with 1-05.3 of these Special Provisions.
44 Immediately bring discrepancies in invert elevations to the attention of the
45 Engineer.

46
47 Unless specified otherwise, match the new connection pipe crown elevation to
48 the existing pipe or pipe crown elevation. Rechannel the existing manhole in
49 accordance with COE Standard Drawing 605 to provide a flow transition free from
50 rough, jagged or protruding edges that could catch debris.

1 Use safe and effective construction methods to prevent existing manhole from
2 moving or tipping during excavation to make new connection.
3
4 Keep the manhole in operation at all times and take necessary precautions to
5 prevent debris or other material from entering the sewer, including a tight pipeline
6 bypass through the existing channel, if required.
7
8 Core drill for pipe connections less than 28-inch O.D. Line drill or wall saw an
9 opening for pipe connection greater than 28-inch O.D. to accommodate the size
10 of pipe to be inserted. Interconnect drilled holes where line drilling is the method
11 used. Use a small core drill to accomplish line drilling. Jackhammer or rotary
12 hammer shall not be used. For line drilling provide minimum 1-inch and
13 maximum 2-inch clearance around the circumference of the pipe. Core drill
14 opening to accept a watertight flexible pipe to manhole connection in accordance
15 with manufacturer's recommendations. Place upstream pipes, except PVC and
16 HDPE pipe, penetrating the manhole walls with the bell facing out and snug
17 against the outside wall of the structure as the angle of penetration allows.
18 Provide a flexible joint within 1/2 of a pipe diameter or 12-inches, whichever is
19 greater for pipe, except PVC and HDPE pipe, leaving or entering manholes.
20
21 Place pipes entering or leaving the manhole on firmly compacted bedding. Take
22 particular care in compacting bedding within the area of the manhole excavation
23 that is normally deeper than the sewer trench. Take special care to ensure the
24 annual opening around each pipe entering the manhole is completely and firmly
25 rammed full of non-shrink grout to ensure water tightness. Non-shrink grout shall
26 conform to requirements of 9-03.20.3(2) of the Standard Specifications.
27
28 Provide a watertight flexible pipe to manhole connector for pipe diameters less
29 than or equal to 24-inches for PVC or HDPE pipes connecting to manhole. Place
30 no PVC or HDPE pipe joint within 10-feet of the outside face of the manhole.
31
32 **7-05.3(4) Drop Manhole Connections**
33 Delete the first paragraph in 7-05.3(4) and substitute the following:
34 Construct outside drop connections where shown on Plans in accordance with
35 these Special Provisions and 7-04, 7-05, and 7-17 of the Standard Specifications
36 and COE Standard Drawing No. 612.
37
38 Construct inside drop connections where shown on the Plans, or as approved by
39 Engineer, in 54-inch diameter manholes or larger in accordance with these
40 Special Provisions and 7-04, 7-05, and 7-17 of the Standard Specifications and
41 COE Standard Drawing No. 613.
42
43 Provide factory installed holes for drop connections for new manholes and core
44 drill holes for existing manholes. Impact tools shall not be allowed for making
45 holes in manhole walls.
46
47 Supplement 7-05.3 by adding the following:
48 **7-05.3(5) Furnish and Install Solid Lid for Catch Basins**
49 **(*****)**
50 Provide new solid lids on existing catch basins where shown on the Plans.
51 Provide solid lids conforming to 9-05.15 of the Standard Specifications, 9-

1 05.15(1) of these Special Provisions, and to COE Standard Drawing No. 406 and
2 410 for Type 1 and 1-L Catch Basins and COE Standard Drawing 611 for Type
3 2 Catch Basins.
4
5 COE 7-05.3(6) VANED GRATE.rtf
6 **7-05.3(6) Furnish and Install Vaned Grate**
7 Section 7-05.3(6) is new and is supplemented with the following:
8 (*****)
9
10 (March 15th, 2008 COE GSP)
11 Where shown on the plans, the Contractor shall install new vaned grate and
12 frame on existing catch basin, inlet or Manhole. The vaned grate lid shall
13 conform to Section 9-05.15 (2) of the Standard Specifications and to COE
14 Standard Plans 406 and 410.
15
16
17 **7-05.5 Payment**
18 Section 7-05.5 is supplemented with the following:
19 (*****)
20
21 "Adjust Catch Basin to Grade", per Each
22 "Locking Solid Lid for Catch Basin or Inlet", per Each.
23 "Manhole Ring and Cover", per Each.
24 "Non-Skid Lid for Water Vault", per Each lid.
25 "Vaned Grate lid and frame for Catch Basin or Inlet", per Each.
26
27 All costs associated with removing the old cover or grate, furnishing and installing the new
28 solid lid, jackhammer work, adjustment of blocks and bricks, concrete, mortar, HMA, shall
29 be included in the unit Contract price for the item installed.
30
31
32 7-12.GR7
33 **Valves for Water Mains**
34
35 COE 7-12 ADJUST WATER VALVE.RTF
36 **7-12 VALVES FOR WATER MAINS**

37 (*****)
38
39 **7-12.2 Materials**
40
41 The first paragraph of Section 7-12.2 is replaced by the following:
42
43 Gate Valves 9-30.3(1) Special Provisions
44 Butterfly Valves 9-30.3(3) Special Provisions
45 Valve Boxes 9-30.3(4) Special Provisions
46 Valve Stem Extensions 9-30.3(6) Special Provisions
47 Tapping Sleeve and Valve Assembly 9-30.3(8) Special Provisions
48

7-12.3 Construction Requirements

Section 7-12.3 is supplemented by the following:

Valve and Valve Box Installation:

The valve and valve box shall be set plumb with the valve box centered on the operator nut. Valve boxes shall be set flush in pavement and gravel roads. Asphalt concrete is required in gravel roads 2' around the valve box. When the top of the valve operating nut is more than 3' below finished grade, a valve operating extension shall be installed per Standard Plan No. 505. The minimum extension length shall be 12".

The Contractor shall remove existing valve boxes on water mains to be abandoned. Backfill for the void shall be excess material from trench excavation or "Gravel Borrow" as directed by the Engineer. If valve is in the street, an asphalt patch shall be constructed in accordance with City of Everett Standards.

Tapping Sleeve and Valve:

All wet taps to existing water mains shall be done by City Utility Department personnel. Contractor shall provide all materials and parts to perform all pavement sawing, pavement removal, excavations, shoring, and traffic control and other work required to install the tapping sleeve and valve assembly. City personnel will perform the tap of the existing main after the Contractor has the site ready, the parts on hand, and is ready for the tapping operation. City personnel shall not enter any excavation not shored in conformance with the requirements of WISHA, RCW 49.17 including WAC 296-155. City personnel shall be given at least 5 business days minimum notice for each tap. The City of Everett shall thereafter determine the date and time that each tap shall be made. Contractor shall be responsible for backfill, compaction, and restoration of the pavement once the tapping sleeve and valve assembly has been installed by the City and tested.

Adjusting Valve Boxes to Grade:

Where shown in the plans, existing valve boxes and covers shall be adjusted to the grade as staked or otherwise designated by the Engineer. The adjustment of the valve box to grade by the use of riser rings is not allowed.

Removal operations shall be conducted to prevent damage to the valve boxes. Any parts or materials damaged due to the Contractor's operations shall be replaced at his expense.

The Contractor shall conduct his valve box adjustments so that the fully-adjusted box allows the respective valve to be fully operational. The Contractor shall remove all debris from the adjusted valve boxes to ensure such operational condition.

7-12.4 Measurement

"Adjust Valve Box to Grade", shall be measured per Each.

7-12.5 Payment

1 SECTION 7-12.5 OF THE STANDARD SPECIFICATIONS IS SUPPLEMENTED BY THE
2 FOLLOWING:

3
4 Payment will be made for each of the following bid items that are included in the Proposal:

5
6 "Gate Valve, ___ Inch", per EACH.
7

8 The unit contract price per each for the valves specified shall be full pay for all work to
9 furnish and install valves complete in place on the water main, including trenching, jointing,
10 painting, disinfecting, hydrostatic testing, and valve box. Concrete blocking shall be paid
11 for separately.

12
13 "Tapping Sleeve and Valve Assembly, ___ Inch x ___ Inch", per EACH.
14

15 The unit contract price per each for the tapping sleeve and valve assembly as specified
16 shall be full compensation for all work required to furnish the tapping sleeve, valve, and
17 valve box complete, including trenching, backfilling, hydrostatic testing, and disinfecting.
18 Unit price will not include tapping existing water main or installation of tapping sleeve and
19 valve, which shall be done by City personnel. Concrete blocking and pavement patching
20 will be paid for separately.

21
22 "Remove and Salvage Valve/Valve Box and Cap at Main", per EACH.
23

24 The unit contract price per each for "Remove and Salvage Valve/Valve Box and Cap at
25 Main" shall be full pay for all labor, materials and equipment necessary in removing and
26 salvaging the valve and valve box and installing the cap at main including excavation,
27 backfill and restoration to grade.

28
29 "Remove Existing Valve Box", per EACH.
30

31 The unit contract price per each for "Remove Existing Valve Box" shall be full pay for
32 all labor, materials and equipment necessary in removing the valve box including
33 excavation, backfill and restoration of adjacent areas.

34
35 "Adjust Valve Box to Grade", per EACH.
36

37 "Adjust Service Box to Grade", per EACH.
38

39 The unit contract price per each for "Adjust Valve Box to Grade" and "Adjust Service
40 Box to Grade" shall be full pay for all costs necessary to make the adjustment including
41 excavation (approximately 2' square), haul off, compaction during restoration with crushed
42 rock, and restoration of adjacent disturbed areas.

43
44 COE 7-20 ADJUST WATER METER BOX.RTF
45 **7-20 WATER METER BOX**

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

47
48 Section 7-20 is new and is supplemented with the following:
49

1 **7-20.1 Description**
2
3 This Work consists of replacing water meter box in accordance with the Construction Plans,
4 City of Everett Standard Drawings 501, & 502 and the Standard Specifications. The new water
5 meter box shall be adjusted to the grade as staked or otherwise designated by the ENGINEER.
6
7 **7-20.2 Materials**
8
9 Materials shall meet the requirements as specified in the COE Standard Drawings #501 & 502.
10
11 **7-20.3 Construction Requirements**
12
13 Where shown in the plans, existing valve boxes and covers shall be adjusted to the grade as
14 staked or otherwise designated by the Engineer
15
16 All respective valve(s) shall be fully operational after adjustment.
17
18 **7-20.4 Measurement**
19
20 No measurement shall be made for removal of existing meter box, and lid, excavation, or
21 backfilling.
22
23 **7-20.5 Payment**
24 "Adjust Water Meter Box to Grade", per EACH.
25
26 The unit contract price per each for "Adjust Water Meter Box to Grade" shall be full pay for all
27 costs necessary to make the adjustment including excavation, haul off, compaction during
28 restoration with crushed rock, and restoration of adjacent disturbed areas.
29
30
31 COE 7-20 REPLACE WATER METER BOX.rtf
32 **7-20 WATER METER BOX**

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

34
35 Section 7-20 is new and is supplemented with the following:
36

37 **7-20.1 Description**
38

39 This Work consists of replacing water meter box in accordance with the Construction
40 Plans, City of Everett Standard Drawings 501, & 502 and the Standard Specifications. The
41 new water meter box shall be adjusted to the grade as staked or otherwise designated by the
42 ENGINEER.
43

44 **7-20.2 Materials**
45

46 Materials shall meet the requirements as specified in the COE Standard Drawings #501 & 502.

1
2 **7-20.3 Construction Requirements**
3 The materials and method of construction shall conform to the product requirements,
4 and instructions. The new meter box and lid shall be raised or lowered to the required elevation
5 with riser sections.
6
7 All respective valve(s) shall be fully operational after replacement.
8
9 **7-20.4 Measurement**
10 Water meter lid shall be included with the water meter box.
11
12 No measurement shall be made for removal of existing meter box, and lid, excavation,
13 or backfilling.
14
15 **7-20.5 Payment**
16 "Replace water meter box", per EACH.
17
18 All labor, equipment and materials required to remove and disposal of the old water meter box
19 and lid, and installation of the new water meter box and lid shall be included in the unit Contract
20 price for the item installed.
21
22 END DIVISION7.RTF
23
24 **END DIVISION 7**
25

DIVISION8.GR8

**Division 8
Miscellaneous Construction**

8-01.GR8

Erosion Control and Water Pollution Control

COE 8-01.3(1)A TESC.rtf

8-01.3(1)A Submittals

Section 8-01.3(1)A shall be supplemented with the following:

(*****)

When a TESC Plan is not included, the Contractor shall submit a written TESC Plan, and update the plan during the life of the project. The Plan shall specifically indicate methods for minimizing runoff during the construction. The Plan shall also discuss measures taken to minimize time lapse between the removal of existing curbs, sidewalk, pavement, and the installation of the new ones.

No separate measurement or payment will be made for providing and maintaining the written TESC Plan. All costs associated with providing, and maintaining the TESC Plan shall be incidental to various contract unit price associated with erosion control.

8-01.3(1)C.GR8

Water Management

8-01.3(1)C4.GR8

Management of Off-Site Water

8-01.3(1)C4.INST1.GR8

Section 8-01.3(1)C4 is supplemented with the following:

8-01.3(1)C4.OPT1.FR8

(August 6, 2012)

Off-site Stormwater

Stormwater is known to enter the project site at the following locations:

*** \$\$1\$\$ ***

8-01.3(2).GR8

Temporary Seeding and Mulching

8-01.3(2)B.GR8

Temporary Seeding

1 8-01.3(2)B.INST1.GR8
2 Section 8-01.3(2)B is supplemented with the following:
3

4 COE 8-01.3(2)PREP.rtf
5 **8-01.3(2)A Preparation for Application**

6 Section 8-01.3(2)A shall be revised and read as follows:
7

8 (*****)

9
10 All areas to be seeded shall meet the specified finish grades and shall be free of undesirable
11 weed or plant growth. Provide and install a two (2) inch compacted depth of Fine Compost
12 over subgrade. Scarify Fine Compost into the top six (6) inches of subgrade.
13 Compact soil to 85% maximum density. Rake and remove rocks, roots and other debris that
14 is one (1) inches or larger.
15

16
17
18 COE 8-01 Seedmix.RTF

19 **8-01.3(2)B SEEDING AND FERTILIZING**

20 Section 8-01.3(2)B shall be supplemented with the following:
21

22 (*****)

23
24 The seed mixtures shall be as follows:

25

Kind and Variety of Seed in Mixture	Percent (%) by Weight
Red Creeping Fescue	45%
Chewing Fescue	30%
Kentucky Bluegrass	15%
Highland Colonial Bentgrass	10%

30
31

32 The application rate shall be *** 4 ***pounds per *** 1000 *** square feet. No noxious weeds
33 will be permitted. The seed mixture shall be no less than 98% pure, and shall have a minimum
34 germination rate of 90%.
35

36 Fertilizer shall be a standard commercial grade of organic or inorganic fertilizer of the
37 kind and quality specified herein. It may be separate or in a mixture containing the
38 percentage of total nitrogen, available phosphoric acid and water-soluble potash in the
39 amounts specified. All fertilizers shall be furnished in standard unopened containers
40 with weight, name of plant nutrients and manufacturer's guaranteed statement of
41 analysis clearly marked, all in accordance with State and Federal laws.
42

43 Acceptable commercial fertilizer may be supplied in one of the following forms:
44

- 1 (a) A dry free-flowing granular fertilizer suitable for application by agricultural
2 fertilizer spreader.
3
4 (b) A soluble fertilizer ground to a fineness that will permit complete suspension
5 of insoluble particles in water, suitable for application by power sprayer.
6
7 (c) A granular or pelleted fertilizer, suitable for application by blower
8 equipment.
9
10 (d) A nonvolatile liquid fertilizer.

11
12 Fertilizer shall be standard commercial grade of formulation. Fifty percent of the
13 nitrogen shall be derived from 38% ureaformaldehyde and apply at the rate of 12
14 pounds per 1000 square feet.

15
16 COE 8-01 MULCH.rtf

17 **8-01.3(2)D Mulching**

18 Section 8-01.3(2)D shall be supplemented with the following:
19

20 **(*****)**

21
22 Wood cellulose fiber mulch shall be specially processed wood fiber containing no growth or
23 germination inhibiting factors, and shall be dyed a suitable color to facilitate inspection of the
24 placement of the material. It shall be manufactured in such manner that after addition and
25 agitation in slurry tanks with water, the fibers in the material will become uniformly suspended
26 to form a homogeneous slurry. When hydraulically sprayed on the ground, the material shall
27 allow the absorption and percolation of moisture.

28
29 Wood cellulose fiber shall be applied at the rate of *** **60** *** pounds per *** **1,000** *** square
30 feet.

31

32 8-02.GR8

33 **Roadside Restoration**

34

35 8-02.1.GR8

36 **Description**

37

38 8-02.1.INST1.GR8

39 Section 8-02.1 is supplemented with the following:
40

41

42 8-02.1.OPT1.GR8

43 (August 4, 2014)

44 This work shall consist of removing and disposing of buried previously fabricated debris
45 that may be encountered during soil amendment incorporation or excavation for irrigation
46 systems.

1 8-02.3(5).GR8
2 **Roadside Seeding, Lawn and Planting Area Preparation**
3
4 8-02.3(5).INST1.GR8
5 Section 8-02.3(5) is supplemented with the following:
6
7 8-02.3(5).OPT4.GR8
8 **(August 4, 2014)**
9 **Removal of Buried Previously Fabricated Debris**
10 The Contractor shall remove buried previously fabricated debris as directed by the
11 Engineer to a maximum depth of two feet. The excavated debris shall be removed
12 from the project site to a disposal facility approved by the Engineer.
13
14 8-02.3(6).GR8
15 **Mulch and Amendments**
16
17 8-02.3(6)B.GR8
18 **Fertilizers**
19
20 8-02.3(6)B.INST1.GR8
21 Section 8-02.3(6)B is supplemented with the following:
22
23 8-02.3(6)B.OPT3.GR8
24 (September 3, 2019)
25 Fertilizer shall be a commercially prepared mix of 10-20-20 and shall be applied
26 at the rate of 10 pounds per 1000 square feet.
27
28 8-02.3(9)B.GR8
29 **Seeding and Fertilizing**
30
31 8-02.3(9)B.INST1.GR8
32 Section 8-02.3(9)B is supplemented with the following:
33
34 8-02.3(9)B.OPT2.GR8
35 (September 3, 2019)
36 Grass seed shall be a commercially prepared mix, made up of low growing
37 species which will grow without irrigation at the project location, and accepted by
38 the Engineer. The application rate shall be two pounds per 1000 square feet.
39
40 8-02.3(11).GR8
41 **Mulch**
42
43 8-02.3(11).INST1.GR8
44 Section 8-02.3(11) is supplemented with the following:
45
46 8-02.3(11).OPT1.FR8
47 (April 2, 2012)
48 Bark mulch or wood chip mulch shall be placed to a uniform non-compacted depth of
49 *** \$\$1\$\$ *** over all planting areas.
50
51 Bark or wood chip mulch shall not be placed in areas of standing or flowing water.

1
2 8-02.5.GR8
3 **Payment**
4
5 8-02.5.INST1.GR8
6 Section 8-02.5 is supplemented with the following:
7
8 8-02.5.OPT2.GR8
9 (September 7, 2021)
10 "Removal of Buried Previously Fabricated Debris" will be paid for by force account as
11 specified in Section 1-09.6. The payment for removal of buried man-made debris shall be
12 full compensation for all costs for the specified Work to include removing, loading, hauling,
13 and all associated disposal costs.
14
15 For the purpose of providing a common proposal for all bidders, the Contracting Agency
16 has entered an amount in the proposal to become a part of the Contractor's total Bid.
17
18 COE 8-04 Curbs.RTF
19 **8-04 CURBS, GUTTERS, AND SPILLWAYS**

20 (*****)
21
22 SECTION 8-04.1 OF THE STANDARD SPECIFICATIONS IS DELETED AND REPLACED BY
23 THE FOLLOWING:
24

25 **8-04.1 Description**

26
27 "Cement Concrete Curb and Gutter Type A-1", "Cement Concrete Curb Type ____" and
28 "Asphalt Concrete Curb", shall be in accordance with Section 8-04 of the Standard
29 Specifications as modified in these Special Provisions and shall conform to the
30 Construction Plans and Standard Drawings.
31

32 SECTION 8-04.3(1) OF THE STANDARD SPECIFICATIONS IS SUPPLEMENTED BY
33 THE FOLLOWING:
34

35 **8-04.3 Construction Requirements**

36
37 ***8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways***
38

39 Joints shall be dummy joints at a maximum spacing of 15' with 1/2" through-expansion
40 joints at beginning of curves, at curb return tangency points, at each side of catch
41 basins, and at driveways.
42

43 The subbase for curb and gutter sections shall be compacted to 95% density at
44 optimum moisture content before placing the curb and gutter.
45

46 The top of the finished concrete shall not deviate more than 1/8" in 10', nor the
47 alignment 1/4" in 10'.
48

1 Where shown on the plans, or as directed by the Engineer, the concrete curb will be
2 depressed for wheelchair ramps and driveways, per Standard Drawing Nos. 313, 318,
3 319, 320, 321, and 322.
4
5 Cement concrete curbs shall be constructed where shown on plans or as directed by
6 the Engineer in accordance with Standard Drawing Nos. 307, 308, and 309.
7
8 At locations shown on the construction plans, the Contractor shall construct storm
9 drainage frames and grates into cement concrete curb and gutter, per Standard
10 Drawings Nos. 407 and 412.
11

12 **8-04.5 Payment**

13
14 SECTION 8-04.5 OF THE STANDARD SPECIFICATIONS IS SUPPLEMENTED WITH
15 THE FOLLOWING:
16

17
18 Payment will be made for each of the following bid items that may be included in the
19 proposal:
20

21 Add the following items:

22 "Cement Concrete Curb and Gutter Type A-1," per linear foot.

23 "Cement Concrete Curb Type ____," per linear foot.

24 "Extruded Asphalt Concrete Curb," per linear foot.

25 "Extruded Cement Concrete Curb," per linear foot.
26

27 "Cement Concrete Curb and Gutter Type A-1", "Cement Concrete Curb Type ____",
28 "Extruded Asphalt Concrete Curb", and "Extruded Cement Concrete Curb", per linear foot
29 shall be full compensation for all labor, equipment, materials and incidentals, including
30 forms, necessary to perform the work. Installation of curb depressions for driveway cuts
31 and wheelchair ramps shall be incidental to these items and no separate payment will be
32 made.
33

34 COE 8-14 SDWK & CURB RAMP.RTF

35 **8-14 CEMENT CONCRETE SIDEWALKS**

36 **8-14.3 Construction Requirements**

37
38 Section 8-14.3 shall be deleted and replaced with the following:
39

40 (*****)

41
42 The concrete in the Cement Concrete Sidewalk shall be Commercial Mix in accordance
43 with the requirements of Section 6-02, and as defined in the City of COE Standard
44 Drawing No. 312.
45

46 **8-14.3(1) Excavation**

47
48 Section 8-14.3 (1) is supplemented with the following:

1
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(*****)
It is expected there will be sufficient suitable native material excavated from various portions of the improvement to fill low areas in the sidewalk subgrade and planting strip area when needed and no further payment will be allowed for fill material. Where there is insufficient suitable native material on the project site, the Contractor shall furnish, place and compact CSBC meeting the requirements of Section 4-04 of these Specifications.

8-14.3(6) Curb Ramp

Section 8-14.3 (6) is new and is supplemented with the following:

(*****)
Curb ramp locations will be designated on the drawings or marked in the field by the Engineer. Where curb ramps are to be constructed, the Contractor shall construct curb ramp in accordance to the City of Everett Standard Drawing #318, 319, 320, 321, or WSDOT Standard Drawings F-40.12-02, F-40.14-02, F-40.15-02, F-40.16-02, F-45.10-01.

Curb ramps shall be constructed separately from the sidewalk to produce a definite break line between the ramp and the sidewalk. A 3/8 inch non-extruded through joint material shall be installed between the curb and the sidewalk with edging as specified in Section 8-14.3(3).

8-14.4 Measurement

Section 8-14.4 is supplemented with the following:

(*****)
"Modified Type_____Curb Ramp" per Each.
"Modified Half Flare Type_____Curb Ramp", per Each.
"Median Cut-Through", per Each.
"Type___Curb Ramp", per Each.
Bid Items listed above does not include the adjacent Curb, Curb and Gutter, Pedestrian Curb or Sidewalks.

8-14.5 Payment

Section 8-14.5 is supplemented with the following:

(*****)
"Modified Type_____Curb Ramp", per Each.
"Modified Half Flare Type_____Curb Ramp", per Each.
"Median Cut-Through", per Each.

1 "Type ____ Curb Ramp", per Each.
2
3 Above Bid Items do not include the adjacent Curb, Curb and Gutter, Pedestrian Curb or
4 Sidewalks.
5
6 Any sidewalk not acceptable in the opinion of the Engineer, because of damage,
7 defacement, or carelessness on the part of the Contractor shall be removed, replaced and
8 paid for in accordance to Section 1-05.7 (Removal of Defective and Unauthorized Work)
9 of these provisions.
10
11 The placement of the CSBC under the new Cement Conc. Sidewalk shall be measured
12 and paid in accordance to Section 4-04.
13
14 8-14.GR8
15 **Cement Concrete Sidewalks**
16
17 8-14.3.GR8
18 **Construction Requirements**
19
20 8-14.3.INST1.GR8
21 Section 8-14.3 is supplemented with the following:
22
23 8-14.3.OPT2.GR8
24 ***(January 7, 2019)***
25 ***Timing Restrictions***
26 Curb ramps shall be constructed on one leg of the intersection at a time. The curb ramps
27 shall be completed and open to traffic within five calendar days before construction can
28 begin on another leg of the intersection unless otherwise allowed by the Engineer.
29
30 Unless otherwise allowed by the Engineer, the five calendar day time restriction begins
31 when an existing curb ramp for the quadrant or traffic island/median is closed to pedestrian
32 use and ends when the quadrant or traffic island/median is fully functional and open for
33 pedestrian access.
34
35 8-14.3.OPT3.GR8
36 ***(January 7, 2019)***
37 ***Layout and Conformance to Grades***
38 Using the information provided in the Contract documents, the Contractor shall lay out,
39 grade, and form each new curb ramp, sidewalk, and curb and gutter.
40
41 8-20.GR8
42 **Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and**
43 **Electrical**
44
45 8-20.2.GR8
46 **Materials**
47
48 8-20.2.INST1.GR8
49 Section 8-20.2 is supplemented with the following:
50

2 (*****)

3 **Equipment List and Drawings**

4 Section 9-29.6 is supplemented with the following:

5

6 A) Shop Drawings for Traffic Signal and Luminaire Poles: Within 20 days
7 following execution of the contract, or approval of electrical subcontractor, the
8 contractor shall submit shop drawings for the traffic signal and luminaire poles
9 to be used on the project. Within 20 days following approval of the shop
10 drawings, the contractor shall submit a letter to the engineer certifying that the
11 poles have been ordered and certifying the manufacturer's planned delivery
12 date.

13

14 B) Equipment Submittal for Traffic Signal Equipment: Within 20 days following
15 execution of the contract, the contractor shall submit 3 copies of complete
16 catalog data for the following items:

17

18

19

Junction Boxes

20

Junction Box Foundations

21

Synthetic Junction Box Leveling Materials

22

Load Switches

23

Conflict Monitor

24

Detector Amplifiers

25

Preemption Equipment

26

Loop Sealant

27

Vehicle & Pedestrian Signal Heads & Hardware

28

Service Cabinets

29

Terminal Cabinets

30

Signal Controllers and Software

31

Video Detection Systems

32

Fiber Distribution Units

33

Fiber Switches

34

CCTV Camera System

35

36

37

38 The equipment shall be approved by the engineer in writing prior to the actual ordering
39 of the equipment.

40

41

42

43 CNH 8-20.2(9-29.1) CONDUIT.RTF

44 **Conduit, Innerduct, and Outerduct**

45 Section 9-29.1 is supplemented with the following:

46

47

Pull String

48

49 All conduit shown in the plans, proposed and existing conduit to receive conductors,
and conduit installed for future use, shall have flat woven polyester tape installed and

secured at either end of the run. Tape shall be detectable, ½" minimum width and printed with sequential footage markings. Pull strength shall be 900lbs minimum.

Conduit Sealing

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

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

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

Rigid Metal Conduit Fittings and Appurtenances

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

Conduit Coatings

Electroplated couplings are not allowed.

Surface Mounting Conduit Attachment Components

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

Non-Metallic Conduit

Section 9-29.1(4) is supplemented with the following:

PVC conduit shall be either Schedule 40 or Schedule 80, as indicated on the plans. Schedule 80 shall be required for all street crossings and for the bottom 10' of pole risers. Schedule 80 shall be used for all conduits that are installed using Directional Bore method. Bell end bushings shall be installed on all conduit ends. Conduit runs, without innerduct, installed using directional boring method shall be Schedule 80 high density polyethylene (HDPE) if the runs enter/cross the traveled way or shoulder, and Schedule 40 HPDE for runs that do not enter or cross the traveled way or shoulder.

CNH 8-20.2(9-29.2) Junction Box.RTF

9-29.2 Junction Boxes, Cable Vaults, and Pull Boxes

Section 9-29.2 is supplemented with the following:

All junction boxes shall conform to the details shown on the WSDOT Standard Drawings J-40 series, City of Everett Standard Drawing 808, and shall be of the type indicated in the plans. All junction box lids and frames shall be galvanized and those installed within sidewalk areas shall be slip-resistant. All junction boxes shall have base sections as shown in City of Everett Standard Drawing 808. All junction boxes to be located in the street or shoulder area shall be heavy duty junction boxes as detailed in Standard Plan 1-40.20 and described in Section 9-29.2(1)B.

Vaults shall be as indicated on the drawings shall be 233-LA, 444-LA and 504-LA, or approved equivalent. Lids for the vaults shall be 23-2436P, 44-332P and 55-332P, respectively and shall be slip-resistant.

All junction boxes and vaults placed in sidewalk or pedestrian path shall meet a gap acceptance requirement of no more than ½" wide with greater than ¼" deep depression. Any junction boxes or vaults that do not meet the gap acceptance requirement will be rejected.

Concrete Junction Boxes

Slip-resistant treatment on vaults, slip-resistant lid, and slip-resistant frame shall be treated with Mebac#1 as manufactured by IKG industries, or SlipNOT Grade 3-coarse as manufactured by W.S. Molnar Co, or SafTrax TH604 by Thermion, Inc. Where the exposed portion of the frame is ½ inch wide or less the slip-resistant treatment may be omitted on that portion of the frame. The slip-resistant lid shall be identified with permanent marking on the underside indicating the type of surface treatment ("M1" for Mebac#1; or "S3" for SlipNOT Grade 3-coarse, or TH for Thermion) and the year manufactured. The permanent marking shall be 1/8 inch line thickness formed with a mild steel weld bead.

CNH 8-20.2(9-29.2(4)) COVER MARKINGS.RTF

Cover Markings

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

Junction Box Identification

Junction boxes, pull boxes and cable vaults shall be marked with the appropriate legend in accordance with the bead weld details in the Standard Plans and per 9-29.2(4). Junction boxes, pull boxes and cable vaults containing only Traffic Signal Interconnect (fiber optic or twisted pair) cable shall be marked or embossed with the legend "COMM".

CNH 8-20.2(9-29.6).OPT 5 SIGNAL STANDARDS.RTF

Traffic Signal Standards

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

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

Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers. All signal arm ASTM A 325 connecting bolts tightening shall comply with Section 6-03.3(33).

Traffic signal standard types and applicable characteristics are as follows:

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		<u>Signal Arm</u>	
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		<u>Signal Arm</u>	
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.

When so indicated on the plans, the steel traffic signal standards and any associated mast arms or luminaire arms shall be powder coated with a protective coating for exterior galvanized steel. The pole fabricator also has the option to submit to the City for approval, their process of coating galvanized steel in order to paint/coat the poles. The City of Everett will provide the paint color chip to the pole supplier for color matching.

CNH 8-20.2(9-29.12(1)) ELECTRICAL SPLICE MATERIALS.RTF

Fused Quick-Disconnect Kits

Section 9-29.7(2) is supplemented with the following:

Soldered compression connections are not allowed. Illumination fused quick disconnects shall be Type 65U, single disconnect per conductor.

8-20.2(9-29.15).GR8

Flashing Beacon Control

Section 9-29.15 is supplemented with the following:

8-20.2(9-29.15).OPT1.GR8

(January 7, 2019)

Rapid Flashing Beacons

Rapid Flashing Beacon (RFB) indications shall comply with the dimensional, operational, and flash pattern requirements of Federal Highway Administration (FHWA) Interim Approval 21 (IA-21, Conditions 4, 5, and 6, excluding Condition 5f; https://mutcd.fhwa.dot.gov/resources/interim_approval/ia21/index.htm). RFB systems shall be capable of providing, at a minimum, the following two-channel flashing patterns:

1. NEMA Standard 50-50:

- Channel one is ON and channel two is OFF for 0.5 seconds.
 - Channel one is OFF and channel two is ON for 0.5 seconds.
- (Cycle repeats; the total flashing pattern cycle length is 1.00 second.)

2. RFB “WW+S” Pattern (IA-21 Condition 5b):

- Channel one is ON and channel two is OFF for 0.05 seconds.
- Both channels are OFF for 0.05 seconds.
- Channel one is OFF and channel two is ON for 0.05 seconds.
- Both channels are OFF for 0.05 seconds.
- Channel one is ON and channel two is OFF for 0.05 seconds.
- Both channels are OFF for 0.05 seconds.
- Channel one is OFF and channel two is ON for 0.05 seconds.
- Both channels are OFF for 0.05 seconds.
- Both channels are ON for 0.05 seconds.
- Both channels are OFF for 0.05 seconds.
- Both channels are ON for 0.05 seconds.
- Both channels are OFF for 0.25 seconds.

(Cycle repeats; the total flashing pattern cycle length is 0.80 seconds.)

The flashing pattern shall be user-selectable in the field.

RFB system pushbuttons shall include a locator tone, but shall not include tactile arrows, speech messages, or vibrotactile indications. RFB system pushbuttons may include speech message and vibrotactile functionality, provided these features can be deactivated. RFB system pushbuttons shall use a 9” x 12” R10-25 sign. The R10-25 sign may include integral yellow warning lights.

CNH 8-20.2(9-29.19) Pedestrian Push Buttons.RTF

Pedestrian Push Buttons

Section 9-29.19 is supplemented with the following:

Accessible Pedestrian Station

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

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

Each pedestrian signal pushbutton station shall include one pedestrian signal head control unit, mountable in the associated pedestrian signal display enclosure. For 3-wire systems, 4-wire cable shall be installed between the button and control unit so that the system is backwards compatible with older models.

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

The pedestrian pushbutton station shall be able to be programmed by laptop software wireless remote configurator that allows the selection of options and programmable messages.

All pedestrian pushbutton station equipment shall be the same make or model from one manufacturer. Each station shall be latest model, capable of wireless communication for programming and data collection from a remote location.

The contractor shall coordinate with the City of Everett Traffic Office through the Engineer for site specific message following installation.

Polara Navigator Accessible Pedestrian stations are an approved model.

CNH 8-20.2(9-29.20) PEDESTRIAN SIGNALS.RTF

Pedestrian Signals

Section 9-29.20 is supplemented with the following:

All pedestrian signal displays shall be the countdown type signal display as follows and from the following manufacturer:

Model: 430-6479-001X

Manufacturer: Dialight Corp.
1501 Route 34 South
Farmingdale, NJ 07727
<http://www.dialight.com/>

Pedestrian signals shall be the countdown LED type and in conformance with Section 9-29.20(1) of the Standard Specifications. Mounting type shall be as indicated in the plans.

The LED pedestrian traffic signal shall conform to all applicable ITE requirements and be combination "person/hand" in side-by-side configuration. Both "person" and "hand" symbols shall be filled in and not outlined with the LED's. Colors shall be Portland orange for the "hand" and lunar white for the "person".

Countdown digits shall be MUTCD compliant, and the pedestrian signal countdown feature shall adjust automatically to controller internal changes and store the countdown time internally when power is removed.

8-20 (9-29.21) FLASHING BEACONS

(*****)

Section 9-29.21 is replaced with the following:

Rectangular Rapid Flashing Beacons

Rectangular rapid flashing beacon systems shall be installed as shown in the Plans and shall provide a complete and operational rectangular rapid flashing beacon system. The work shall include furnishing and installing pole and post foundations, poles and posts, mounting hardware, permanent signs, controller(s) and controller enclosure(s), light bars, and pedestrian pushbuttons.

For Rectangular Rapid Flashing Beacons, the system shall be the following product without substitution:

Carmanah Technologies Corp.
Model: SC315-G
Western Systems
1122 Industry Street, Bldg. B
Everett, WA 98203
Phone: (425) 438-1133e

8-20.3.GR8

Construction Requirements

CNH 8-20.3(1) CONTRACTING AGENCY OWNED EQUIPMENT.RTF

8-20.3(1) General

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

Contracting Agency Owned Equipment

A portion of the temporary or existing electrical equipment to be removed shall remain the property of the Contracting Agency.

Where called for in the Plans, the following shall be disconnected, dismantled, and delivered to the Contracting Agency:

- Traffic signal controller cabinets, and all auxiliary equipment and Ethernet switches in all traffic signal cabinets.

Signal displays and pedestrian displays which remain the property of the Contracting Agency shall be delivered to:

City of Everett Pole Yard

1 4015 Railway Ave.
2 Everett, WA 98201
3 Phone: (425) 257-7296
4
5 All other removed electrical equipment which remains the property of the Contracting
6 Agency shall be delivered to:
7
8 City of Everett Signal Shop
9 3200 Cedar St.
10 Everett, WA 98201
11 Phone: (425) 257-7296
12
13 Five days written advance notice shall be delivered to the Engineer. Delivery shall
14 occur during the hours of 8:00 a.m. to 2:00 p.m. Monday through Friday.
15
16 Equipment damaged during removal or delivery shall be repaired or replaced to the
17 Engineer's satisfaction at no cost to the Contracting Agency.
18
19 The Contractor shall be responsible for unloading the equipment where directed by
20 the Engineer at the delivery site.
21
22 **Contractor Owned Removals**
23 All removals associated with an electrical system, which are not designated to remain
24 the property of the Contracting Agency, shall become the property of the Contractor
25 and shall be removed from the project. All concrete signal poles, luminaires, and
26 other equipment not listed above shall be the property of the contractor and removed
27 from the project.
28
29 The Contractor shall:
30
31 Remove all wires for discontinued circuits from the conduit system.
32
33 Remove elbow sections of abandoned conduit entering junction boxes.
34
35 Abandoned conduit encountered during excavation shall be removed to the nearest
36 outlets or as directed by the Engineer.
37
38 Remove foundations entirely, unless the Plans state otherwise.
39
40 Backfill voids created by removal of foundations and junction boxes. Backfilling and
41 compaction shall be performed in accordance with Section 2-09.3(1)E.
42
43
44 COE 8-20.3(3) Removing & Replacing Improvements.RTF
45 **8-20.3(3) Removing and Replacing Improvements**
46
47 The installation of underground signal components such as conduits, junction boxes,
48 signal pole foundations, controller foundations, or service pedestal foundations shall
49 require the removal and replacement of certain improvements such as traffic signal
50 poles, signal controllers, span wires, signal heads, junction boxes, and other
51 miscellaneous signal equipment. It shall be the responsibility of the Contractor to

1 perform such removal as required for his work and to restore these areas to original
2 condition as directed by the Engineer. The Contractor shall sawcut edges of all
3 asphalt and concrete requiring removal. All expansion joints, dummy joints, and "V"
4 grooves shall be removed and shall be replaced to match existing joints.
5

6 The ends and edges of the patched and re-surfaced areas shall meet and match the
7 existing surface and grade and shall terminate in neat even lines parallel to and at
8 right angles to the roadway. Damaged, disturbed, or otherwise affected areas, as
9 defined, shall have edges of existing pavement trimmed back to provide clean, solid,
10 vertical faces, free from loose material. Pavement patching shall be preformed in
11 accordance with Standard Drawing No. 316 and these specifications.
12

13 Where patches are made in cement concrete pavements or sidewalks, the cement
14 concrete shall be Class 4000, Type III. Asphalt concrete patching shall be
15 accomplished with HMA ½", PG 64-22. Tack coat shall be applied between
16 successive layers of asphalt. Asphalt for tack coat shall be Type CSS-1. The surface
17 of all joints between existing asphalt pavement and the new pavement shall be sealed
18 with paving asphalt meeting the requirements of Section 9-02.1(4).
19

20 All excavations in roadway areas shall be backfilled and patched with temporary
21 asphalt at the end of each workday unless permission is granted to do otherwise by
22 the Engineer. All temporary patches shall be permanently patched within two weeks
23 of completion of work within the roadway area. Where unsuitable material is
24 encountered, as determined by the Engineer, where settlement of subgrade has
25 occurred, the unsuitable material shall be removed and the excavation shall be
26 backfilled with Quarry Spalls or Gravel Borrow, as directed by the Engineer, and
27 thoroughly compacted.
28

29 Care shall be taken to avoid damage to existing sprinkler systems and/or landscaped
30 areas. Damage to sprinkler systems shall be repaired with the appropriate equipment
31 and left operable. Final payment to the Contractor shall be withheld until the systems
32 are repaired to the owner's satisfaction and landscaping restored.
33

34
35 COE 8-20.3(5) Conduit.rtf

36 **8-20.3(5) Conduit**
37

38 Section 8-20.3(5) is supplemented with the following:
39

40 (*****)

41
42 One-eighth inch diameter nylon pull cords or approved equal shall be installed with all
43 conduits. The pull cords shall be tied off at both ends. Payment for the pull cords shall be
44 incidental to the conduit pay item. Pull cords shall have a minimum pull strength of 200
45 pounds.

46 Location #14 AWG stranded orange use insulated wire shall be placed in all empty
47 conduits and extend 8 feet into boxes/vaults.

48 It is the intent that conduit for roadway crossings shall be placed under existing pavement
49 by approved directional boring, jacking or drilling methods. The City will consider requests
50 for open cutting on a case by case basis. Other than traffic control labor, all labor, material,
51 tools and equipment necessary to construct the trench, install the conduit and

1 restore the pavement are incidental and considered part of the payment for the particular
2 bid item.
3
4 All empty conduit and duct openings shall be capped or plugged by the Contractor.
5
6 Payment for the above work shall be included in the Contract Prices of other items listed
7 in this Contract.
8
9
10 CNH 8-20.3(6) ADJUST JUNCTION BOX.RTF
11 **8-20.3(6) Junction Boxes, Cable Vaults, and Pull boxes**
12
13 Section 8-20.3(6) is supplemented with the following:
14
15 Standard Duty pull boxes, cable vaults and concrete junction boxes installed in
16 sidewalks, walkways and shared use paths shall have slip resistant surfaces, be flush
17 with surface and match grade of the sidewalk, walkway and shared use path. The
18 boxes, vaults and junction boxes shall not be placed in curb ramps, curb ramp
19 landings, or the gutter areas associated with the curb ramps. Standard Duty non-
20 concrete junction boxes shall not be installed in sidewalks, walkways or shared use
21 paths.
22
23 The Contractor shall adjust existing junction box to new grade by adjusting gravel pad,
24 in accordance to WSDOT Standard Drawings J-40 series and shall be of the type
25 indicated in the plans. The adjustment operations shall be conducted to prevent
26 damage to any conduits. All parts or materials damaged as a result of the Contractor's
27 operations shall be replaced at no expense to the Contracting Agency.
28
29 If the junction box is removed and reset, the patch material used around the junction
30 box shall be the same as the adjacent pavement. For asphalt concrete pavement
31 roadways, junction boxes located in the traveled way shall be adjusted to final grade
32 after final paving in accordance with Section 5-04.3(13). For Portland cement
33 concrete pavement roadways, valve boxes shall be adjusted prior to the surface finish.
34
35 All junction boxes and vaults placed in sidewalk or pedestrian path shall meet a gap
36 acceptance requirement of no more than 1/2" wide with greater than 1/4" deep
37 depression. Any junction boxes or vaults that do not meet the gap acceptance
38 requirement will be rejected.
39
40 All junction boxes and vaults installed in sidewalk areas shall have non-skid covers.
41 Both the slip-resistant lid and slip-resistant frame shall be treated with Mebac#1 as
42 manufactured by IKG industries, or SlipNOT Grade 3-coarse as manufactured by
43 W.S. Molnar Co, or SafTrax TH604 by Thermion, Inc. Where the exposed portion of
44 the frame is 1/2 inch wide or less the slip-resistant treatment may be omitted on that
45 portion of the frame. The slip-resistant lid shall be identified with permanent marking
46 on the underside indicating the type of surface treatment ("M1" for Mebac#1; or "S3"
47 for SlipNOT Grade 3-coarse, or TH for Thermion) and the year manufactured. The
48 permanent marking shall be 1/8 inch line thickness formed with a mild steel weld bead.
49

1 **Cable Racking in Pull Boxes and Cable Vaults**

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

4
5 Cables shall be secured in racked positions with nylon ties. Identification or warning
6 tags shall be securely attached to the cables in at least two locations in each pull box
7 or cable vault.

8
9 All coiled cable shall be protected to prevent damage to the cable and fibers. Racking
10 shall include securing cables to brackets (racking hardware) that extend from the side
11 walls of the pull box.

12
13 All racking hardware shall be stainless steel.

14
15
16
17 CNH 8-20.3(10) SERVICE.RTF

18 **8-20.3(10) Service, Transformer, and Intelligent Transportation System**
19 **(ITS) Cabinets**

20
21 Section 8-20.3(10) is supplemented with the following:

- 22
23 A) Risers on PUD Poles or City owned poles: If the PUD does not install
24 a pedestal at the base of the service pole, the Contractor shall be
25 responsible to install conduit risers on PUD or City owned poles as
26 necessary for electrical service connections. Conduit risers shall be
27 constructed in accordance with Everett Standard Plan No. 820. The
28 bottom 10' of the riser shall be galvanized steel or Schedule 80 PVC
29 and the remaining portion shall be Schedule 40 PVC or Schedule 80
30 PVC. The riser shall be installed on a standoff with 4" minimum
31 clearance between the conduit and the pole. A weather head is
32 required and shall be located 8" below the secondary power lines. In
33 general, the Contractor will be responsible for trenching to within 6" of
34 the PUD installed pedestal at the base of the service pole.
- 35
36 B) Service Connections: The Contractor shall obtain a City of Everett
37 Electrical Permit from the Contracting Agency at no cost. Coordinate
38 with the Engineer a minimum of 30 days prior to connection for all
39 Electrical Permits. When the service is ready to be hooked up, the
40 Contractor shall contact the Engineer to request an electrical
41 inspection. After the service has been approved for hook up, the City
42 shall contact the Snohomish County PUD and they will make the
43 service connections to the power supply at a cost to be paid by the
44 City. The Contractor shall notify the PUD of the work schedule as soon
45 as possible so their work can be coordinated with the Contractor's
46 work.

47
48 CNH 8-20.3(11) TESTING APS ONLY.RTF

49 **8-20.3(11) Testing**

50 Section 8-20.3(11) is supplemented with the following:

Traffic Signal Turn-on

When taking existing pedestrian pushbuttons out of service, or installing new pushbuttons at an existing signal, all buttons shall be operational at the end of each shift. When taking a pedestrian pushbutton out of service, the Contractor shall provide the Engineer two (2) working days' notice prior to beginning work to put the pedestrian display into recall mode, if the Engineer deems necessary.

CNH 8-20.3(13)C(9-29.10) LUMINAIRES.rtf

8-20.3(13) Illumination Systems

Luminaires

Section 8-20.3(13)C is supplemented with the following:

Unless otherwise noted, luminaires in the project will be furnished and installed by the Contractor.

Street Luminaires (LED)

Street Luminaires shall be an integral unit with the specified optical performance, and mechanical features that facilitate installation and maintenance. The fixture shall have a full size terminal block and quick electrical disconnects to assure easy installation, leveling, and maintenance access. A flush house-side shield plate shall be factory supplied and installed if required by the plans.

The housing shall be cast aluminum with a universal 4 bolt slipfitter for a two inch nominal mounting tenon. The unit shall have cooling fins to make for a long-life, efficient LED unit. Electrical components shall be accessible without tools and mounted on or behind a removable power door. The power door shall feature quick electrical disconnects to the terminal board and LED board. The luminaire shall be provided with a ANSI seven pin (PCR7) photocell receptacle.

Each luminaire shall be provided with a long life photocell compatible with the seven pin (PCR7) receptacle. The following photocells are pre-approved for use:

Ripley Lighting Controls	Long Life II 6390LL-BK-2.8
Sun-Tech	TRS-2-8190
Dark to Light	DLL Elite 127-2.8 IR

The LED nominal correlated color temperature shall be 4000°K +/- 200°K with a CRI ≥ 70. The light emitting diodes shall be high flux, high power white LED producing a minimum of 90% of initial intensity at 70,000 hours of life. The LEDs shall provide a copy of their test documentation to the Engineer for the IES LM-80 testing procedure. The LEDs shall be mercury and lead free. Nominal lumen efficacy shall exceed 108 lumens/W.

Individual micro-lens optics shall produce IES Type 2 or Type 3 full cutoff distributions with 0% lumens above 90° nadir. The power supply shall have less than 20% total harmonic distortion and a minimum power factor of 0.90. The EMC shall meet or exceed FCC CFR Part 15. Transient voltages shall comply with ANSI C62.41 Cat. A. An integral surge protector shall meet ANSI/IEEE C62.45, C62.41.2, IEC61000-4-2, and IEC 61000-4-4. Each luminaire shall

1 be provided with a standard 3" x 3" ANSI label indicating the wattage and the light source type
2 (LED), using black letters on a reflective white background.
3
4 The finish shall be a fade and abrasion resistant, epoxy polyester powder coat with a light gray
5 color. The luminaire shall meet UL listing for wet locations and maintain an IP66 rating for the
6 optics compartment and an IP54 rating or better for the power compartment.
7
8 The Street Luminaires shall meet or exceed the following initial delivered lumen output:
9
10 Small Luminaire (200W HPS relative equivalent):
11 Type 2 or Type 3 distribution: $\geq 9,200$ lumens
12
13 Medium Luminaire (250W HPS relative equivalent):
14 Type 2 or Type 3 distribution: $\geq 11,700$ lumens
15
16 Large Luminaire (400W HPS relative equivalent):
17 Type 2 or Type 3 distribution: $\geq 18,000$ lumens
18
19 The following listed fixtures meet the required specifications:
20
21 Small Luminaire:
22
23 Type 2 distribution:
24 Leotek GCM1-60J-MV-40K-2R-GY-095-PCR7-4B-RWG-WL-BSK
25 Schreder SMART2-US-24L093-NW-T2M-SV-GY-D01-AA-AB
26 LED Roadway NXT-48M-0-7-2LB-5-GY-3-UL-X-4H-BIRD
27
28 Type 3 distribution:
29 Leotek GCM1-60J-MV-40K-3R-GY-095-PCR7-4B-
30 RWG-WL-BSK
31 Schreder SMART2-US-24L093-NW-T3M-SV-GY-D01-AA-AB
32 LED Roadway NXT-48M-0-7-3LB-5-GY-3-UL-X-4H-BIRD
33
34
35 Medium Luminaire:
36
37 Type 2 distribution:
38 Leotek GCM1-60J-MV-40K-2R-GY-125-PCR7-4B-RWG-WL-BSK
39 Schreder SMART2-US-36L134-NW-T2M-SV-GY-D01-AA-AB
40 LED Roadway NXT-60M-0-7-2LB-5-GY-3-UL-X-4H-BIRD
41
42 Type 3 distribution:
43 Leotek GCM1-60J-MV-40K-3R-GY-125-PCR7-4B-RWG-WL-BSK
44 Schreder SMART2-US-36L134-NW-T3M-SV-GY-D01-AA-AB
45 LED Roadway NXT-60M-0-7-3LB-5-GY-3-UL-X-4H-BIRD
46
47 Large Luminaire:
48
49 Type 2 distribution:
50 Leotek GCM3-60J-MV-40K-2R-GY-185-PCR7-4B-RWG-WL-BSK
51 Schreder SMART3-US-48L185-NW-T2M-SV-GY-D01-AA-AB
52 LED Roadway NXT-72M-0-7-2LB-7-GY-3-UL-X-4H-BIRD

1
2 Type 3 distribution:
3 Leotek GCM3-60J-MV-40K-3R-GY-185-PCR7-4B-RWG-WL-BSK
4 Schreder SMART3-US-48L185-NW-T3M-SV-GY-D01-AA-AB
5 LED Roadway NXT-72M-0-7-3LB-7-GY-3-UL-X-4H-BIRD
6
7
8 **Luminaires**
9 Section 9-29.10 is supplemented with the following:
10
11 The Contractor shall install the pole and bracket cable to the end of the luminaire arm
12 with thirty (30) inches of excess wire to hook up the luminaire.
13
14 ***Conventional Roadway Luminaires***
15 Section 9-29.10(1) is supplemented with the following:
16
17 The Contractor shall choose and install a source from the following specifications:
18
19 Manufacturer Leotek™
20 Series Green Cobra™
21 Luminaire GCA1
22 Lamp 60F or 80F LED
23 Color Temp 4300°K
24 Optical System 2 or 3
25 Voltage 120-277V
26 Finish GY (Grey)
27
28 or
29
30 Manufacturer Schreder™
31 Series SmartLume™
32 Luminaire SMART2-US
33 Lamp 24L or 36L
34 Color Temp 4000°K
35 Optical System 2 or 3
36 Voltage 120-277V
37 Finish GY (Grey)
38
39 or
40
41 Manufacturer LED
42 ROADWAY™
43 Series NXT™
44 Luminaire NXT-M
45 Lamp 60M
46 Color Temp 4500°K
47 Optical System 3LB
48 Voltage 120-277V
49 Finish GY (Grey)
50
51

8-20.3(17) "As Built" Plans

Section 8-20.3(17) shall be supplemented with the following:

The Contractor shall provide the Engineer with a cable route diagram for all installed fiber optic and twisted pair cables. The diagram shall show the actual cable routes and "meter marks" where each cable enters and exits pull boxes, cable vaults, junction boxes, splices and termination points. The Contractor shall record these points during cable installation. The diagram shall also include all ITS device locations as well as the location and quantity of slack cable. The cable route diagram shall be submitted to the Engineer as part of the Fiber Cable Testing documentation.

GSL 8-20.3(18) POTHOLING.docx

(*****)

8-20.3(18) Potholing

Section 8-20.3(2)A is new and is supplemented with the following:

This work consists of exposing underground utility to ascertain the precise horizontal and vertical position. After the work is complete, Contractor shall backfill and compact with native materials.

Contractor shall contact "Call Before You Dig" prior to all construction activity.

Contractor shall locate and expose buried utilities to verify location prior to sawcutting and/or drilling in area of existing utilities. Contractor shall protect exposed utilities throughout the duration of the project. Paved areas shall be restored with temporary pavement patch using cold mix (MC 250), ATB or steel plates. Appropriate sediment controls shall be implemented to prevent pollution and erosion.

The Contractor is responsible for disposing of any drilling residue or remaining spoil in accordance to Section 2-03.3(7)C. Contractor shall pothole existing utilities a minimum of 3 working days prior to scheduled installation of new permanent work to determine if conflict exists.

Potholing will be considered as incidental to the Work that is warranting it.

fCOE 8-20.4 – 8-20.5 BORING AND TRAFFIC SIGNAL SYSTEM.docx

(*****)

8-20.4 Measurement

The first sentence of Section 8-20.4 is revised to read:

No specific unit of measurement will apply to the lump sum items for illumination system, intelligent transportation system (ITS), or traffic signal systems, but measurement will be for the sum total of all items for a complete system to be furnished and installed.

Section 8-20.4 is supplemented with the following:

1 All costs associated with the removal and installation of signs on the traffic signal poles
2 shall be included in the associated lump sum bid item for permanent signing.
3
4 The Contract Price for "Directional Boring/Conduit Installation – Two (2) 2-Inch" shall be
5 full pay for furnishing all labor materials, tools, equipment and electrical supervision
6 associated with the directional boring of the conduit trunk system. It shall also include
7 furnishing all conduits, couplings, placing the conduit, excavation, backfilling, all other work
8 necessary for the installation of the trunk conduit system, and all required potholing to
9 verify locations of existing utilities. All costs associated with potholing and excavation
10 required to ascertain utilities in accordance with Section 8-20.3(2)A shall be included with
11 this Work with no direct compensation made.
12
13 All costs associated with adjusting junction boxes to grade including excavation, backfill,
14 and restoration of adjacent areas in a manner acceptable to the ENGINEER, shall be
15 included in the associated traffic signal bid item.
16
17 If junction box adjustment involves conduit modification, as determined by the ENGINEER,
18 payment will be made in accordance with Section 1-09.6.
19
20 All costs associated with the installation of the electrical service, illumination system,
21 rectangular rapid flashing beacon system and associated hardware shall be included in
22 the associated lump sum bid item for traffic signal system.
23

24 (*****)

25 **8-20.5 Payment**

26
27 Section 8-20.5 is supplemented with the following:
28

29 "Permanent Signing", per Lump Sum.

30
31 "Directional Boring/Conduit Installation – Two (2) 2-Inch", per Linear Foot.

32
33 "Traffic Signal System", per Lump Sum.
34

35 All costs associated with adjusting junction boxes to grade including excavation, backfill, and
36 restoration of adjacent areas in a manner acceptable to the ENGINEER, shall be included in
37 the associated traffic signal bid item.
38

39 If junction box adjustment involves conduit modification, as determined by the ENGINEER,
40 payment will be made in accordance with Section 1-09.6.
41

42 All costs associated with the installation of the electrical service, illumination system, and
43 associated hardware shall be included in the associated lump sum bid item for traffic signal
44 system.
45

46 All costs associated with the removal and installation of signs on the traffic signal poles shall
47 be included in the associated lump sum bid item for permanent signing.
48
49

3
4 **8-21.1 Description**

5
6 Permanent signing shall be installed in accordance with Section 8-21 of the Standard
7 Specifications with the following modifications:

8
9 Traffic regulatory signs shall be installed in accordance with Everett Standard Plan 716.
10 Street name signs shall be installed in accordance with Everett Standard Plan 715 or 717
11 and 718 as indicated on the plans.

12
13 **8-21.2 Materials**

14
15 This section is revised to read:

16
17 All signs shown in the plans with a mounting height of 14 feet and below shall be
18 manufactured with a protective overlay film. The protective overlay film shall be a
19 transparent, self adhesive film that is solvent resistant and approved for use by the
20 reflective sheeting manufacturer.

21
22 **8-21.2(1) Equipment List and Drawings**

23
24 C) Shop Drawings for Signs: Within 20 days following execution of the contract,
25 or approval of subcontractor, the contractor shall submit shop drawings for the
26 traffic signs to be used on the project. Within 20 days following approval of
27 the shop drawings, the contractor shall submit a letter to the engineer
28 certifying that the signs have been ordered and certifying the manufacturer's
29 planned delivery date.

30
31 The traffic signs shall be approved by the engineer in writing prior to the actual
32 ordering of the equipment.

33
34
35 **8-21.3 Construction Requirements**

36
37 **8-21.3(4) Sign Removal**

38
39 This section is revised to read:

40
41 Where shown in the Plans or ordered by the Engineer, the existing signs and, if so
42 indicated, the sign structures shall be removed by the Contractor. Where indicated,
43 the Contractor shall remove concrete pedestals to a minimum of 1 foot below finished
44 grade and backfill the hole to the satisfaction of the Engineer. Where an existing sign
45 post is located within a sidewalk area, the Contractor shall remove the post and finish
46 the area to make the sidewalk continuous. Wood signs, wood sign posts, wood
47 structures, metal sign posts, windbeams, and other metal structural members shall
48 become the property of the Contractor and shall be removed from the project.
49 Aluminum signs shall remain the property of the City of Everett.

50
51

3 **8-22 PAVEMENT MARKING**

4 (*****)

5

6 Section 8-22 of the Standard Specification is supplemented by the following:

7

8 **8-22.2 Materials**

9

10 All plastic marking shall be Type B or Type D plastic. Spray Type D is not allowed.

11

12 Where called for in the plans, green color pavement markings shall meet the
 13 requirements of MUTCD Interim Approval for Optional Use of Green Colored
 14 Pavement for Bike Lanes, IA-14. The color shall be green and will comply with FHWA
 15 standards for daytime and nighttime chromaticity values.

16

17 a. The daytime chromaticity coordinates for the color used for green colored
 18 pavement shall be as follows:

19

1		2		3		4	
x	y	x	y	x	y	x	y
0.230	0.754	0.266	0.500	0.367	0.500	0.444	0.555

20

21 b. The daytime luminance factor (Y) shall be at least 7, but no more than 35.

22

23 c. The nighttime chromaticity coordinates for the color used for
 24 green colored pavement shall be as follows:

25

1		2		3		4	
x	y	x	y	x	y	x	y
0.230	0.754	0.336	0.540	0.457	0.500	0.479	0.520

26

27

28 **8-22.3 Construction Requirements**

29

30 Pavement markings shall be installed in accordance with Section 8-22.3 of the Standard
 31 Specifications with the following modifications:

32

33 1) All wide line and dotted extension line shall be Type D plastic flat line.

34 2) Access parking space symbols, arrows, letters, and speed hump symbols shall be
 35 Type D extruded plastic flat line. Spray Type D is not allowed.

36 3) All Crosswalk Line shall be solid white lines, 24" wide, installed in accordance with
 37 City of Everett Standard Drawing No. 721 and shall be Type D extruded plastic flat
 38 line. Spray Type D is not allowed.

39 4) All two-way left turn yellow lines and lane lines dividing two opposing directions of
 40 travel shall be Type D plastic flat line.

- 1 5) Profiled plastic Type D material, where called for in the Appendices to the Special
2 Provisions, shall be used for lane line dividing traffic in the same direction of travel
3 including plastic skip white lane line, and solid white edge line, or other lines staked
4 by the Engineer.
- 5 6) All white parking lines shall be shall be Type D plastic flat line.
- 6 7) All wide line and dotted extension line shall be Type D plastic flat line.
- 7 8) All plastic shared lane markings (sharrows) and plastic bicycle lane symbols shall
8 be Type B Pre-formed Fused Thermoplastic.
- 9 9) Green background for sharrows and plastic bicycle lane symbol, where indicated
10 in the plans, shall be Type B Pre-formed fused thermoplastic.
- 11 10) All bicycle symbols and sharrows shall be installed with the bicyclist facing the
12 vehicle lane.
- 13 11) Unless otherwise indicated in the plans, all sharrows shall be installed with the
14 centerline of the sharrow aligned with the centerline of the vehicle travel lane.

15

16 **8-22.4 Measurement**

17

18 Stop Line will be measured by the linear foot of 24" wide marking installed.

19

20 The measurement for "24-inch Plastic Green Bike Lane Extension Line" and "Bike Lane
21 Green Zones" will be based on the total square feet installed of the green pavement
22 marking only.

23

24 The measurement for "Plastic Bike Symbol – Driveway" will be measured per each bi-
25 directional pair of symbols installed.

26

27 Crosswalk line and stop line will be measured by the linear foot of 24" wide marking
28 installed.

29

30

31 **8-22.5 Payment**

32

33 Section 8-22 is supplemented read as follows:

34

35 "24-inch Plastic Crosswalk Line", per Linear Foot

36 "24-inch Plastic Green Bike Lane Extension Line", per square foot.

37 "24-inch Plastic Stop Bar Line", per linear foot.

38 "4-inch Paint Line", per Linear Foot

39 "4-inch Plastic Line", per Linear Foot

40 "8-inch Plastic Line", per Linear Foot

41 "Bike Lane Green Zones", per Square Foot

42 "Painted Curb", per linear foot.

43 "Plastic Bike Lane Straight/_____ Turn Symbol", per Each

44 "Plastic Bike Lane Symbol with Arrow", per Each

45 "Plastic Bike Lane Symbol with green background", per Each

- 1 "Plastic Bike Lane Symbol", per each.
2 "Plastic bike lane _____ turn arrow symbol (white)", per Each
3 "Plastic Bike Route on Sidewalk Symbol", per each
4 "Plastic Bike Symbol – Driveway", per each.
5 "Plastic Bike-turn Box with green background", per each.
6 "Plastic Green and White Crosswalk Marking", per linear foot.
7 "Plastic Helmeted Bicyclist", per each.
8 "Plastic Sharrow Jog _____", per each.
9 "Plastic Sharrow Straight (white on green background)", per each.
10 "Plastic Sharrow Straight with brackets", per each.
11 "Plastic Sharrow Straight", per each.
12 "Plastic Sharrow _____ Turn (white on green background)", per each.
13 "Plastic Sharrow _____ Turn", per each.
14 "Plastic Sharrow Veer _____ (white on green background)", per each.
15 "Plastic Sharrow", per each.

16
17
18 COE 8-23 Temp Pvmt Markers.rtf

19 **SECTION 8-23 TEMPORARY PAVEMENT MARKINGS**

20 SECTION 8-23 OF THE STANDARD SPECIFICATIONS IS AMENDED BY THE FOLLOWING:

21
22 **8-23.2 MATERIALS**

23
24 THIS SECTION IS REPLACE BY THE FOLLOWING:

25
26 Materials for temporary markings shall be paint or reflectorized aluminum tape, as directed
27 by the Engineer and selected from approved materials listed in the Qualified Products List.

28
29 Temporary paint should only be used on subsurface pavements and may be paved over.

30
31 **8-23.5 PAYMENT**

32
33 THIS SECTION IS REPLACED BY THE FOLLOWING:

34
35 Temporary Pavement Marking will be paid for under bid item "Temporary Pavement
36 Marking" per linear foot. This shall be full pay for constructing, maintaining, and removing
37 temporary lines and markers as specified. No additional compensation will be allowed
38 when Contractor is required to repair temporary markings that have been damaged or
39 worn.

40
41
42
43 Contech 8-26 Retaining Wall.docx

44 **8-26 CEMENT CONCRETE MODULAR BLOCK RETAINING WALL**

45 Section 8-26 is vacant and is replaced with the following:

1 (*****)

2 **8-26.1 Description**

3 Work shall consist of designing, furnishing and construction of a **Cement Concrete Modular**
4 **Block Unit Retaining Wall** in accordance with these specifications and to the lines, grades,
5 design, and dimensions shown on the plans. The face of the wall shall offer a rock-face type
6 appearance. Cement concrete modular block units shall be similar to "Keystone" or equivalent.
7 The color of modular block unit shall be gray.

8
9 Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill
10 and reinforced backfill to the lines and grades shown on the construction drawings.

11
12 Work includes furnishing and installing structural geogrid soil reinforcement of the type, size,
13 location, and lengths designated on the construction drawings.

14
15 Work includes furnishing and installing bond breaker geotextile of the type, size, location, and
16 lengths designated on the construction drawings.

17
18 **8-26.1(1) Reference Documents**

19 American Society for Testing and Materials (ASTM)

- 20 1) ASTM C140 Standard Test Methods for Sampling and Testing Concrete
- 21 Masonry Units and Related Units
- 22 2) ASTM C1262 Standard Test Method for Evaluating the Freeze- Thaw Durability
- 23 3) ASTM C1372 Standard Specification for Dry-Cast Segmental Retaining Wall
- 24 Units
- 25 4) ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- 26 5) ASTM D698 Standard Test Methods for Laboratory Compaction
- 27 Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))
- 28 6) ASTM D903 Standard Test Method for Peel or Stripping Strength of Adhesive
- 29 Bonds
- 30 7) ASTM D1557 Standard Test Methods for Laboratory Compaction
- 31 Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))
- 32 8) ASTM D3034 Standard Specification for Type PSM Poly Vinyl Chloride (PVC)
- 33 Sewer Pipe and Fittings
- 34 9) ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and
- 35 Plasticity Index of Soils
- 36 10) ASTM D4354 Practice for Sampling Geosynthetics for Testing
- 37 11) ASTM D4355 Test Method for Deterioration of Geotextiles from Exposure to
- 38 Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
- 39 12) ASTM D4475 Horizontal Shear Strength of Pultruded Reinforced Plastic Rods
- 40 13) ASTM D4476 Flexural Properties of Fiber Reinforced Pultruded Plastic Rods
- 41 14) ASTM D4533 Test Method for Index Trapezoid Tearing Strength of Geotextiles
- 42 15) ASTM D4595 Standard Test Method for Tensile Properties of Geotextiles by the
- 43 Wide-Width Strip Method
- 44 16) ASTM D4632 Test Method for Grab Breaking Load and Elongation of
- 45 Geotextiles
- 46 17) ASTM D4759 Practice for Determining the Specification Conformance of
- 47 Geosynthetics
- 48 18) ASTM D4873 Guide for Identification, Storage, and Handling of Geotextiles
- 49 19) ASTM D5199 Test Method for Measuring Nominal Thickness of Geotextiles and
- 50 Geomembranes

- 20) ASTM D5261 Test Method for Measuring Mass per Unit Area of Geotextiles
- 21) ASTM D5262 Standard Test Method for Evaluating the Unconfined Tension Creep and Creep Rupture Behavior of Geosynthetics
- 22) ASTM D5493 Standard Test Method for Permittivity of Geotextiles Under Load
- 23) ASTM D5818 Standard Practice for Exposure and Retrieval of Samples to Evaluate Installation Damage of Geosynthetics
- 24) ASTM D6241 Standard Test Method for Static Puncture Strength of Geotextiles
- 25) ASTM D6574 Standard Test Method for Determining the (In-Plane) Hydraulic Transmissivity of a Geosynthetic by Radial Flow
- 26) ASTM D6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method
- 27) ASTM D6638 Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units (Modular Concrete Blocks)
- 28) ASTM D6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil
- 29) ASTM D6916 Standard Test Method for Determining the Shear Strength Between Segmental Concrete Units (Modular Concrete Blocks)
- 30) ASTM D8102 Standard Practice for Manufacturing Quality Control of Geotextiles

American Association of State Highway and Transportation Officials (AASHTO)

- 1) AASHTO M252 Corrugated Polyethylene Drainage Pipe
- 2) AASHTO M288 Standard Specification for Geotextile Specification for Highway Applications

8-26.1(2) Quality Assurance Submittals

Contractor shall submit a list of five (5) previously constructed projects of similar size and magnitude by the wall installer where the specific retaining wall system has been constructed successfully. Contact names and telephone numbers shall be listed for each project.

Contractor shall submit a Manufacturer's certification, prior to start of work, that the retaining wall system components meet the requirements of this specification and the structure design.

Contractor shall submit certificate of compliance for each lot of bond breaker material delivered.

Contractor shall submit a sample of each different unit for approval.

Contractor shall provide soil testing and quality assurance inspection during earthwork and wall construction operations. Contractor shall provide quality control testing and inspection during construction. Owner's quality assurance program does not relieve the contractor of responsibility for quality control and wall performance.

8-26.1(3) Delivery, Storage and Handling

Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification have been received.

Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

8-26.2 Materials

8-26.2(1) Base Leveling Pad

Base Leveling Pad Material shall consist of crushed surfacing top course per WSDOT Standard Specification 9-03.9(3) and as shown on the construction drawings.

8-26.2(2) Cement Concrete Modular Block (CMB) Unit

Cement Concrete Modular Block (CMB) Unit: a concrete retaining wall element machine-made from Portland cement, water, and aggregates.

CMB Units shall conform to the following architectural requirements:

1. Face color: concrete gray, unless otherwise specified.
2. Face finish: sculptured rock face in straight-face configuration. Other face finishes will not be allowed without written approval of Engineer.
3. Bond configuration: running with bonds nominally located at midpoint of vertically adjacent units, in both straight and curved alignments.
4. Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet (3 m) under diffused lighting.

CMB unit concrete materials shall conform to the requirements of ASTM C1372-Standard Specifications for Segmental Retaining Wall Units.

CMB units shall conform to the following structural and geometric requirements measured in accordance with ASTM C140 Sampling and Testing Concrete Masonry Units, ASTM D6916 Determining the Shear Strength Between Segmental Concrete Units and ASTM D6638 Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units:

1. Compressive strength: ≥ 3000 psi (21 MPa)
2. Absorption: ≤ 8 % for standard weight aggregates.
3. CMB Units: Similar to Keystone Standard 21" units or approved alternate.
 - a. Width: 18" (457 mm).
 - b. Depth: 21" (533 mm), not including rough split face.
 - c. Height: 8" (203 mm).
 - d. Weight: 82 - 114 pounds (37 - 52 kg) per unit minimum using standard weight aggregates

8-26.2(3) Shear Connectors

Shear connectors shall be 1/2" (12 mm) diameter thermoset isophthalic polyester resin pultruded fiberglass reinforcement rods to provide connection between vertically and horizontally adjacent units with the following requirements:

1. Flexural Strength in accordance with ASTM D4476: 128,000 psi (882 MPa) minimum;
2. Short Beam Shear in accordance with ASTM D4475: 6,400 psi (44 MPa) minimum.

Shear connectors shall be capable of holding the geogrid soil reinforcement in the proper design position during grid pre-tensioning and backfilling.

8-26.2(4) Unit Drainage Fill

Unit Drainage Fill: drainage aggregate that is placed within and behind the CMB units. Unit drainage fill shall consist of clean 1" (25 mm) minus crushed stone or crushed gravel meeting the following gradation tested in accordance with ASTM D422:

Sieve Size	Percent Passing
1" (25 mm)	100
3/4" (19 mm)	100 – 75
No. 4 (4.75 mm)	0 - 10
No. 50 (300um)	0 – 5

8-26.2(5) Geogrid Soil Reinforcement

Geogrid Soil Reinforcement: a structural element formed of high tenacity woven/ knitted polyester yarns or high-density polyethylene (HDPE) into a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.

Geogrid soil reinforcement shall consist of Geotextile for Retaining Walls and Reinforced Slopes per WSDOT Standard Specification 9-33.2(2) Table 7.

8-26.2(6) Reinforced Backfill

Reinforced Backfill: compacted soil that is placed within the reinforced soil volume as outlined on the plans.

Reinforced backfill shall be free of debris and organic material; meeting the following gradation tested in accordance with ASTM D422:

Sieve Size	Percent Passing
3/4" (19 mm)	100 – 75
No. 40 (425um)	0 - 60
No. 200 (75um)	0 – 35

Plasticity Index (PI) <15 and Liquid Limit (LL) <40 per ASTM D4318.

The maximum aggregate size shall be limited to 3/4" (19 mm) unless field tests have been performed to evaluate potential strength reductions to the geogrid design due to damage during construction.

Material can be site-excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.

Contractor shall submit reinforced backfill sample and laboratory test results to the Engineer for approval prior to the use of any proposed reinforced fill material.

8-26.2(7) Bond Breaker Geotextile

Bond breaker geotextile: A material placed between the top course of the cement concrete modular block unit retaining wall and the sidewalk concrete to prevent or limit bond between the concrete pavement and the base material.

Bond Breaker Geotextile filter fabric shall conform to the following table:

Property	Requirements	Test method
Geotextile type	Nonwoven, needle-punched geotextile, no thermal treatment (calendaring or IR)	EN 13249, Annex F (Manufacturer certification of production)
Mass per unit area	$\geq 450 \text{ g/m}^2$ (13.3 oz/yd ²) $\leq 550 \text{ g/m}^2$ (16.2 oz/yd ²)	ISO 9864 (ASTM D 5261)
Thickness under load (pressure)	a. At 2 kPa (0.29 psi): $\geq 3.0 \text{ mm}$ (0.12 in) b. At 20 kPa (2.9 psi): $\geq 2.5 \text{ mm}$ (0.10 in) c. At 200 kPa (29 psi): $\geq 1.0 \text{ mm}$ (0.04 in)	ISO 9863-1 (ASTM D 5199)
Wide-width tensile strength	$\geq 10 \text{ kN/m}$ (685 lb/ft)	ISO 10319 (ASTM D 4595)
Wide-width maximum Elongation	$\leq 130\%$	ISO 10319 (ASTM D 4595)
Water permeability in normal direction under load (pressure)	At 20 kPa (2.9 psi): $\geq 1 \times 10^{-4} \text{ m/s}$ ($3.3 \times 10^{-4} \text{ ft/s}$)	DIN 60500-4 (mod. ASTM D 5493 or ASTM D 4491)
In-plane water permeability (transmissivity) under load (pressure)	a. At 20 kPa (2.9 psi): $\geq 5 \times 10^{-4} \text{ m/s}$ ($1.6 \times 10^{-3} \text{ ft/s}$) b. At 200 kPa (29 psi): $\geq 2 \times 10^{-4} \text{ m/s}$ ($6.6 \times 10^{-4} \text{ ft/s}$)	ISO 12958 (mod. ASTM D 6574 or ASTM D 4716)
Weather resistance	Retained strength $\geq 60\%$	EN 12224 (ASTM D 4355 @ 500 hrs. exposure)
Alkali resistance	$\geq 96\%$ polypropylene/polyethylene	EN 13249, Annex B (Manufacturer certification of polymer)

8-26.3 Construction Requirements

Contractor shall excavate to the lines and grades shown on the construction drawings. The Engineer shall inspect the excavation and approve the foundation soils prior to placement of leveling material or fill soils.

Over excavation and replacement of unsuitable foundation soils and replacement with approved compacted fill will be compensated as agreed upon with the Engineer.

8-26.3(1) Base Leveling Pad Installation

Base leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6" (150 mm) and extend laterally a minimum of 6" (150 mm) in front and behind the CMB unit.

Soil leveling pad materials shall be compacted to a minimum of 95% Standard Proctor density per ASTM D698 or 92% Modified Proctor Density per ASTM D1557.

Base leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

8-26.3(2) CMB Unit Installation

CMB concrete units shall conform to the following construction requirements:

- 1) Vertical setback: 1" (25 mm) per course per the design;
- 2) Alignment and grid positioning mechanism fiberglass pins, two per unit minimum.
- 3) Maximum horizontal gap between erected units shall be $\leq 1/2"$ (13 mm).

First course of CMB units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions, ensuring that all units are in full contact with the base and properly seated.

Place the front of CMB units side-by-side. Do not leave gaps between adjacent CMB units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed two courses.

8-26.3(3) Shear Connector Installation

Install shear/connecting devices per manufacturer's recommendations.

8-26.3(4) Unit Drainage Fill Installation

Place unit drainage fill within CMB units. Unit drainage fill shall be placed within the cores of, between, and behind the units as indicated on the design drawings. Not less than one cubic foot (0.028 m³), of unit drainage fill shall be used for each square foot (0.093 m²) of wall face unless otherwise specified.

8-26.3(5) Geogrid Soil Reinforcement Installation

Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.

1 The geogrid shall be laid horizontally on compacted reinforced backfill and attached to
2 the CMB wall units. Place the next course of CMB units over the geogrid. The geogrid
3 shall be pulled taut and anchored prior to backfill placement on the geogrid.
4

5 Geogrid soil reinforcement shall be continuous throughout their embedment lengths
6 and placed side-by-side to provide 100% coverage at each level. Spliced connections
7 between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not
8 permitted.
9

10 **8-26.3(6) Reinforced Backfill Installation**

11 Place and compact reinforced backfill behind CMB units and unit drainage fill. Follow
12 wall erection closely with reinforced backfill. Reinforced backfill shall be placed,
13 spread, and compacted in such a manner that minimizes the development of slack in
14 the geogrid and installation damage.
15

16 Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where
17 hand operated compaction is used, or 8 – 10 inches where heavy self-propelled
18 compaction equipment is used. Lift thickness shall be decreased to achieve the
19 required density, as needed.
20

21 Reinforced backfill shall be compacted to a minimum of 95% Standard Proctor density
22 per ASTM D698 or 92% Modified Proctor Density per ASTM D1557. The moisture
23 content of the backfill material prior to and during compaction shall be uniformly
24 distributed throughout each layer.
25

26 Only lightweight hand operated equipment shall be allowed within 3 feet (1 m) from the
27 tail of the CMB unit retaining wall.
28

29 Tracked construction equipment shall not be operated directly upon the geogrid
30 reinforcement. A minimum reinforced backfill thickness of 6 inches is required prior to
31 operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept
32 to a minimum to prevent tracks from displacing the reinforced backfill and damaging
33 the geogrid.
34

35 At the end of each day's operation, the Contractor shall slope the last lift of reinforced
36 backfill away from the CMB units to direct runoff away from wall face. The Contractor
37 shall not allow surface runoff from adjacent areas to enter the wall construction site.
38

39 **8-26.3(7) Bond Breaker Geotextile**

40 Before placing bond breaker geotextile, remove foreign and loose materials from base.
41 Place bond breaker geotextile less than 72 hours before covering it with pavement.
42 Except when pavement is placed against previously placed pavement, extend the
43 bond breaker at least 6 inches beyond the limits of the planned concrete placement.
44

45 Place bond breaker geotextile in a wrinkle free manner. Overlap adjacent sheets a
46 minimum of 8 inches in the same direction as the concrete pour. Overlap no more than
47 three layers at any location. Secure the bond breaker sufficiently that it remains in
48 place during concrete placement. Ensure that no concrete will get under the bond
49 breaker. Fastener spacing of 6 feet in the field and 3 feet along edges is recommended
50 in order to prevent fabric displacement.
51

Secure bond breaker geotextile to the base with pins or nails punched through galvanized discs 2- to 2.75-inches in diameter. Maximum spacing must be less than 6 feet except along edges spacing must be less than 3 feet. The nail or pin and disk must not protrude above the surface of the bond breaker geotextile. Do not operate/ drive equipment on the bond breaker geotextile.

Dampen the bond breaker geotextile with water before covering it with pavement.

Protect the bond breaker geotextile from damage by any cause. Repair damaged bond breaker geotextile.

8-26.3(8) As-built Construction Tolerances

Vertical wall alignment: ± 1.5 inches over any 10 feet distance.

Wall Batter: within 2 degrees of design batter.

Horizontal alignment: ± 1.5 inches (40 mm) over any 10 feet distance. Corners, bends & curves: ± 1 foot to theoretical location.

Maximum horizontal gap between erected units shall be $\leq \frac{1}{2}$ inch.

8-26.3(9) Field Quality Control

Wall construction shall be monitored by a qualified Engineer to verify field conditions. If this work is not performed by the site geotechnical engineer, a geotechnical engineer shall be consulted in those matters pertaining to soil conditions and wall performance.

The foundation soils at each wall location shall be inspected by the Engineer and any unsuitable soils or improperly compacted material shall be removed and replaced as directed by the Engineer prior to wall construction to provide adequate bearing capacity and minimize settlement.

All wall excavation and retained soils shall be inspected for groundwater conditions and any additional drainage provisions required in the field shall be incorporated into the wall construction as directed by the Engineer.

Reinforced backfill material shall be tested and approved by the Engineer for use in the reinforced soil zone meeting the minimum requirements of the approved design plans.

All soil backfill shall be tested by the Contractor for moisture, density, and compaction periodically (every 2' vertically, 100'-200' c/c) meeting the minimum requirements of the approved design plans or project specifications.

Wall construction shall be periodically inspected by the Engineer to ensure the geogrid reinforcement elevations and lengths are installed in accordance with the approved design plans.

All wall elevations, grades, and backslope conditions shall be verified by the Engineer in the field for conformance with the approved design plans. Any revisions to the structure geometry or design criteria shall require design modification prior to proceeding with construction.

1
2 **8-26.4 Measurement**

3 Measurement of "Cement Concrete Modular Block Unit Retaining Wall" shall be per
4 square foot of retaining wall surface using the full wall height (top of base leveling pad
5 to the top of the final course); no further payment will be made except as shown in the
6 paragraph "exclusions" below.
7

8 Including: Complete excavation, base leveling pad, compaction, unit drainage fill, CMB
9 units and shear connectors, geogrid soil reinforcement, reinforced backfill, bond
10 breaker geotextile, and other miscellaneous supplies.

11
12 Excluding: Cement Concrete Sidewalk, new landscaping
13

14 **8-26.5 Payment**

15 The unit contract price per square foot for "Cement Concrete Modular Block Unit
16 Retaining Wall" shall be full compensation for furnishing all material, labor, tools, and
17 equipment necessary to construct the Cement Concrete Modular Block Unit Retaining
18 Wall including, but not limited to, shop drawings (bearing the stamp of a professional
19 engineer registered to practice in the State of Washington), excavation, base leveling
20 pad, compaction, unit drainage fill, CMB units and shear connectors, geogrid soil
21 reinforcement, reinforced backfill, and bond breaker geotextile as shown in detail on
22 plans or as directed by the Engineer. Restoration of adjacent landscaping not included
23 in the payment.
24
25
26

27 GKK 8-32 RESOLVED UNDERGROUND CONFLICT.rtf

28 (*****)
29

30 **8-32 RESOLVED UNANTICIPATED CONFLICTS**

31 Section 8-32 is new with the following:
32

33 **8-32.1 Description**

34
35 This work consists of resolving unanticipated conflicts to conform to the Project
36 requirements due to construction, where they are not addressed by the Construction
37 Plans and Details. These bid items might also be used to construct or modify items
38 which are not identified, nor addressed in the Plans and Details.
39

40 **8-32.2 Vacant**

41
42 **8-32.3 Construction Requirements**
43

44 **8-32.3(1) Aboveground Conflicts**

45 As directed by Engineer, address and resolve above ground conflicts that need
46 modification to accommodate construction.
47

1 **8-32.3(2) Underground Conflicts**
2 As directed by Engineer, address and resolve underground conflicts that need
3 modification to accommodate construction.
4
5
6 **8-32.4 Vacant**
7
8 **8-32.5 Payment**
9 “Resolved unanticipated conflicts” Force Account, as provided in Section 1-09.6.
10
11 To provide a common Proposal for all Bidders, the Contracting Agency has entered an
12 amount in the Proposal to become a part of the Contractor’s total Bid.
13
14
15 GKK 8-33 PRIVATE IMPROVEMENT RESTORATION.rtf

16 **(*****)**
17
18 **8-33 PRIVATE IMPROVEMENT RESTORATION**

19 Section 8-33 is new and is supplemented with the following:
20
21 **8-33.1 Description**
22
23 This work consists of removing and restoring of certain private improvements to conform to the
24 new requirements due to construction. Restoration of existing special private improvements
25 including, but not limited to, brick or stone walkways, decorative concrete walks or driveways,
26 concrete masonry or stone walls, rockery’s, fences, landscape plantings, including but not
27 limited to, hedges, trees, flowerbeds, irrigation systems, yard lighting, rockeries, retaining walls,
28 or steps.
29
30 **8-33.2 Vacant**
31
32 **8-33.3 Construction Requirements**
33
34 Where shown on the plans, or as directed by the Engineer, existing private improvements that
35 require relocation or modification, shall be restored to the satisfaction of the property owner
36 and the Engineer.
37 Private property damaged or destroyed due to the Contractor’s negligence shall be removed
38 and replaced in kind at the Contractor’s expense.
39
40 **8-33.4 Vacant**
41

1 **8-33.5 Payment**
2 "Private Improvement Restoration," Force Account, as provided in Section 1-09.6.
3
4 To provide a common Proposal for all Bidders, the Contracting Agency has entered an amount
5 in the Proposal to become a part of the Contractor's total Bid.
6
7
8 COE 8-36 E-FILES.RTF
9 **8-36 ELECTRONIC FILES**

10 Section 8-36 is new and is supplemented by the following:
11
12 (*****)
13
14 When requested by the Contractor, the City will provide an electronic version of the construction
15 plans (drawings), for use by the Contractor at the Contractor's own risk. In all cases, the
16 approved paper construction plans are the official contract documents. If the Contractor wishes
17 to use the electronic version of the construction plans for the purposes of providing construction
18 surveying of proposed improvements, it shall be the Contractor's responsibility to verify that
19 any coordinates used from the electronic file exactly match the station and offset location given
20 in the contract construction plans. Construction plans are diagrammatic in nature. The
21 coordinate locations of the various graphic elements within the electronic files may not
22 necessarily be precisely shown with respect to their coordinate position. In all cases, the
23 location callouts in the contract construction plans shall govern.
24
25
26 END DIVISION8.RTF
27
28 **END DIVISION 8**
29

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APPENDIX2.FR9
Appendices
(January 2, 2012)

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

*** Custom Soil Resource Report for Snohomish County Area, Washington Hibulb
Lookout on Legion Park

2014_Overlook_Overview_final_digs ***

APPENDIX D:

Custom Soil Resource Report for Snohomish County Area, Washington Hibulb
Lookout on Legion Park, Page _1_ through Page _60_.

(2014_Overlook_Overview_final_digs_06192014), Page _1_ through Page
21.

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BID PROPOSAL

CITY OF EVERETT – WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
STATE FUND# HLP-PB15(032)
WO #3630

July 10, 2024

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CITY OF EVERETT, WASHINGTON

CONTRACT PROVISIONS

**WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS ***

**WORK ORDER #3630
STATE FUND# HLP-PB15(032)**

BID PROPOSAL

To the City Council
Everett, Washington

The undersigned bidder declares that they have carefully examined the Plans and Specifications, Notice to Contractors, Instructions to Bidders, Standard Specifications, Special Provisions, Appendices, Proposal, and Contract for the replacement of the existing pedestrian path in Hibulb park with HMA in the same location. All path excavated material is considered hazardous materials to be disposed of at an approve site. The path will be extended north to the West Marine View Drive and Alverson intersection where it will join new cement concrete sidewalk that terminates at the existing south end of the rapid flashing beacon. New ADA ramp, new raised median on West Marine View Drive at the Rapid Flashing Beacon, a short landscape retaining wall, signage, and illumination. At 41st/Grand Ave upgrade existing crosswalk with new ADA ramps and Rapid Flashing Beacons with an advance notice flasher and performing all Work as required by the Contract Documents and other such work as may be necessary, in accordance with the Specifications, as shown on the Plans. The undersigned bidder declares that it has made such investigations as are necessary to determine the conditions to be encountered, and that if this Proposal is accepted the undersigned bidder will enter into a contract with the City of Everett, Washington, in the form of Contract hereto annexed, will, to the extent required, provide the necessary equipment, tools, apparatus, and other means of construction, and will furnish all labor and materials as specified in the Contract, or called for in the plans, or necessary to complete the work in the manner herein specified and according to the requirements of the Engineer.

The undersigned bidder certifies that this Proposal is in all respects fair and is made without collusion on the part of any person, firm or corporation mentioned below, and no officer or employee of the City of Everett is personally or financially interested, directly or indirectly, in the Proposal or in any purchase of or sale of any materials or supplies for the work to which it relates, or any portion of the profits thereof.

The undersigned bidder agrees that it will complete the work in all respects within **60** working days from the date of written Notice to Proceed; that they will pay liquidated damages to the City in the amount specified in the Contract.

Accompanying this Proposal is a bid bond or certified check or cashier's check in the amount of five percent (5%) of the Proposal according to the conditions of the "Notice to Contractors" and the Standard Specifications, the Special Provisions, and the "Instructions to Bidders" hereby attached. If this Proposal shall be accepted by the City of Everett, Washington, and the undersigned shall fail to execute the Contract and provide the required bonds as stated in the Instructions to Bidders hereto attached, within twenty (20) calendar days after the award date, then the City may, at its option, determine that the undersigned has abandoned the Contract and thereupon this Contract shall be null and void and the amount of the bid bond or certified check or cashier's check accompanying this Proposal shall be forfeited and become the property of the City of Everett, Washington.

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Note: Unit prices for all items, all extensions, and the total amount bid must be shown. Where conflict occurs between the unit price and the total amount named for any item, the unit price shall prevail, and totals shall be corrected to conform thereto. All entries must be typed or entered in ink.

BID SCHEDULE

BIDDER: _____

Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1	\$ _____.	\$ _____.
2	CLEARING AND GRUBBING	ACRE	0.26	\$ _____.	\$ _____.
3	REMOVING PLASTIC LINE	LF	1699	\$ _____.	\$ _____.
4	REMOVING PLASTIC TRAFFIC MARKING	EA	2	\$ _____.	\$ _____.
5	REMOVING PLASTIC CROSSWALK LINE	SF	250	\$ _____.	\$ _____.
6	REMOVING MISCELLANEOUS TRAFFIC ITEM	LS	1	\$ _____.	\$ _____.
7	HAZARDOUS MATERIAL EXCAVATION INCL. HAUL	TON	769	\$ _____.	\$ _____.
8	ROADWAY EXCAVATION INCL. HAUL	CY	18	\$ _____.	\$ _____.
9	CRUSHED SURFACING BASE COURSE	TON	239	\$ _____.	\$ _____.
10	HMA CL. 1/2 IN. PG 64-22	TON	247	\$ _____.	\$ _____.
11	SAWCUTTING ASPHALT	LF	240	\$ _____.	\$ _____.
12	INLET PROTECTION	EA	2	\$ _____.	\$ _____.
13	TOPSOIL TYPE C	SY	1375	\$ _____.	\$ _____.
14	SOD INSTALLATION	SY	1375	\$ _____.	\$ _____.
15	HIGH VISABILITY FENCE	LF	2625	\$ _____.	\$ _____.
16	SILT FENCE	LF	200	\$ _____.	\$ _____.
17	CEMENT CONC. TRAFFIC CURB AND GUTTER	LF	54	\$ _____.	\$ _____.
18	CEMENT CONC. PEDESTRIAN CURB	LF	36	\$ _____.	\$ _____.

Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
19	CEMENT CONCRETE CURB TYPE E-1	LF	237	\$	\$_____.
20	PLASTIC TRAFFIC ARROW	EA	2	\$	\$_____.
21	24-INCH PLASTIC CROSSWALK LINE	LF	160	\$	\$_____.
22	PLASTIC BICYCLE LANE SYMBOL	EA	2	\$	\$_____.
23	4-INCH PLASTIC LINE	LS	1	\$	\$_____.
24	8-INCH PLASTIC LINE	HR	500	\$	\$_____.
25	PRECAST SLOPED MOUNTABLE CURB	LF	107	\$	\$_____.
26	PEDESTRIAN TRAFFIC CONTROL	LS	1	\$	
27	PERMANENT SIGNING	LS	1	\$	
28	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	\$	
29	ILLUMINATION SYSTEM	LS	1	\$	
30	TRAFFIC SIGNAL SYSTEM	LS	1	\$	
31	TRAFFIC CONTROL SUPERVISOR	LS	1	\$	
32	ROADWAY SURVEYING	LS	1	\$	
33	ADA FEATURE SURVEYING	LS	1	\$	
34	TYPE D CURB RAMP	EA	2	\$	
35	DETECTABLE WARNING SURFACE	SF	60	\$	
36	CEMENT CONC. SIDEWALK	SY	812	\$	
37	ADJUST JUNCTION BOX	EA	4	\$	
38	ADJUST CATCH BASIN	EA	1	\$	
39	CEMENT CONCRETE MODULAR BLOCK UNIT RETAINING WALL	SF	76	\$	
40	MINOR CHANGE	FA	1	\$ 5,000	
41	SPCC PLAN	LS	1	\$	
Total Bid Amount					\$_____.

The undersigned bidder understands that the quantities mentioned herein are approximate only and are subject to increase or decrease, and hereby proposes to perform all quantities of work as either increased or decreased in accordance with the provisions of the Drawings and Specifications and at the unit prices bid in the Bid Schedule, unless such schedule designates lump sum bids, or force account items.

[illegible]

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RCW 35.22.650 CERTIFICATION

A set percentage of minority group member employees or minority business subcontracts is not required in the performance of the Work under this Contract. However, RCW 35.22.650 requires bidders (a) to actively solicit (i) employment of minority group members and (ii) subcontract bids from minority businesses, and (b) to submit evidence of its compliance with these requirements for active solicitations:

RCW 35.22.650

All contracts by and between a first-class city and contractors for any public work or improvement exceeding the sum of ten thousand dollars, or fifteen thousand dollars for construction of water mains, shall contain the following clause:

"Contractor agrees that the contractor shall actively solicit the employment of minority group members. Contractor further agrees that the contractor shall actively solicit bids for the subcontracting of goods or services from qualified minority businesses. Contractor shall furnish evidence of the contractor's compliance with these requirements of minority employment and solicitation. Contractor further agrees to consider the grant of subcontracts to said minority bidders on the basis of substantially equal proposals in the light most favorable to said minority businesses. The contractor shall be required to submit evidence of compliance with this section as part of the bid."

As used in this section, the term "minority business" means a business at least fifty-one percent of which is owned by minority group members. Minority group members include, but are not limited to, blacks, women, native Americans, Asians, Eskimos, Aleuts, and Hispanics.

- I. Bidder confirms that it actively solicits employment of minority group members.
_____ *[yes or no]*
- II. Please estimate the percentage of Bidder's employees on this Project that will be made up of minority group members: _____ *[state estimated percentage]*
- III. Please estimate the percentage of goods and services that will be subcontracted to minority businesses on this Project: _____ *[state estimated percentage]*
- IV. List all minority businesses from whom bids or quotes for goods or services on this Project have been solicited (attach additional sheet if necessary):

MINORITY CERTIFICATION

Minority Business Name	Address	Goods or Services Involved	Certification Number*

*Certification numbers (for MBE, MWBE, DBE, etc.) are found at Office of Minority & Women's Business Enterprises: <https://omwbe.diversitycompliance.com/FrontEnd/SearchCertifiedDirectory.asp>. If a minority business does not have a certification number, the Bidder must provide with this certification form evidence that the business is at least fifty-one percent owned by minority group members.

During Contract performance, or in any event prior to final payment, Bidder shall provide the City with the names and addresses of all minority businesses actually awarded subcontracts under the Contract. In the event that a subcontract bid or quote is solicited and listed above and a subcontract is not awarded to the minority business so listed, Contractor shall state the reasons such subcontract was not awarded to the minority business and shall provide the minority business quote together with the actual subcontract price paid and the name of the subcontractor to whom the subcontract was subsequently awarded.

FAILURE TO PROPERLY COMPLETE AND SUBMIT THIS CERTIFICATION FORM WITH THE BID WILL RESULT IN REJECTION OF BID. THE BIDDER CERTIFIES UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF WASHINGTON THAT THE ABOVE IS TRUE AND COMPLETE CORRECT TO THE BEST OF ITS KNOWLEDGE AND BELIEF AND FURTHER AGREES TO PROVIDE INFORMATION AS REQUESTED BY THE CITY REGARDING MINORITY BUSINESS SUBCONTRACTS AND EMPLOYMENT OF MINORITY GROUP MEMBERS.

Signature: _____ Date: _____

MINORITY CERTIFICATION

Failure to return this Declaration as part of the bid proposal package will make the bid nonresponsive and ineligible for award.

NON-COLLUSION DECLARATION

I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

- 1. That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.**
- 2. That by signing the signature page of this proposal, I am deemed to have signed and to have agreed to the provisions of this declaration.**

NOTICE TO ALL BIDDERS

To report rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

BID GUARANTY

Bidder herewith guarantees its bid by depositing one of the following with its bid/proposal in an amount of five percent (5%) or more of the bidder's total bid/proposal:

- ☐ Certified check
- ☐ Cashier's check
- ☐ Bid Bond

Signature

BID BOND

Bond No. _____

Project _____

W.O. # _____

KNOW ALL MEN BY THESE PRESENTS,

that _____ [Contractor], a corporation organized under the laws of the State of _____, and registered to do business in the State of Washington as a contractor, as Principal, and _____ [Surety], a corporation organized under the laws of the State of _____ and registered to transact business in the State of Washington, as Surety, their heirs, executors, administrators, successors and assigns, are jointly and severally held and bound to the City of Everett, Washington, hereinafter called "City", and are similarly held and bound unto the City in the sum of _____ and __/100's Dollars (\$ _____), the payment of which, well and truly to be paid, we bind ourselves, our heirs, executors and successors, jointly and severally, formally by these presents.

NOW, THEREFORE, the condition of this obligation is such that the Surety is held and bound to the City to pay and forfeit to the City the amount of this bond as provided herein, upon the conditions contained herein, unless the conditions for release contained herein are satisfied or expressly waived in a writing signed by the City Attorney.

It is expressly understood and agreed that:

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to the City upon default of Bidder the penal sum set forth on the face of this Bond.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents, any performance and payment bonds required by the Bidding Documents and Contract Documents, and evidence of insurance required by the Bidding Documents and Contract Documents.
3. This obligation shall be null and void if:
 - 3.1. City accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by City) the executed Agreement required by the Bidding Documents, any performance and payment bonds required by the Bidding Documents and Contract Documents, and evidence of insurance required by the Bidding Documents and Contract Documents, or

3.2. All bids are rejected by City, or

4. Payment under this Bond will be due and payable upon default of Bidder and within thirty (30) calendar days after receipt by Bidder and Surety of written notice of default from the City, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by City and Bidder, provided that the time for issuing notice of award including extensions shall not in the aggregate exceed one hundred twenty (120) days from Bid Due Date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to thirty (30) calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety. Any suit or action under this bond must be instituted within the time period provided by applicable law.
7. The laws of the State of Washington shall apply to the determination of the rights and obligations of the parties hereunder. Venue for any dispute or claim hereunder shall be the state courts of Washington in Snohomish County, Washington.
8. Notice required hereunder shall be in writing sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or United States Registered or Certified Mail, return receipt requested, postage prepaid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond current and effective Power of Attorney evidencing authority of the officer, agent or representative to execute this Bond on behalf of Surety to execute and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "bid" as used herein includes a bid, offer or proposal as applicable.

BIDDER	SURETY
_____ (seal) Bidder's Name and Corporate Seal	_____ (seal) Surety's Name and Corporate Seal
By: _____ Signature, Title, and Date	By: _____ Signature, Title, and Date
Address: _____ _____	Address: _____ _____
Attest: _____ Signature, Title and Date	Attest: _____ Signature, Title and Date



APWA-WA Division 1 Committee

rev. 1/8/2016

Proposal for Incorporating Recycled Materials into the Project

In compliance with a new law that went into effect January 1, 2016 (SHB1695), the Bidder shall propose below, the total percent of construction aggregate and concrete materials to be incorporated into the Project that are recycled materials. Calculated percentages must be within the amounts allowed in Section 9-03.21(1)E, Table on Maximum Allowable Percent (By Weight) of Recycled Material, of the Standard Specifications.

Proposed total percentage: _____ percent.

Note: Use of recycled materials is highly encouraged within the limits shown above, but does not constitute a Bidder Preference, and will not affect the determination of award, unless two or more lowest responsive Bid totals are exactly equal, in which case proposed recycling percentages will be used as a tie-breaker, per the APWA GSP in Section 1-03.1 of the Special Provisions. Regardless, the Bidder's stated proposed percentages will become a goal the Contractor should do its best to accomplish. Bidders will be required to report on recycled materials actually incorporated into the Project, in accordance with the APWA GSP in Section 1-06.6 of the Special Provisions.

Bidder: _____

Signature of Authorized Official: _____

Date: _____



This form must be submitted with the Bid Proposal or as a Supplement to the Bid no later than 24 hours after the time for delivery of the Bid Proposal, as provided for in Section 1-02.9 of the Contract Provisions.

Certification of Compliance with Wage Payment Statutes

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date (July 30, 2024), the bidder is not a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Bidder’s Business Name

Signature of Authorized Official*

Printed Name

Title

Date

City

State

Check One:

Sole Proprietorship ☐ Partnership ☐ Joint Venture ☐ Corporation ☐

State of Incorporation, or if not a corporation, State where business entity was formed:

If a co-partnership, give firm name under which business is transacted:

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co-partnership, proposal must be executed by a partner.*

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CONTRACT

CITY OF EVERETT – WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
STATE FUND# HLP-PB15(032)
WO #3630

July 10, 2024

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CITY OF EVERETT, WASHINGTON

CONTRACT

THIS CONTRACT is made and entered into by and between the City of Everett, Washington, a municipal corporation existing under the laws of the State of Washington, (the "City") and _____ (the "Contractor").

In consideration of the sums to be paid to it by the City, Contractor hereby covenants and agrees to furnish all labor, tools, materials, equipment, and supplies required to complete in a workmanlike manner the work, improvements, and appurtenances in accordance with the Specifications and Plans entitled: **"WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE PEDESTRIAN IMPROVEMENTS"** (the "Project").

1. Contract Documents. This Contract is the written agreement signed between the City and Contractor and includes Division C – CONTRACT, Division P - PROPOSAL, Division B – BID ITEM DESCRIPTIONS, Special Provisions, Contract Plans, Standard Specifications, Standard Plans in effect as of the date Bids are opened, Addenda, supplemental agreements, change orders, certifications and affidavits required by this Contract and by law, and Federal requirements that apply to this Contract and Project, all of which are referred to as the "Contract Documents" and all of which are hereby incorporated by reference. A copy of the Contract Documents that were posted for the Project on Builder's Exchange of Washington (www.bxwa.com) as of Bid Opening Date is maintained by the City Clerk's Office as a single pdf and is available as follows

Link to PDF	
-------------	--

Contractor acknowledges that Contractor has downloaded and reviewed this pdf prior to signing this Contract. City and Contractor agree that this pdf contains all posted Contract Documents as of the Bid Opening Date. City and Contractor further agree that this pdf may contain some other documents (such as Reference Information) that are not Contract Documents.

2. Time for Completion. Substantial completion shall be achieved within **sixty(60)** working days after the effective date of the Notice to Proceed. Physical completion shall be within **ten (10)** working days of the actual date of issuance of substantial completion.

3. Liquidated Damages. The parties agree the City will suffer damage and be put to additional expense in the event that the Contractor does not complete the work in all respects and have it ready for use by the substantial completion date stated. Because it is difficult to accurately compute the amount of such costs and damages, the Contractor hereby covenants and agrees to pay to the City liquidated damages as computed in Section 1-08.9 of the Standard Specifications, as may be amended by the Special Provisions, for each and every working day required to accomplish substantial completion of the work in excess of the period established above for substantial completion. For overruns in contract time occurring after the physical completion date, liquidated damages shall be assessed at the rate computed in Section 1-08.9 of the Standard Specifications, as may be amended by the Special Provisions, until the work is physically complete.

4. Contract Amount. The amount of this Contract is _____ (\$_____) and is based on the proposal/bid submitted by Contractor dated _____. A copy of the such proposal/bid is attached hereto. The basis for final payment will be the actual amount of work performed according to the Contract Documents and payments, whether partial or final, shall be made as specified therein.

5. Withholding. Except as provided by RCW 60.28.011(1)(b), five percent (5%) of amounts due Contractor shall be retained and withheld to comply with RCW Chap. 60.28. Retained amounts shall only be released (A) as required by law or (B) 60 days after completion of all contract work if there are no claims against retained funds. In cases

where all contract work other than landscaping is completed, retained amounts other than the five percent earned for landscaping, shall be released within 60 days of completion as may be required by applicable law. Within 30 days of accepting a retainage bond, the bonded portion of the retained funds shall be released as may be required by applicable law.

6. Compliance with Employment and Wage Laws. Contractor agrees to comply with all state and federal laws relating to the employment of labor and wage rates to be paid.

7. RCW 35.33.650. Contractor shall actively and in good faith solicit the employment of minority group members and bids for the supply of goods or subcontracting of services from qualified minority businesses. Contractor shall consider granting contracts to possible minority suppliers and subcontractors on the basis of substantially equal proposals in the light most favorable to the minority businesses. Contractor shall furnish evidence of its compliance with these requirements. As used in this section, the term “minority business” means a business at least fifty-one percent (51%) of which is owned by minority group members. Minority group members include, but are not limited to, African-Americans, Women, Native Americans, Asian/Pacific Islander-Americans, and Hispanic-Americans.

8. Indemnification.

A. Contractor will defend, indemnify and hold harmless the City from any and all Claims arising out of or relating to any acts, errors, omissions, or conduct by Contractor in connection with its performance of this Contract, including without limitation (and without limiting the generality of the foregoing) all Claims resulting from Contractor’s performance of, or failure to perform, its express and implied obligations under the Contract. The Contractor will defend and indemnify and hold harmless the City whether a Claim is asserted directly against the City, or whether a Claim is asserted indirectly against the City, e.g., a Claim is asserted against someone else who then seeks contribution or indemnity from the City. The amount of insurance obtained by, obtainable by, or required of the Contractor does not in any way limit the Contractor’s duty to defend and indemnify the City. The City retains the right to approve Claims investigation and counsel assigned to said Claim and all investigation and legal work regarding said Claim shall be performed under a fiduciary relationship to the City. This Section 8 is in addition to any other defense or indemnity or hold harmless obligation in the Contract Documents.

B. The Contractor’s obligations under this Section 8 shall not apply to Claims caused by the sole negligence of the City. If (1) RCW 4.24.115 applies to a particular Claim, and (2) such Claim is caused by or results from the concurrent negligence of (a) the Contractor and (b) the City, then the Contractor’s liability under this Section 8 shall be only to the extent of Contractor’s negligence.

C. As used in this section: (1) “City” includes the City’s officers, employees, agents, and representatives; (2) “Claims” include all losses, claims, demands, expenses (including, but not limited to, attorney’s fees and litigation expenses), suits, judgments, or damage, whether threatened, asserted or filed against the City, whether such Claims sound in tort, contract, or any other legal theory, whether such Claims have been reduced to judgment or arbitration award, irrespective of the type of relief sought or demanded (such as money or injunctive relief), and irrespective of the type of damage alleged (such as bodily injury, damage to property, economic loss, general damages, special damages, or punitive damages); and (3) “Contractor” includes Contractor, its employees, agents, representatives and subcontractors. If, and to the extent, Contractor employs or engages subcontractors, then Contractor shall ensure that each such subcontractor (and subsequent tiers of subcontractors) shall expressly agree to defend and indemnify and hold harmless the City to the extent and on the same terms and conditions as the Contractor pursuant to this section.

9. Insurance. The Contractor shall purchase and maintain such insurance as set forth in the Contract Documents. Failure to maintain such insurance shall be a material breach of the Contract. The City shall be entitled to damages for such a breach that include, but are not limited to, any loss (including, but not limited to, third party litigation expenses and professional fees) suffered by the City if the City is determined to be solely or concurrently negligent, and if the City suffers any loss or must pay or defend against any such claim, suit, demand or damage as a result of such breach.

10. Waiver of Industrial Insurance Immunity. Contractor waives any right of contribution against the City. It is agreed and mutually negotiated that in any and all claims against the City, its agents or employees, the Contractor, a subcontractor, anyone directly or indirectly employed by the Contractor or subcontractor, or anyone for whose acts any of them may be liable, the defense and indemnification obligations hereunder shall not be limited in any way by any limitation on the amount of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under industrial worker's compensation acts, disability benefit acts, or other employees' benefit acts. Contractor's and City's signatures hereto indicate specific waiver of Contractor's industrial insurance immunity in order to fulfill the indemnities hereunder. Solely for the purpose of indemnification and defense as provided in this Contract, the Contractor specifically waives any immunity under the State Industrial Insurance Law, Title 51 RCW. The Contractor expressly acknowledges that this waiver of immunity under Title 51 RCW was the subject of mutual negotiation and was specifically entered into pursuant to the provisions of RCW 4.24.115.

11. Repair of Damage. The Contractor agrees to repair and replace all property of the City and all property of others damaged by it, its employees, subcontractors, suppliers and agents.

12. Pre-Bid Inspection and Risk of Loss. It is understood that the whole of the work under this contract is to be done at the Contractor's risk and that: (1) prior to submitting its proposal or bid, it became familiar with the conditions of excavation, subsurface, backfill, materials, climatic conditions, location, traffic, and other contingencies that may affect the work and has made its bid or proposal accordingly and (2) that it assumes the responsibility and risk of all loss or damage to materials or work which may arise from any cause whatsoever prior to completion.

12. Headings for Convenience Only. The headings in this document are for convenience only, and shall not be used or considered to interpret or construe this document.

13. Effective Date. This Contract is effective as of the date of the last person to sign it, and may be executed in multiple counterparts, each of which shall be deemed an original. This Contract may be signed with AdobeSign, and any such signature is fully binding.

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**CITY OF EVERETT
WASHINGTON**

By: _____

Cassie Franklin, Mayor

ATTEST: _____

Date

Office of the City Clerk



STANDARD DOCUMENT
APPROVED AS TO FORM
OFFICE OF THE CITY ATTORNEY
OCTOBER 31, 2023

CONTRACTOR:

[Contractor's Complete Legal Name]

By: _____
Signature

Typed/Printed Name of Signer: _____

Title of Signer: _____

Date: _____

PUBLIC WORKS PERFORMANCE BOND

to City of Everett, WA

Bond No. _____

The City of Everett, Washington has awarded to _____ (Principal), a Contract for the construction of the project designated as **WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE PEDESTRIAN IMPROVEMENTS**, Project No. **3630**, in Everett, Washington (Contract), and said Principal is required under the terms of that Contract to furnish a bond for performance of all obligations under the Contract.

The Principal, and _____ (Surety), a corporation organized under the laws of the State of _____ and licensed to do business in the State of Washington as surety and named in the current list of "Surety Companies Acceptable in Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Dept., are jointly and severally held and firmly bound to the _____, in the sum of _____ US Dollars (\$ _____) Total Contract Amount, subject to the provisions herein.

This statutory performance bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall well and faithfully perform all of the Principal's obligations under the Contract and fulfill all the terms and conditions of all duly authorized modifications, additions, and changes to said Contract that may hereafter be made, at the time and in the manner therein specified; and if such performance obligations have not been fulfilled, this bond shall remain in full force and effect.

The Surety agrees to indemnify, defend, and protect the City of Everett against any claim of direct or indirect loss resulting from the failure of the Principal, its heirs, executors, administrators, successors, or assigns (or any of the employees, subcontractors, or lower tier subcontractors of the Principal) to faithfully perform the Contract.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this bond, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

This bond may be executed in two (2) original counterparts, and shall be signed by the parties' duly authorized officers. This bond will only be accepted if it is accompanied by a fully executed and original power of attorney for the officer executing on behalf of the surety.

The Surety agrees to be bound by the laws of the state of Washington and subjected to the jurisdiction of the state of Washington.

PRINCIPAL

SURETY

Principal Signature _____ Date _____

Surety Signature _____ Date _____

Printed Name _____

Printed Name _____

Title _____

Title _____

Local office/agent of Surety Company:

Name _____ Telephone _____

Address _____

STANDARD BOND FORM
OFFICE OF THE CITY ATTORNEY
APPROVED AS TO FORM
APPROVED AS TO CITY CHARTER § 4.1

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PUBLIC WORKS PAYMENT BOND
to City of Everett, WA

Bond No. _____

The City of Everett, Washington, has awarded to _____ (Principal), a Contract for the construction of the project designated as **WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE PEDESTRIAN IMPROVEMENTS**, Project No. **3630**, in Everett, Washington (Contract), and said Principal is required under the terms of that Contract to furnish a payment bond in accord with Title 39.08 Revised Code of Washington (RCW) and (where applicable) 60.28 RCW.

The Principal and _____ (Surety), a corporation organized under the laws of the State of _____ and licensed to do business in the State of Washington as surety and named in the current list of "Surety Companies Acceptable in Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Dept., are jointly and severally held and firmly bound to _____, in the sum of _____ US Dollars (\$ _____) Total Contract Amount, subject to the provisions herein.

This statutory payment bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall pay all persons in accordance with RCW Titles 60.28, 39.08, and 39.12 including all workers, laborers, mechanics, subcontractors, lower tier subcontractors, and material suppliers, and all persons who shall supply such contractor or subcontractor with provisions and supplies for the carrying on of such work, and all taxes incurred on said Contract under Title 50 and 51 RCW and all taxes imposed on the Principal under Title 82 RCW; and if such payment obligations have not been fulfilled, this bond shall remain in full force and effect.

The Surety agrees to indemnify, defend, and protect the City of Everett against any claim of direct or indirect loss resulting from the failure of the Principal, its heirs, executors, administrators, successors, or assigns, (or the subcontractors or lower tier subcontractors of the Principal) to pay all laborers, mechanics, subcontractors, lower tier subcontractors materialpersons, and all persons who shall supply such contractor or subcontractors with provisions and supplies for the carrying on of such work.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this bond, except as provided herein, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

This bond may be executed in two (2) original counterparts, and shall be signed by the parties' duly authorized officers. This bond will only be accepted if it is accompanied by a fully executed and original power of attorney for the officer executing on behalf of the surety.

The Surety agrees to be bound by the laws of the state of Washington and subjected to the jurisdiction of the state of Washington.

PRINCIPAL

SURETY

Principal Signature _____ Date _____

Surety Signature _____ Date _____

Printed Name _____

Printed Name _____

Title _____

Title _____

Local office/agent of Surety Company:

Name _____ Telephone _____

Address _____

STANDARD BOND FORM
OFFICE OF THE CITY ATTORNEY
APPROVED AS TO FORM
APPROVED AS TO CITY CHARTER § 4.1

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APPENDICES

Appendix A: State Prevailing Wage Rates

Appendix B: Air Quality Rules

Appendix C: Sample Change Order Forms

Appendix D: Hazardous Materials Hibulb Soils Report

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APPENDIX A

STATE PREVAILING WAGE RATES

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Washington State Department of Labor and Industries
Policy Statement
(Regarding the Production of "Standard" or "Non-standard" Items)

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.
2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.
3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.
4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.
5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.
6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

**WSDOT's
Predetermined List for
Suppliers - Manufactures - Fabricator**

Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

ITEM DESCRIPTION	YES	NO
1. Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans		X
2. Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans		X
3. Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.		X
4. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.		X
5. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.		X
6. Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.		X
7. Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.		X

ITEM DESCRIPTION	YES	NO
8. Anchor Bolts & Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.		X
9. Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).	X	
10. Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.	X	
11. Minor Structural Steel Fabrication - Fabrication of minor steel Items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.	X	
12. Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).		X
13. Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..	X	
14. Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.		X
15. Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.		X
16. Precast Catch Basin - Catch Basin type 1, 1L, 1P, and 2 With adjustment sections. See Std. Plans.		X

ITEM DESCRIPTION	YES	NO
17. Precast Concrete Inlet - with adjustment sections, See Std. Plans		X
18. Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.		X
19. Precast Grate Inlet Type 2 with extension and top units. See Std. Plans		X
20. Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans		X
21. Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting		X
22. Vault Risers - For use with Valve Vaults and Utilities X Vaults.		X
23. Valve Vault - For use with underground utilities. See Contract Plans for details.		X
24. Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.		X
25. Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.	X	
26. Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used	X	

ITEM DESCRIPTION	YES	NO
27. Precast Railroad Crossings - Concrete Crossing Structure Slabs.	X	
28. 12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
29. Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
30. Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
31. Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A.	X	
32. Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
33. Monument Case and Cover See Std. Plan.		X

ITEM DESCRIPTION	YES	NO
34. Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
35. Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.	X	
36. Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
37. Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication		X
38. Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.	X	
39. Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Special Provisions for pre-approved drawings.	X	
40. Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings	X	
41. Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.		X

ITEM DESCRIPTION	YES	NO
42. Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. NOTE: *** Fabrication inspection required. Only signs tagged "Fabrication Approved" by WSDOT Sign Fabrication Inspector to be installed	X	X
	Custom Message	Std Signing Message
43. Cutting & bending reinforcing steel		X
44. Guardrail components	X	X
	Custom End Sec	Standard Sec
45. Aggregates/Concrete mixes	Covered by WAC 296-127-018	
46. Asphalt	Covered by WAC 296-127-018	
47. Fiber fabrics		X
48. Electrical wiring/components		X
49. treated or untreated timber pile		X
50. Girder pads (elastomeric bearing)	X	
51. Standard Dimension lumber		X
52. Irrigation components		X

ITEM DESCRIPTION	YES	NO
53. Fencing materials		X
54. Guide Posts		X
55. Traffic Buttons		X
56. Epoxy		X
57. Cribbing		X
58. Water distribution materials		X
59. Steel "H" piles		X
60. Steel pipe for concrete pile casings		X
61. Steel pile tips, standard		X
62. Steel pile tips, custom	X	

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW [39.12.010](#)

(The definition of "locality" in RCW [39.12.010](#)(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.

WSDOT's List of State Occupations not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries.

The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects.

When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.

Washington State Department of Labor and Industries
Policy Statements
(Regarding Production and Delivery of Gravel, Concrete, Asphalt, etc.)

WAC 296-127-018 Agency filings affecting this section

Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

(i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

(ii) At multiple points at the project; or

(iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.

(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

(a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

(b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]

Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
 - B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
 - G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.
 - J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
 - M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

- 1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.
- P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.
- W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.
- Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.
- Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
- F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
- M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.
- R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.
3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
- H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.
- J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

Overtime Codes Continued

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

- A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage
- C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
- D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:

On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

- E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.
- S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).
- All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus \$2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).
- U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. V. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established or outside the normal shift (5 am to 6pm), and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

- X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

- B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

- C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

Overtime Codes Continued

11. D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.
- E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.
- F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.
- H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.

Overtime Codes Continued

11. J. All hours worked on holidays shall be paid at double the hourly rate of wage.
- K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.
- L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar (\$2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
- M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.
- On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.
- Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars (\$2.00) per hour.
- N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.
- Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.
- O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Overtime Codes Continued

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.
- In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.
- R. On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.
- All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).
- C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).
- H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).
- I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).
- L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).
- N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.
- Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).
- S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).
- H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

Holiday Codes Continued

7. T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.
- A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.
- X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Holiday Codes Continued

7. Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.
- M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: \$1.00, Levels C & D: \$0.50.
- N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: \$2.00, Class B Suit: \$1.50, And Class C Suit: \$1.00. Workers performing underground work receive an additional \$0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional \$0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional \$0.50 per hour.
- V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.
- Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.
- Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.
- W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.

Note Codes Continued

- X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, and Class D Suit: \$0.50. Special Shift Premium: Basic hourly rate plus \$2.00 per hour.

When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

- Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- Z. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

9. A. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid \$0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

(A) – 130' to 199' – \$0.50 per hour over their classification rate.

(B) – 200' to 299' – \$0.80 per hour over their classification rate.

(C) – 300' and over – \$1.00 per hour over their classification rate.

Note Codes Continued

- B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

- D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

9. E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.

- F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

- H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 08/20/2024

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
Snohomish	Asbestos Abatement Workers	Journey Level	\$59.07	<u>5D</u>	<u>1H</u>		View
Snohomish	Boilermakers	Journey Level	\$74.29	<u>5N</u>	<u>1C</u>		View
Snohomish	Brick Mason	Journey Level	\$69.07	<u>7E</u>	<u>1N</u>		View
Snohomish	Brick Mason	Pointer-Caulker-Cleaner	\$69.07	<u>7E</u>	<u>1N</u>		View
Snohomish	Building Service Employees	Janitor	\$16.28		<u>1</u>		View
Snohomish	Building Service Employees	Shampooer	\$16.28		<u>1</u>		View
Snohomish	Building Service Employees	Waxer	\$16.28		<u>1</u>		View
Snohomish	Building Service Employees	Window Cleaner	\$16.28		<u>1</u>		View
Snohomish	Cabinet Makers (In Shop)	Journey Level	\$26.72	<u>5C</u>	<u>2M</u>		View
Snohomish	Carpenters	Acoustical Worker	\$74.96	<u>15J</u>	<u>4C</u>		View
Snohomish	Carpenters	Bridge, Dock And Wharf Carpenters	\$74.96	<u>15J</u>	<u>4C</u>		View
Snohomish	Carpenters	Floor Layer & Floor Finisher	\$74.96	<u>15J</u>	<u>4C</u>		View
Snohomish	Carpenters	Journey Level	\$74.96	<u>15J</u>	<u>4C</u>		View
Snohomish	Carpenters	Scaffold Erector	\$74.96	<u>15J</u>	<u>4C</u>		View
Snohomish	Cement Masons	Application of all Composition Mastic	\$72.87	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Application of all Epoxy Material	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Application of all Plastic Material	\$72.87	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Application of Sealing Compound	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Application of Underlayment	\$72.87	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Building General	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Composition or Kalman Floors	\$72.87	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Concrete Paving	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Curb & Gutter Machine	\$72.87	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Curb & Gutter, Sidewalks	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Curing Concrete	\$72.37	<u>15J</u>	<u>4U</u>		View
Snohomish	Cement Masons	Finish Colored Concrete	\$72.87	<u>15J</u>	<u>4U</u>		View

Snohomish	Cement Masons	Floor Grinding	\$72.87	15J	4U		View
Snohomish	Cement Masons	Floor Grinding/Polisher	\$72.37	15J	4U		View
Snohomish	Cement Masons	Green Concrete Saw, self-powered	\$72.87	15J	4U		View
Snohomish	Cement Masons	Grouting of all Plates	\$72.37	15J	4U		View
Snohomish	Cement Masons	Grouting of all Tilt-up Panels	\$72.37	15J	4U		View
Snohomish	Cement Masons	Guniting Nozzleman	\$72.87	15J	4U		View
Snohomish	Cement Masons	Hand Powered Grinder	\$72.87	15J	4U		View
Snohomish	Cement Masons	Journey Level	\$72.37	15J	4U		View
Snohomish	Cement Masons	Patching Concrete	\$72.37	15J	4U		View
Snohomish	Cement Masons	Pneumatic Power Tools	\$72.87	15J	4U		View
Snohomish	Cement Masons	Power Chipping & Brushing	\$72.87	15J	4U		View
Snohomish	Cement Masons	Sand Blasting Architectural Finish	\$72.87	15J	4U		View
Snohomish	Cement Masons	Screed & Rodding Machine	\$72.87	15J	4U		View
Snohomish	Cement Masons	Spackling or Skim Coat Concrete	\$72.37	15J	4U		View
Snohomish	Cement Masons	Troweling Machine Operator	\$72.87	15J	4U		View
Snohomish	Cement Masons	Troweling Machine Operator on Colored Slabs	\$72.87	15J	4U		View
Snohomish	Cement Masons	Tunnel Workers	\$72.87	15J	4U		View
Snohomish	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	\$129.71	15J	4C		View
Snohomish	Divers & Tenders	Dive Supervisor/Master	\$93.94	15J	4C		View
Snohomish	Divers & Tenders	Diver	\$129.71	15J	4C	8V	View
Snohomish	Divers & Tenders	Diver On Standby	\$88.94	15J	4C		View
Snohomish	Divers & Tenders	Diver Tender	\$80.82	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	\$93.26	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	\$98.26	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	\$102.26	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	\$107.26	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	\$109.76	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	\$114.76	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	\$116.76	15J	4C		View
Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	\$118.76	15J	4C		View

Snohomish	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	\$120.76	15J	4C		View
Snohomish	Divers & Tenders	Manifold Operator	\$80.82	15J	4C		View
Snohomish	Divers & Tenders	Manifold Operator Mixed Gas	\$85.82	15J	4C		View
Snohomish	Divers & Tenders	Remote Operated Vehicle Operator/Technician	\$80.82	15J	4C		View
Snohomish	Divers & Tenders	Remote Operated Vehicle Tender	\$75.41	15J	4C		View
Snohomish	Dredge Workers	Assistant Engineer	\$79.62	5D	3F		View
Snohomish	Dredge Workers	Assistant Mate (Deckhand)	\$79.01	5D	3F		View
Snohomish	Dredge Workers	Boatmen	\$79.62	5D	3F		View
Snohomish	Dredge Workers	Engineer Welder	\$81.15	5D	3F		View
Snohomish	Dredge Workers	Leverman, Hydraulic	\$82.77	5D	3F		View
Snohomish	Dredge Workers	Mates	\$79.62	5D	3F		View
Snohomish	Dredge Workers	Oiler	\$79.01	5D	3F		View
Snohomish	Drywall Applicator	Journey Level	\$75.73	15O	11S		View
Snohomish	Drywall Tapers	Journey Level	\$75.73	15O	11S		View
Snohomish	Electrical Fixture Maintenance Workers	Journey Level	\$16.28		1		View
Snohomish	Electricians - Inside	Cable Splicer	\$90.40	7H	1E		View
Snohomish	Electricians - Inside	Construction Stock Person	\$42.59	7H	1D		View
Snohomish	Electricians - Inside	Journey Level	\$84.73	7H	1E		View
Snohomish	Electricians - Motor Shop	Craftsman	\$16.28		1		View
Snohomish	Electricians - Motor Shop	Journey Level	\$16.28		1		View
Snohomish	Electricians - Powerline Construction	Cable Splicer	\$93.00	5A	4D		View
Snohomish	Electricians - Powerline Construction	Certified Line Welder	\$85.42	5A	4D		View
Snohomish	Electricians - Powerline Construction	Groundperson	\$55.27	5A	4D		View
Snohomish	Electricians - Powerline Construction	Heavy Line Equipment Operator	\$85.42	5A	4D		View
Snohomish	Electricians - Powerline Construction	Journey Level Lineperson	\$85.42	5A	4D		View
Snohomish	Electricians - Powerline Construction	Line Equipment Operator	\$73.35	5A	4D		View
Snohomish	Electricians - Powerline Construction	Meter Installer	\$55.27	5A	4D	8W	View
Snohomish	Electricians - Powerline Construction	Pole Sprayer	\$85.42	5A	4D		View
Snohomish	Electricians - Powerline Construction	Powderperson	\$63.50	5A	4D		View
Snohomish	Electronic Technicians	Electronic Technicians Journey Level	\$53.94	5B	1B		View
Snohomish	Elevator Constructors	Mechanic	\$111.26	7D	4A		View
Snohomish	Elevator Constructors	Mechanic In Charge	\$120.27	7D	4A		View
Snohomish	Fabricated Precast Concrete Products	Journey Level	\$16.28		1		View

Snohomish	Fabricated Precast Concrete Products	Journey Level - In-Factory Work Only	\$16.28		1		View
Snohomish	Fence Erectors	Fence Erector	\$50.07	15J	11P	8Y	View
Snohomish	Fence Erectors	Fence Laborer	\$50.07	15J	11P	8Y	View
Snohomish	Flaggers	Journey Level	\$50.07	15J	11P	8Y	View
Snohomish	Glaziers	Journey Level	\$79.16	7L	1Y		View
Snohomish	Heat & Frost Insulators And Asbestos Workers	Journey Level	\$87.15	15H	11C		View
Snohomish	Heating Equipment Mechanics	Journey Level	\$96.42	7F	1E		View
Snohomish	Hod Carriers & Mason Tenders	Journey Level	\$62.49	15J	11P	8Y	View
Snohomish	Industrial Power Vacuum Cleaner	Journey Level	\$16.28		1		View
Snohomish	Inland Boatmen	Boat Operator	\$61.41	5B	1K		View
Snohomish	Inland Boatmen	Cook	\$56.48	5B	1K		View
Snohomish	Inland Boatmen	Deckhand	\$57.48	5B	1K		View
Snohomish	Inland Boatmen	Deckhand Engineer	\$58.81	5B	1K		View
Snohomish	Inland Boatmen	Launch Operator	\$58.89	5B	1K		View
Snohomish	Inland Boatmen	Mate	\$57.31	5B	1K		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator	\$49.48	15M	11O		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Foamer Operator	\$49.48	15M	11O		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	\$49.48	15M	11O		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	\$47.41	15M	11O		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	\$41.20	15M	11O		View
Snohomish	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	TV Truck Operator	\$44.31	15M	11O		View
Snohomish	Insulation Applicators	Journey Level	\$74.96	15J	4C		View
Snohomish	Ironworkers	Journeyman	\$87.80	15K	11N		View
Snohomish	Laborers	Air, Gas Or Electric Vibrating Screed	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Airtrac Drill Operator	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Ballast Regular Machine	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Batch Weighman	\$50.07	15J	11P	8Y	View
Snohomish	Laborers	Brick Pavers	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Brush Cutter	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Brush Hog Feeder	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Burner	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Caisson Worker	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Carpenter Tender	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Cement Dumper-paving	\$60.15	15J	11P	8Y	View

Snohomish	Laborers	Cement Finisher Tender	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Change House Or Dry Shack	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Chipping Gun (30 Lbs. And Over)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Chipping Gun (Under 30 Lbs.)	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Choker Setter	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Chuck Tender	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Clary Power Spreader	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Clean-up Laborer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Concrete Dumper/Chute Operator	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Concrete Form Stripper	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Concrete Placement Crew	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Concrete Saw Operator/Core Driller	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Crusher Feeder	\$50.07	15J	11P	8Y	View
Snohomish	Laborers	Curing Laborer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Ditch Digger	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Diver	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Drill Operator (Hydraulic, Diamond)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Dry Stack Walls	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Dump Person	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Epoxy Technician	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Erosion Control Worker	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Faller & Bucker Chain Saw	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Fine Graders	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Firewatch	\$50.07	15J	11P	8Y	View
Snohomish	Laborers	Form Setter	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Gabian Basket Builders	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	General Laborer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Grade Checker & Transit Person	\$62.49	15J	11P	8Y	View
Snohomish	Laborers	Grinders	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Grout Machine Tender	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Groutmen (Pressure) Including Post Tension Beams	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Guardrail Erector	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Hazardous Waste Worker (Level A)	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Hazardous Waste Worker (Level B)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Hazardous Waste Worker (Level C)	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	High Scaler	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Jackhammer	\$60.15	15J	11P	8Y	View

Snohomish	Laborers	Laserbeam Operator	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Maintenance Person	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Manhole Builder-Mudman	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Material Yard Person	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Mold Abatement Worker	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Motorman-Dinky Locomotive	\$62.59	15J	11P	8Y	View
Snohomish	Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	\$62.49	15J	11P	8Y	View
Snohomish	Laborers	Pavement Breaker	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Pilot Car	\$50.07	15J	11P	8Y	View
Snohomish	Laborers	Pipe Layer (Lead)	\$62.49	15J	11P	8Y	View
Snohomish	Laborers	Pipe Layer/Tailor	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Pipe Pot Tender	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Pipe Reliner	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Pipe Wrapper	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Pot Tender	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Powderman	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Powderman's Helper	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Power Jacks	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Railroad Spike Puller - Power	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Raker - Asphalt	\$62.49	15J	11P	8Y	View
Snohomish	Laborers	Re-timberman	\$60.90	15J	11P	8Y	View
Snohomish	Laborers	Remote Equipment Operator	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Rigger/Signal Person	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Rip Rap Person	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Rivet Buster	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Rodder	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Scaffold Erector	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Scale Person	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Sloper (Over 20")	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Sloper Sprayer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Spreader (Concrete)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Stake Hopper	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Stock Piler	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Swinging Stage/Boatswain Chair	\$50.07	15J	11P	8Y	View
Snohomish	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Tamper (Multiple & Self-propelled)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Toolroom Person (at Jobsite)	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Topper	\$59.07	15J	11P	8Y	View

Snohomish	Laborers	Track Laborer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Track Liner (Power)	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Traffic Control Laborer	\$53.54	15J	11P	9C	View
Snohomish	Laborers	Traffic Control Supervisor	\$56.73	15J	11P	9C	View
Snohomish	Laborers	Truck Spotter	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Tugger Operator	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	\$175.79	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	\$180.82	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	\$184.50	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	\$190.20	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	\$192.32	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	\$197.42	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	\$199.32	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	\$201.32	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	\$203.32	15J	11P	9B	View
Snohomish	Laborers	Tunnel Work-Guage and Lock Tender	\$62.59	15J	11P	8Y	View
Snohomish	Laborers	Tunnel Work-Miner	\$62.59	15J	11P	8Y	View
Snohomish	Laborers	Vibrator	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Vinyl Seamer	\$59.07	15J	11P	8Y	View
Snohomish	Laborers	Watchman	\$45.51	15J	11P	8Y	View
Snohomish	Laborers	Welder	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Well Point Laborer	\$60.15	15J	11P	8Y	View
Snohomish	Laborers	Window Washer/Cleaner	\$45.51	15J	11P	8Y	View
Snohomish	Laborers - Underground Sewer & Water	General Laborer & Topman	\$59.07	15J	11P	8Y	View
Snohomish	Laborers - Underground Sewer & Water	Pipe Layer	\$60.15	15J	11P	8Y	View
Snohomish	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	\$45.51	15J	11P	8Y	View
Snohomish	Landscape Construction	Landscape Operator	\$82.25	15J	11G	8X	View
Snohomish	Landscape Maintenance	Groundskeeper	\$16.28		1		View
Snohomish	Lathers	Journey Level	\$75.73	15O	11S		View
Snohomish	Marble Setters	Journey Level	\$69.07	7E	1N		View
Snohomish	Metal Fabrication (In Shop)	Journey Level	\$37.56	0	11D		View
Snohomish	Millwright	Journey Level	\$76.51	15J	4C		View
Snohomish	Modular Buildings	Journey Level	\$16.28		1		View
Snohomish	Painters	Journey Level	\$51.71	6Z	11J		View
Snohomish	Pile Driver	Crew Tender	\$80.82	15J	4C		View
Snohomish	Pile Driver	Journey Level	\$75.41	15J	4C		View

Snohomish	Plasterers	Journey Level	\$70.91	7Q	1R		View
Snohomish	Plasterers	Nozzleman	\$74.91	7Q	1R		View
Snohomish	Playground & Park Equipment Installers	Journey Level	\$16.28		1		View
Snohomish	Plumbers & Pipefitters	Journey Level	\$86.72	5A	1G		View
Snohomish	Power Equipment Operators	Asphalt Plant Operators	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Assistant Engineer	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Barrier Machine (zipper)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Batch Plant Operator: concrete	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Boat Operator	\$83.95	7A	11H	8X	View
Snohomish	Power Equipment Operators	Bobcat	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Brokk - Remote Demolition Equipment	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Brooms	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Bump Cutter	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Cableways	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Chipper	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Compressor	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Concrete Finish Machine - Laser Screed	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Conveyors	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Cranes Friction: 200 tons and over	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes, A-frame: 10 tons and under	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$83.95	7A	11H	8X	View

Snohomish	Power Equipment Operators	Cranes: Friction cranes through 199 tons	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators	Crusher	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Deck Engineer/Deck Winches (power)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Derricks, On Building Work	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Dozers D-9 & Under	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Drilling Machine	\$84.46	15J	11G	8X	View
Snohomish	Power Equipment Operators	Elevator and man-lift: permanent and shaft type	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Forklift: 3000 lbs and over with attachments	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Gradechecker/Stakeman	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Guardrail Punch	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Horizontal/Directional Drill Locator	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Horizontal/Directional Drill Operator	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators	Leverman	\$85.33	15J	11G	8X	View
Snohomish	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Loaders, Overhead Under 6 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Loaders, Plant Feed	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Loaders: Elevating Type Belt	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Locomotives, All	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Material Transfer Device	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Mechanics: All (Leadmen - \$0.50 per hour over mechanic)	\$84.46	15J	11G	8X	View
Snohomish	Power Equipment Operators	Motor Patrol Graders	\$83.62	15J	11G	8X	View

Snohomish	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators	Overhead, bridge type: 100 tons and over	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	\$83.95	7A	11H	8X	View
Snohomish	Power Equipment Operators	Pavement Breaker	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Pile Driver (other Than Crane Mount)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Posthole Digger, Mechanical	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Power Plant	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Pumps - Water	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Rigger and Bellman	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators	Rollagon	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Roller, Other Than Plant Mix	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Roto-mill, Roto-grinder	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Saws - Concrete	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Scrapers - Concrete & Carry All	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Service Engineers: Equipment	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Shotcrete/Gunite Equipment	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Shovel, Excavator, Backhoes,	\$82.88	15J	11G	8X	View

		Tractors: 15 To 30 Metric Tons					
Snohomish	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$84.46	15J	11G	8X	View
Snohomish	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$85.33	15J	11G	8X	View
Snohomish	Power Equipment Operators	Slipform Pavers	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Spreader, Toppers & Screedman	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Subgrader Trimmer	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Tower Bucket Elevators	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators	Tower crane: up to 175' in height base to boom	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators	Transporters, All Track Or Truck Type	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Trenching Machines	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators	Truck crane oiler/driver: under 100 tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators	Truck Mount Portable Conveyor	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators	Welder	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators	Wheel Tractors, Farmall Type	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators	Yo Yo Pay Dozer	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Boat Operator	\$83.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Bobcat	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Brooms	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cableways	\$83.62	15J	11G	8X	View

Snohomish	Power Equipment Operators-Underground Sewer & Water	Chipper	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Compressor	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Conveyors	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes Friction: 200 tons and over	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes, A-frame: 10 tons and under	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$83.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, a-frame over 10 tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Crusher	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	\$84.46	15J	11G	8X	View

Snohomish	Power Equipment Operators-Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Gradechecker/Stakeman	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Locator	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Operator	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Leverman	\$85.33	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Locomotives, All	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Mechanics: All (Leadmen - \$0.50 per hour over mechanic)	\$84.46	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$78.65	15J	11G	8X	View

Snohomish	Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 100 tons and over	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	\$83.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Power Plant	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height base to boom	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	\$78.95	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Rollagon	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$82.25	15J	11G	8X	View

Snohomish	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$84.46	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$85.33	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	\$85.66	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Tower crane: up to 175' in height base to boom	\$84.77	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	\$86.48	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Trenching Machines	\$82.25	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/Driver: 100 tons and over	\$83.20	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Truck crane oiler/driver: under 100 tons	\$82.56	7A	11H	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Vac Truck (Vactor Guzzler, Hydro Excavator)	\$82.88	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Welder	\$83.62	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	\$78.65	15J	11G	8X	View
Snohomish	Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	\$82.88	15J	11G	8X	View
Snohomish	Power Line Clearance Tree Trimmers	Journey Level In Charge	\$57.22	5A	4A		View
Snohomish	Power Line Clearance Tree Trimmers	Spray Person	\$54.32	5A	4A		View
Snohomish	Power Line Clearance Tree Trimmers	Tree Equipment Operator	\$57.22	5A	4A		View
Snohomish	Power Line Clearance Tree Trimmers	Tree Trimmer	\$51.18	5A	4A		View
Snohomish	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	\$38.99	5A	4A		View

Snohomish	Refrigeration & Air Conditioning Mechanics	Journey Level	\$89.21	<u>5A</u>	<u>1G</u>	View
Snohomish	Residential Brick Mason	Journey Level	\$22.73		<u>1</u>	View
Snohomish	Residential Carpenters	Journey Level	\$74.96	<u>15J</u>	<u>4C</u>	View
Snohomish	Residential Cement Masons	Journey Level	\$72.37	<u>15J</u>	<u>4U</u>	View
Snohomish	Residential Drywall Applicators	Journey Level	\$49.92	<u>15J</u>	<u>4C</u>	View
Snohomish	Residential Drywall Tapers	Journey Level	\$74.50	<u>5P</u>	<u>1E</u>	View
Snohomish	Residential Electricians	Journey Level	\$48.80		<u>1</u>	View
Snohomish	Residential Glaziers	Journey Level	\$27.66		<u>1</u>	View
Snohomish	Residential Insulation Applicators	Journey Level	\$27.61		<u>1</u>	View
Snohomish	Residential Laborers	Journey Level	\$28.78		<u>1</u>	View
Snohomish	Residential Marble Setters	Journey Level	\$39.71		<u>1</u>	View
Snohomish	Residential Painters	Journey Level	\$30.44		<u>1</u>	View
Snohomish	Residential Plumbers & Pipefitters	Journey Level	\$51.38		<u>1</u>	View
Snohomish	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	\$96.42	<u>7F</u>	<u>1E</u>	View
Snohomish	Residential Sheet Metal Workers	Journey Level	\$96.42	<u>7F</u>	<u>1E</u>	View
Snohomish	Residential Soft Floor Layers	Journey Level	\$57.11	<u>5A</u>	<u>3J</u>	View
Snohomish	Residential Sprinkler Fitters (Fire Protection)	Journey Level	\$61.85		<u>1</u>	View
Snohomish	Residential Stone Masons	Journey Level	\$39.71		<u>1</u>	View
Snohomish	Residential Terrazzo Workers	Journey Level	\$16.28		<u>1</u>	View
Snohomish	Residential Terrazzo/Tile Finishers	Journey Level	\$27.90		<u>1</u>	View
Snohomish	Residential Tile Setters	Journey Level	\$21.38		<u>1</u>	View
Snohomish	Roofers	Journey Level	\$64.45	<u>5A</u>	<u>3H</u>	View
Snohomish	Roofers	Using Irritable Bituminous Materials	\$67.39	<u>5A</u>	<u>3H</u>	View
Snohomish	Sheet Metal Workers	Journey Level (Field or Shop)	\$96.42	<u>7F</u>	<u>1E</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Boilermaker	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Carpenter	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Crane Operator	\$43.16	<u>7V</u>	<u>1</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Electrician	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	\$87.15	<u>15H</u>	<u>11C</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Laborer	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Machinist	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Operating Engineer	\$43.16	<u>7V</u>	<u>1</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Painter	\$51.95	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Pipefitter	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Rigger	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Sheet Metal	\$51.85	<u>7X</u>	<u>4J</u>	View
Snohomish	Shipbuilding & Ship Repair	New Construction Shipwright	\$51.85	<u>7X</u>	<u>4J</u>	View

Snohomish	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	\$43.16	<u>7V</u>	<u>1</u>		View
Snohomish	Shipbuilding & Ship Repair	New Construction Welder / Burner	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Boilermaker	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Carpenter	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Crane Operator	\$45.06	<u>7Y</u>	<u>4K</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Electrician	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	\$87.15	<u>15H</u>	<u>11C</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Laborer	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Machinist	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	\$45.06	<u>7Y</u>	<u>4K</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Painter	\$51.95	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Pipefitter	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Rigger	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Shipwright	\$51.85	<u>7X</u>	<u>4J</u>		View
Snohomish	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	\$45.06	<u>7Y</u>	<u>4K</u>		View
Snohomish	Sign Makers & Installers (Electrical)	Sign Installer	\$26.56		<u>1</u>		View
Snohomish	Sign Makers & Installers (Electrical)	Sign Maker	\$20.50		<u>1</u>		View
Snohomish	Sign Makers & Installers (Non-Electrical)	Sign Installer	\$22.56		<u>1</u>		View
Snohomish	Sign Makers & Installers (Non-Electrical)	Sign Maker	\$20.50		<u>1</u>		View
Snohomish	Soft Floor Layers	Journey Level	\$66.32	<u>15J</u>	<u>4C</u>		View
Snohomish	Solar Controls For Windows	Journey Level	\$16.28		<u>1</u>		View
Snohomish	Sprinkler Fitters (Fire Protection)	Journey Level	\$95.49	<u>5C</u>	<u>1X</u>		View
Snohomish	Stage Rigging Mechanics (Non Structural)	Journey Level	\$16.28		<u>1</u>		View
Snohomish	Stone Masons	Journey Level	\$69.07	<u>7E</u>	<u>1N</u>		View
Snohomish	Street And Parking Lot Sweeper Workers	Journey Level	\$16.28		<u>1</u>		View
Snohomish	Surveyors	Assistant Construction Site Surveyor	\$82.56	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
Snohomish	Surveyors	Chainman	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
Snohomish	Surveyors	Construction Site Surveyor	\$83.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
Snohomish	Surveyors	Drone Operator (when used in conjunction with survey work only)	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
Snohomish	Surveyors	Ground Penetrating Radar Operator	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
Snohomish	Telecommunication Technicians	Telecom Technician Journey Level	\$53.94	<u>5B</u>	<u>1B</u>		View
Snohomish	Telephone Line Construction - Outside	Cable Splicer	\$40.36	<u>5A</u>	<u>2B</u>		View

Snohomish	Telephone Line Construction - Outside	Hole Digger/Ground Person	\$26.92	5A	2B		View
Snohomish	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	\$33.74	5A	2B		View
Snohomish	Telephone Line Construction - Outside	Telephone Lineperson	\$38.15	5A	2B		View
Snohomish	Terrazzo Workers	Journey Level	\$62.36	7E	1N		View
Snohomish	Tile Setters	Journey Level	\$62.36	7E	1N		View
Snohomish	Tile, Marble & Terrazzo Finishers	Finisher	\$53.19	7E	1N		View
Snohomish	Traffic Control Stripers	Journey Level	\$89.54	15L	1K		View
Snohomish	Truck Drivers	Asphalt Mix Over 16 Yards	\$74.95	15J	11M	8L	View
Snohomish	Truck Drivers	Asphalt Mix To 16 Yards	\$74.02	15J	11M	8L	View
Snohomish	Truck Drivers	Dump Truck	\$74.02	15J	11M	8L	View
Snohomish	Truck Drivers	Dump Truck & Trailer	\$74.95	15J	11M	8L	View
Snohomish	Truck Drivers	Other Trucks	\$74.95	15J	11M	8L	View
Snohomish	Truck Drivers - Ready Mix	Transit Mix	\$74.95	15J	11M	8L	View
Snohomish	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	\$17.05		1		View
Snohomish	Well Drillers & Irrigation Pump Installers	Oiler	\$16.28		1		View
Snohomish	Well Drillers & Irrigation Pump Installers	Well Driller	\$19.01		1		View

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APPENDIX B

PUGET SOUND CLEAN AIR AGENCY AND AIR QUALITY RULES

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ARTICLE 9: EMISSION STANDARDS

SECTION 9.03 EMISSION OF AIR CONTAMINANT: VISUAL STANDARD

Adopted 03/13/68 (12) Revised 07/08/70 (126), 04/11/73 (186), 06/09/88 (621) 05/11/89 (643), 09/08/94 (798), 04/09/98 (865), 03/11/99 (881), 03/25/04 (1024)

- (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
 - (1) Darker in shade than that designated as No. 1 (20% density) on the Ringelmann Chart, as published by the United States Bureau of Mines;
or
 - (2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 9.03(a)(1).
- (b) The density or opacity of an air contaminant shall be measured at the point of its emission, except when the point of emission cannot be readily observed, it may be measured at an observable point of the plume nearest the point of emission.
- (c) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.
- (d) This section shall not apply to solid fuel burning devices, permitted fire training facilities, permitted obscurant usage during military training operations, outdoor fires, motor vehicles when operated on public roads, aircraft, or equipment subject to Section 9.04 of this regulation.
- (e) This section shall not apply to equipment with an alternate opacity standard issued under Section 3.03 or Article 6 of this regulation that is based upon a correlation with the particulate concentration and that accurately indicates a violation of the applicable particulate emission standards in Section 9.09 of this regulation.

SECTION 9.04 OPACITY STANDARDS FOR EQUIPMENT WITH CONTINUOUS OPACITY MONITORING SYSTEMS

Adopted 04/09/98 (865)

Revised 03/25/04 (1024)

- (a) Applicability. This section shall apply to all equipment required to be equipped with a continuous emission monitoring system for opacity.
- (b) It shall be unlawful for any person to cause or allow the operation of any of the following equipment unless equipped with a continuous emission monitoring system for opacity:
 - (1) Cement kilns;
 - (2) Clinker coolers;
 - (3) Glass furnaces, rated at greater than 1 ton per hour, that burn fuel;
 - (4) Fuel burning equipment, rated at 100 million Btu per hour or greater, that burns wood, coal, or residual oil; and
 - (5) Refuse burning equipment rated at greater than 12 tons per day.
- (c) It shall be unlawful for any person to cause or allow the emission of any air contaminant from any equipment subject to this section during any hour that:
 - (1) Averages greater than 5% opacity; or

- (2) Contains any consecutive 6-minute period averaging greater than 20% opacity.
- (d) Section 9.04(c)(1) shall not apply to:
 - (1) Glass furnaces that are tested annually for compliance with the applicable particulate emission standard in Section 9.09 of this regulation; or
 - (2) Equipment with an alternate opacity standard issued under Section 3.03 or Article 6 of this regulation that is based upon a correlation with the particulate concentration and that accurately indicates a violation of the applicable particulate emission standards in Section 9.09 of this regulation.
- (e) This section shall not apply to sources controlled by a venturi scrubber, provided that:
 - (1) The source is tested annually for compliance with the applicable particulate emission standard in Section 9.09 of this regulation;
 - (2) The pressure drop across the scrubber is continuously monitored and recorded; and
 - (3) The scrubbing liquid flow rate and temperature are continuously monitored and recorded.
- (f) This section shall not apply to fuel burning equipment that burns residual oil less than 31 days per year, provided that the source implements an alternate opacity monitoring plan issued under Section 3.03 or Article 6 of this regulation.

SECTION 9.05 REFUSE BURNING Adopted 03/13/68 (12)

Revised 06/09/88 (621), 12/09/93 (769)

- (a) It shall be unlawful for any person to cause or allow the burning of combustible refuse except in a multiple chamber incinerator provided with control equipment.
- (b) It shall be unlawful for any person to cause or allow the operation of refuse burning equipment any time other than daylight hours.

SECTION 9.07 SULFUR DIOXIDE EMISSION STANDARD Adopted 03/13/68 (12)

Revised 07/08/70 (126), 02/21/74 (230), 02/13/86 (597), 06/09/88 (621), 04/14/94 (784)

It shall be unlawful for any person to cause or allow the emission of sulfur dioxide from any source in excess of 1,000 parts per million by volume on a dry basis, 1-hour average (corrected to 7% oxygen for fuel burning equipment and refuse burning equipment).

SECTION 9.08 FUEL OIL STANDARDS Adopted 06/13/85 (579)
Revised 02/13/86 (597), 04/14/94 (784), 03/25/04 (1024)

- (a) It shall be unlawful for any person to cause or allow the combustion of oil in fuel burning equipment or refuse burning equipment that exceeds any of the following limits unless that person has obtained an Order of Approval from the Agency in accordance with Article 6 of this regulation:

Ash.....	0.1% (maximum)
Sulfur	1.0% (maximum for used oil)
Sulfur	2.00% (maximum for fuel oil)
Lead	100 ppm (maximum)
Arsenic	5 ppm (maximum)
Cadmium	2 ppm (maximum)
Chromium	10 ppm (maximum)
Total Halogens.....	1,000 ppm (maximum)
Polychlorinated Biphenyls (PCBs).....	2 ppm (maximum)
Flash Point	100°F (minimum)

- (b) It shall be unlawful for any person to sell or make available for sale any oil in excess of the limits of this section to any person who has not obtained an Order of Approval from the Agency in accordance with Article 6 of this regulation. Any person who sells or makes available for sale such oil shall submit a report to the Agency within 15 days of the end of the month that includes the name and address of the recipient, the amount of oil delivered, and the concentration of contaminants therein.
- (c) The provisions of this section shall not apply to:
- (1) Ocean-going vessels;
 - (2) Used oil burned in space heaters that have a maximum heat output of not greater than 0.5 million Btu per hour; and
 - (3) Persons in the business of collecting used oil from residences when under commission authorization by a city, county, or the utilities and transportation

SECTION 9.09 PARTICULATE MATTER EMISSION STANDARDS

Adopted 03/13/68 (12) Revised 07/08/70 (126), 11/10/71 (135), 10/10/73 (214), 02/13/86 (597), 06/09/88 (621), 05/11/89 (643), 02/10/94 (777), 04/09/98 (865)

It shall be unlawful for any person to cause or allow the emission of particulate matter in excess of the following concentrations:

Refuse Burning Equipment:

1. Rated at 12 tons per day or less without heat recovery and without hydrochloric acid control equipment 0.10 gr/dscf @ 7% O₂
2. Rated at 12 tons per day or less without heat recovery and with hydrochloric acid control equipment 0.05 gr/dscf @ 7% O₂
3. Rated at 12 tons per day or less with heat recovery 0.02 gr/dscf @ 7% O₂
4. Rated at greater than 12 tons per day0.01 gr/dscf @ 7% O₂

Fuel Burning Equipment:

1. Burning wood0.20 gr/dscf @ 7% O₂
2. Burning wood and installed after March 13, 1968 or located within the urbanized area 0.10 gr/dscf @ 7% O₂
3. Burning wood, rated at 100 million Btu per hour or greater, and located within the urbanized area 0.04 gr/dscf @ 7% O₂
4. Burning wood and installed after March 1, 1986 0.02 gr/dscf @ 7% O₂
5. Burning fuel other than wood0.05 gr/dscf @ 7% O₂
6. Burning coal or other solid fossil fuel and installed after March 1, 1986 0.01 gr/dscf @ 7% O₂

Equipment Used in a Manufacturing Process:0.05 gr/dscf

SECTION 9.10 EMISSION OF HYDROCHLORIC ACID

Adopted 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the emission of hydrochloric acid from any equipment in excess of 100 ppm on a dry basis, 1-hour average corrected to 7% oxygen for combustion sources.
- (b) It shall be unlawful for any person to cause or allow the emission of hydrochloric acid from any refuse burning equipment rated at greater than 12 tons per day in excess of 30 ppm on a dry basis, 1-hour average corrected to 7% oxygen.

SECTION 9.11 EMISSION OF AIR CONTAMINANT: DETRIMENT TO PERSON OR PROPERTY

Adopted 03/13/68 (12) Revised 06/09/83 (536), 03/11/99 (882)

- (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.
- (b) With respect to odor, the Agency may take enforcement action under this section if the Control Officer or a duly authorized representative has documented all of the following:
 - (1) The detection by the Control Officer or a duly authorized representative of an odor at a level 2 or greater, according to the following odor scale:
 - level 0 – no odor detected;
 - level 1 – odor barely detected;
 - level 2 – odor is distinct and definite, any unpleasant characteristics recognizable;
 - level 3 – odor is objectionable enough or strong enough to cause attempts at avoidance; and
 - level 4 – odor is so strong that a person does not want to remain present;
 - (2) An affidavit from a person making a complaint that demonstrates that they have experienced air contaminant emissions in sufficient quantities and of such characteristics and duration so as to unreasonably interfere with their enjoyment of life and property; and
 - (3) The source of the odor.
- (c) Nothing in this Regulation shall be construed to impair any cause of action or legal remedy of any person, or the public for injury or damages arising from the emission of any air contaminant in such place, manner or concentration as to constitute air pollution or a common law nuisance.

SECTION 9.13 EMISSION OF AIR CONTAMINANT: CONCEALMENT AND MASKING RESTRICTED

Adopted 03/13/68 (12) Revised 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means which, without resulting in a reduction in the total amount of air contaminant emitted, conceals an emission of air contaminant which would otherwise violate this article.
- (b) It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

SECTION 9.15 FUGITIVE DUST CONTROL MEASURES

Adopted 03/13/68 (12) Revised 06/09/83 (536), 06/09/88 (621), 08/10/89 (644), 03/11/99 (882)

- (a) It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:
 - (1) The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;

- (2) Surfacing roadways and parking areas with asphalt, concrete, or gravel;
 - (3) Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways;
or
 - (4) Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.
- (b) Compliance with the provisions of this section shall not relieve any person from the responsibility to comply with Section 9.11 of this regulation.

SECTION 9.16 SPRAY-COATING OPERATIONS Adopted 06/13/91 (700)

Revised 07/08/99 (886), 07/12/01 (944)

- (a) Applicability. This section applies to spray-coating operations at facilities subject to Article 5 (Registration) or Article 7 (Operating Permits) of this regulation, where a coating that protects or beautifies a surface is applied with spray-coating equipment.
- (b) Exemptions. The following activities are exempt from the provisions of Sections 9.16(c) and (d) of this regulation. Persons claiming any of the following spray-coating exemptions shall have the burden of demonstrating compliance with the claimed exemption.
 - (1) Application of architectural or maintenance coatings to stationary structures (e.g., bridges, water towers, buildings, stationary machinery, or similar structures);
 - (2) Aerospace coating operations subject to 40 CFR Part 63, Subpart GG. This includes all activities and materials listed in 40 CFR 63.741(f);
 - (3) Use of high-volume, low-pressure (HVLP) spray guns when:
 - (A) spray-coating operations do not involve motor vehicles or motor vehicle components;
 - (B) the gun cup capacity is 8 fluid ounces or less;
 - (C) the spray gun is used to spray-coat less than 9 square feet per day per facility;
 - (D) coatings are purchased in containers of 1 quart or less; and
 - (E) spray-coating is allowed by fire department, fire marshal, or other government agency requirements.
 - (4) Use of air-brush spray equipment with 0.5 to 2.0 CFM airflow and a maximum cup capacity of 2 fluid ounces;
 - (5) Use of hand-held aerosol spray cans with a capacity of 1 quart or less; or
 - (6) Indoor application of automotive undercoating materials using organic solvents having a flash point in excess of 100°F.
- (c) General Requirements for Indoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating inside a structure, or spray-coating of any motor vehicles or motor vehicle components, unless the spray-coating is conducted inside an enclosed spray area. The enclosed spray area shall employ either properly seated paint arresters, or water-wash curtains with a continuous water curtain to control the overspray. All emissions from the spray-coating operation shall be vented to the atmosphere through an unobstructed vertical exhaust vent.
- (d) General Requirements for Outdoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating outside an enclosed structure unless reasonable precautions are employed to minimize the

overspray. Reasonable precautions include, but are not limited to the use of:

- (1) Enclosures and curtailment during high winds; and
 - (2) High-volume low-pressure (HVLP), low-volume low-pressure (LVLP), electrostatic, or air-assisted airless spray equipment. Airless spray equipment may be used where low viscosity and high solid coatings preclude the use of higher-transfer efficiency spray equipment.
- (e) Compliance with Other Regulations. Compliance with this regulation does not exempt any person from compliance with Regulation I, Section 9.11 and all other applicable regulations including those of other agencies.

SECTION 9.20 MAINTENANCE OF EQUIPMENT Adopted 12/09/82 (531)

Revised 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.
- (b) It shall be unlawful for any person to cause or allow the operation of any equipment as defined in Section 1.07 or control equipment not subject to Section 9.20(a) unless the equipment or control equipment is maintained in good working order.

ARTICLE 9: EMISSION STANDARDS

SECTION 9.03 EMISSION OF AIR CONTAMINANT: VISUAL STANDARD

Adopted 03/13/68 (12) Revised 07/08/70 (126), 04/11/73 (186), 06/09/88 (621) 05/11/89 (643), 09/08/94 (798), 04/09/98 (865), 03/11/99 (881), 03/25/04 (1024)

- (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
 - (1) Darker in shade than that designated as No. 1 (20% density) on the Ringelmann Chart, as published by the United States Bureau of Mines;
or
 - (2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 9.03(a)(1).
- (b) The density or opacity of an air contaminant shall be measured at the point of its emission, except when the point of emission cannot be readily observed, it may be measured at an observable point of the plume nearest the point of emission.
- (c) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.
- (d) This section shall not apply to solid fuel burning devices, permitted fire training facilities, permitted obscurant usage during military training operations, outdoor fires, motor vehicles when operated on public roads, aircraft, or equipment subject to Section 9.04 of this regulation.
- (e) This section shall not apply to equipment with an alternate opacity standard issued under Section 3.03 or Article 6 of this regulation that is based upon a correlation with the particulate concentration and that accurately indicates a violation of the applicable particulate emission standards in Section 9.09 of this regulation.

SECTION 9.04 OPACITY STANDARDS FOR EQUIPMENT WITH CONTINUOUS OPACITY MONITORING SYSTEMS

Adopted 04/09/98 (865)
Revised 03/25/04 (1024)

- (a) Applicability. This section shall apply to all equipment required to be equipped with a continuous emission monitoring system for opacity.
- (b) It shall be unlawful for any person to cause or allow the operation of any of the following equipment unless equipped with a continuous emission monitoring system for opacity:
 - (1) Cement kilns;
 - (2) Clinker coolers;
 - (3) Glass furnaces, rated at greater than 1 ton per hour, that burn fuel;
 - (4) Fuel burning equipment, rated at 100 million Btu per hour or greater, that burns wood, coal, or residual oil; and
 - (5) Refuse burning equipment rated at greater than 12 tons per day.
- (c) It shall be unlawful for any person to cause or allow the emission of any air contaminant from any equipment subject to this section during any hour that:
 - (1) Averages greater than 5% opacity; or

- (2) Contains any consecutive 6-minute period averaging greater than 20% opacity.
- (d) Section 9.04(c)(1) shall not apply to:
 - (1) Glass furnaces that are tested annually for compliance with the applicable particulate emission standard in Section 9.09 of this regulation; or
 - (2) Equipment with an alternate opacity standard issued under Section 3.03 or Article 6 of this regulation that is based upon a correlation with the particulate concentration and that accurately indicates a violation of the applicable particulate emission standards in Section 9.09 of this regulation.
- (e) This section shall not apply to sources controlled by a venturi scrubber, provided that:
 - (1) The source is tested annually for compliance with the applicable particulate emission standard in Section 9.09 of this regulation;
 - (2) The pressure drop across the scrubber is continuously monitored and recorded; and
 - (3) The scrubbing liquid flow rate and temperature are continuously monitored and recorded.
- (f) This section shall not apply to fuel burning equipment that burns residual oil less than 31 days per year, provided that the source implements an alternate opacity monitoring plan issued under Section 3.03 or Article 6 of this regulation.

SECTION 9.05 REFUSE BURNING Adopted 03/13/68 (12)

Revised 06/09/88 (621), 12/09/93 (769)

- (a) It shall be unlawful for any person to cause or allow the burning of combustible refuse except in a multiple chamber incinerator provided with control equipment.
- (b) It shall be unlawful for any person to cause or allow the operation of refuse burning equipment any time other than daylight hours.

SECTION 9.07 SULFUR DIOXIDE EMISSION STANDARD Adopted 03/13/68 (12)

Revised 07/08/70 (126), 02/21/74 (230), 02/13/86 (597), 06/09/88 (621), 04/14/94 (784)

It shall be unlawful for any person to cause or allow the emission of sulfur dioxide from any source in excess of 1,000 parts per million by volume on a dry basis, 1-hour average (corrected to 7% oxygen for fuel burning equipment and refuse burning equipment).

SECTION 9.08 FUEL OIL STANDARDS Adopted 06/13/85 (579)
Revised 02/13/86 (597), 04/14/94 (784), 03/25/04 (1024)

- (a) It shall be unlawful for any person to cause or allow the combustion of oil in fuel burning equipment or refuse burning equipment that exceeds any of the following limits unless that person has obtained an Order of Approval from the Agency in accordance with Article 6 of this regulation:

Ash	0.1% (maximum)
Sulfur	1.0% (maximum for used oil)
Sulfur	2.00% (maximum for fuel oil)
Lead	100 ppm (maximum)
Arsenic	5 ppm (maximum)
Cadmium	2 ppm (maximum)
Chromium.....	10 ppm (maximum)
Total Halogens.....	1,000 ppm (maximum)
Polychlorinated Biphenyls (PCBs)	2 ppm (maximum)
Flash Point	100°F (minimum)

- (b) It shall be unlawful for any person to sell or make available for sale any oil in excess of the limits of this section to any person who has not obtained an Order of Approval from the Agency in accordance with Article 6 of this regulation. Any person who sells or makes available for sale such oil shall submit a report to the Agency within 15 days of the end of the month that includes the name and address of the recipient, the amount of oil delivered, and the concentration of contaminants therein.
- (c) The provisions of this section shall not apply to:
- (1) Ocean-going vessels;
 - (2) Used oil burned in space heaters that have a maximum heat output of not greater than 0.5 million Btu per hour; and
 - (3) Persons in the business of collecting used oil from residences when under commission authorization by a city, county, or the utilities and transportation

SECTION 9.09 PARTICULATE MATTER EMISSION STANDARDS

Adopted 03/13/68 (12) Revised 07/08/70 (126), 11/10/71 (135), 10/10/73 (214), 02/13/86 (597), 06/09/88 (621), 05/11/89 (643), 02/10/94 (777), 04/09/98 (865)

It shall be unlawful for any person to cause or allow the emission of particulate matter in excess of the following concentrations:

Refuse Burning Equipment:

1. Rated at 12 tons per day or less without heat recovery and without hydrochloric acid control equipment 0.10 gr/dscf @ 7% O₂
2. Rated at 12 tons per day or less without heat recovery and with hydrochloric acid control equipment 0.05 gr/dscf @ 7% O₂
3. Rated at 12 tons per day or less with heat recovery 0.02 gr/dscf @ 7% O₂
4. Rated at greater than 12 tons per day0.01 gr/dscf @ 7% O₂

Fuel Burning Equipment:

1. Burning wood0.20 gr/dscf @ 7% O₂
2. Burning wood and installed after March 13, 1968 or located within the urbanized area 0.10 gr/dscf @ 7% O₂
3. Burning wood, rated at 100 million Btu per hour or greater, and located within the urbanized area 0.04 gr/dscf @ 7% O₂
4. Burning wood and installed after March 1, 1986 0.02 gr/dscf @ 7% O₂
5. Burning fuel other than wood0.05 gr/dscf @ 7% O₂
6. Burning coal or other solid fossil fuel and installed after March 1, 1986 0.01 gr/dscf @ 7% O₂

Equipment Used in a Manufacturing Process:0.05 gr/dscf

SECTION 9.10 EMISSION OF HYDROCHLORIC ACID

Adopted 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the emission of hydrochloric acid from any equipment in excess of 100 ppm on a dry basis, 1-hour average corrected to 7% oxygen for combustion sources.
- (b) It shall be unlawful for any person to cause or allow the emission of hydrochloric acid from any refuse burning equipment rated at greater than 12 tons per day in excess of 30 ppm on a dry basis, 1-hour average corrected to 7% oxygen.

SECTION 9.11 EMISSION OF AIR CONTAMINANT: DETRIMENT TO PERSON OR PROPERTY

Adopted 03/13/68 (12) Revised 06/09/83 (536), 03/11/99 (882)

- (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.
- (b) With respect to odor, the Agency may take enforcement action under this section if the Control Officer or a duly authorized representative has documented all of the following:
 - (1) The detection by the Control Officer or a duly authorized representative of an odor at a level 2 or greater, according to the following odor scale:
 - level 0 – no odor detected;
 - level 1 – odor barely detected;
 - level 2 – odor is distinct and definite, any unpleasant characteristics recognizable;
 - level 3 – odor is objectionable enough or strong enough to cause attempts at avoidance; and
 - level 4 – odor is so strong that a person does not want to remain present;
 - (2) An affidavit from a person making a complaint that demonstrates that they have experienced air contaminant emissions in sufficient quantities and of such characteristics and duration so as to unreasonably interfere with their enjoyment of life and property; and
 - (3) The source of the odor.
- (c) Nothing in this Regulation shall be construed to impair any cause of action or legal remedy of any person, or the public for injury or damages arising from the emission of any air contaminant in such place, manner or concentration as to constitute air pollution or a common law nuisance.

SECTION 9.13 EMISSION OF AIR CONTAMINANT: CONCEALMENT AND MASKING RESTRICTED

Adopted 03/13/68 (12) Revised 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means which, without resulting in a reduction in the total amount of air contaminant emitted, conceals an emission of air contaminant which would otherwise violate this article.
- (b) It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

SECTION 9.15 FUGITIVE DUST CONTROL MEASURES

Adopted 03/13/68 (12) Revised 06/09/83 (536), 06/09/88 (621), 08/10/89 (644), 03/11/99 (882)

- (a) It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:
 - (1) The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;

- (2) Surfacing roadways and parking areas with asphalt, concrete, or gravel;
 - (3) Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways;
or
 - (4) Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.
- (b) Compliance with the provisions of this section shall not relieve any person from the responsibility to comply with Section 9.11 of this regulation.

SECTION 9.16 SPRAY-COATING OPERATIONS Adopted 06/13/91 (700)

Revised 07/08/99 (886), 07/12/01 (944)

- (a) Applicability. This section applies to spray-coating operations at facilities subject to Article 5 (Registration) or Article 7 (Operating Permits) of this regulation, where a coating that protects or beautifies a surface is applied with spray-coating equipment.
- (b) Exemptions. The following activities are exempt from the provisions of Sections 9.16(c) and (d) of this regulation. Persons claiming any of the following spray-coating exemptions shall have the burden of demonstrating compliance with the claimed exemption.
 - (1) Application of architectural or maintenance coatings to stationary structures (e.g., bridges, water towers, buildings, stationary machinery, or similar structures);
 - (2) Aerospace coating operations subject to 40 CFR Part 63, Subpart GG. This includes all activities and materials listed in 40 CFR 63.741(f);
 - (3) Use of high-volume, low-pressure (HVLP) spray guns when:
 - (A) spray-coating operations do not involve motor vehicles or motor vehicle components;
 - (B) the gun cup capacity is 8 fluid ounces or less;
 - (C) the spray gun is used to spray-coat less than 9 square feet per day per facility;
 - (D) coatings are purchased in containers of 1 quart or less; and
 - (E) spray-coating is allowed by fire department, fire marshal, or other government agency requirements.
 - (4) Use of air-brush spray equipment with 0.5 to 2.0 CFM airflow and a maximum cup capacity of 2 fluid ounces;
 - (5) Use of hand-held aerosol spray cans with a capacity of 1 quart or less; or
 - (6) Indoor application of automotive undercoating materials using organic solvents having a flash point in excess of 100°F.
- (c) General Requirements for Indoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating inside a structure, or spray-coating of any motor vehicles or motor vehicle components, unless the spray-coating is conducted inside an enclosed spray area. The enclosed spray area shall employ either properly seated paint arresters, or water-wash curtains with a continuous water curtain to control the overspray. All emissions from the spray-coating operation shall be vented to the atmosphere through an unobstructed vertical exhaust vent.
- (d) General Requirements for Outdoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating outside an enclosed structure unless reasonable precautions are employed to minimize the

overspray. Reasonable precautions include, but are not limited to the use of:

- (1) Enclosures and curtailment during high winds; and
 - (2) High-volume low-pressure (HVLP), low-volume low-pressure (LVLP), electrostatic, or air-assisted airless spray equipment. Airless spray equipment may be used where low viscosity and high solid coatings preclude the use of higher-transfer efficiency spray equipment.
- (e) Compliance with Other Regulations. Compliance with this regulation does not exempt any person from compliance with Regulation I, Section 9.11 and all other applicable regulations including those of other agencies.

SECTION 9.20 MAINTENANCE OF EQUIPMENT Adopted 12/09/82 (531)

Revised 06/09/88 (621)

- (a) It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.
- (b) It shall be unlawful for any person to cause or allow the operation of any equipment as defined in Section 1.07 or control equipment not subject to Section 9.20(a) unless the equipment or control equipment is maintained in good working order.

APPENDIX C

**SAMPLE CHANGE ORDER FORMS;
AGREED AND UNILATERAL**

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Change Order No. _____

Change Order Effective Date: _____

CITY OF EVERETT Change Order

Project Title

Department

Work Order No.

Contractor:

Contract Award Date:

City Staff Contact:

Change Order No.

*Change Order
Effective Date*

CONTRACT SUM

	Original Contract Sum	Total of Previous Change Orders	This Change Order	Contract Sum After this Change Order
Amount	\$	\$	\$	\$
+ WSST	\$	\$	\$	\$
Total	\$	\$	\$	\$

CONTRACT TIME

Original Contract Time	Working Days <input type="checkbox"/> / Calendar Days <input type="checkbox"/>
Date of Notice to Proceed	
Cumulative adjustment to time by <i>prior</i> Change Orders	
Adjustment to time by <i>this</i> Change Order	
New Contract Time (<i>including</i> this Change Order)	

Change Order No. _____

Change Order Effective Date: _____

Contractor and City agree as follows:

- 1. The scope of Work shall be changed to the extent described in Exhibit A.**
- 2. The amount of this Change Order for the changes described in Exhibit A, represents complete compensation for the changes described in Exhibit A, including all direct and indirect costs and impacts. The Contract Sum shall be adjusted as described in this Change Order.**
- 3. Everett Municipal Code 3.80.050 sets forth the threshold amounts below which the Mayor or his designee is authorized to direct Contractor to perform additional work. In calculating such threshold amounts, Washington State sales tax, as applicable to the Work, has been considered.**
- 4. The Contract Time of the Contract shall be adjusted to the extent described in this Change Order.**
- 5. Contractor waives and releases any and all claims arising out of, or related to, this Change Order, the work described in Exhibit A, and all work and actual or constructive changes that occurred or began prior to the date of this Change Order, including, but not limited to, claims for equitable adjustment of time and compensation, delay, impact, overhead, or inefficiencies. This provision does not apply to requests for equitable adjustment of time or price for which the Contractor timely and properly provided notice of a differing site condition, protest, dispute, claim or Contract Claim as required by the Contract Documents. If the Contract Documents establish a time period for notice of a differing site condition, protest, dispute, claim, or Contract Claim that ends after the date of this Change Order, but relates to work performed prior to the date of this Change Order, then this provision does not apply if the Contractor timely and properly submits such notice**
- 6. This Change Order only changes the contract between Contractor and City to the extent explicitly provided herein.**
- 7. Signature(s) on this Change Order may be by pdf, email, fax or other electronic means, in which case such signature(s) will have the same effect as an original ink signature. This Change Order may be signed in counterparts, each of which shall be deemed an original, and all of which, taken together, shall be deemed one and the same document.**

Change Order No. _____

Change Order Effective Date: _____

CITY			
 _____ Mayor Date: _____		Attest: _____ City Clerk Date: _____	
Standard Document Approved as to Form Office of the City Attorney (5.13.22)			
Recommended By:			
Construction Manager (if applicable)	Project Manager (if applicable)	Engineering Manager (if applicable)	Department Director
 _____ Date: _____	 _____ Date: _____	 _____ Date: _____	 _____ Date: _____
CONTRACTOR			
 By _____ Officer			
Date: _____			

Change Order No. _____

Change Order Effective Date: _____

Exhibit A—Description of Changed Work



Change Order No. _____

Change Order Effective Date: _____

CITY OF EVERETT Unilateral Change Order

Project Title

Department

Work Order No.

Contractor:

Contract Award Date:

City Staff Contact:

Change Order No.

*Change Order
Effective Date*

CONTRACT SUM

	Original Contract Sum	Total of Previous Change Orders	This Change Order	Contract Sum After this Change Order
Amount	\$	\$	\$	\$
+ WSST	\$	\$	\$	\$
Total	\$	\$	\$	\$

CONTRACT TIME

Original Contract Time	Working Days <input type="checkbox"/> / Calendar Days <input type="checkbox"/>
Date of Notice to Proceed	
Cumulative adjustment to time by <i>prior</i> Change Orders	
Adjustment to time by <i>this</i> Change Order	
New Contract Time (<i>including</i> this Change Order)	

Change Order No. _____

Change Order Effective Date: _____

As allowed by the contract, the City directs the Contractor as follows:

- 1. The Scope of Work shall be changed to the extent described in Exhibit A.**
- 2. The Contract Sum shall be adjusted as described in this Change Order.**
- 3. The duration of the Contract, and contractually scheduled completion date, shall be adjusted to the extent described in this Change Order.**
- 4. Unless the Contractor timely and properly follows the procedures in the Contract Documents for seeking further equitable adjustment of time and compensation, including, but not limited to, delays, impacts, inefficiencies, overhead, and direct and indirect costs, and except as otherwise expressly provided herein, the Contractor will be barred from (a) asserting any claim for further adjustment of time and compensation arising out of, or relating to, the charges described in this Change Order or work described in Exhibit A and (b) asserting an equitable adjustment of time or price arising earlier than the date of this Change Order. This provision does not apply to requests for equitable adjustment of time or price for which the Contractor timely and properly provided notice of a differing site condition, protest, dispute, claim or Contract Claim as required by the Contract Documents. If the Contract Documents establish a time period for notice of a differing site condition, protest, dispute, claim, or Contract Claim that ends after the date of this Change Order, but relates to work performed prior to the date of this Change Order, then this provision does not apply if the Contractor timely and properly submits such notice.**
- 5. This Change Order only changes the contract between Contractor and City to the extent explicitly provided herein.**

Change Order No. _____

Change Order Effective Date: _____

CITY			
 _____ Mayor Date: _____		Attest: _____ City Clerk Date: _____	
Standard Document Approved as to Form Office of the City Attorney (5.13.22)			
Recommended By:			
Construction Manager (if applicable) _____ Date: _____	Project Manager (if applicable) _____ Date: _____	Engineering Manager (if applicable) _____ Date: _____	Department Director _____ Date: _____

Change Order No. _____

Change Order Effective Date: _____

Exhibit A—Description of Changed Work

APPENDIX D

HAZARDOUS MATERIALS HILBULB SOILS REPORT

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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Snohomish County Area, Washington**

Hibulb Lookout on Legion Park



July 26, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Snohomish County Area, Washington.....	13
4—Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes.....	13
5—Alderwood-Urban land complex, 2 to 8 percent slopes.....	14
References	17
Glossary	19

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

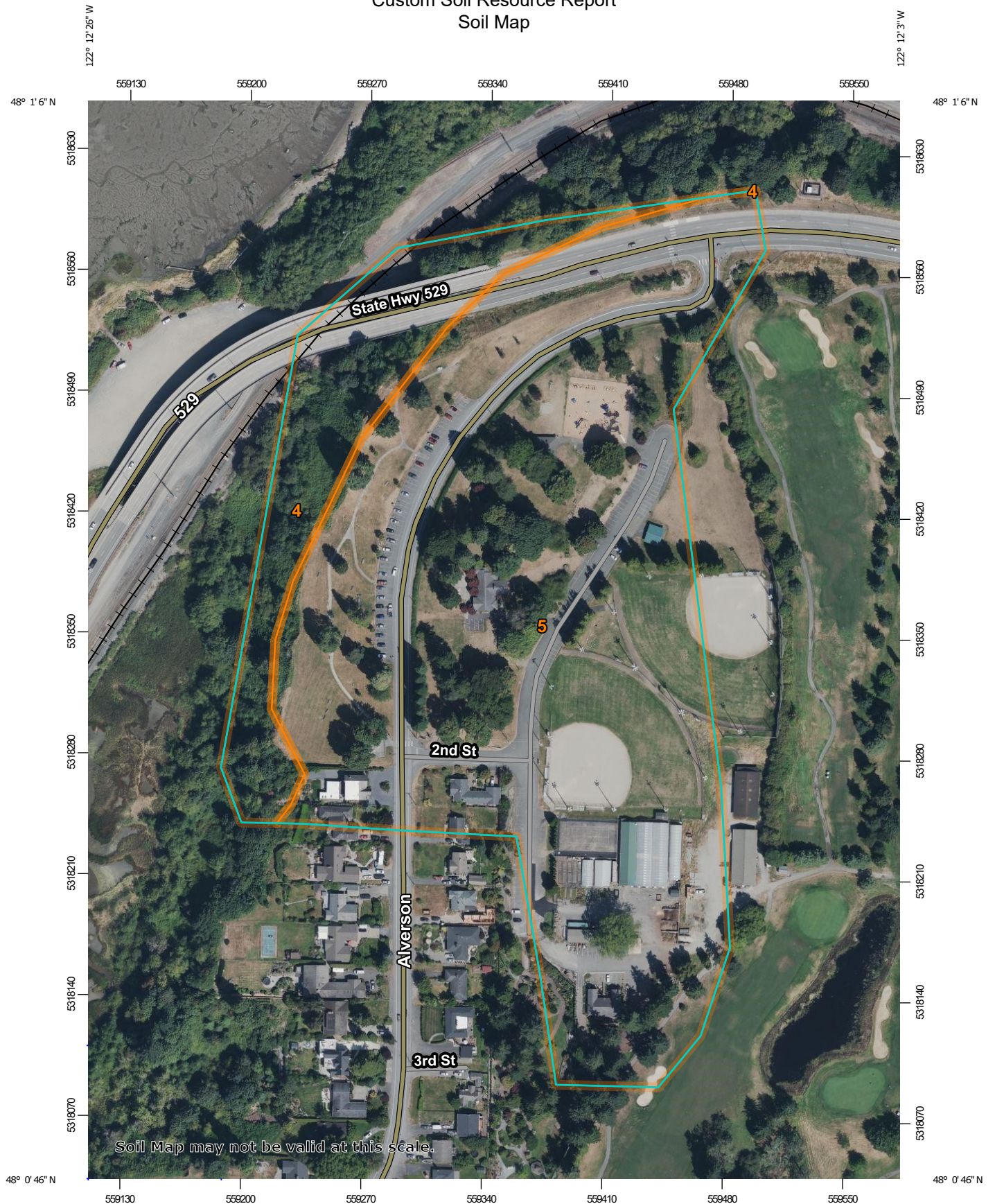
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

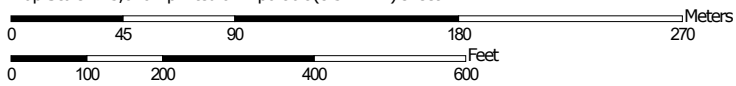
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:3,040 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Snohomish County Area, Washington
Survey Area Data: Version 23, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 16, 2020—Aug 19, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes	4.0	15.6%
5	Alderwood-Urban land complex, 2 to 8 percent slopes	21.9	84.4%
Totals for Area of Interest		25.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Snohomish County Area, Washington

4—Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes

Map Unit Setting

National map unit symbol: 2hyy
Elevation: 50 to 800 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Alderwood and similar soils: 60 percent
Everett and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alderwood

Setting

Landform: Till plains
Parent material: Basal till

Typical profile

H1 - 0 to 7 inches: gravelly ashy sandy loam
H2 - 7 to 35 inches: very gravelly ashy sandy loam
H3 - 35 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 25 to 70 percent
Depth to restrictive feature: 20 to 40 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F002XA004WA - Puget Lowlands Forest
Hydric soil rating: No

Description of Everett

Setting

Landform: Plains, terraces
Parent material: Glacial outwash

Typical profile

H1 - 0 to 6 inches: gravelly ashy sandy loam
H2 - 6 to 18 inches: very gravelly ashy sandy loam

Custom Soil Resource Report

H3 - 18 to 60 inches: extremely gravelly sand

Properties and qualities

Slope: 25 to 70 percent

Depth to restrictive feature: 14 to 20 inches to strongly contrasting textural stratification

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: F002XA004WA - Puget Lowlands Forest

Hydric soil rating: No

Minor Components

Mckenna

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

Norma, undrained

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

Terric medisaprists, undrained

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

5—Alderwood-Urban land complex, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2hz9

Elevation: 50 to 800 feet

Mean annual precipitation: 25 to 60 inches

Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 180 to 220 days

Farmland classification: Not prime farmland

Map Unit Composition

Alderwood and similar soils: 60 percent

Urban land: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alderwood

Setting

Landform: Till plains

Parent material: Basal till

Typical profile

H1 - 0 to 7 inches: gravelly ashy sandy loam

H2 - 7 to 35 inches: very gravelly ashy sandy loam

H3 - 35 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 8 percent

Depth to restrictive feature: 20 to 40 inches to densic material

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: B

Ecological site: F002XA004WA - Puget Lowlands Forest

Forage suitability group: Limited Depth Soils (G002XN302WA)

Other vegetative classification: Limited Depth Soils (G002XN302WA)

Hydric soil rating: No

Minor Components

Norma, undrained

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

Mckenna

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

Terric medisaprists, undrained

Percent of map unit: 5 percent

Landform: Depressions

Other vegetative classification: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

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Custom Soil Resource Report

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: "[National Soil Survey Handbook](#)."

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3

Low: 3 to 6

Moderate: 6 to 9

High: 9 to 12

Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology)

from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left

behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2

Low: 0.2 to 0.4

Moderately low: 0.4 to 0.75

Moderate: 0.75 to 1.25

Moderately high: 1.25 to 1.75

High: 1.75 to 2.5

Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can

occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent

Low: 0.5 to 1.0 percent

Moderately low: 1.0 to 2.0 percent

Moderate: 2.0 to 4.0 percent

High: 4.0 to 8.0 percent

Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and

promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5

Extremely acid: 3.5 to 4.4

Very strongly acid: 4.5 to 5.0

Strongly acid: 5.1 to 5.5

Moderately acid: 5.6 to 6.0

Slightly acid: 6.1 to 6.5

Neutral: 6.6 to 7.3

Slightly alkaline: 7.4 to 7.8

Moderately alkaline: 7.9 to 8.4

Strongly alkaline: 8.5 to 9.0

Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
 - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
 - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
 - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
 - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
 - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where "Rock outcrop" is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}^{++}$. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1

Moderate: 13-30:1

Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0

Coarse sand: 1.0 to 0.5

Medium sand: 0.5 to 0.25

Fine sand: 0.25 to 0.10

Very fine sand: 0.10 to 0.05

Silt: 0.05 to 0.002

Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated

Prismatic: Vertically elongated and having flat tops

Columnar: Vertically elongated and having rounded tops

Angular blocky: Having faces that intersect at sharp angles (planes)

Subangular blocky: Having subrounded and planar faces (no sharp angles)

Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand

Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field

generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

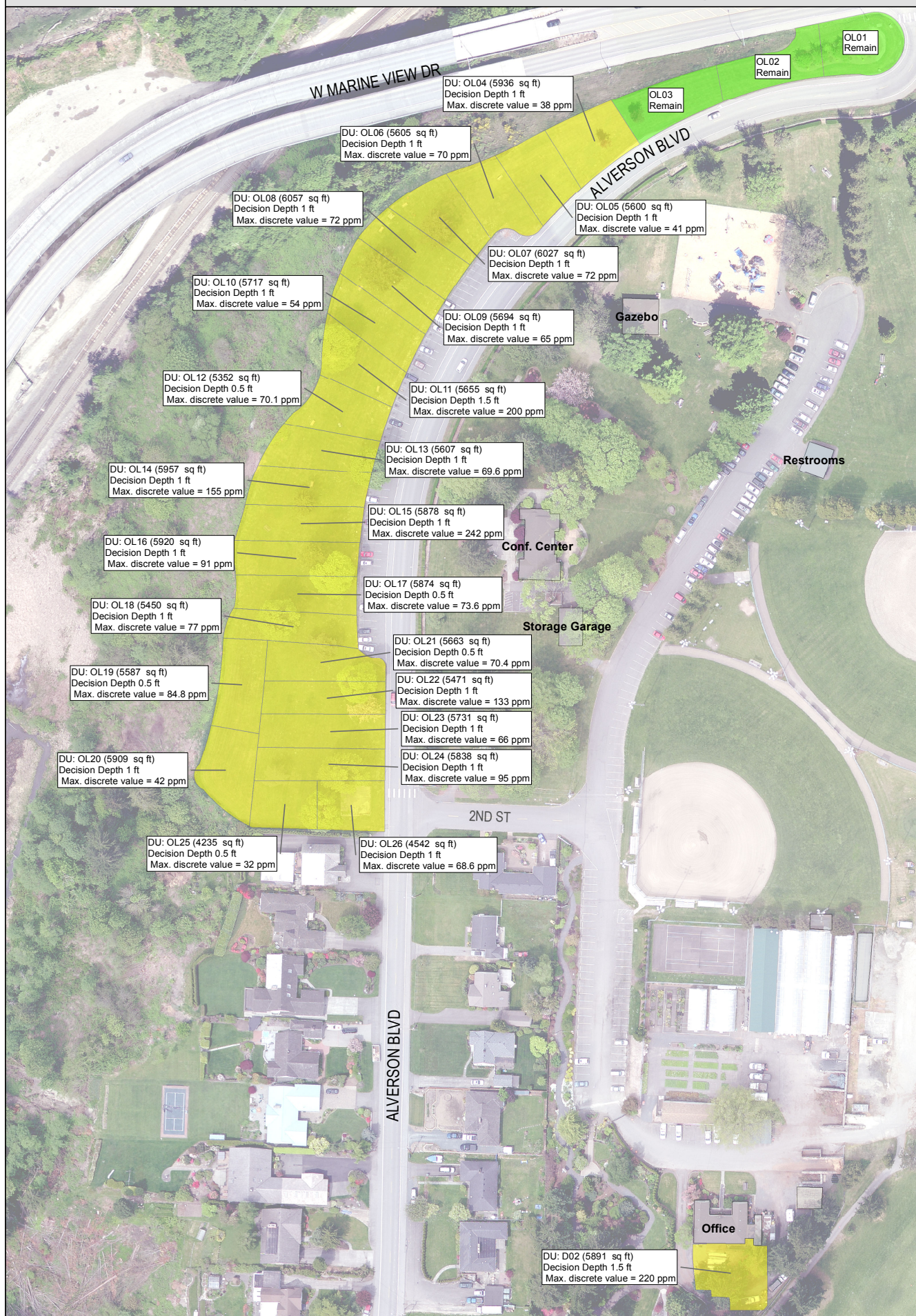
Wilting point (or permanent wilting point)

The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

American Legion Memorial Park - Overlook: Dig Decisions



Final Dig Decisions

dig remain

0 50 100 200 Feet

1 inch = 100 feet

Everett Smelter Uplands - Total Arsenic Results (ppm)

[return to ii](#)

Leidos Property #: 168
Property Tax ID: 29050800200600
AREIS Property ID: ESPSCEVR2396
Property Address: 3002 Wetmore Avenue, Legion Park Overlook
Property Owner: BNSF Railway Company
Cleanup Group: Parklands

DU - OL01 (6149 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	no dig			
Results Determining Decision	n/a			
Average	8.8	8.6	9.8	9.9
Maximum	13	13	12.3	13.9

DU - OL02 (5590 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	no dig			
Results Determining Decision	n/a			
Average	11	10	15	11
Maximum	14.4	13	41.6	24

DU - OL03 (6113 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	no dig			
Results Determining Decision	n/a			
Average	15	19	22	21
Maximum	27	38	35.4	33.3

DU - OL04 (5936 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	average			
Average	22	23	26	23
Maximum	25	38	65.8	63.7

DU - OL05 (5600 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			
Average	37	18	8.7	8.9
Maximum	75.0	41	30.1	35.3

DU - OL06 (5605 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 18"			
Results Determining Decision	maximum			
Average	--	23	31	6.6
Maximum	--	70	204	11.3

DU - OL07 (6027 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			
Average	29	18	15	8.6
Maximum	67.7	72	42.5	24.4

DU - OL08 (6057 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			

Average	52	17	7.0	6.4
Maximum	84.7	72	15.2	19.8

DU - OL09 (5694 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	47	22	7.4	4.7
Maximum	90.0	65	16.3	5.8

DU - OL10 (5717 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			
Average	42	19	5.6	5.6
Maximum	64.8	54	6.6	7.1

DU - OL11 (5655 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 18"			
Results Determining Decision	maximum			
Average	--	33	31	8.7
Maximum	--	200	200	36.7

DU - OL12 (5352 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 6"			
Results Determining Decision	maximum and average			
Average	37	11	5.3	5.1
Maximum	70.1	21.4	8.9	8.3

DU - OL13 (5607 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	31	14	13
Maximum	--	69.6	53.1	65.2

DU - OL14 (5957 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	44	23	15
Maximum	--	155	120	79.3

DU - OL15 (5878 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	47	10	4.5
Maximum	--	242	42.7	6.3

DU - OL16 (5920 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	27	6.9	6.0
Maximum	--	91	15.5	10.1

DU - OL17 (5874 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 6"			
Results Determining Decision	maximum and average			

Average	35	10	4.6	5.0
Maximum	73.6	23.4	5.9	8.1

DU - OL18 (5450 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			
Average	47	17	5.3	6.1
Maximum	112	77	7.7	9.1

DU - OL19 (5587 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 6"			
Results Determining Decision	maximum and average			
Average	31	13	7.3	9.4
Maximum	84.8	39	15.2	16.2

DU - OL20 (5909 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum			
Average	42	12	12	12
Maximum	130	43.1	17.4	15.1

DU - OL21 (5663 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 6"			
Results Determining Decision	maximum and average			
Average	33	8.6	6.6	4.6
Maximum	70.4	15.5	17.4	6.6

DU - OL22 (5471 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	30	8.9	6.3
Maximum	--	133	26.6	10.4

DU - OL23 (5731 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	25	20	6.8
Maximum	--	66	84.5	16.9

DU - OL24 (5838 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			
Average	--	32	6.0	6.4
Maximum	--	95	10.7	15.1

DU - OL25 (4235 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 6"			
Results Determining Decision	average			
Average	21	8.8	10	12
Maximum	32	11	13.5	13

DU - OL26 (4542 sqft)	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Decision	maximum and average			

Average	--	26	9.3	4.2
Maximum	--	68.6	21.2	5.2

DU	Sample ID	Depth Horizon (inches)	Arsenic (ppm)					Average Exceeds Action Limit	Sample Result Exceeds Action Limit	Sample Type
			Average Result for DU at Depth	Average Action Limit	Sample Result	Qualifier	Sample Action Limit			
OL01	168-OL01-01-A-1	0 – 6	8.8	20	7.9		40			DU
OL01	168-OL01-02-A-1	0 – 6	8.8	20	8.4		40			DU
OL01	168-OL01-03-A-1	0 – 6	8.8	20	8.7		40			DU
OL01	168-OL01-04-A-1	0 – 6	8.8	20	8.0		40			DU
OL01	168-OL01-05-A-1	0 – 6	8.8	20	13		40			DU
OL01	168-OL01-06-A-1	0 – 6	8.8	20	8.2		40			DU
OL01	168-OL01-07-A-1	0 – 6	8.8	20	7.6		40			DU
OL01	168-OL01-08-A-1	0 – 6	8.8	20	8.7		40			DU
OL01	168-OL01-09-A-1	0 – 6	8.8	20	8.4		40			DU
OL01	168-OL01-01-B-1	6 – 12	8.6	20	5.2		40			DU
OL01	168-OL01-02-B-1	6 – 12	8.6	20	11		40			DU
OL01	168-OL01-03-B-1	6 – 12	8.6	20	7.9		40			DU
OL01	168-OL01-04-B-1	6 – 12	8.6	20	8.3		40			DU
OL01	168-OL01-05-B-1	6 – 12	8.6	20	13		40			DU
OL01	168-OL01-06-B-1	6 – 12	8.6	20	7.7		40			DU
OL01	168-OL01-07-B-1	6 – 12	8.6	20	7.9		40			DU
OL01	168-OL01-08-B-1	6 – 12	8.6	20	9.4		40			DU
OL01	168-OL01-09-B-1	6 – 12	8.6	20	7.4		40			DU
OL01	168-OL01-01-C-1	12 – 18	9.8	60	6.9		150			DU
OL01	168-OL01-02-C-1	12 – 18	9.8	60	11.3		150			DU
OL01	168-OL01-03-C-1	12 – 18	9.8	60	10.3		150			DU
OL01	168-OL01-04-C-1	12 – 18	9.8	60	7.6		150			DU
OL01	168-OL01-05-C-1	12 – 18	9.8	60	11.7		150			DU
OL01	168-OL01-06-C-1	12 – 18	9.8	60	11.3		150			DU
OL01	168-OL01-07-C-1	12 – 18	9.8	60	9.2		150			DU
OL01	168-OL01-08-C-1	12 – 18	9.8	60	12.3		150			DU
OL01	168-OL01-09-C-1	12 – 18	9.8	60	7.8		150			DU
OL01	168-OL01-01-D-1	18 – 24	9.9	60	12.1		150			DU
OL01	168-OL01-02-D-1	18 – 24	9.9	60	12.9		150			DU
OL01	168-OL01-03-D-1	18 – 24	9.9	60	13.9		150			DU
OL01	168-OL01-04-D-1	18 – 24	9.9	60	8.9		150			DU
OL01	168-OL01-05-D-1	18 – 24	9.9	60	9.3		150			DU
OL01	168-OL01-06-D-1	18 – 24	9.9	60	10.6		150			DU
OL01	168-OL01-07-D-1	18 – 24	9.9	60	9.8		150			DU
OL01	168-OL01-08-D-1	18 – 24	9.9	60	3.2		150			DU
OL01	168-OL01-09-D-1	18 – 24	9.9	60	8.1		150			DU
OL02	168-OL02-01-A-1	0 – 6	11	20	9.9		40			DU
OL02	168-OL02-02-A-1	0 – 6	11	20	14.4		40			DU
OL02	168-OL02-03-A-1	0 – 6	11	20	12		40			DU
OL02	168-OL02-04-A-1	0 – 6	11	20	13		40			DU
OL02	168-OL02-05-A-1	0 – 6	11	20	9.2		40			DU
OL02	168-OL02-06-A-1	0 – 6	11	20	7.4		40			DU

OL02	168-OL02-07-A-1	0 – 6	11	20	11.8	40	DU
OL02	168-OL02-08-A-1	0 – 6	11	20	7.6	40	DU
OL02	168-OL02-09-A-1	0 – 6	11	20	10.0	40	DU
OL02	168-OL02-01-B-1	6 – 12	10	20	12.9	40	DU
OL02	168-OL02-02-B-1	6 – 12	10	20	13.0	40	DU
OL02	168-OL02-03-B-1	6 – 12	10	20	10.7	40	DU
OL02	168-OL02-04-B-1	6 – 12	10	20	12.5	40	DU
OL02	168-OL02-05-B-1	6 – 12	10	20	8.5	40	DU
OL02	168-OL02-06-B-1	6 – 12	10	20	7.9	40	DU
OL02	168-OL02-07-B-1	6 – 12	10	20	7.9	40	DU
OL02	168-OL02-08-B-1	6 – 12	10	20	8.5	40	DU
OL02	168-OL02-09-B-1	6 – 12	10	20	8.4	40	DU
OL02	168-OL02-01-C-1	12 – 18	15	60	16.8	150	DU
OL02	168-OL02-02-C-1	12 – 18	15	60	41.6	150	DU
OL02	168-OL02-03-C-1	12 – 18	15	60	16.5	150	DU
OL02	168-OL02-04-C-1	12 – 18	15	60	20.1	150	DU
OL02	168-OL02-05-C-1	12 – 18	15	60	14.9	150	DU
OL02	168-OL02-06-C-1	12 – 18	15	60	6.7	150	DU
OL02	168-OL02-07-C-1	12 – 18	15	60	7.8	150	DU
OL02	168-OL02-08-C-1	12 – 18	15	60	5.4	150	DU
OL02	168-OL02-09-C-1	12 – 18	15	60	6.6	150	DU
OL02	168-OL02-01-D-1	18 – 24	11	60	3.2	150	DU
OL02	168-OL02-02-D-1	18 – 24	11	60	22.5	150	DU
OL02	168-OL02-03-D-1	18 – 24	11	60	17.8	150	DU
OL02	168-OL02-04-D-1	18 – 24	11	60	9.0	150	DU
OL02	168-OL02-05-D-1	18 – 24	11	60	24.0	150	DU
OL02	168-OL02-06-D-1	18 – 24	11	60	5.1	150	DU
OL02	168-OL02-07-D-1	18 – 24	11	60	4.7	150	DU
OL02	168-OL02-08-D-1	18 – 24	11	60	5.1	150	DU
OL02	168-OL02-09-D-1	18 – 24	11	60	5.9	150	DU
OL03	168-OL03-01-A-1	0 – 6	15	20	15.4	40	DU
OL03	168-OL03-02-A-1	0 – 6	15	20	11.3	40	DU
OL03	168-OL03-03-A-1	0 – 6	15	20	11.5	40	DU
OL03	168-OL03-04-A-1	0 – 6	15	20	11.9	40	DU
OL03	168-OL03-05-A-1	0 – 6	15	20	24.4	40	DU
OL03	168-OL03-06-A-1	0 – 6	15	20	27	40	DU
OL03	168-OL03-07-A-1	0 – 6	15	20	10.2	40	DU
OL03	168-OL03-08-A-1	0 – 6	15	20	13.0	40	DU
OL03	168-OL03-09-A-1	0 – 6	15	20	8.7	40	DU
OL03	168-OL03-01-B-1	6 – 12	19	20	9.0	40	DU
OL03	168-OL03-02-B-1	6 – 12	19	20	8.6	40	DU
OL03	168-OL03-03-B-1	6 – 12	19	20	17.6	40	DU
OL03	168-OL03-04-B-1	6 – 12	19	20	28	40	DU
OL03	168-OL03-05-B-1	6 – 12	19	20	24.7	40	DU
OL03	168-OL03-06-B-1	6 – 12	19	20	16.7	40	DU
OL03	168-OL03-07-B-1	6 – 12	19	20	38	40	DU
OL03	168-OL03-08-B-1	6 – 12	19	20	18.4	40	DU
OL03	168-OL03-09-B-1	6 – 12	19	20	8.9	40	DU
OL03	168-OL03-01-C-1	12 – 18	22	60	7.3	150	DU
OL03	168-OL03-02-C-1	12 – 18	22	60	20.5	150	DU

OL03	168-OL03-03-C-1	12 – 18	22	60	24.6	150		DU
OL03	168-OL03-04-C-1	12 – 18	22	60	24.2	150		DU
OL03	168-OL03-05-C-1	12 – 18	22	60	16.1	150		DU
OL03	168-OL03-06-C-1	12 – 18	22	60	35.4	150		DU
OL03	168-OL03-07-C-1	12 – 18	22	60	27.6	150		DU
OL03	168-OL03-08-C-1	12 – 18	22	60	31.4	150		DU
OL03	168-OL03-09-C-1	12 – 18	22	60	12.7	150		DU
OL03	168-OL03-01-D-1	18 – 24	21	60	7.3	150		DU
OL03	168-OL03-02-D-1	18 – 24	21	60	30.7	150		DU
OL03	168-OL03-03-D-1	18 – 24	21	60	25.4	150		DU
OL03	168-OL03-04-D-1	18 – 24	21	60	15.7	150		DU
OL03	168-OL03-05-D-1	18 – 24	21	60	14.2	150		DU
OL03	168-OL03-06-D-1	18 – 24	21	60	20.2	150		DU
OL03	168-OL03-07-D-1	18 – 24	21	60	28.8	150		DU
OL03	168-OL03-08-D-1	18 – 24	21	60	33.3	150		DU
OL03	168-OL03-09-D-1	18 – 24	21	60	16.3	150		DU
OL04	168-OL04-01-A-1	0 – 6	22	20	21.7	40	yes	DU
OL04	168-OL04-02-A-1	0 – 6	22	20	24.5	40	yes	DU
OL04	168-OL04-03-A-1	0 – 6	22	20	23.7	40	yes	DU
OL04	168-OL04-04-A-1	0 – 6	22	20	25	40	yes	DU
OL04	168-OL04-05-A-1	0 – 6	22	20	16.4	40	yes	DU
OL04	168-OL04-06-A-1	0 – 6	22	20	19.8	40	yes	DU
OL04	168-OL04-07-A-1	0 – 6	22	20	25	40	yes	DU
OL04	168-OL04-08-A-1	0 – 6	22	20	23.2	40	yes	DU
OL04	168-OL04-09-A-1	0 – 6	22	20	22.9	40	yes	DU
OL04	168-OL04-01-B-1	6 – 12	23	20	27	40	yes	DU
OL04	168-OL04-02-B-1	6 – 12	23	20	16.8	40	yes	DU
OL04	168-OL04-03-B-1	6 – 12	23	20	12.6	40	yes	DU
OL04	168-OL04-04-B-1	6 – 12	23	20	23.0	40	yes	DU
OL04	168-OL04-05-B-1	6 – 12	23	20	24.4	40	yes	DU
OL04	168-OL04-06-B-1	6 – 12	23	20	14.3	40	yes	DU
OL04	168-OL04-07-B-1	6 – 12	23	20	38	40	yes	DU
OL04	168-OL04-08-B-1	6 – 12	23	20	29	40	yes	DU
OL04	168-OL04-09-B-1	6 – 12	23	20	25.0	40	yes	DU
OL04	168-OL04-01-C-1	12 – 18	26	60	23.8	150		DU
OL04	168-OL04-02-C-1	12 – 18	26	60	16.5	150		DU
OL04	168-OL04-03-C-1	12 – 18	26	60	11.3	150		DU
OL04	168-OL04-04-C-1	12 – 18	26	60	19.3	150		DU
OL04	168-OL04-05-C-1	12 – 18	26	60	23.3	150		DU
OL04	168-OL04-06-C-1	12 – 18	26	60	26.2	150		DU
OL04	168-OL04-07-C-1	12 – 18	26	60	31.3	150		DU
OL04	168-OL04-08-C-1	12 – 18	26	60	65.8	150		DU
OL04	168-OL04-09-C-1	12 – 18	26	60	13.4	150		DU
OL04	168-OL04-01-D-1	18 – 24	23	60	29.1	150		DU
OL04	168-OL04-02-D-1	18 – 24	23	60	16.1	150		DU
OL04	168-OL04-03-D-1	18 – 24	23	60	7.9	150		DU
OL04	168-OL04-04-D-1	18 – 24	23	60	11.9	150		DU
OL04	168-OL04-05-D-1	18 – 24	23	60	16.4	150		DU
OL04	168-OL04-06-D-1	18 – 24	23	60	17.9	150		DU
OL04	168-OL04-07-D-1	18 – 24	23	60	4.8	150		DU

OL04	168-OL04-08-D-1	18 – 24	23	60	63.7	150			DU
OL04	168-OL04-09-D-1	18 – 24	23	60	39.7	150			DU
OL05	168-OL05-01-A-1	0 – 6	37	20	21.8	40	yes		DU
OL05	168-OL05-02-A-1	0 – 6	37	20	28.3	40	yes		DU
OL05	168-OL05-03-A-1	0 – 6	37	20	75.0	40	yes	yes	DU
OL05	168-OL05-04-A-1	0 – 6	37	20	18.6	40	yes		DU
OL05	168-OL05-05-A-1	0 – 6	37	20	50.0	40	yes	yes	DU
OL05	168-OL05-06-A-1	0 – 6	37	20	30.7	40	yes		DU
OL05	168-OL05-07-A-1	0 – 6	37	20	4.5	40	yes		DU
OL05	168-OL05-08-A-1	0 – 6	37	20	37.8	40	yes		DU
OL05	168-OL05-09-A-1	0 – 6	37	20	67.0	40	yes	yes	DU
OL05	168-OL05-01-B-1	6 – 12	18	20	18.9	40			DU
OL05	168-OL05-02-B-1	6 – 12	18	20	18.2	40			DU
OL05	168-OL05-03-B-1	6 – 12	18	20	41	40		yes	DU
OL05	168-OL05-04-B-1	6 – 12	18	20	9.8	40			DU
OL05	168-OL05-05-B-1	6 – 12	18	20	37	40			DU
OL05	168-OL05-06-B-1	6 – 12	18	20	6.1	40			DU
OL05	168-OL05-07-B-1	6 – 12	18	20	5.5	40			DU
OL05	168-OL05-08-B-1	6 – 12	18	20	20	40			DU
OL05	168-OL05-09-B-1	6 – 12	18	20	5.0	40			DU
OL05	168-OL05-01-C-1	12 – 18	8.7	60	30.1	150			DU
OL05	168-OL05-02-C-1	12 – 18	8.7	60	11.9	150			DU
OL05	168-OL05-03-C-1	12 – 18	8.7	60	5.5	150			DU
OL05	168-OL05-04-C-1	12 – 18	8.7	60	5.8	150			DU
OL05	168-OL05-05-C-1	12 – 18	8.7	60	5.9	150			DU
OL05	168-OL05-06-C-1	12 – 18	8.7	60	4.0	150			DU
OL05	168-OL05-07-C-1	12 – 18	8.7	60	5.4	150			DU
OL05	168-OL05-08-C-1	12 – 18	8.7	60	4.1	150			DU
OL05	168-OL05-09-C-1	12 – 18	8.7	60	5.5	150			DU
OL05	168-OL05-01-D-1	18 – 24	8.9	60	35.3	150			DU
OL05	168-OL05-02-D-1	18 – 24	8.9	60	6.0	150			DU
OL05	168-OL05-03-D-1	18 – 24	8.9	60	6.0	150			DU
OL05	168-OL05-04-D-1	18 – 24	8.9	60	5.7	150			DU
OL05	168-OL05-05-D-1	18 – 24	8.9	60	5.0	150			DU
OL05	168-OL05-06-D-1	18 – 24	8.9	60	6.0	150			DU
OL05	168-OL05-07-D-1	18 – 24	8.9	60	4.0	150			DU
OL05	168-OL05-08-D-1	18 – 24	8.9	60	6.0	150			DU
OL05	168-OL05-09-D-1	18 – 24	8.9	60	6.1	150			DU
OL06	168-OL06-01-B-1	6 – 12	23	20	5.4	40	yes		DU
OL06	168-OL06-02-B-1	6 – 12	23	20	18.9	40	yes		DU
OL06	168-OL06-03-B-1	6 – 12	23	20	18.3	40	yes		DU
OL06	168-OL06-04-B-1	6 – 12	23	20	9.2	40	yes		DU
OL06	168-OL06-05-B-1	6 – 12	23	20	70	40	yes	yes	DU
OL06	168-OL06-06-B-1	6 – 12	23	20	20	40	yes		DU
OL06	168-OL06-07-B-1	6 – 12	23	20	25.3	40	yes		DU
OL06	168-OL06-08-B-1	6 – 12	23	20	20.7	40	yes		DU
OL06	168-OL06-01-C-1	12 – 18	31	60	5.4	150			DU
OL06	168-OL06-02-C-1	12 – 18	31	60	4.5	150			DU
OL06	168-OL06-03-C-1	12 – 18	31	60	7.0	150			DU
OL06	168-OL06-04-C-1	12 – 18	31	60	204	150		yes	DU

OL06	168-OL06-05-C-1	12 – 18	31	60	7.9	150			DU
OL06	168-OL06-06-C-1	12 – 18	31	60	5.4	150			DU
OL06	168-OL06-07-C-1	12 – 18	31	60	4.1	150			DU
OL06	168-OL06-08-C-1	12 – 18	31	60	12.9	150			DU
OL06	168-OL06-01-D-1	18 – 24	6.6	60	5.6	150			DU
OL06	168-OL06-02-D-1	18 – 24	6.6	60	5.0	150			DU
OL06	168-OL06-03-D-1	18 – 24	6.6	60	6.8	150			DU
OL06	168-OL06-04-D-1	18 – 24	6.6	60	11.3	150			DU
OL06	168-OL06-05-D-1	18 – 24	6.6	60	7.0	150			DU
OL06	168-OL06-06-D-1	18 – 24	6.6	60	6.1	150			DU
OL06	168-OL06-07-D-1	18 – 24	6.6	60	5.6	150			DU
OL06	168-OL06-08-D-1	18 – 24	6.6	60	5.3	150			DU
OL07	168-OL07-01-A-1	0 – 6	29	20	16.8	40	yes		DU
OL07	168-OL07-02-A-1	0 – 6	29	20	38.5	40	yes		DU
OL07	168-OL07-03-A-1	0 – 6	29	20	67.7	40	yes	yes	DU
OL07	168-OL07-04-A-1	0 – 6	29	20	20.5	40	yes		DU
OL07	168-OL07-05-A-1	0 – 6	29	20	20.3	40	yes		DU
OL07	168-OL07-06-A-1	0 – 6	29	20	7.1	40	yes		DU
OL07	168-OL07-07-A-1	0 – 6	29	20	41.0	40	yes	yes	DU
OL07	168-OL07-08-A-1	0 – 6	29	20	21.9	40	yes		DU
OL07	168-OL07-09-A-1	0 – 6	29	20	24.7	40	yes		DU
OL07	168-OL07-01-B-1	6 – 12	18	20	6.1	40			DU
OL07	168-OL07-02-B-1	6 – 12	18	20	5.6	40			DU
OL07	168-OL07-03-B-1	6 – 12	18	20	72	40		yes	DU
OL07	168-OL07-04-B-1	6 – 12	18	20	17.7	40			DU
OL07	168-OL07-05-B-1	6 – 12	18	20	15.3	40			DU
OL07	168-OL07-06-B-1	6 – 12	18	20	12.3	40			DU
OL07	168-OL07-07-B-1	6 – 12	18	20	6.5	40			DU
OL07	168-OL07-08-B-1	6 – 12	18	20	21.5	40			DU
OL07	168-OL07-09-B-1	6 – 12	18	20	6.0	40			DU
OL07	168-OL07-01-C-1	12 – 18	15	60	6.8	150			DU
OL07	168-OL07-02-C-1	12 – 18	15	60	6.0	150			DU
OL07	168-OL07-03-C-1	12 – 18	15	60	42.5	150			DU
OL07	168-OL07-04-C-1	12 – 18	15	60	33.1	150			DU
OL07	168-OL07-05-C-1	12 – 18	15	60	24.5	150			DU
OL07	168-OL07-06-C-1	12 – 18	15	60	3.5	150			DU
OL07	168-OL07-07-C-1	12 – 18	15	60	6.1	150			DU
OL07	168-OL07-08-C-1	12 – 18	15	60	4.3	150			DU
OL07	168-OL07-09-C-1	12 – 18	15	60	6.3	150			DU
OL07	168-OL07-01-D-1	18 – 24	8.6	60	6.2	150			DU
OL07	168-OL07-02-D-1	18 – 24	8.6	60	3.4	150			DU
OL07	168-OL07-03-D-1	18 – 24	8.6	60	5.1	150			DU
OL07	168-OL07-04-D-1	18 – 24	8.6	60	20.0	150			DU
OL07	168-OL07-05-D-1	18 – 24	8.6	60	24.4	150			DU
OL07	168-OL07-06-D-1	18 – 24	8.6	60	4.3	150			DU
OL07	168-OL07-07-D-1	18 – 24	8.6	60	6.0	150			DU
OL07	168-OL07-08-D-1	18 – 24	8.6	60	4.2	150			DU
OL07	168-OL07-09-D-1	18 – 24	8.6	60	3.5	150			DU
OL08	168-OL08-01-A-1	0 – 6	52	20	84.7	40	yes	yes	DU
OL08	168-OL08-02-A-1	0 – 6	52	20	74.8	40	yes	yes	DU

OL08	168-OL08-03-A-1	0 – 6	52	20	68.3	40	yes	yes	DU
OL08	168-OL08-04-A-1	0 – 6	52	20	17.9	40	yes		DU
OL08	168-OL08-05-A-1	0 – 6	52	20	63.1	40	yes	yes	DU
OL08	168-OL08-06-A-1	0 – 6	52	20	67.1	40	yes	yes	DU
OL08	168-OL08-07-A-1	0 – 6	52	20	56.8	40	yes	yes	DU
OL08	168-OL08-08-A-1	0 – 6	52	20	28.1	40	yes		DU
OL08	168-OL08-09-A-1	0 – 6	52	20	7.4	40	yes		DU
OL08	168-OL08-01-B-1	6 – 12	17	20	19.9	40			DU
OL08	168-OL08-02-B-1	6 – 12	17	20	5.4	40			DU
OL08	168-OL08-03-B-1	6 – 12	17	20	9.4	40			DU
OL08	168-OL08-04-B-1	6 – 12	17	20	10.0	40			DU
OL08	168-OL08-05-B-1	6 – 12	17	20	72	40		yes	DU
OL08	168-OL08-06-B-1	6 – 12	17	20	23	40			DU
OL08	168-OL08-07-B-1	6 – 12	17	20	5.5	40			DU
OL08	168-OL08-08-B-1	6 – 12	17	20	5.5	40			DU
OL08	168-OL08-09-B-1	6 – 12	17	20	3.1	40			DU
OL08	168-OL08-01-C-1	12 – 18	7.0	60	4.3	150			DU
OL08	168-OL08-02-C-1	12 – 18	7.0	60	5.2	150			DU
OL08	168-OL08-03-C-1	12 – 18	7.0	60	5.3	150			DU
OL08	168-OL08-04-C-1	12 – 18	7.0	60	9.8	150			DU
OL08	168-OL08-05-C-1	12 – 18	7.0	60	15.2	150			DU
OL08	168-OL08-06-C-1	12 – 18	7.0	60	5.3	150			DU
OL08	168-OL08-07-C-1	12 – 18	7.0	60	4.4	150			DU
OL08	168-OL08-08-C-1	12 – 18	7.0	60	8.2	150			DU
OL08	168-OL08-09-C-1	12 – 18	7.0	60	4.9	150			DU
OL08	168-OL08-01-D-1	18 – 24	6.4	60	3.4	150			DU
OL08	168-OL08-02-D-1	18 – 24	6.4	60	5.0	150			DU
OL08	168-OL08-03-D-1	18 – 24	6.4	60	6.0	150			DU
OL08	168-OL08-04-D-1	18 – 24	6.4	60	19.8	150			DU
OL08	168-OL08-05-D-1	18 – 24	6.4	60	5.6	150			DU
OL08	168-OL08-06-D-1	18 – 24	6.4	60	5.5	150			DU
OL08	168-OL08-07-D-1	18 – 24	6.4	60	4.6	150			DU
OL08	168-OL08-08-D-1	18 – 24	6.4	60	4.7	150			DU
OL08	168-OL08-09-D-1	18 – 24	6.4	60	3.1	150			DU
OL09	168-OL09-01-A-1	0 – 6	47	20	14.6	40	yes		DU
OL09	168-OL09-02-A-1	0 – 6	47	20	23.1	40	yes		DU
OL09	168-OL09-03-A-1	0 – 6	47	20	76.5	40	yes	yes	DU
OL09	168-OL09-04-A-1	0 – 6	47	20	56.0	40	yes	yes	DU
OL09	168-OL09-05-A-1	0 – 6	47	20	90.0	40	yes	yes	DU
OL09	168-OL09-06-A-1	0 – 6	47	20	42.9	40	yes	yes	DU
OL09	168-OL09-07-A-1	0 – 6	47	20	53.3	40	yes	yes	DU
OL09	168-OL09-08-A-1	0 – 6	47	20	46.9	40	yes	yes	DU
OL09	168-OL09-09-A-1	0 – 6	47	20	16.1	40	yes		DU
OL09	168-OL09-01-B-1	6 – 12	22	20	6.8	40	yes		DU
OL09	168-OL09-02-B-1	6 – 12	22	20	6.7	40	yes		DU
OL09	168-OL09-03-B-1	6 – 12	22	20	26	40	yes		DU
OL09	168-OL09-04-B-1	6 – 12	22	20	41	40	yes	yes	DU
OL09	168-OL09-05-B-1	6 – 12	22	20	65	40	yes	yes	DU
OL09	168-OL09-06-B-1	6 – 12	22	20	19.0	40	yes		DU
OL09	168-OL09-07-B-1	6 – 12	22	20	6.8	40	yes		DU

OL09	168-OL09-08-B-1	6 – 12	22	20	20.5	40	yes		DU
OL09	168-OL09-09-B-1	6 – 12	22	20	5.7	40	yes		DU
OL09	168-OL09-01-C-1	12 – 18	7.4	60	4.3	150			DU
OL09	168-OL09-02-C-1	12 – 18	7.4	60	4.5	150			DU
OL09	168-OL09-03-C-1	12 – 18	7.4	60	9.3	150			DU
OL09	168-OL09-04-C-1	12 – 18	7.4	60	4.8	150			DU
OL09	168-OL09-05-C-1	12 – 18	7.4	60	11.5	150			DU
OL09	168-OL09-06-C-1	12 – 18	7.4	60	16.3	150			DU
OL09	168-OL09-07-C-1	12 – 18	7.4	60	4.5	150			DU
OL09	168-OL09-08-C-1	12 – 18	7.4	60	7.8	150			DU
OL09	168-OL09-09-C-1	12 – 18	7.4	60	3.8	150			DU
OL09	168-OL09-01-D-1	18 – 24	4.7	60	5.8	150			DU
OL09	168-OL09-02-D-1	18 – 24	4.7	60	2.6	150			DU
OL09	168-OL09-03-D-1	18 – 24	4.7	60	5.3	150			DU
OL09	168-OL09-04-D-1	18 – 24	4.7	60	5.2	150			DU
OL09	168-OL09-05-D-1	18 – 24	4.7	60	4.3	150			DU
OL09	168-OL09-06-D-1	18 – 24	4.7	60	4.3	150			DU
OL09	168-OL09-07-D-1	18 – 24	4.7	60	5.2	150			DU
OL09	168-OL09-08-D-1	18 – 24	4.7	60	4.7	150			DU
OL09	168-OL09-09-D-1	18 – 24	4.7	60	4.6	150			DU
OL10	168-OL10-01-A-1	0 – 6	42	20	40.4	40	yes	yes	DU
OL10	168-OL10-02-A-1	0 – 6	42	20	57.1	40	yes	yes	DU
OL10	168-OL10-03-A-1	0 – 6	42	20	42.1	40	yes	yes	DU
OL10	168-OL10-04-A-1	0 – 6	42	20	19.0	40	yes		DU
OL10	168-OL10-05-A-1	0 – 6	42	20	54.8	40	yes	yes	DU
OL10	168-OL10-06-A-1	0 – 6	42	20	19.9	40	yes		DU
OL10	168-OL10-07-A-1	0 – 6	42	20	47.4	40	yes	yes	DU
OL10	168-OL10-08-A-1	0 – 6	42	20	33.7	40	yes		DU
OL10	168-OL10-09-A-1	0 – 6	42	20	64.8	40	yes	yes	DU
OL10	168-OL10-01-B-1	6 – 12	19	20	54	40		yes	DU
OL10	168-OL10-02-B-1	6 – 12	19	20	9.9	40			DU
OL10	168-OL10-03-B-1	6 – 12	19	20	7.9	40			DU
OL10	168-OL10-04-B-1	6 – 12	19	20	4.9	40			DU
OL10	168-OL10-05-B-1	6 – 12	19	20	37	40			DU
OL10	168-OL10-06-B-1	6 – 12	19	20	8.4	40			DU
OL10	168-OL10-07-B-1	6 – 12	19	20	19.3	40			DU
OL10	168-OL10-08-B-1	6 – 12	19	20	10.9	40			DU
OL10	168-OL10-09-B-1	6 – 12	19	20	14.5	40			DU
OL10	168-OL10-01-C-1	12 – 18	5.6	60	5.0	150			DU
OL10	168-OL10-02-C-1	12 – 18	5.6	60	5.5	150			DU
OL10	168-OL10-03-C-1	12 – 18	5.6	60	4.7	150			DU
OL10	168-OL10-04-C-1	12 – 18	5.6	60	5.7	150			DU
OL10	168-OL10-05-C-1	12 – 18	5.6	60	6.6	150			DU
OL10	168-OL10-06-C-1	12 – 18	5.6	60	6.0	150			DU
OL10	168-OL10-07-C-1	12 – 18	5.6	60	5.3	150			DU
OL10	168-OL10-08-C-1	12 – 18	5.6	60	5.7	150			DU
OL10	168-OL10-09-C-1	12 – 18	5.6	60	6.0	150			DU
OL10	168-OL10-01-D-1	18 – 24	5.6	60	6.4	150			DU
OL10	168-OL10-02-D-1	18 – 24	5.6	60	5.6	150			DU
OL10	168-OL10-03-D-1	18 – 24	5.6	60	4.5	150			DU

OL10	168-OL10-04-D-1	18 – 24	5.6	60	7.1	150			DU
OL10	168-OL10-05-D-1	18 – 24	5.6	60	4.7	150			DU
OL10	168-OL10-06-D-1	18 – 24	5.6	60	5.7	150			DU
OL10	168-OL10-07-D-1	18 – 24	5.6	60	6.0	150			DU
OL10	168-OL10-08-D-1	18 – 24	5.6	60	4.7	150			DU
OL10	168-OL10-09-D-1	18 – 24	5.6	60	5.8	150			DU
OL11	168-OL11-01-B-1	6 – 12	33	20	38	40	yes		DU
OL11	168-OL11-02-B-1	6 – 12	33	20	17.1	40	yes		DU
OL11	168-OL11-03-B-1	6 – 12	33	20	5.8	40	yes		DU
OL11	168-OL11-04-B-1	6 – 12	33	20	6.8	40	yes		DU
OL11	168-OL11-05-B-1	6 – 12	33	20	10.4	40	yes		DU
OL11	168-OL11-06-B-1	6 – 12	33	20	7.5	40	yes		DU
OL11	168-OL11-07-B-1	6 – 12	33	20	200	40	yes	yes	DU
OL11	168-OL11-08-B-1	6 – 12	33	20	3.2	40	yes		DU
OL11	168-OL11-09-B-1	6 – 12	33	20	6.7	40	yes		DU
OL11	168-OL11-01-C-1	12 – 18	31	60	14.1	150			DU
OL11	168-OL11-02-C-1	12 – 18	31	60	5.4	150			DU
OL11	168-OL11-03-C-1	12 – 18	31	60	3.8	150			DU
OL11	168-OL11-04-C-1	12 – 18	31	60	<LOD	150			DU
OL11	168-OL11-05-C-1	12 – 18	31	60	5.9	150			DU
OL11	168-OL11-06-C-1	12 – 18	31	60	7.2	150			DU
OL11	168-OL11-07-C-1	12 – 18	31	60	200	150		yes	DU
OL11	168-OL11-08-C-1	12 – 18	31	60	6.3	150			DU
OL11	168-OL11-09-C-1	12 – 18	31	60	7.0	150			DU
OL11	168-OL11-01-D-1	18 – 24	8.7	60	9.0	150			DU
OL11	168-OL11-02-D-1	18 – 24	8.7	60	3.5	150			DU
OL11	168-OL11-03-D-1	18 – 24	8.7	60	4.1	150			DU
OL11	168-OL11-04-D-1	18 – 24	8.7	60	4.3	150			DU
OL11	168-OL11-05-D-1	18 – 24	8.7	60	4.1	150			DU
OL11	168-OL11-06-D-1	18 – 24	8.7	60	2.4	150			DU
OL11	168-OL11-07-D-1	18 – 24	8.7	60	36.7	150			DU
OL11	168-OL11-08-D-1	18 – 24	8.7	60	6.9	150			DU
OL11	168-OL11-09-D-1	18 – 24	8.7	60	6.9	150			DU
OL12	168-OL12-01-A-1	0 – 6	37	20	12.5	40	yes		DU
OL12	168-OL12-02-A-1	0 – 6	37	20	35.0	40	yes		DU
OL12	168-OL12-03-A-1	0 – 6	37	20	48.5	40	yes	yes	DU
OL12	168-OL12-04-A-1	0 – 6	37	20	55.7	40	yes	yes	DU
OL12	168-OL12-05-A-1	0 – 6	37	20	70.1	40	yes	yes	DU
OL12	168-OL12-06-A-1	0 – 6	37	20	25.3	40	yes		DU
OL12	168-OL12-07-A-1	0 – 6	37	20	28.0	40	yes		DU
OL12	168-OL12-08-A-1	0 – 6	37	20	22.4	40	yes		DU
OL12	168-OL12-01-B-1	6 – 12	11	20	21.4	40			DU
OL12	168-OL12-02-B-1	6 – 12	11	20	5.1	40			DU
OL12	168-OL12-03-B-1	6 – 12	11	20	12.0	40			DU
OL12	168-OL12-04-B-1	6 – 12	11	20	9.0	40			DU
OL12	168-OL12-05-B-1	6 – 12	11	20	19.0	40			DU
OL12	168-OL12-06-B-1	6 – 12	11	20	6.4	40			DU
OL12	168-OL12-07-B-1	6 – 12	11	20	5.7	40			DU
OL12	168-OL12-08-B-1	6 – 12	11	20	5.4	40			DU
OL12	168-OL12-01-C-1	12 – 18	5.3	60	8.9	150			DU

OL12	168-OL12-02-C-1	12 – 18	5.3	60	6.9	150			DU
OL12	168-OL12-03-C-1	12 – 18	5.3	60	2.8	150			DU
OL12	168-OL12-04-C-1	12 – 18	5.3	60	5.0	150			DU
OL12	168-OL12-05-C-1	12 – 18	5.3	60	5.5	150			DU
OL12	168-OL12-06-C-1	12 – 18	5.3	60	5.2	150			DU
OL12	168-OL12-07-C-1	12 – 18	5.3	60	3.8	150			DU
OL12	168-OL12-08-C-1	12 – 18	5.3	60	4.1	150			DU
OL12	168-OL12-01-D-1	18 – 24	5.1	60	8.3	150			DU
OL12	168-OL12-02-D-1	18 – 24	5.1	60	5.3	150			DU
OL12	168-OL12-03-D-1	18 – 24	5.1	60	4.7	150			DU
OL12	168-OL12-04-D-1	18 – 24	5.1	60	3.8	150			DU
OL12	168-OL12-05-D-1	18 – 24	5.1	60	4.5	150			DU
OL12	168-OL12-06-D-1	18 – 24	5.1	60	4.2	150			DU
OL12	168-OL12-07-D-1	18 – 24	5.1	60	3.5	150			DU
OL12	168-OL12-08-D-1	18 – 24	5.1	60	6.1	150			DU
OL13	168-OL13-01-B-1	6 – 12	31	20	53.0	40	yes	yes	DU
OL13	168-OL13-02-B-1	6 – 12	31	20	13.2	40	yes		DU
OL13	168-OL13-03-B-1	6 – 12	31	20	31.9	40	yes		DU
OL13	168-OL13-04-B-1	6 – 12	31	20	27.2	40	yes		DU
OL13	168-OL13-05-B-1	6 – 12	31	20	5.6	40	yes		DU
OL13	168-OL13-06-B-1	6 – 12	31	20	30.7	40	yes		DU
OL13	168-OL13-07-B-1	6 – 12	31	20	69.6	40	yes	yes	DU
OL13	168-OL13-08-B-1	6 – 12	31	20	14.8	40	yes		DU
OL13	168-OL13-09-B-1	6 – 12	31	20	35.6	40	yes		DU
OL13	168-OL13-01-C-1	12 – 18	14	60	13.9	150			DU
OL13	168-OL13-02-C-1	12 – 18	14	60	4.2	150			DU
OL13	168-OL13-03-C-1	12 – 18	14	60	5.5	150			DU
OL13	168-OL13-04-C-1	12 – 18	14	60	25.4	150			DU
OL13	168-OL13-05-C-1	12 – 18	14	60	5.7	150			DU
OL13	168-OL13-06-C-1	12 – 18	14	60	53.1	150			DU
OL13	168-OL13-07-C-1	12 – 18	14	60	14.3	150			DU
OL13	168-OL13-08-C-1	12 – 18	14	60	3.8	150			DU
OL13	168-OL13-09-C-1	12 – 18	14	60	2.8	150			DU
OL13	168-OL13-01-D-1	18 – 24	13	60	11.6	150			DU
OL13	168-OL13-02-D-1	18 – 24	13	60	4.2	150			DU
OL13	168-OL13-03-D-1	18 – 24	13	60	5.9	150			DU
OL13	168-OL13-04-D-1	18 – 24	13	60	8.4	150			DU
OL13	168-OL13-05-D-1	18 – 24	13	60	3.9	150			DU
OL13	168-OL13-06-D-1	18 – 24	13	60	65.2	150			DU
OL13	168-OL13-07-D-1	18 – 24	13	60	4.9	150			DU
OL13	168-OL13-08-D-1	18 – 24	13	60	4.1	150			DU
OL13	168-OL13-09-D-1	18 – 24	13	60	4.6	150			DU
OL14	168-OL14-01-B-1	6 – 12	44	20	27.0	40	yes		DU
OL14	168-OL14-02-B-1	6 – 12	44	20	8.6	40	yes		DU
OL14	168-OL14-03-B-1	6 – 12	44	20	155	40	yes	yes	DU
OL14	168-OL14-04-B-1	6 – 12	44	20	30.5	40	yes		DU
OL14	168-OL14-05-B-1	6 – 12	44	20	8.6	40	yes		DU
OL14	168-OL14-06-B-1	6 – 12	44	20	64.7	40	yes	yes	DU
OL14	168-OL14-07-B-1	6 – 12	44	20	57.5	40	yes	yes	DU
OL14	168-OL14-08-B-1	6 – 12	44	20	39.2	40	yes		DU

OL14	168-OL14-09-B-1	6 – 12	44	20	8.6	40	yes		DU
OL14	168-OL14-01-C-1	12 – 18	23	60	22.4	150			DU
OL14	168-OL14-02-C-1	12 – 18	23	60	3.7	150			DU
OL14	168-OL14-03-C-1	12 – 18	23	60	10.9	150			DU
OL14	168-OL14-04-C-1	12 – 18	23	60	120	150			DU
OL14	168-OL14-05-C-1	12 – 18	23	60	5.2	150			DU
OL14	168-OL14-06-C-1	12 – 18	23	60	4.3	150			DU
OL14	168-OL14-07-C-1	12 – 18	23	60	6.1	150			DU
OL14	168-OL14-08-C-1	12 – 18	23	60	31.5	150			DU
OL14	168-OL14-09-C-1	12 – 18	23	60	5.6	150			DU
OL14	168-OL14-01-D-1	18 – 24	15	60	<LOD	150			DU
OL14	168-OL14-02-D-1	18 – 24	15	60	3.2	150			DU
OL14	168-OL14-03-D-1	18 – 24	15	60	6.6	150			DU
OL14	168-OL14-04-D-1	18 – 24	15	60	79.3	150			DU
OL14	168-OL14-05-D-1	18 – 24	15	60	3.5	150			DU
OL14	168-OL14-06-D-1	18 – 24	15	60	5.0	150			DU
OL14	168-OL14-07-D-1	18 – 24	15	60	3.2	150			DU
OL14	168-OL14-08-D-1	18 – 24	15	60	6.2	150			DU
OL14	168-OL14-09-D-1	18 – 24	15	60	13.5	150			DU
OL15	168-OL15-01-B-1	6 – 12	47	20	20.5	40	yes		DU
OL15	168-OL15-02-B-1	6 – 12	47	20	4.4	40	yes		DU
OL15	168-OL15-03-B-1	6 – 12	47	20	8.3	40	yes		DU
OL15	168-OL15-04-B-1	6 – 12	47	20	242	40	yes	yes	DU
OL15	168-OL15-05-B-1	6 – 12	47	20	17.5	40	yes		DU
OL15	168-OL15-06-B-1	6 – 12	47	20	4.4	40	yes		DU
OL15	168-OL15-07-B-1	6 – 12	47	20	85.0	40	yes	yes	DU
OL15	168-OL15-08-B-1	6 – 12	47	20	5.2	40	yes		DU
OL15	168-OL15-09-B-1	6 – 12	47	20	34.6	40	yes		DU
OL15	168-OL15-01-C-1	12 – 18	10	60	3.6	150			DU
OL15	168-OL15-02-C-1	12 – 18	10	60	3.1	150			DU
OL15	168-OL15-03-C-1	12 – 18	10	60	5.9	150			DU
OL15	168-OL15-04-C-1	12 – 18	10	60	42.7	150			DU
OL15	168-OL15-05-C-1	12 – 18	10	60	4.2	150			DU
OL15	168-OL15-06-C-1	12 – 18	10	60	<LOD	150			DU
OL15	168-OL15-07-C-1	12 – 18	10	60	11.2	150			DU
OL15	168-OL15-08-C-1	12 – 18	10	60	2.8	150			DU
OL15	168-OL15-09-C-1	12 – 18	10	60	6.9	150			DU
OL15	168-OL15-01-D-1	18 – 24	4.5	60	4.4	150			DU
OL15	168-OL15-02-D-1	18 – 24	4.5	60	2.6	150			DU
OL15	168-OL15-03-D-1	18 – 24	4.5	60	5.6	150			DU
OL15	168-OL15-04-D-1	18 – 24	4.5	60	5.0	150			DU
OL15	168-OL15-05-D-1	18 – 24	4.5	60	6.3	150			DU
OL15	168-OL15-06-D-1	18 – 24	4.5	60	3.2	150			DU
OL15	168-OL15-07-D-1	18 – 24	4.5	60	4.5	150			DU
OL15	168-OL15-08-D-1	18 – 24	4.5	60	4.5	150			DU
OL15	168-OL15-09-D-1	18 – 24	4.5	60	4.8	150			DU
OL16	168-OL16-01-B-1	6 – 12	27	20	91	40	yes	yes	DU
OL16	168-OL16-02-B-1	6 – 12	27	20	24.9	40	yes		DU
OL16	168-OL16-03-B-1	6 – 12	27	20	25.6	40	yes		DU
OL16	168-OL16-04-B-1	6 – 12	27	20	27	40	yes		DU

OL16	168-OL16-05-B-1	6 – 12	27	20	5.9	40	yes		DU
OL16	168-OL16-06-B-1	6 – 12	27	20	17.5	40	yes		DU
OL16	168-OL16-07-B-1	6 – 12	27	20	5.1	40	yes		DU
OL16	168-OL16-08-B-1	6 – 12	27	20	19.1	40	yes		DU
OL16	168-OL16-09-B-1	6 – 12	27	20	24	40	yes		DU
OL16	168-OL16-01-C-1	12 – 18	6.9	60	15.5	150			DU
OL16	168-OL16-02-C-1	12 – 18	6.9	60	3.6	150			DU
OL16	168-OL16-03-C-1	12 – 18	6.9	60	4.4	150			DU
OL16	168-OL16-04-C-1	12 – 18	6.9	60	5.4	150			DU
OL16	168-OL16-05-C-1	12 – 18	6.9	60	7.7	150			DU
OL16	168-OL16-06-C-1	12 – 18	6.9	60	10.4	150			DU
OL16	168-OL16-07-C-1	12 – 18	6.9	60	4.2	150			DU
OL16	168-OL16-08-C-1	12 – 18	6.9	60	4.6	150			DU
OL16	168-OL16-09-C-1	12 – 18	6.9	60	6.3	150			DU
OL16	168-OL16-01-D-1	18 – 24	6.0	60	10.1	150			DU
OL16	168-OL16-02-D-1	18 – 24	6.0	60	5.4	150			DU
OL16	168-OL16-03-D-1	18 – 24	6.0	60	4.2	150			DU
OL16	168-OL16-04-D-1	18 – 24	6.0	60	6.2	150			DU
OL16	168-OL16-05-D-1	18 – 24	6.0	60	5.6	150			DU
OL16	168-OL16-06-D-1	18 – 24	6.0	60	8.4	150			DU
OL16	168-OL16-07-D-1	18 – 24	6.0	60	5.6	150			DU
OL16	168-OL16-08-D-1	18 – 24	6.0	60	4.0	150			DU
OL16	168-OL16-09-D-1	18 – 24	6.0	60	4.7	150			DU
OL17	168-OL17-01-A-1	0 – 6	35	20	27.0	40	yes		DU
OL17	168-OL17-02-A-1	0 – 6	35	20	60.1	40	yes	yes	DU
OL17	168-OL17-03-A-1	0 – 6	35	20	23.4	40	yes		DU
OL17	168-OL17-04-A-1	0 – 6	35	20	7.8	40	yes		DU
OL17	168-OL17-05-A-1	0 – 6	35	20	73.6	40	yes	yes	DU
OL17	168-OL17-06-A-1	0 – 6	35	20	7.8	40	yes		DU
OL17	168-OL17-07-A-1	0 – 6	35	20	52.5	40	yes	yes	DU
OL17	168-OL17-08-A-1	0 – 6	35	20	30.8	40	yes		DU
OL17	168-OL17-09-A-1	0 – 6	35	20	32.1	40	yes		DU
OL17	168-OL17-01-B-1	6 – 12	10	20	7.2	40			DU
OL17	168-OL17-02-B-1	6 – 12	10	20	4.0	40			DU
OL17	168-OL17-03-B-1	6 – 12	10	20	23.4	40			DU
OL17	168-OL17-04-B-1	6 – 12	10	20	4.5	40			DU
OL17	168-OL17-05-B-1	6 – 12	10	20	15.5	40			DU
OL17	168-OL17-06-B-1	6 – 12	10	20	4.7	40			DU
OL17	168-OL17-07-B-1	6 – 12	10	20	7.4	40			DU
OL17	168-OL17-08-B-1	6 – 12	10	20	7.6	40			DU
OL17	168-OL17-09-B-1	6 – 12	10	20	19.0	40			DU
OL17	168-OL17-01-C-1	12 – 18	4.6	60	3.0	150			DU
OL17	168-OL17-02-C-1	12 – 18	4.6	60	5.1	150			DU
OL17	168-OL17-03-C-1	12 – 18	4.6	60	5.3	150			DU
OL17	168-OL17-04-C-1	12 – 18	4.6	60	3.4	150			DU
OL17	168-OL17-05-C-1	12 – 18	4.6	60	4.7	150			DU
OL17	168-OL17-06-C-1	12 – 18	4.6	60	4.5	150			DU
OL17	168-OL17-07-C-1	12 – 18	4.6	60	5.9	150			DU
OL17	168-OL17-08-C-1	12 – 18	4.6	60	4.6	150			DU
OL17	168-OL17-09-C-1	12 – 18	4.6	60	4.8	150			DU

OL17	168-OL17-01-D-1	18 – 24	5.0	60	5.8	150			DU
OL17	168-OL17-02-D-1	18 – 24	5.0	60	6.7	150			DU
OL17	168-OL17-03-D-1	18 – 24	5.0	60	4.1	150			DU
OL17	168-OL17-04-D-1	18 – 24	5.0	60	2.8	150			DU
OL17	168-OL17-05-D-1	18 – 24	5.0	60	4.1	150			DU
OL17	168-OL17-06-D-1	18 – 24	5.0	60	8.1	150			DU
OL17	168-OL17-07-D-1	18 – 24	5.0	60	3.7	150			DU
OL17	168-OL17-08-D-1	18 – 24	5.0	60	3.3	150			DU
OL17	168-OL17-09-D-1	18 – 24	5.0	60	6.6	150			DU
OL18	168-OL18-01-A-1	0 – 6	47	20	37.4	40	yes		DU
OL18	168-OL18-02-A-1	0 – 6	47	20	55.2	40	yes	yes	DU
OL18	168-OL18-03-A-1	0 – 6	47	20	112	40	yes	yes	DU
OL18	168-OL18-04-A-1	0 – 6	47	20	11.1	40	yes		DU
OL18	168-OL18-05-A-1	0 – 6	47	20	43.4	40	yes	yes	DU
OL18	168-OL18-06-A-1	0 – 6	47	20	15.0	40	yes		DU
OL18	168-OL18-07-A-1	0 – 6	47	20	86.0	40	yes	yes	DU
OL18	168-OL18-08-A-1	0 – 6	47	20	35.4	40	yes		DU
OL18	168-OL18-09-A-1	0 – 6	47	20	24.2	40	yes		DU
OL18	168-OL18-01-B-1	6 – 12	17	20	8.2	40			DU
OL18	168-OL18-02-B-1	6 – 12	17	20	7.1	40			DU
OL18	168-OL18-03-B-1	6 – 12	17	20	19.9	40			DU
OL18	168-OL18-04-B-1	6 – 12	17	20	5.2	40			DU
OL18	168-OL18-05-B-1	6 – 12	17	20	17.1	40			DU
OL18	168-OL18-06-B-1	6 – 12	17	20	9.1	40			DU
OL18	168-OL18-07-B-1	6 – 12	17	20	77	40		yes	DU
OL18	168-OL18-08-B-1	6 – 12	17	20	4.8	40			DU
OL18	168-OL18-09-B-1	6 – 12	17	20	4.9	40			DU
OL18	168-OL18-01-C-1	12 – 18	5.3	60	4.3	150			DU
OL18	168-OL18-02-C-1	12 – 18	5.3	60	4.8	150			DU
OL18	168-OL18-03-C-1	12 – 18	5.3	60	5.7	150			DU
OL18	168-OL18-04-C-1	12 – 18	5.3	60	3.7	150			DU
OL18	168-OL18-05-C-1	12 – 18	5.3	60	6.3	150			DU
OL18	168-OL18-06-C-1	12 – 18	5.3	60	7.0	150			DU
OL18	168-OL18-07-C-1	12 – 18	5.3	60	7.7	150			DU
OL18	168-OL18-08-C-1	12 – 18	5.3	60	5.1	150			DU
OL18	168-OL18-09-C-1	12 – 18	5.3	60	3.3	150			DU
OL18	168-OL18-01-D-1	18 – 24	6.1	60	5.5	150			DU
OL18	168-OL18-02-D-1	18 – 24	6.1	60	5.8	150			DU
OL18	168-OL18-03-D-1	18 – 24	6.1	60	5.6	150			DU
OL18	168-OL18-04-D-1	18 – 24	6.1	60	9.1	150			DU
OL18	168-OL18-05-D-1	18 – 24	6.1	60	8.2	150			DU
OL18	168-OL18-06-D-1	18 – 24	6.1	60	4.2	150			DU
OL18	168-OL18-07-D-1	18 – 24	6.1	60	6.8	150			DU
OL18	168-OL18-08-D-1	18 – 24	6.1	60	5.5	150			DU
OL18	168-OL18-09-D-1	18 – 24	6.1	60	3.8	150			DU
OL19	168-OL19-01-A-1	0 – 6	31	20	10.3	40	yes		DU
OL19	168-OL19-02-A-1	0 – 6	31	20	84.8	40	yes	yes	DU
OL19	168-OL19-03-A-1	0 – 6	31	20	28.9	40	yes		DU
OL19	168-OL19-04-A-1	0 – 6	31	20	19.9	40	yes		DU
OL19	168-OL19-05-A-1	0 – 6	31	20	36.5	40	yes		DU

OL19	168-OL19-06-A-1	0 – 6	31	20	17.0	40	yes		DU
OL19	168-OL19-07-A-1	0 – 6	31	20	12.4	40	yes		DU
OL19	168-OL19-08-A-1	0 – 6	31	20	34.9	40	yes		DU
OL19	168-OL19-01-B-1	6 – 12	13	20	6.0	40			DU
OL19	168-OL19-02-B-1	6 – 12	13	20	39	40			DU
OL19	168-OL19-03-B-1	6 – 12	13	20	5.6	40			DU
OL19	168-OL19-04-B-1	6 – 12	13	20	6.7	40			DU
OL19	168-OL19-05-B-1	6 – 12	13	20	7.5	40			DU
OL19	168-OL19-06-B-1	6 – 12	13	20	20.0	40			DU
OL19	168-OL19-07-B-1	6 – 12	13	20	7.6	40			DU
OL19	168-OL19-08-B-1	6 – 12	13	20	7.7	40			DU
OL19	168-OL19-01-C-1	12 – 18	7.3	60	3.8	150			DU
OL19	168-OL19-02-C-1	12 – 18	7.3	60	8.5	150			DU
OL19	168-OL19-03-C-1	12 – 18	7.3	60	4.9	150			DU
OL19	168-OL19-04-C-1	12 – 18	7.3	60	7.1	150			DU
OL19	168-OL19-05-C-1	12 – 18	7.3	60	3.9	150			DU
OL19	168-OL19-06-C-1	12 – 18	7.3	60	10.3	150			DU
OL19	168-OL19-07-C-1	12 – 18	7.3	60	15.2	150			DU
OL19	168-OL19-08-C-1	12 – 18	7.3	60	4.9	150			DU
OL19	168-OL19-01-D-1	18 – 24	9.4	60	11.4	150			DU
OL19	168-OL19-02-D-1	18 – 24	9.4	60	10.1	150			DU
OL19	168-OL19-03-D-1	18 – 24	9.4	60	7.9	150			DU
OL19	168-OL19-04-D-1	18 – 24	9.4	60	8.7	150			DU
OL19	168-OL19-05-D-1	18 – 24	9.4	60	5.9	150			DU
OL19	168-OL19-06-D-1	18 – 24	9.4	60	7.7	150			DU
OL19	168-OL19-07-D-1	18 – 24	9.4	60	16.2	150			DU
OL19	168-OL19-08-D-1	18 – 24	9.4	60	7.1	150			DU
OL20	168-OL20-01-A-1	0 – 6	42	20	67	40	yes	yes	DU
OL20	168-OL20-02-A-1	0 – 6	42	20	22.9	40	yes		DU
OL20	168-OL20-03-A-1	0 – 6	42	20	67	40	yes	yes	DU
OL20	168-OL20-04-A-1	0 – 6	42	20	17.8	40	yes		DU
OL20	168-OL20-05-A-1	0 – 6	42	20	11.9	40	yes		DU
OL20	168-OL20-06-A-1	0 – 6	42	20	130	40	yes	yes	DU
OL20	168-OL20-07-A-1	0 – 6	42	20	17.9	40	yes		DU
OL20	168-OL20-08-A-1	0 – 6	42	20	20.8	40	yes		DU
OL20	168-OL20-09-A-1	0 – 6	42	20	20.5	40	yes		DU
OL20	168-OL20-01-B-1	6 – 12	12	20	7.6	40			DU
OL20	168-OL20-02-B-1	6 – 12	12	20	7.1	40			DU
OL20	168-OL20-03-B-1	6 – 12	12	20	10.3	40			DU
OL20	168-OL20-04-B-1	6 – 12	12	20	7.2	40			DU
OL20	168-OL20-05-B-1	6 – 12	12	20	10.9	40			DU
OL20	168-OL20-06-B-1	6 – 12	12	20	43.1	40		yes	DU
OL20	168-OL20-07-B-1	6 – 12	12	20	7.9	40			DU
OL20	168-OL20-08-B-1	6 – 12	12	20	8.0	40			DU
OL20	168-OL20-09-B-1	6 – 12	12	20	9.0	40			DU
OL20	168-OL20-01-C-1	12 – 18	12	60	17.4	150			DU
OL20	168-OL20-02-C-1	12 – 18	12	60	5.6	150			DU
OL20	168-OL20-03-C-1	12 – 18	12	60	11.7	150			DU
OL20	168-OL20-04-C-1	12 – 18	12	60	13.4	150			DU
OL20	168-OL20-05-C-1	12 – 18	12	60	12.4	150			DU

OL20	168-OL20-06-C-1	12 – 18	12	60	9.8	150			DU
OL20	168-OL20-07-C-1	12 – 18	12	60	13.7	150			DU
OL20	168-OL20-08-C-1	12 – 18	12	60	8.8	150			DU
OL20	168-OL20-09-C-1	12 – 18	12	60	12.3	150			DU
OL20	168-OL20-01-D-1	18 – 24	12	60	13.8	150			DU
OL20	168-OL20-02-D-1	18 – 24	12	60	6.9	150			DU
OL20	168-OL20-03-D-1	18 – 24	12	60	14.9	150			DU
OL20	168-OL20-04-D-1	18 – 24	12	60	14.0	150			DU
OL20	168-OL20-05-D-1	18 – 24	12	60	8.2	150			DU
OL20	168-OL20-06-D-1	18 – 24	12	60	15.1	150			DU
OL20	168-OL20-07-D-1	18 – 24	12	60	14.9	150			DU
OL20	168-OL20-08-D-1	18 – 24	12	60	11.0	150			DU
OL20	168-OL20-09-D-1	18 – 24	12	60	8.3	150			DU
OL21	168-OL21-01-A-1	0 – 6	33	20	24.5	40	yes		DU
OL21	168-OL21-02-A-1	0 – 6	33	20	70.4	40	yes	yes	DU
OL21	168-OL21-03-A-1	0 – 6	33	20	8.2	40	yes		DU
OL21	168-OL21-04-A-1	0 – 6	33	20	61.0	40	yes	yes	DU
OL21	168-OL21-05-A-1	0 – 6	33	20	7.1	40	yes		DU
OL21	168-OL21-06-A-1	0 – 6	33	20	22.1	40	yes		DU
OL21	168-OL21-07-A-1	0 – 6	33	20	30.2	40	yes		DU
OL21	168-OL21-08-A-1	0 – 6	33	20	27.3	40	yes		DU
OL21	168-OL21-09-A-1	0 – 6	33	20	44.9	40	yes	yes	DU
OL21	168-OL21-01-B-1	6 – 12	8.6	20	7.5	40			DU
OL21	168-OL21-02-B-1	6 – 12	8.6	20	6.9	40			DU
OL21	168-OL21-03-B-1	6 – 12	8.6	20	7.5	40			DU
OL21	168-OL21-04-B-1	6 – 12	8.6	20	5.7	40			DU
OL21	168-OL21-05-B-1	6 – 12	8.6	20	3.9	40			DU
OL21	168-OL21-06-B-1	6 – 12	8.6	20	12.6	40			DU
OL21	168-OL21-07-B-1	6 – 12	8.6	20	15.5	40			DU
OL21	168-OL21-08-B-1	6 – 12	8.6	20	11.1	40			DU
OL21	168-OL21-09-B-1	6 – 12	8.6	20	6.6	40			DU
OL21	168-OL21-01-C-1	12 – 18	6.6	60	3.7	150			DU
OL21	168-OL21-02-C-1	12 – 18	6.6	60	8.8	150			DU
OL21	168-OL21-03-C-1	12 – 18	6.6	60	5.1	150			DU
OL21	168-OL21-04-C-1	12 – 18	6.6	60	5.2	150			DU
OL21	168-OL21-05-C-1	12 – 18	6.6	60	4.3	150			DU
OL21	168-OL21-06-C-1	12 – 18	6.6	60	17.4	150			DU
OL21	168-OL21-07-C-1	12 – 18	6.6	60	4.7	150			DU
OL21	168-OL21-08-C-1	12 – 18	6.6	60	6.0	150			DU
OL21	168-OL21-09-C-1	12 – 18	6.6	60	4.4	150			DU
OL21	168-OL21-01-D-1	18 – 24	4.6	60	5.1	150			DU
OL21	168-OL21-02-D-1	18 – 24	4.6	60	3.6	150			DU
OL21	168-OL21-03-D-1	18 – 24	4.6	60	6.2	150			DU
OL21	168-OL21-04-D-1	18 – 24	4.6	60	4.2	150			DU
OL21	168-OL21-05-D-1	18 – 24	4.6	60	3.1	150			DU
OL21	168-OL21-06-D-1	18 – 24	4.6	60	6.6	150			DU
OL21	168-OL21-07-D-1	18 – 24	4.6	60	4.1	150			DU
OL21	168-OL21-08-D-1	18 – 24	4.6	60	3.5	150			DU
OL21	168-OL21-09-D-1	18 – 24	4.6	60	4.8	150			DU
OL22	168-OL22-01-B-1	6 – 12	30	20	7.1	40	yes		DU

OL22	168-OL22-02-B-1	6 – 12	30	20	133	40	yes	yes	DU
OL22	168-OL22-03-B-1	6 – 12	30	20	16.0	40	yes		DU
OL22	168-OL22-04-B-1	6 – 12	30	20	5.7	40	yes		DU
OL22	168-OL22-05-B-1	6 – 12	30	20	6.2	40	yes		DU
OL22	168-OL22-06-B-1	6 – 12	30	20	8.7	40	yes		DU
OL22	168-OL22-07-B-1	6 – 12	30	20	3.3	40	yes		DU
OL22	168-OL22-08-B-1	6 – 12	30	20	61.8	40	yes	yes	DU
OL22	168-OL22-01-C-1	12 – 18	8.9	60	7.3	150			DU
OL22	168-OL22-02-C-1	12 – 18	8.9	60	12.2	150			DU
OL22	168-OL22-03-C-1	12 – 18	8.9	60	3.0	150			DU
OL22	168-OL22-04-C-1	12 – 18	8.9	60	5.3	150			DU
OL22	168-OL22-05-C-1	12 – 18	8.9	60	5.3	150			DU
OL22	168-OL22-06-C-1	12 – 18	8.9	60	6.5	150			DU
OL22	168-OL22-07-C-1	12 – 18	8.9	60	4.9	150			DU
OL22	168-OL22-08-C-1	12 – 18	8.9	60	26.6	150			DU
OL22	168-OL22-01-D-1	18 – 24	6.3	60	4.6	150			DU
OL22	168-OL22-02-D-1	18 – 24	6.3	60	6.4	150			DU
OL22	168-OL22-03-D-1	18 – 24	6.3	60	6.3	150			DU
OL22	168-OL22-04-D-1	18 – 24	6.3	60	6.1	150			DU
OL22	168-OL22-05-D-1	18 – 24	6.3	60	5.5	150			DU
OL22	168-OL22-06-D-1	18 – 24	6.3	60	10.4	150			DU
OL22	168-OL22-07-D-1	18 – 24	6.3	60	4.6	150			DU
OL22	168-OL22-08-D-1	18 – 24	6.3	60	6.8	150			DU
OL23	168-OL23-01-B-1	6 – 12	25	20	15.6	40	yes		DU
OL23	168-OL23-02-B-1	6 – 12	25	20	51	40	yes	yes	DU
OL23	168-OL23-03-B-1	6 – 12	25	20	24.1	40	yes		DU
OL23	168-OL23-04-B-1	6 – 12	25	20	6.0	40	yes		DU
OL23	168-OL23-05-B-1	6 – 12	25	20	7.9	40	yes		DU
OL23	168-OL23-06-B-1	6 – 12	25	20	6.2	40	yes		DU
OL23	168-OL23-07-B-1	6 – 12	25	20	9.1	40	yes		DU
OL23	168-OL23-08-B-1	6 – 12	25	20	36	40	yes		DU
OL23	168-OL23-09-B-1	6 – 12	25	20	66	40	yes	yes	DU
OL23	168-OL23-01-C-1	12 – 18	20	60	6.5	150			DU
OL23	168-OL23-02-C-1	12 – 18	20	60	34.8	150			DU
OL23	168-OL23-03-C-1	12 – 18	20	60	8.5	150			DU
OL23	168-OL23-04-C-1	12 – 18	20	60	4.5	150			DU
OL23	168-OL23-05-C-1	12 – 18	20	60	3.7	150			DU
OL23	168-OL23-06-C-1	12 – 18	20	60	3.8	150			DU
OL23	168-OL23-07-C-1	12 – 18	20	60	4.0	150			DU
OL23	168-OL23-08-C-1	12 – 18	20	60	29.1	150			DU
OL23	168-OL23-09-C-1	12 – 18	20	60	84.5	150			DU
OL23	168-OL23-01-D-1	18 – 24	6.8	60	5.3	150			DU
OL23	168-OL23-02-D-1	18 – 24	6.8	60	4.6	150			DU
OL23	168-OL23-03-D-1	18 – 24	6.8	60	7.5	150			DU
OL23	168-OL23-04-D-1	18 – 24	6.8	60	5.7	150			DU
OL23	168-OL23-05-D-1	18 – 24	6.8	60	6.2	150			DU
OL23	168-OL23-06-D-1	18 – 24	6.8	60	4.3	150			DU
OL23	168-OL23-07-D-1	18 – 24	6.8	60	4.1	150			DU
OL23	168-OL23-08-D-1	18 – 24	6.8	60	6.3	150			DU
OL23	168-OL23-09-D-1	18 – 24	6.8	60	16.9	150			DU

OL24	168-OL24-01-B-1	6 – 12	32	20	28	40	yes		DU
OL24	168-OL24-02-B-1	6 – 12	32	20	72	40	yes	yes	DU
OL24	168-OL24-03-B-1	6 – 12	32	20	34	40	yes		DU
OL24	168-OL24-04-B-1	6 – 12	32	20	13.7	40	yes		DU
OL24	168-OL24-05-B-1	6 – 12	32	20	10.8	40	yes		DU
OL24	168-OL24-06-B-1	6 – 12	32	20	13.9	40	yes		DU
OL24	168-OL24-07-B-1	6 – 12	32	20	10.1	40	yes		DU
OL24	168-OL24-08-B-1	6 – 12	32	20	95	40	yes	yes	DU
OL24	168-OL24-09-B-1	6 – 12	32	20	7.5	40	yes		DU
OL24	168-OL24-01-C-1	12 – 18	6.0	60	4.6	150			DU
OL24	168-OL24-02-C-1	12 – 18	6.0	60	6.0	150			DU
OL24	168-OL24-03-C-1	12 – 18	6.0	60	6.6	150			DU
OL24	168-OL24-04-C-1	12 – 18	6.0	60	5.5	150			DU
OL24	168-OL24-05-C-1	12 – 18	6.0	60	6.8	150			DU
OL24	168-OL24-06-C-1	12 – 18	6.0	60	5.7	150			DU
OL24	168-OL24-07-C-1	12 – 18	6.0	60	10.7	150			DU
OL24	168-OL24-08-C-1	12 – 18	6.0	60	4.2	150			DU
OL24	168-OL24-09-C-1	12 – 18	6.0	60	3.7	150			DU
OL24	168-OL24-01-D-1	18 – 24	6.4	60	3.9	150			DU
OL24	168-OL24-02-D-1	18 – 24	6.4	60	3.9	150			DU
OL24	168-OL24-03-D-1	18 – 24	6.4	60	4.4	150			DU
OL24	168-OL24-04-D-1	18 – 24	6.4	60	5.0	150			DU
OL24	168-OL24-05-D-1	18 – 24	6.4	60	7.2	150			DU
OL24	168-OL24-06-D-1	18 – 24	6.4	60	6.9	150			DU
OL24	168-OL24-07-D-1	18 – 24	6.4	60	15.1	150			DU
OL24	168-OL24-08-D-1	18 – 24	6.4	60	5.0	150			DU
OL24	168-OL24-09-D-1	18 – 24	6.4	60	6.6	150			DU
OL25	168-OL25-01-A-1	0 – 6	21	20	14.0	40	yes		DU
OL25	168-OL25-02-A-1	0 – 6	21	20	15	40	yes		DU
OL25	168-OL25-03-A-1	0 – 6	21	20	32	40	yes		DU
OL25	168-OL25-04-A-1	0 – 6	21	20	15.6	40	yes		DU
OL25	168-OL25-05-A-1	0 – 6	21	20	29	40	yes		DU
OL25	168-OL25-01-B-1	6 – 12	8.8	20	5.96	40			DU
OL25	168-OL25-02-B-1	6 – 12	8.8	20	10.5	40			DU
OL25	168-OL25-03-B-1	6 – 12	8.8	20	8.9	40			DU
OL25	168-OL25-04-B-1	6 – 12	8.8	20	7.6	40			DU
OL25	168-OL25-05-B-1	6 – 12	8.8	20	11	40			DU
OL25	168-OL25-01-C-1	12 – 18	10	60	8.0	150			DU
OL25	168-OL25-02-C-1	12 – 18	10	60	13.5	150			DU
OL25	168-OL25-03-C-1	12 – 18	10	60	7.0	150			DU
OL25	168-OL25-04-C-1	12 – 18	10	60	13.3	150			DU
OL25	168-OL25-05-C-1	12 – 18	10	60	8.0	150			DU
OL25	168-OL25-01-D-1	18 – 24	12	60	8.2	150			DU
OL25	168-OL25-02-D-1	18 – 24	12	60	11.7	150			DU
OL25	168-OL25-03-D-1	18 – 24	12	60	12.6	150			DU
OL25	168-OL25-04-D-1	18 – 24	12	60	12.3	150			DU
OL25	168-OL25-05-D-1	18 – 24	12	60	13.0	150			DU
OL26	168-OL26-01-B-1	6 – 12	26	20	68.6	40	yes	yes	DU
OL26	168-OL26-02-B-1	6 – 12	26	20	5.4	40	yes		DU
OL26	168-OL26-03-B-1	6 – 12	26	20	29.0	40	yes		DU

OL26	168-OL26-04-B-1	6 – 12	26	20	5.8	40	yes		DU
OL26	168-OL26-05-B-1	6 – 12	26	20	44.6	40	yes	yes	DU
OL26	168-OL26-06-B-1	6 – 12	26	20	4.6	40	yes		DU
OL26	168-OL26-01-C-1	12 – 18	9.3	60	13.5	150			DU
OL26	168-OL26-02-C-1	12 – 18	9.3	60	5.4	150			DU
OL26	168-OL26-03-C-1	12 – 18	9.3	60	4.9	150			DU
OL26	168-OL26-04-C-1	12 – 18	9.3	60	5.3	150			DU
OL26	168-OL26-05-C-1	12 – 18	9.3	60	21.2	150			DU
OL26	168-OL26-06-C-1	12 – 18	9.3	60	5.6	150			DU
OL26	168-OL26-01-D-1	18 – 24	4.2	60	3.2	150			DU
OL26	168-OL26-02-D-1	18 – 24	4.2	60	4.2	150			DU
OL26	168-OL26-03-D-1	18 – 24	4.2	60	4.5	150			DU
OL26	168-OL26-04-D-1	18 – 24	4.2	60	5.0	150			DU
OL26	168-OL26-05-D-1	18 – 24	4.2	60	3.2	150			DU
OL26	168-OL26-06-D-1	18 – 24	4.2	60	5.2	150			DU

<LOD = less than the limit of detection

CS = crawl space sample

DU = decision unit

EX = excavation base sample

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

na = not applicable

ppm = parts per million

XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding ε

CITY OF EVERETT, WASHINGTON PUBLIC WORKS DEPARTMENT

ADDENDUM NO. #1

**WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS ***

WORK ORDER #3630

STATE FUND# HLP-PB15(032

August 15, 2024

Notice to Plan Holders:

This Addendum No. 1 contains the following revisions, additions, deletions, and/or clarifications, is hereby made a part of the plans and specifications (Contract Documents) for the above named project, and shall be taken into consideration by Bidders in submitting their bids.

Bidders shall acknowledge receipt of this Addendum No. 1 in the space provided on the Proposal. Failure to do so may subject the Bidder to disqualification of its bid.

This Addendum 1 consists of 14 pages, including all revisions, attachments and details.

The Bid date for receipt of Bids has NOT been changed by this Addendum.

SPECIFICATIONS, PROPOSAL AND CONTRACT DOCUMENTS

Item 1 - Specifications

Add the following new Specification
1-05.8 AUTODESK BUILD FOR DOCUMENT CONTROL
(see attached)

Item 2 PROPOSAL, BID ITEMS

Replace Notice to Contractors with Addendum 1 Notice to Contractors

Replace Bid Schedule with Addendum 1 Bid Schedule.

Item 3 PLANS

Replace sheet C5, T3, and T4 with the Addendum 1 C5, T3 and T4 sheets.

Item 4 - ANSWERS TO QUESTIONS SUBMITTED FOR CLARIFICATION

- 1) For Item 7 Hazardous Material Excavation Incl. Haul
 - A. Will be considering all the material Subtitle D? **YES**
 - B. Has a TCLP or Toxicity Characteristic Leaching Procedure was done? **Yes, TCLP was done in the park by Ecology in 2012**
 - C. Is the source Asarco plume? Do you have RCRA 8 metals? **Yes this is part of the Asarco Plume. There are RCRA 8 metals however the TCLP performed in 2012 showed that all of the RCRA metals are below the established allowable limits within our excavated/disturbed areas.**
- 2) Typo in the units for bid item 24. I assume it should be 500 LF not hours. **This has been addressed as part of this Addendum.**
- 3) The sidewalk, bid item #36, 812 SY seems to be overstated. Our takeoff from the plans shows about 134 SY **This has been addressed as part of this Addendum.**
- 4) Also, the bid form only has 2 ADA ramps. The plans show a 3rd ADA ramp at West Marine view drive. **This has been addressed as part of this Addendum.**
- 5) There is not a bid item for Common Borrow shown in sections B and C on sheet C5. Please advise if a bid item will be added for this material. **This has been addressed as part of this Addendum. Common Borrow removed from contract and replaced with CSBC.**
- 6) On sheet C3 note C6 there is a Curb Ramp type parallel B shown but there is no bid item for it. Please add a bid item for Curb Ramp Type Parallel B. **Bid Item was added.**
- 7) The quantity for bid item 36 Cement Conc. Sidewalk appears to be incorrect. I believe it should be 128 sy (not 812 sy). Please review. **Quantity corrected. See Addendum Bid Schedule.**
- 8) Plan Sheet T3 The RRFB Pole on the South side of W Marine View Drive does not have a "C18" note on it, is this a new RRFB? It looks to be an existing complete RRFB System **Added note C18 to plans for south existing RRFB**
- 9) Is the Street Light Pole on the South side of W Marine View Drive new? **Existing Street Light Pole to be removed per note C6 on Sheet D3 New pole note added to plan sheet T3.**
- 10) On the South side of W Marine View Drive, wire notes #2 & #3 both point to the same line, which one is correct? **Note #2 leader line incorrect. This has been addressed as part of this Addendum.**
- 11) Sheet T3 Construction note #16 is called out, but there is nothing located on the plans. Are all the junction boxes for the lighting system existing? **Note location on plan sheet T3 added for one new j-box adjacent to new light standard pole within new concrete sidewalk.**
- 12) Plan Sheet T4 Can you please provide a detail for construction note C14? **Note Added to revised plan sheet**
- 13) Please confirm the existing boxes on the North & south sides of 41st do not need to be replaced? **No new J-boxes required, utilizing existing conduit across 41st at Grand Ave**
- 14) Drawing T3: Construction Notes C16. I could not find it on the drawing **Note location on plan sheet T3 added for one new j-box adjacent to new light standard pole within new concrete sidewalk**
- 15) Drawing T4: Construction Notes C14, I found on the drawing, but, it is not defined in the Construction Notes **Note Added to revised plan sheet**
- 16) Bid Qty for pavement markings please check Items 20 to 24 and no item for Bike lane extension. **This has been addressed as part of this Addendum**

17) Where the Bond Breaker geotextile is supposed to be installed for the Cement Concrete Modular Block Wall? There is no reference on the detail. The specified Bond Breaker is overkill for the application. A typical Geotextile for Separation per WSDOT's standard specifications would be adequate. **Per 8-26.1 Regarding the Cement Concrete Modular Block Wall if it's not shown in the plans it is not required.**

Sincerely,



Laura Claywell

Capital Projects Coordinator | Public Works

lclaywell@everettwa.gov 425.257.8909 | 3200 Cedar St, Everett, WA 98201

Attachments:

Added Spec 1-05.8 Autodesk Build for Document Control

Notice to Contractors

Bid Schedule

Plan sheets C5, T3 and T4

Add the following new Section:

(****

1-05.8 AUTODESK BUILD FOR DOCUMENT CONTROL

(August 14, 2024, COE GSP)

Section 1-05.8 of the Standard Specifications is supplemented with the following:

All Contract Document Control will be conducted in the application Autodesk Build and may include any of the following:

1-05.8(1) General Requirements

1.1 Scope:

This specification outlines the requirements for the use of Autodesk Build as the primary platform for construction management activities including Requests for Information (RFIs), submittals for approval, construction schedules, two-week look-ahead, proposed change orders, change orders, and record drawings.

1.2 Software Requirement:

The Contractor shall use Autodesk Build for all specified construction management activities. No alternative apps or software platforms will be accepted unless pre-approved by the Owner. **Owner will provide logins for the Contractor at no additional charge.**

1-05.8(2) Requests for Information (RFIs)

2.1 Submission:

All RFIs shall be submitted through Autodesk Build RFI TOOL.

Each RFI must be clearly labeled with a unique identifier, the date of submission, and the specific location or detail of the construction documents to which it pertains.

2.2 Response Time:

The Owner shall respond to all RFIs within the timeframe specified in the contract documents.

1-05.8(3) Submittals for Approval

3.1 Submission Process:

All submittals shall be uploaded to Autodesk Build SUBMITTAL TOOL for review and approval.

Submittals must include all necessary documents, drawings, and specifications as required by the contract.

3.2 Tracking and Status:

The status of each submittal (e.g., submitted, in review, approved, rejected) shall be tracked within Autodesk Build.

Any comments or required revisions will be communicated through the platform.

The Owner shall respond to all Submittals within the timeframe specified in the contract documents.

1-05.8(4) Construction Schedules

4.1 Initial Schedule:

The Contractor shall transmit the initial construction schedule in MSFT Project native format to the Owner via Autodesk Build CORRESPONDENCE TOOL as

an attachment within fourteen (14) working days from the notice to proceed. The Contractor is responsible for developing the schedule in Microsoft Project and updating it as required.

4.2 Updates:

Monthly updates to the construction schedule shall be submitted through Autodesk Build CORRESPONDENCE TOOL.

Rolling short-interval schedules must also be uploaded weekly per 1-05.8(5) below.

1-05.8(5) Short Interval Schedules

5.1 Format and Content:

The Short-Interval Schedules must detail the planned activities, manpower, and equipment for the upcoming two weeks.

It must be submitted weekly in MSFT Excel native format using the Autodesk Build CORRESPONDENCE TOOL and include information pertaining to any anticipated delays or issues.

1-05.8(6) Record Drawings

6.1 Submission:

The Contractor shall maintain the record drawings through Autodesk Build SHEETS.

Record drawings must be updated regularly using the Autodesk Build SHEETS function to reflect as-built conditions and must be complete and accurate.

6.2 Format:

All record drawings shall be submitted in a format compatible with Autodesk Build, ensuring they are clear, legible, and easily accessible.

6.3 Review and Finalization:

The record drawings will be reviewed by the Owner for accuracy and completeness. Any discrepancies must be addressed and corrected promptly.

1-05.8(7) Training and Support

7.1 Training:

The Owner will provide one (1) training session to the Contractor and support throughout the duration of the contract.

The Contractor is responsible for ensuring that all relevant personnel are trained in the use of Autodesk Build.

The Contractor shall provide initial training sessions and continuous support as needed.

7.2 Support:

Ongoing technical support for Autodesk Build shall be available to all project participants throughout the duration of the project.

1-05.8(8) Monthly Progress Payments

8.1 Application Process:

All applications for monthly progress payments shall be submitted through Autodesk Build.

Each application must include the appropriate documentation supporting the progress claimed, such as photos, daily logs, and work completion reports.

8.2 Review and Approval:

The Owner will review the submitted progress payment application via Autodesk Build. Any discrepancies or required corrections will be communicated through the platform.

1-05.8(9) Proposed Change Orders

9.1 Submission and Documentation:

All proposed change orders must be submitted through Autodesk Build CORRESPONDENCE function.

Each change order proposal must include a detailed description, justification, and cost breakdown.

9.2 Approval Process:

The proposed change orders will be reviewed and approved or rejected via Autodesk Build CORRESPONDENCE function.

1-05.8(10) Change Orders

10.1 Implementation:

Approved change orders shall be documented and implemented through Autodesk Build. The Contractor must ensure that all relevant change order documentation and schedule impacts are updated to reflect the Change Order.

1-05.8(11) Compliance and Reporting

11.1 Compliance:

The Contractor must ensure full compliance with the use of Autodesk Build as specified.

Regular audits will be conducted to ensure adherence to the platform use requirements.

11.2 Reporting:

The Contractor shall generate and submit reports from Autodesk Build as required by the Owner, including but not limited to, progress reports, compliance reports, and issue logs.

1-05.8(12) Data Security and Backup

12.1 Data Security:

All data within Autodesk Build must be protected in accordance with City of Everett standards and project-specific requirements.

By adhering to these specifications, the Contractor ensures a streamlined, efficient, and transparent construction management process, leveraging the capabilities of Autodesk Build to achieve project goals.

****)

Note: Unit prices for all items, all extensions, and the total amount bid must be shown. Where conflict occurs between the unit price and the total amount named for any item, the unit price shall prevail, and totals shall be corrected to conform thereto. All entries must be typed or entered in ink.

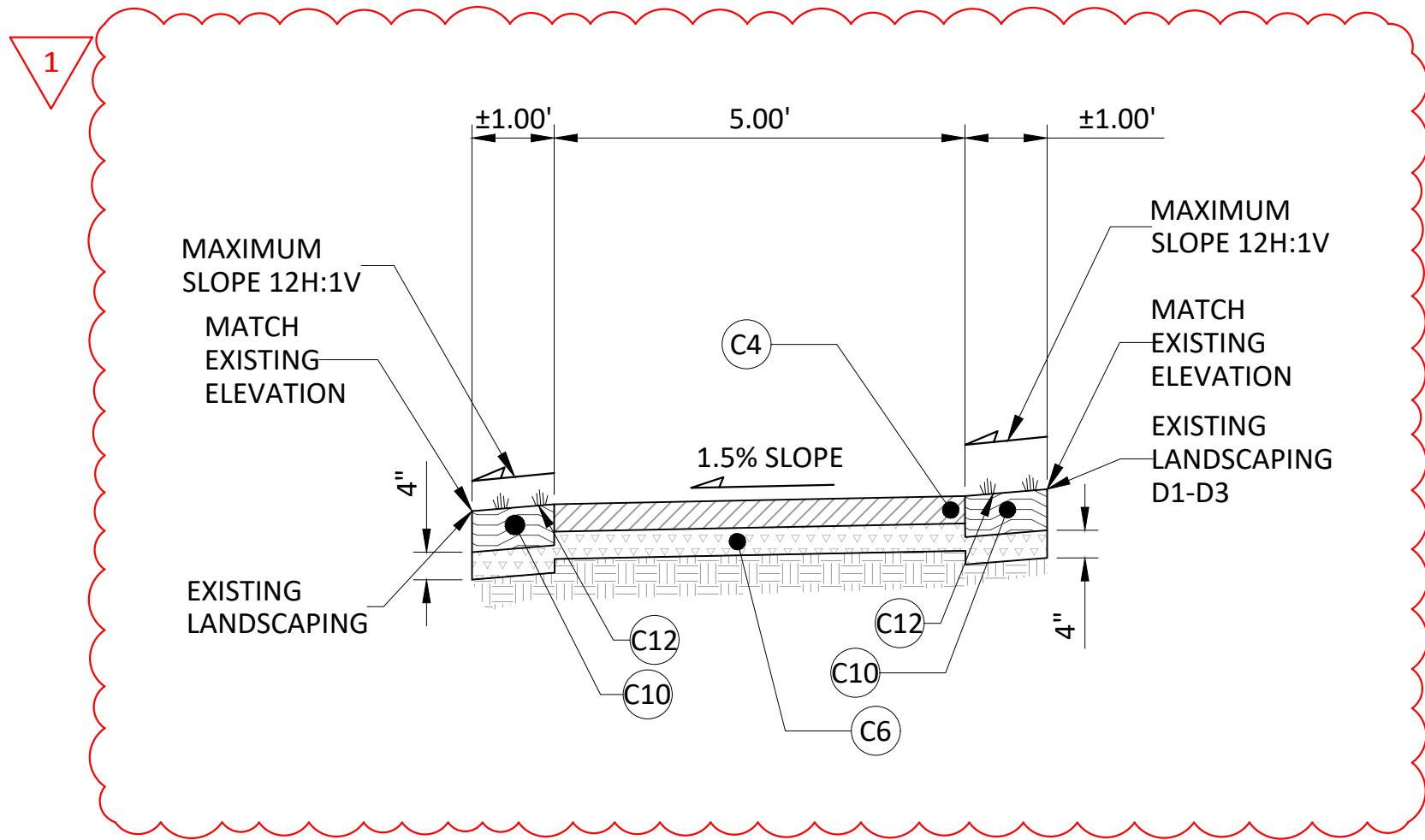
BID SCHEDULE

BIDDER: _____

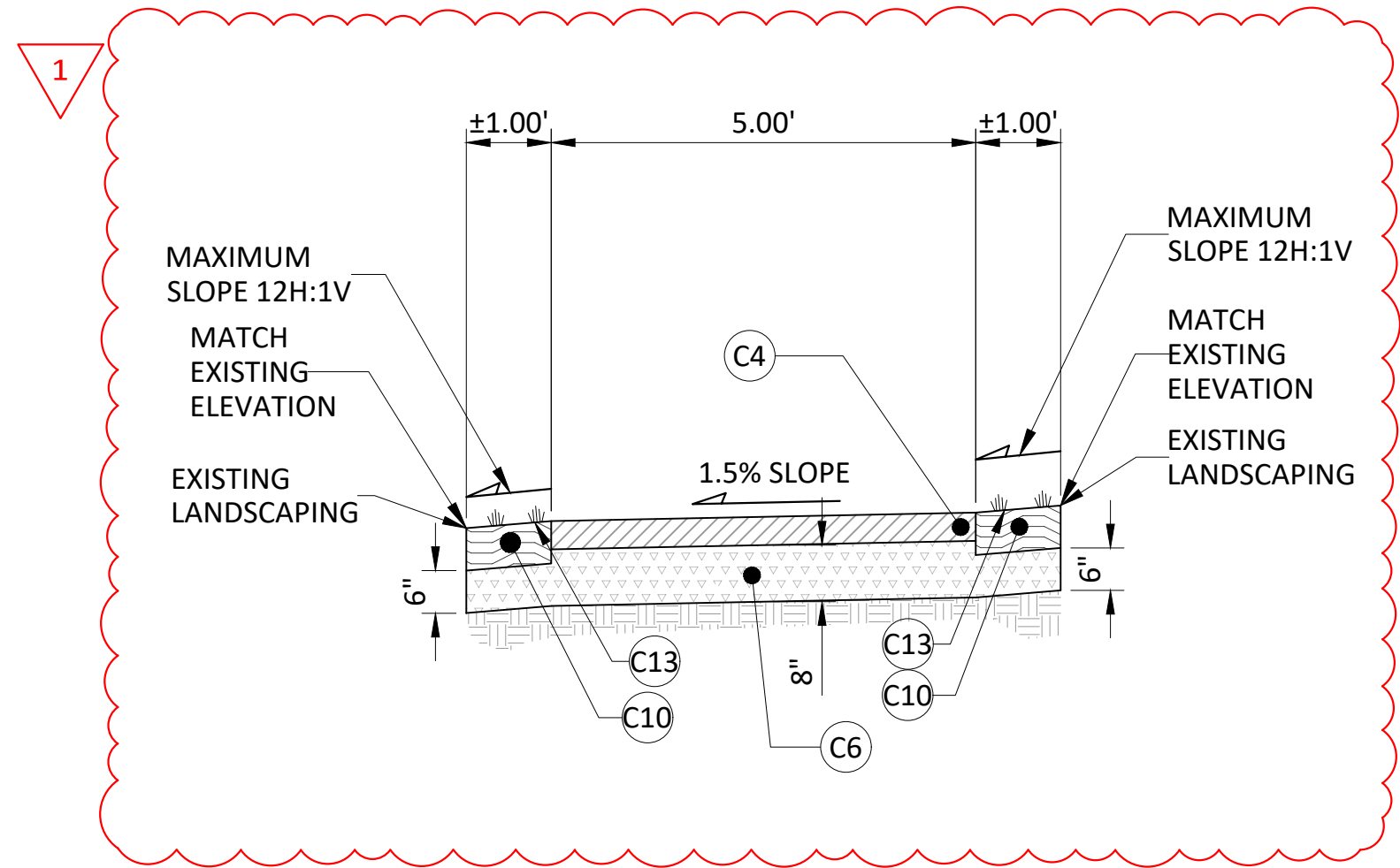
Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1	\$ _____.	\$ _____.
2	CLEARING AND GRUBBING	ACRE	0.26	\$ _____.	\$ _____.
3	REMOVING PLASTIC LINE	LF	1699	\$ _____.	\$ _____.
4	REMOVING PLASTIC TRAFFIC MARKING	EA	2	\$ _____.	\$ _____.
5	REMOVING PLASTIC CROSSWALK LINE	SF	250	\$ _____.	\$ _____.
6	REMOVING MISCELLANEOUS TRAFFIC ITEM	LS	1	\$ _____.	\$ _____.
7	HAZARDOUS MATERIAL EXCAVATION INCL. HAUL	TON	341	\$ _____.	\$ _____.
8	ROADWAY EXCAVATION INCL. HAUL	CY	77	\$ _____.	\$ _____.
9	CRUSHED SURFACING BASE COURSE	TON	422	\$ _____.	\$ _____.
10	HMA CL. ½ IN. PG 64-22	TON	40	\$ _____.	\$ _____.
11	SAWCUTTING ASPHALT	LF	240	\$ _____.	\$ _____.
12	INLET PROTECTION	EA	2	\$ _____.	\$ _____.
13	TOPSOIL TYPE C	SY	1375	\$ _____.	\$ _____.
14	SOD INSTALLATION	SY	1375	\$ _____.	\$ _____.
15	HIGH VISABILITY FENCE	LF	2625	\$ _____.	\$ _____.
16	SILT FENCE	LF	200	\$ _____.	\$ _____.
17	CEMENT CONC. TRAFFIC CURB AND GUTTER	LF	54	\$ _____.	\$ _____.
18	CEMENT CONC. PEDESTRIAN CURB	LF	36	\$ _____.	\$ _____.

Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
19	CEMENT CONCRETE CURB TYPE E-1	LF	237	\$	\$_____.
20	PLASTIC TRAFFIC ARROW	EA	2	\$	\$_____.
21	24-INCH PLASTIC CROSSWALK LINE	LF	190	\$	\$_____.
22	PLASTIC BICYCLE LANE SYMBOL	EA	4	\$	\$_____.
23	4-INCH PLASTIC LINE	LS	330	\$	\$_____.
24	8-INCH PLASTIC LINE	LF	1,870	\$	\$_____.
25	PRECAST SLOPED MOUNTABLE CURB	LF	107	\$	\$_____.
26	PEDESTRIAN TRAFFIC CONTROL	LS	1	\$	
27	PERMANENT SIGNING	LS	1	\$	
28	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	\$	
29	ILLUMINATION SYSTEM	LS	1	\$	
30	TRAFFIC SIGNAL SYSTEM	LS	1	\$	
31	TRAFFIC CONTROL SUPERVISOR	LS	1	\$	
32	ROADWAY SURVEYING	LS	1	\$	
33	ADA FEATURE SURVEYING	LS	1	\$	
34	Curb Ramp Type Parallel B	EA	1	\$	
35	TYPE D CURB RAMP	EA	2	\$	
36	DETECTABLE WARNING SURFACE	SF	60	\$	
37	CEMENT CONC. SIDEWALK	SY	134	\$	
38	ADJUST JUNCTION BOX	EA	4	\$	
39	ADJUST CATCH BASIN	EA	1	\$	
40	CEMENT CONCRETE MODULAR BLOCK UNIT RETAINING WALL	SF	76	\$	
41	MINOR CHANGE	FA	1	\$ 5,000	
42	SPCC PLAN	LS	1	\$	

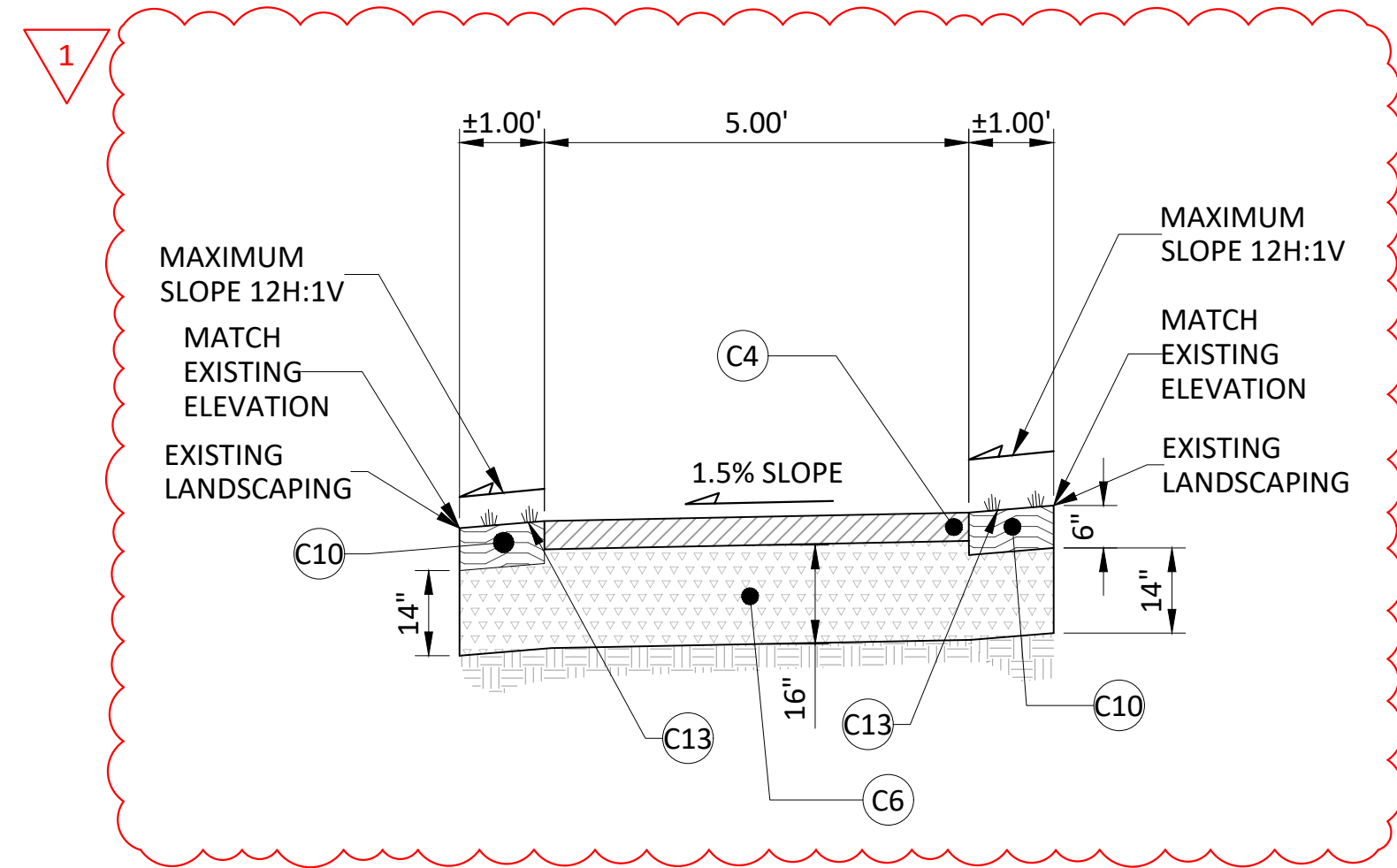
43	24-inch Plastic Green Bike Lane Extension Line	SF	80		
44	24-inch Plastic Stop Bar Line	LF	30		
45	Plastic Sharrow Straight (white on green background)	EA	3		
Total Bid Amount					\$_____.



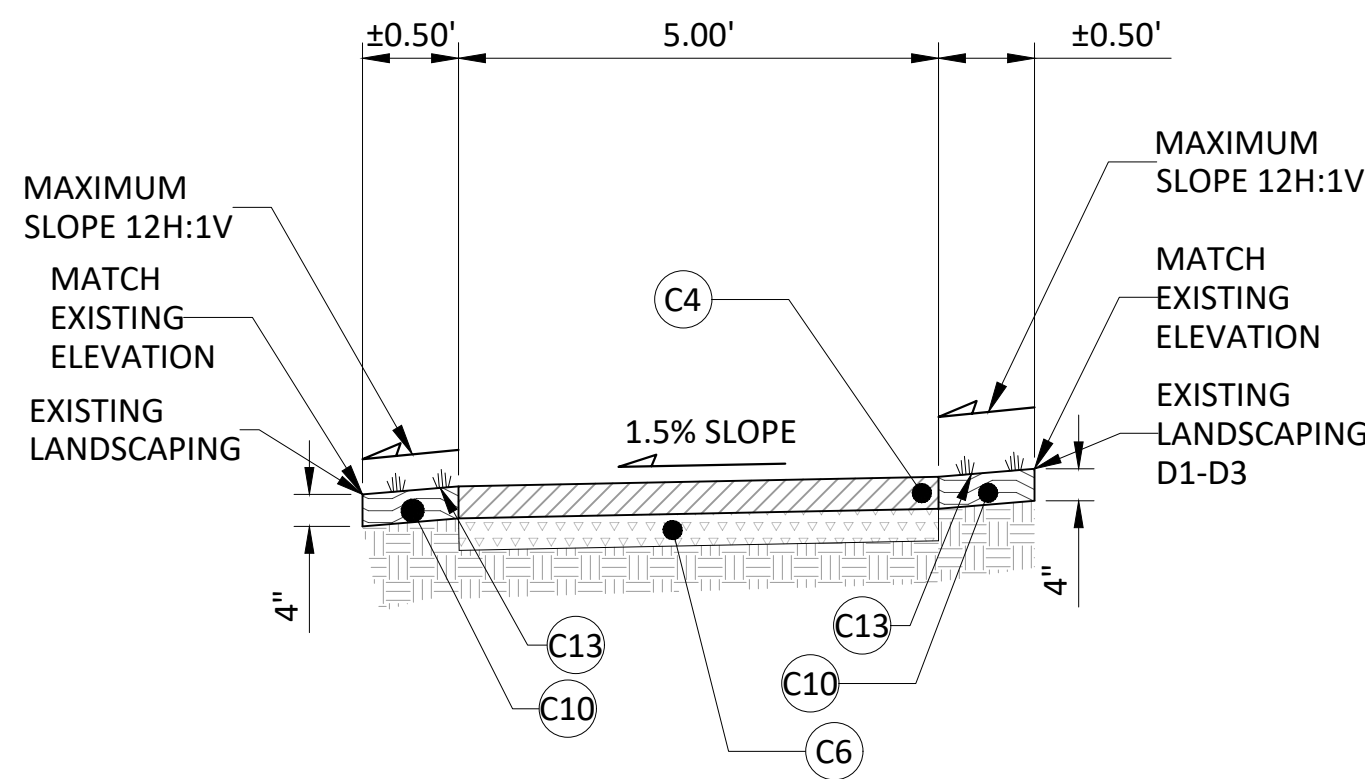
A HIBULB PARK PATH
D1-D3 SCALE: N.T.S.



B HIBULB PARK PATH
D1-D3 SCALE: N.T.S.



C HIBULB PARK PATH
D1-D3 SCALE: N.T.S.



D HIBULB PARK PATH
C1-C3 SCALE: N.T.S.

C CONSTRUCTION NOTES

- 4" COMPACTED DEPTH HMA CL. 1/2 IN. PG 64-22 ASPHALT CONC. PAVEMENT PATCH PER COE STANDARD DRAWING 326. MATCH EXISTING ROADWAY SLOPE.
- COMPACTED CRUSHED SURFACE BASE COURSE. DEPTH VARIES AS SHOWN ON THIS SHEET. COMPACTED IN ACCORDANCE WITH 2-03.3(14)D
- 4" TOPSOIL, TYPE C.
- SOD INSTALLATION.
- 6" COMPACTED DEPTH CRUSHED SURFACING TOP COURSE LEVELING PAD

ADDENDUM #1

Plot date: 8/15/2024 11:41 AM
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Plotted by: Brian DeFreese
Last saved by: BDeFreese
Sheetset Name: 3630 WMD & Alverson Blvd
Plot style: Everett-2016.ctb

NO.	DATE	APRVD	REVISION
1	8-14-24	LC	REMOVED COMMON BORROW AND REPLACED WITH CSBC
PLANS ISSUED FOR			
BID	7-24-24	LC	CONST
ACTION	DATE	APRVD	ACTION
DATE	APRVD	RECORD	DATE
DATE	APRVD	DATE	APRVD

Designed	CCURTIS
Drawn	BDEFRESE
Checked	
Design Review Level	



WEST MARINE VIEW DRIVE/ALVERSON BLVD AND
41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
WORK ORDER 3630
REGION - 10 | STATE - WA | STATE FUND# - HLP-PB15(032)

EROSION CONTROL
DESC CROSS SECTIONS

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Sheet No.	13
Of Total	28

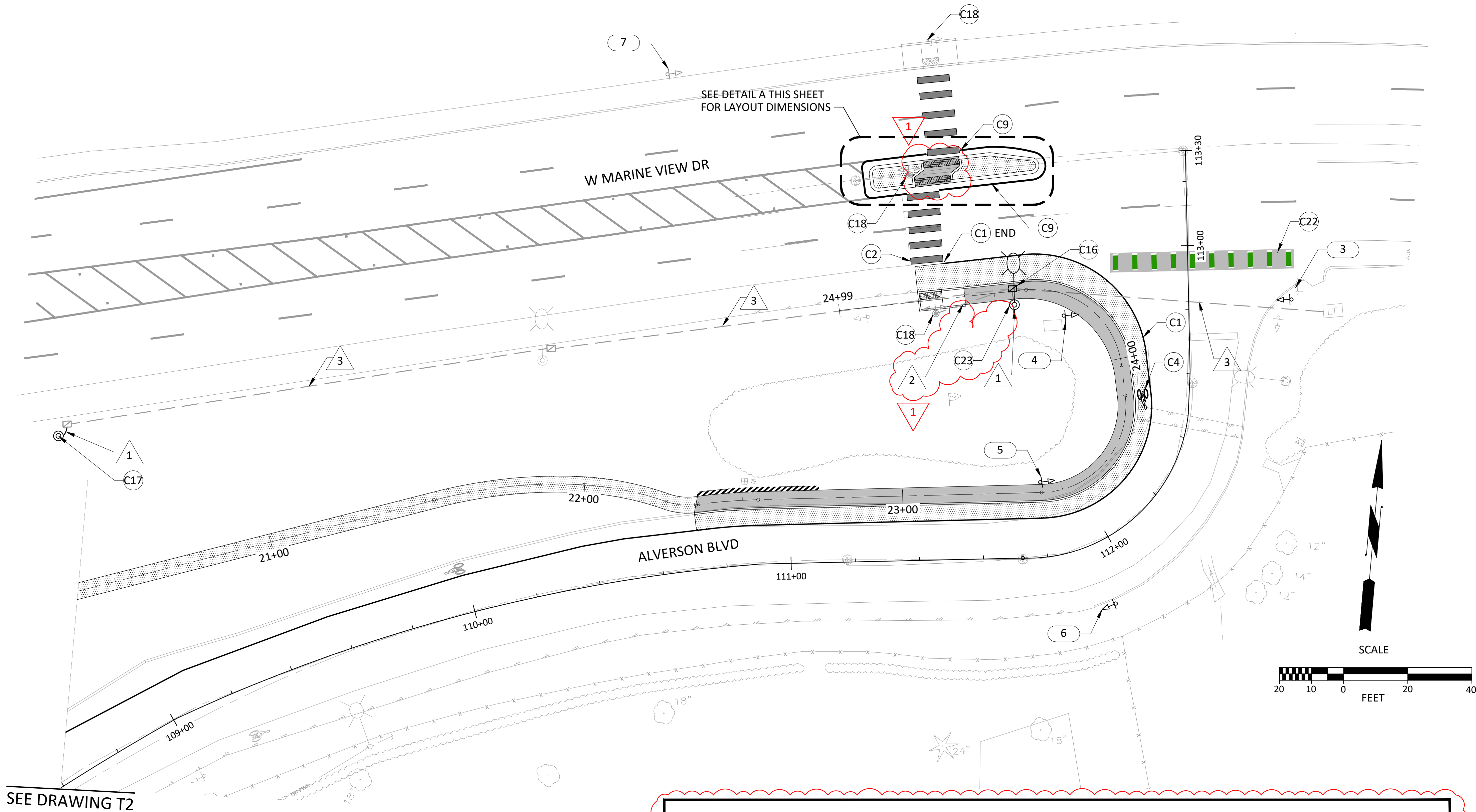
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Plotted by Brian Defreese
Last saved by BDefreese
Sheetset Name 3630 WVVD & Alverson Blvd
Plot style Everett-2016.ctb
SHEET 3630 TRAFFIC-ALV.DWG

GENERAL NOTES

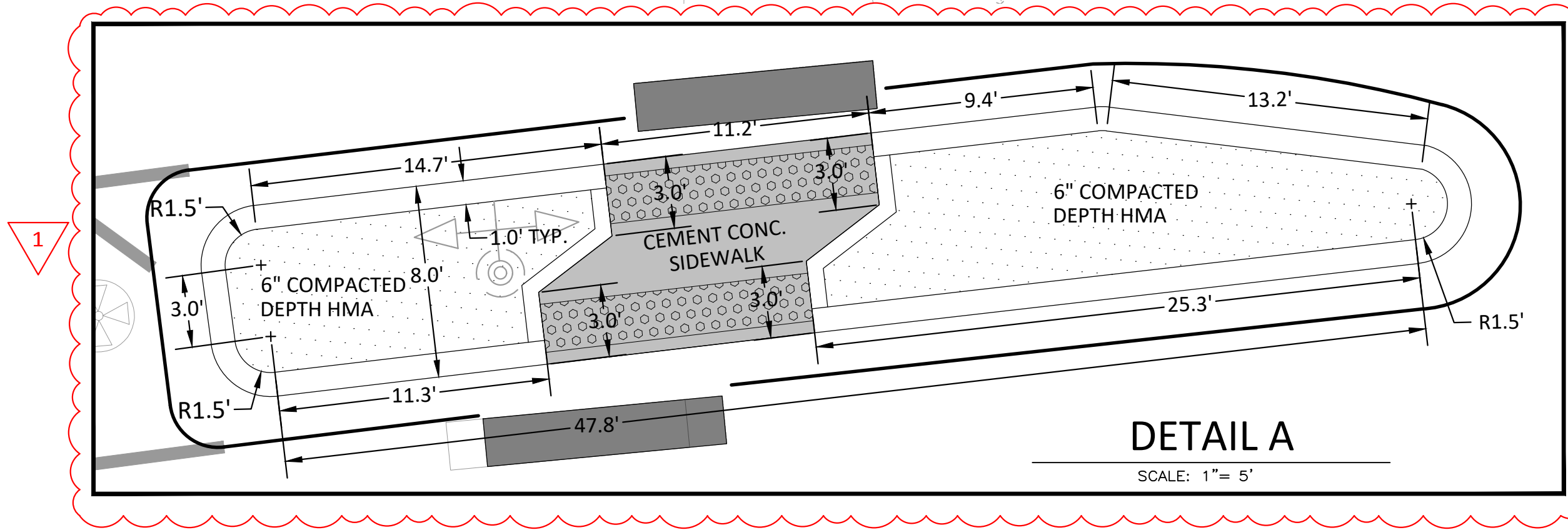
1. INSTALL FOUNDATIONS, POSTS, AND SIGNS PER COE STANDARD DRAWINGS 715, 716, 717 AND 718. ANCHOR PLATE INSTALLATIONS ARE NOT ALLOWED.
2. SIGNS AND BICYCLE LANE SYMBOLS WILL BE STAKED BY THE ENGINEER. CONTACT TRAFFIC ENGINEERING THROUGH THE ENGINEER 3 DAYS PRIOR TO INSTALLATION FOR STAKING.
3. POST LENGTHS ARE APPROXIMATE AND SHALL BE VERIFIED AND CUT TO THE APPROPRIATE LENGTH IN THE FIELD.
4. ALL POSTS SHALL BE 14 GAUGE, 2" PERFORATED SQUARE STEEL SOLID WALL.
5. ALL SIGN SHEETING SHALL BE EITHER TYPE III OR IV.
6. WHERE CALLED FOR IN THE SIGN SCHEDULE, CORE DRILL SIDEWALK SHALL BE 12" CORE, PATCH BACK WITH COMMERCIAL CONCRETE AND FINISH TO MATCH SURROUNDING SIDEWALK.

CONSTRUCTION NOTES

1. INSTALL 8" WIDE TYPE D PLASTIC WHITE LINE PER COE STANDARD DRAWING 720.
2. INSTALL 24" WIDE TYPE D PLASTIC CROSSWALK LINE PER COE STANDARD DRAWING 721.
4. INSTALL TYPE B PLASTIC BICYCLE LANE SYMBOL PER WSDOT STANDARD PLAN M-9.50-02.
9. INSTALL 4" WIDE TYPE D PLASTIC YELLOW LINE PER COE STANDARD DRAWING 720.
16. REMOVE EXISTING JUNCTION BOX AND INSTALL TYPE 2 JUNCTION BOX WITH NON-SLIP LID AND LOAD BEARING RING.
17. REMOVE EXISTING LIGHT STANDARD FOUNDATION. CONSTRUCT FOUNDATION FOR FUTURE LIGHT STANDARD. EXPOSE EXISTING JUNCTION BOX AND INTERCEPT EXISTING CONDUIT. ROUTE NEW CONDUIT TO NEW FOUNDATION. LIGHT STANDARD AND WIRING TO BE INSTALLED BY THE CITY.
18. EXISTING RRFB SIGN ASSEMBLY TO REMAIN.
22. INSTALL BIKE LANE EXTENSION LINES PER DETAIL ON SHEET T7.
23. INSTALL LUMINAIRE POLE AND FOUNDATION.



WIRING SCHEDULE				
#	CONDUIT	WIRE	CIRCUIT	FUNCTION
1	2" PVC SCH 40	2-#6 W/GND	ILLUM 1	ILLUMINATION CIRCUIT 1
2	EX 2" PVC SCH 40	EX 2-#6 W/GND	SIGN 1	RRFB SIGN CIRCUIT 1
3	EX 2" PVC SCH 40	EX 2-#6 W/GND	ILLUM 1	ILLUMINATION CIRCUIT 1



LEGEND

- # SIGN IDENTIFIER. SEE SHEET T6.
- # WIRING SCHEDULE. SEE TABLE ON THIS SHEET.

ADDENDUM #1

</			

Designed
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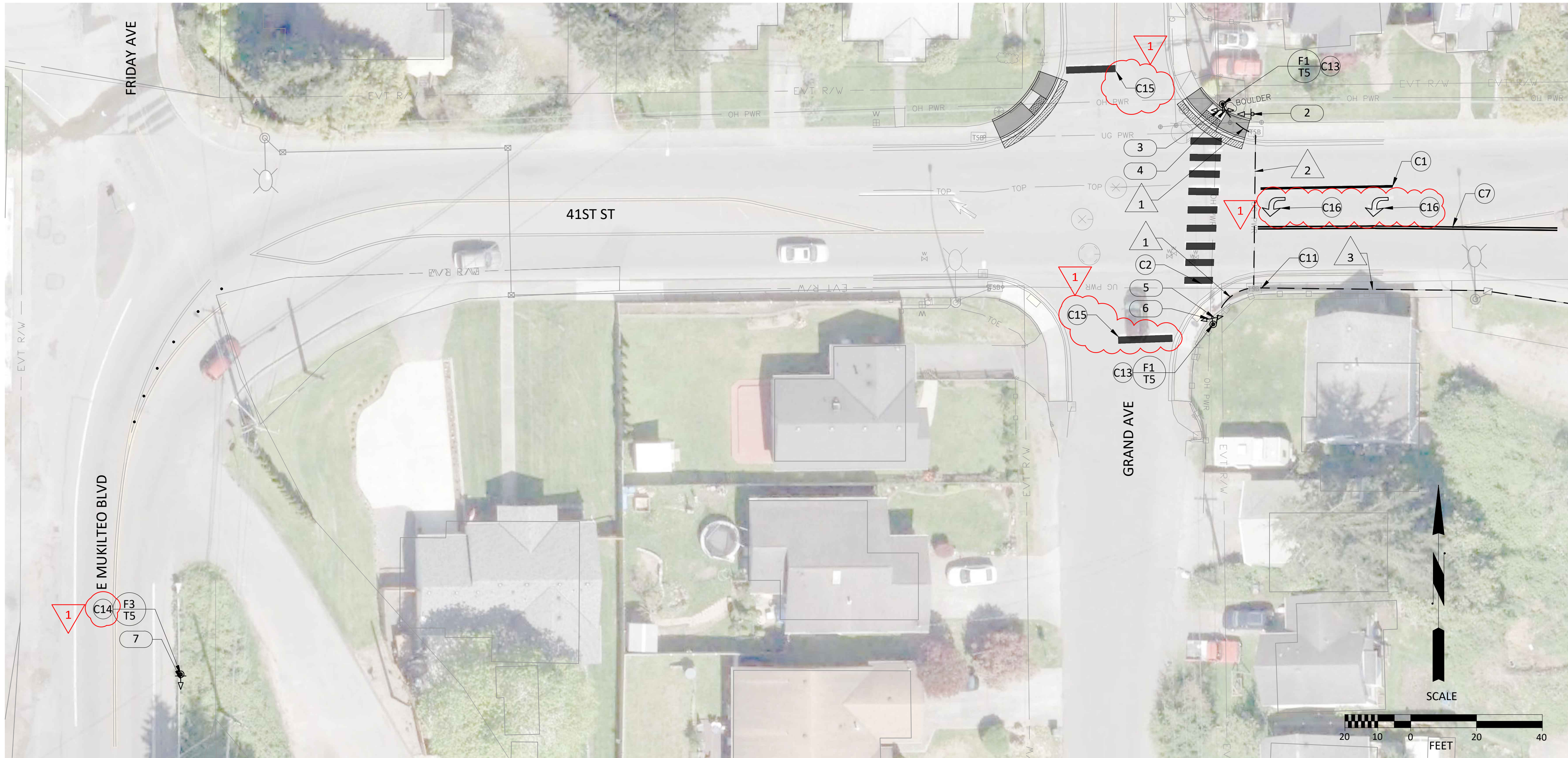


WEST MARINE VIEW DRIVE/ALVERSON BLVD AND
41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
WORK ORDER 3630
REGION - 10 | STATE - WA | STATE FUND# - HLP-PB15(032)

TRAFFIC
ALVERSON BLVD
STA 108+58.86 TO 113+20

Drawing
T3
Sheet No.
18
28
Of Total

Plot date: 8/15/2024 11:25 AM
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Last saved by: BDeFreese
Plot style: Everett-2016.ctb
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SHEET 3630 TRAFFIC-41ST STREET.DWG



GENERAL NOTES

1. INSTALL FOUNDATIONS, POSTS, AND SIGNS PER COE STANDARD DRAWINGS 715, 716, 717 AND 718. ANCHOR PLATE INSTALLATIONS ARE NOT ALLOWED.
2. SIGNS AND BICYCLE LANE SYMBOLS WILL BE STAKED BY THE ENGINEER. CONTACT TRAFFIC ENGINEERING THROUGH THE ENGINEER 3 DAYS PRIOR TO INSTALLATION FOR STAKING.
3. POST LENGTHS ARE APPROXIMATE AND SHALL BE VERIFIED AND CUT TO THE APPROPRIATE LENGTH IN THE FIELD.
4. ALL POSTS SHALL BE 14 GAUGE, 2" PERFORATED SQUARE STEEL SOLID WALL.
5. ALL SIGN SHEETING SHALL BE EITHER TYPE III OR IV.
6. WHERE CALLED FOR IN THE SIGN SCHEDULE, CORE DRILL SIDEWALK SHALL BE 12" CORE, PATCH BACK WITH COMMERCIAL CONCRETE AND FINISH TO MATCH SURROUNDING SIDEWALK.

CONSTRUCTION NOTES

1. INSTALL 8" WIDE TYPE D PLASTIC WHITE LINE PER COE STANDARD DRAWING 720.
2. INSTALL 24" WIDE TYPE D PLASTIC CROSSWALK LINE PER COE STANDARD DRAWING 721.
7. INSTALL TYPE D PLASTIC DOUBLE YELLOW CENTER LINE PER COE STANDARD DRAWING 720. LOCATION TO BE STAKED BY THE ENGINEER.
10. INSTALL 15A DUAL POLE BREAKER INTO EXISTING SERVICE CABINET. ROUTE SIGN CIRCUIT INTO CABINET AND TERMINATE.
11. SPLICE SIGN CIRCUIT IN TYPE 3 JUNCTION BOX.
13. CONSTRUCT FOUNDATION AND INSTALL RRFB PER RESPECTIVE RRFB DETAILS SHEET. ROUTE POWER INTO CONTROL CABINET AND TERMINATE. COORDINATE CONTROLLER CABINET SETTINGS WITH TRAFFIC ENGINEERING THROUGH THE ENGINEER THREE DAYS PRIOR TO COMMISSIONING. BUTTONS SHALL BE BAGGED WITH 6 MIL PLASTIC UNTIL SYSTEM IS FULLY COMMISSIONED AND PROGRAMMING IS APPROVED.
14. CONSTRUCT FOUNDATION AND INSTALL SOLAR POWERED RRFB ADVANCE SIGNAL AS SHOWN ON SHEET T5.
15. INSTALL 24" PLASTIC STOP BAR PER COE STANDARDS.
16. INSTALL TYPE 2SL LEFT TRAFFIC ARROW PER WSDOT/APWA STANDARD PLAN M-24.40-02.

SEE BELOW

LEGEND

- # SIGN IDENTIFIER. SEE SHEET T6.
- # WIRING SCHEDULE. SEE TABLE ON THIS SHEET.

WIRING SCHEDULE				
#	CONDUIT	WIRE	CIRCUIT	FUNCTION
1	2" PVC SCH 40	2-#6 W/GND	SIGN 1	RRFB SIGN CIRCUIT 1
	4" PVC SCH 40	2-#6 W/GND	SIGN 1	RRFB SIGN CIRCUIT 1
	4" PVC SCH 40	EMPTY	-	SPARE
3	EX 2" PVC SCH 40	EX 2-#6 W/GND	ILLUM 1	ILLUMINATION CIRCUIT 1
		EX 2-#6	ILLUM 2	ILLUMINATION CIRCUIT 2
		2-#6	SIGN 1	RRFB SIGN CIRCUIT 1
4	EX 2" PVC SCH 40	EX 2-#6 W/GND	ILLUM 1	ILLUMINATION CIRCUIT 1
		EX 2-#6	ILLUM 2	ILLUMINATION CIRCUIT 2
		EX 2-#8	IRR 1	IRRIGATION CONTROLLER CIRCUIT 1
		2-#6	SIGN 1	RRFB SIGN CIRCUIT 1
5	EX 2" PVC SCH 40	EX 2-#6 W/GND	ILLUM 1	ILLUMINATION CIRCUIT 1
		EX 2-#6	ILLUM 2	ILLUMINATION CIRCUIT 2
		EX 2-#8	IRR 1	IRRIGATION CONTROLLER CIRCUIT 1
		2-#6	SIGN 1	RRFB SIGN CIRCUIT 1

ADDENDUM #1

NO.	DATE	APRVD	REVISION
1	8-14-24	LC	ADDED CALLOUTS AND NOTES 14-16, ADDED LEFT TURN SYMBOL, STOP BAR
PLANS ISSUED FOR			
BID ACTION	DATE	APRVD	CONST ACTION
	7-24-24	LC	

Designed
CCURTIS
Drawn
BDEFRESE
Checked
Design Review Level



WEST MARINE VIEW DRIVE/ALVERSON BLVD AND
41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS
WORK ORDER 3630
REGION - 10 | STATE - WA | STATE FUND# - HLP-PB15(032)

TRAFFIC

41ST STREET
GRAND AVE

Drawing

T4

Sheet No.

19

28
Of Total

CITY OF EVERETT, WASHINGTON PUBLIC WORKS DEPARTMENT

ADDENDUM NO. #2

**WEST MARINE VIEW DRIVE/ALVERSON AND 41ST ST/GRAND AVE
PEDESTRIAN IMPROVEMENTS ***

WORK ORDER #3630

STATE FUND# HLP-PB15(032

August 19, 2024

Notice to Plan Holders:

This Addendum No. 2 contains the following revisions, additions, deletions, and/or clarifications, is hereby made a part of the plans and specifications (Contract Documents) for the above named project, and shall be taken into consideration by Bidders in submitting their bids.

Bidders shall acknowledge receipt of this Addendum No. 2 in the space provided on the Proposal. Failure to do so may subject the Bidder to disqualification of its bid.

This Addendum 2 consists of 6 pages, including all revisions, attachments and details.

The Bid date for receipt of Bids has NOT been changed by this Addendum.

SPECIFICATIONS, PROPOSAL AND CONTRACT DOCUMENTS

Item 1 PROPOSAL, BID ITEMS

On the Notice to Contractors update the engineer's estimate for this project of \$541,815 with the revised Addendum 2 engineer's estimate of \$554,044.

Replace Bid Schedule Addendum 1 with the attached Bid Schedule Addendum 2.

Item 2 PLANS

Replace plan sheet T3 Addendum 1 with the attached plan sheet T3 Addendum 2.

Sincerely,



Laura Claywell

Capital Projects Coordinator | Public Works

lclaywell@everettwa.gov 425.257.8909 | 3200 Cedar St, Everett, WA 98201

Attachments:

Bid Schedule Addendum 2

Plan sheet T3 Addendum 2

Note: Unit prices for all items, all extensions, and the total amount bid must be shown. Where conflict occurs between the unit price and the total amount named for any item, the unit price shall prevail, and totals shall be corrected to conform thereto. All entries must be typed or entered in ink.

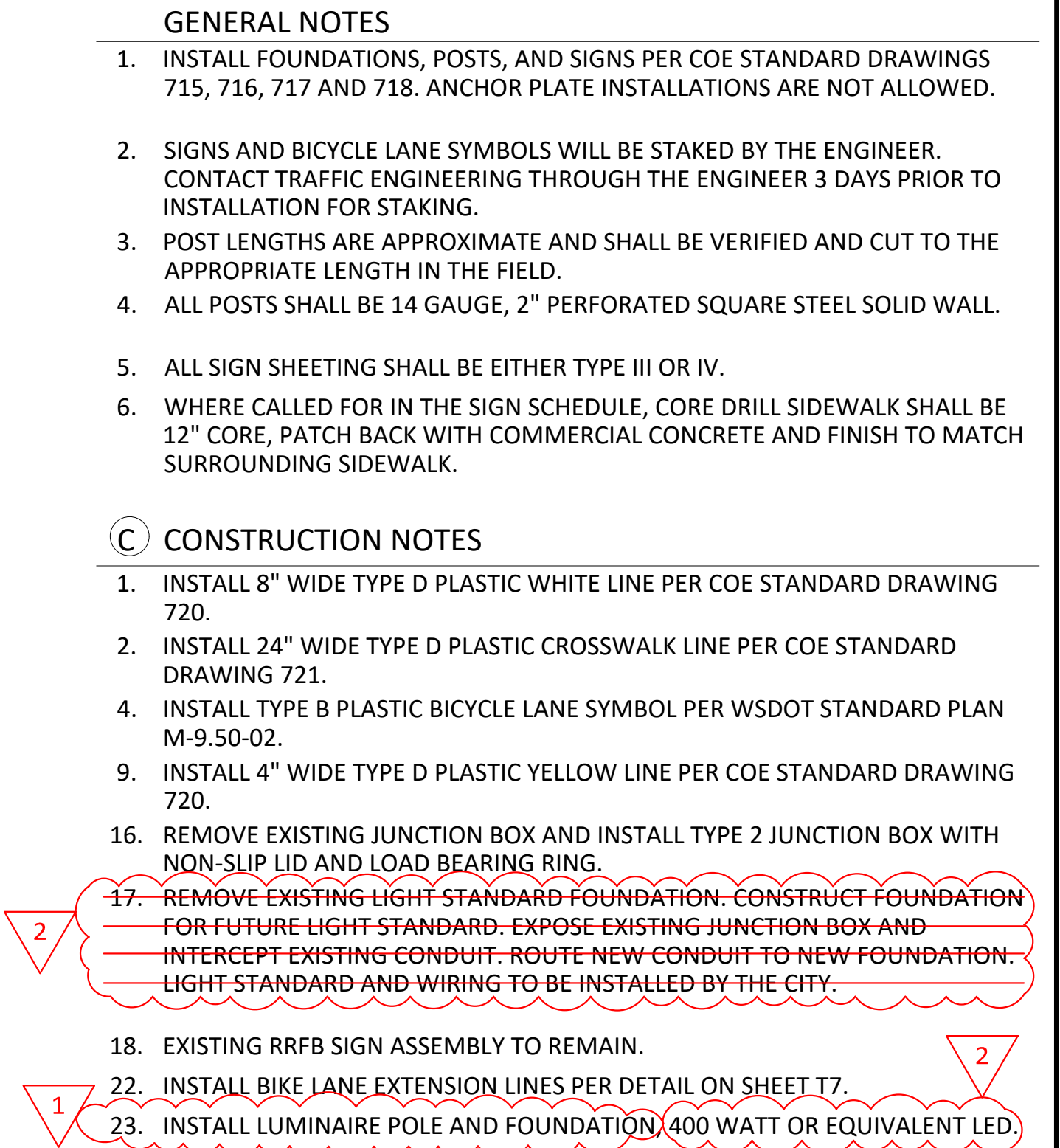
BID SCHEDULE

BIDDER: _____

Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	LS	1	\$ _____.	\$ _____.
2	CLEARING AND GRUBBING	ACRE	0.26	\$ _____.	\$ _____.
3	REMOVING PLASTIC LINE	LF	1699	\$ _____.	\$ _____.
4	REMOVING PLASTIC TRAFFIC MARKING	EA	2	\$ _____.	\$ _____.
5	REMOVING PLASTIC CROSSWALK LINE	SF	250	\$ _____.	\$ _____.
6	REMOVING MISCELLANEOUS TRAFFIC ITEM	LS	1	\$ _____.	\$ _____.
7	HAZARDOUS MATERIAL EXCAVATION INCL. HAUL	TON	599	\$ _____.	\$ _____.
8	ROADWAY EXCAVATION INCL. HAUL	CY	120	\$ _____.	\$ _____.
9	CRUSHED SURFACING BASE COURSE	TON	507	\$ _____.	\$ _____.
10	HMA CL. ½ IN. PG 64-22	TON	229	\$ _____.	\$ _____.
11	SAWCUTTING ASPHALT	LF	240	\$ _____.	\$ _____.
12	INLET PROTECTION	EA	2	\$ _____.	\$ _____.
13	TOPSOIL TYPE C	SY	1375	\$ _____.	\$ _____.
14	SOD INSTALLATION	SY	1375	\$ _____.	\$ _____.
15	HIGH VISABILITY FENCE	LF	2625	\$ _____.	\$ _____.
16	SILT FENCE	LF	200	\$ _____.	\$ _____.
17	CEMENT CONC. TRAFFIC CURB AND GUTTER	LF	54	\$ _____.	\$ _____.
18	CEMENT CONC. PEDESTRIAN CURB	LF	36	\$ _____.	\$ _____.

Item No.	ITEM DESCRIPTION	Unit	Bid Qty	UNIT PRICE	TOTAL AMOUNT
19	CEMENT CONCRETE CURB TYPE E-1	LF	237	\$	\$_____.
20	PLASTIC TRAFFIC ARROW	EA	2	\$	\$_____.
21	24-INCH PLASTIC CROSSWALK LINE	LF	190	\$	\$_____.
22	PLASTIC BICYCLE LANE SYMBOL	EA	4	\$	\$_____.
23	4-INCH PLASTIC LINE	LS	330	\$	\$_____.
24	8-INCH PLASTIC LINE	LF	1,870	\$	\$_____.
25	PRECAST SLOPED MOUNTABLE CURB	LF	107	\$	\$_____.
26	PEDESTRIAN TRAFFIC CONTROL	LS	1	\$	
27	PERMANENT SIGNING	LS	1	\$	
28	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	\$	
29	ILLUMINATION SYSTEM	LS	1	\$	
30	TRAFFIC SIGNAL SYSTEM	LS	1	\$	
31	TRAFFIC CONTROL SUPERVISOR	LS	1	\$	
32	ROADWAY SURVEYING	LS	1	\$	
33	ADA FEATURE SURVEYING	LS	1	\$	
34	Curb Ramp Type Parallel B	EA	1	\$	
35	TYPE D CURB RAMP	EA	2	\$	
36	DETECTABLE WARNING SURFACE	SF	60	\$	
37	CEMENT CONC. SIDEWALK	SY	134	\$	
38	ADJUST JUNCTION BOX	EA	4	\$	
39	ADJUST CATCH BASIN	EA	1	\$	
40	CEMENT CONCRETE MODULAR BLOCK UNIT RETAINING WALL	SF	76	\$	
41	MINOR CHANGE	FA	1	\$ 5,000	

42	SPCC PLAN	LS	1	\$	
43	24-inch Plastic Green Bike Lane Extension Line	SF	80		
44	24-inch Plastic Stop Bar Line	LF	30		
45	Plastic Sharrow Straight (white on green background)	EA	3		
Total Bid Amount					\$ <u> </u>



ADDENDUM #2