

**SPECIAL  
PROVISIONS**

City of Maple Valley Project T-28b Ph 2

**WITTE ROAD IMPROVEMENTS**  
SE 256<sup>th</sup> ST to SE 249<sup>th</sup> PL

**90% DESIGN**



# Table of Contents

Page

INTRODUCTION TO THE SPECIAL PROVISIONS .....	xi
DIVISION 1 - GENERAL REQUIREMENTS .....	1
1-01 DEFINITIONS AND TERMS.....	1
1-01.3 Definitions .....	1
1-02 BID PROCEDURES AND CONDITIONS.....	3
1-02.1 Qualifications of Bidder .....	3
1-02.2 Plans and Specifications.....	3
1-02.6 Preparation of Proposal .....	4
1-02.7 Bid Deposit.....	4
1-02.9 Delivery of Proposal.....	4
1-02.12 Public Opening of Proposals .....	4
1-03 AWARD AND EXECUTION OF CONTRACT .....	5
1-03.1 Consideration of Bids.....	5
1-03.3 Execution of Contract.....	5
1-03.4 Contract Bond .....	6
1-04 SCOPE OF THE WORK.....	7
1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda.....	7
1-04.6 Variation in Estimated Quantities .....	7
1-04.11 Final Cleanup .....	8
1-05 CONTROL OF WORK .....	8
1-05.4 Conformity with and Deviations from Plans and Stakes .....	8
1-05.7 Removal of Defective and Unauthorized Work.....	16
1-05.11 Final Inspections and Operational Testing.....	17
1-05.13 Superintendents, Labor and Equipment of Contractor.....	18
1-05.14 Cooperation with Other Contractors .....	19
1-05.15 Method of Serving Notices .....	19
1-05.16 Water and Power .....	19

1-05.17 Oral Agreements .....	19
1-05.18 Daily Construction Report .....	19
1-06 CONTROL OF MATERIAL .....	21
1-06.6 Source of Materials .....	21
1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC .....	21
1-07.1 Laws to be Observed .....	21
1-07.2 State Sales Tax .....	22
1-07.6 Permits and Licenses .....	24
1-07.17 Utilities and Similar Facilities .....	24
1-07.18 Public Liability and Property Damage Insurance .....	25
1-07.18 Insurance .....	25
1-07.24 Rights of Way .....	29
1-07.28 Notifications Relative to Contractor's Activities .....	30
1-08 PROSECUTION AND PROGRESS .....	31
1-08.0 Preliminary Matters .....	31
1-08.4 Prosecution of Work .....	34
1-08.4 Notice to Proceed and Prosecution of Work .....	34
1-08.5 Time for Completion .....	34
1-08.9 Liquidated Damages .....	35
1-09 MEASUREMENT AND PAYMENT .....	36
1-09.6 Force Account .....	36
1-09.8 Payment for Material on Hand .....	36
1-09.9 Payments .....	36
1-09.13 Claim Resolution .....	38
1-10 TEMPORARY TRAFFIC CONTROL .....	39
1.10.1 General .....	39
1-10.2 Traffic Control Management .....	39
1-10.3 Traffic Control Labor, Procedures and Devices .....	42
1-10.4 Measurement .....	47
1-10.5 Payment .....	48

DIVISION 2 - EARTHWORK.....	49
2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP .....	49
2-01.1 Description .....	49
2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS .....	49
2-02.1 Description .....	49
2-02.3 Construction Requirements .....	51
2-02.4 Measurement .....	52
2-02.5 Payment.....	53
2-03 ROADWAY EXCAVATION AND EMBANKMENT .....	53
2-03.1 Description .....	53
2-03.4 Measurement .....	55
2-03.5 Payment.....	55
2-04 HAUL .....	55
2-04.1 Description .....	55
2-06 SUBGRADE PREPARATION .....	56
2-06.3 Construction Requirements .....	56
2-07 WATERING .....	56
2-07.1 Description .....	56
2-07.5 Payment.....	56
2-09 STRUCTURE EXCAVATION .....	56
2-09.1 Description .....	56
2-09.4 Measurement .....	57
2-09.5 Payment.....	57
2-11 TRIMMING AND CLEANUP.....	58
2-11.3 Construction Requirements .....	58
2-11.5 Payment.....	58
2-12 CONSTRUCTION GEOSYNTHETIC .....	58
2-12.3 Construction Requirements .....	58
(THERE ARE NO SPECIAL PROVISIONS FOR DIVISION 3).....	59
DIVISION 4 - BASES .....	60

4-04 BALLAST AND CRUSHED SURFACING .....	60
4-04.2 Materials .....	60
4-04.4 Measurement .....	60
4-04.5 Payment .....	60
DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS .....	62
5-04 HOT MIX ASPHALT .....	62
5-04.1 Description .....	62
5-04.2 Materials .....	62
5-04.4 Measurement .....	70
5-04.5 Payment .....	70
DIVISION 6 - STRUCTURES .....	73
6-02 CONCRETE STRUCTURES .....	73
6-07 PAINTING .....	73
6-07.1 Description .....	73
6-07.2 Materials .....	73
6-07.3 Construction Requirements .....	73
6-07.5 Payment .....	74
6-15 SOIL NAIL WALLS .....	74
6-15.1 Description .....	74
6-15.2 Materials .....	74
6-15.3 Construction Requirements .....	74
6-15.5 Payment .....	74
DIVISION 7 - DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS AND CONDUITS .....	76
7-01 DRAINS .....	76
7-01.2 Materials .....	76
7-01.3 Construction Requirements .....	76
7-01.4 Measurement .....	77
7-01.5 Payment .....	77
7-04 STORM SEWERS .....	77

7-04.2 Materials.....	77
7-04.3 Construction Requirements .....	77
7-04.5 Payment.....	80
7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS .....	80
7-05.1 Description .....	80
7-05.3 Construction Requirements .....	80
7-05.4 Measurement .....	82
7-05.5 Payment.....	82
7-07 CLEANING EXISTING DRAINAGE STRUCTURES .....	82
7-07.5 Payment.....	82
7-08 GENERAL PIPE INSTALLATION REQUIREMENTS.....	82
7-08.3 Construction Requirements .....	82
7-08.4 Measurement .....	85
7-08.5 Payment.....	85
7-09 WATER MAIN.....	85
7-09.1 Description .....	85
7-09.2 Materials; Aggregates .....	86
7-09.3 Construction Requirements .....	86
7-09.5 Payment NOT IN COST ESTIMATE .....	92
7-12 VALVES FOR WATER MAINS .....	93
7-12.3 Construction Requirements .....	93
7-14 FIRE HYDRANTS .....	93
7-14.3 Construction Requirements .....	93
7-14.4 Measurement .....	94
7-14.5 Payment NOT IN COST ESTIMATE .....	94
7-15 SERVICE CONNECTIONS.....	94
7-15.3 Construction Requirements .....	94
7-15.5 Payment.....	96
7-20 STORM WATER TREATMENT SYSTEMS .....	96
7-20.1 Description .....	96

7-20.2 Materials.....	97
7-20.3 Construction Requirements .....	97
7-20.4 Measurement .....	97
7-20.5 Payment.....	97
<b>DIVISION 8 - MISCELLANEOUS CONSTRUCTION .....</b>	<b>98</b>
8-01 EROSION CONTROL AND WATER POLLUTION CONTROL .....	98
8-01.3 Construction Requirements .....	98
8-01.4 Measurement .....	106
8-01.5 Payment.....	107
8-02 ROADSIDE RESTORATION.....	107
8-02.2 Materials.....	108
8-02.4 Measurement .....	117
8-02.5 Payment.....	118
8-04 CURBS, GUTTERS, AND SPILLWAYS AND INLETS.....	119
8-04.1 Description .....	119
8-04.4 Measurement .....	119
8-04.5 Payment.....	119
8-05 POTHOLING.....	119
8-05.1 Description .....	119
8-05.3 Construction Requirements .....	119
8-05.5 Payment.....	120
8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES.....	120
8-06.1 Description .....	120
8-06.3 Construction Requirements STD SPEC COVERS THIS .....	120
8-06.5 Payment.....	121
8-09 RAISED PAVEMENT MARKERS .....	121
8-09.1 Description .....	121
8-11 GUARDRAIL .....	121
8-11.2 Materials.....	121
8-13 MONUMENT CASES .....	121

8-13.1 Description .....	121
8-13.3 Construction Requirements .....	122
8-13.4 Measurement .....	122
8-13.5 Payment.....	122
8-14 CEMENT CONCRETE SIDEWALKS .....	123
8-14.1 Description .....	123
8-14.2 Materials.....	123
8-14.3 Construction .....	123
8-14.3 Construction Pre-Meeting .....	123
8-14.4 Measurement .....	124
8-14.5 Payment.....	124
8-19 PREFABRICATED PEDESTRIAN BRIDGE.....	124
8-19.1 Description .....	124
8-19.2 Materials.....	126
8-19.3 Construction Requirements .....	129
8-19.5 Fabrication.....	132
8-19.6 Quality Control.....	133
8-19.7 Delivery and Erection.....	134
8-19.8 Warranty.....	134
8-19.9 Measurement .....	135
8-19.10 Payment.....	135
8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS AND ELECTRICAL .....	135
8-20.1 Description .....	135
8-20.2 Materials.....	137
8-20.4 Measurement .....	147
8-20.5 Payment.....	148
8-21 PERMANENT SIGNING.....	148
8-21.1 General .....	148
8-21.3 Construction Requirements .....	149
8-21.4 Measurement .....	149

8-22 PAVEMENT MARKINGS .....	149
8-22.1 Description .....	149
8-22.2 Materials.....	150
8-24 ROCK AND GRAVITY BLOCK WALL AND GABION CRIBBING .....	150
8-24.2 Materials.....	150
8-24.5 Payment.....	152
8-26 SITE FURNISHINGS.....	152
8-26.1 Description .....	152
8-26.2 Materials.....	152
8-26.3 Construction .....	153
8-26.4 Measurement .....	154
8-26.5 Payment.....	154
8-31 PRIVATE CONNECTION AND BID ITEMS .....	154
8-31.4 Measurement.....	155
8-31.5 Payment.....	156
DIVISION 9 - MATERIALS.....	159
9-03 AGGREGATES .....	159
9-14 EROSION CONTROL AND ROADSIDE PLANTING .....	159
9-14.2 Seed .....	160
9-14.3 Fertilizer .....	161
9-14.6 Plant Materials.....	162
9-14.7 Stakes, Guys, and Wrapping .....	164
9-14.8 Watering Bag.....	164
9-15 IRRIGATION SYSTEM .....	164
9-15.1 Pipe, Tubing and Fittings .....	164
9-15.5 Valve Boxes and Protective Sleeves .....	164
9-15.17 Electrical Wire and Splices .....	164
9-16 FENCE AND GUARDRAIL.....	165
9-16.8 Weathering Steel Beam Guardrail.....	165
9-29 ILLUMINATION, SIGNALS, ELECTRICAL .....	165

9-29.3 Conductors, Cable ..... 166

9-29.21 Rectangular Rapid Flash Beacon (RRFB) System..... 167

9-29.24 Service Cabinets..... 168

9-30 WATER DISTRIBUTION MATERIALS ..... 169

9-30.1 Pipe..... 169

9-30.2 Fittings..... 170

9-30.3 Valves..... 171

9-30.5 Hydrants ..... 172

9-30.6 Water Service Connections ..... 172



## INTRODUCTION TO THE SPECIAL PROVISIONS

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2020 edition, as issued by the City of Maple Valley Washington State, and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and 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 date of the GSP and its source, as follows:

[GSP's will be updated after 100% review]

*(May 18, 2007 APWA GSP) (August 7, 2006 WSDOT GSP)*

These Special Provisions *supplement*, *add new*, *replace*, or *modify* the combined Standard Specifications and Amendments. For clarification of the purpose of the sections provided, these Special Provisions have the following added section descriptors:

*Supplement:* Text supplements, slightly modifies, or adds clarification to the identified section of the Standard Specifications.

*New:* Item/specification is unique to this project and will not be found in the Standard Specifications.

*Replacement:* A replacement of the entire identified section or subsection of the Standard Specifications.

*Modification:* A replacement of the identified sentence or paragraph of the Standard Specifications.

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*
- *City of Maple Valley Standard Plans*

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



# DIVISION 1 - GENERAL REQUIREMENTS

## 1-01 DEFINITIONS AND TERMS

### 1-01.3 Definitions

*(Special Provision)*

*Supplement*

This Section is supplemented with the following:

All references in the Standard Specifications to the terms “State”, “Washington State Department of Transportation”, “WSDOT”, “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to read “Contracting Agency”.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

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

The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in the Superior Court of the County where the Contracting Agency’s headquarters are located.

#### **Additive**

A supplemental unit of work or group of bid items, identified separately in the proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

#### **Alternate**

One of two or more units of work or groups of bid items, identified separately in the proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

#### **Business Day**

A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

#### **Contract Bond**

The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

## **Contract Documents**

See definition for “Contract”.

## **Contract Time**

The period of time established by the terms and conditions of the contract within which the work must be physically completed.

## **Notice of Award**

The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency’s acceptance of the Bid Proposal.

## **Notice to Proceed**

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

## **Traffic**

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

## **Dates**

### **Bid Opening Date**

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

### **Award Date**

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive bidder for the work.

### **Contract Execution Date**

The date the Contracting Agency officially binds the agency to the contract.

### **Notice to Proceed Date**

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

### **Substantial Completion Date**

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of

temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

### **Physical Completion Date**

The day all of the work is physically completed on the project. All documentation required by the contract and required by law does not necessarily need to be furnished by the Contractor by this date.

### **Completion Date**

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

### **Final Acceptance Date**

The date on which the Contracting Agency accepts the work as complete.

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

### **1-02.1 Qualifications of Bidder**

*(January 24, 2011 APWA GSP)(4-2018)*

*Replacement*

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

### **1-02.2 Plans and Specifications**

#### **1-02.4(2) Subsurface Information**

*(WSDOT GSP Jan 2, 2012)*

*Supplement*

Information for the soils within the project area is included in Appendix D.

The Soils information contains the following:

- Soil Boring Logs
- Laboratory Testing Results

## **1-02.6 Preparation of Proposal**

### **1-02.7 Bid Deposit**

*(October 1, 2005 APWA GSP)*

*Supplement*

Bid bonds shall contain the following:

1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

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

### **1-02.9 Delivery of Proposal**

*(January 24, 2011 APWA GSP) (6-2017)*

*Replacement*

Delete this section and replace it with the following:

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

The Contracting Agency will not consider Proposals it receives after the time fixed for opening Bids in the call for Bids.

### **1-02.12 Public Opening of Proposals**

*(May 4, 2012 APWA GSP) (8-2015) Replacement*

Delete this section and replace it with the following:

Proposals will be opened and publicly read at the time indicated in the Call for Bids, after the deadline(s) for submitting all elements of the Bid Proposal including Good Faith Effort Documentation, unless the Bid opening has been delayed or canceled. Bidders, their authorized

agents, and other interested parties are invited to be present. Bids are to be received no later than 2:00 P.M. Pacific Time on the date of bid opening:

City of Maple Valley Public Works Department  
22017 SE Wax Rd, Suite 200  
Maple Valley, WA 98038

## **1-03 AWARD AND EXECUTION OF CONTRACT**

### **1-03.1 Consideration of Bids**

*(January 23, 2006 APWA GSP) (8-2013)*

*Modification*

Revise the first paragraph to read:

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

### **1-03.3 Execution of Contract**

*(October 1, 2005 APWA GSP)*

*Modification*

Revise this section to read:

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award. The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within 10 calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

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

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of 10 additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

### **1-03.4 Contract Bond**

*(City GSP)*

*Modification*

Revise the first paragraph to read:

The successful bidder shall provide both an executed Payment Bond and Performance Bond, each for the full contract amount. This contract bond shall:

1. Be on a Contracting Agency-furnished form;
2. Be signed by an approved surety (or sureties) that:
  - a. Is registered with the Washington State Insurance Commissioner, and
  - b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Be conditioned upon the faithful performance of the contract by the Contractor within the prescribed time;
4. Guarantee that the surety shall indemnify, defend, and protect the Contracting Agency against any claim of direct or indirect loss resulting from the failure:
  - a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform the contract, or
  - b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond must be signed by the president or vice-president, unless accompanied by written proof of the authority of the individual signing the bond to bind the corporation (i.e., corporate resolution, power of attorney or a letter to such effect by the president or vice-president).
7. Require that the Principal and Surety agree to be bound by the laws of the State of Washington and to be subject to jurisdiction of the State of Washington, and to further

agree to venue in King County, Washington, for all demands, suits and actions of any kind initiated under the bond.

## **1-04 SCOPE OF THE WORK**

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

*(City GSP)*

*Modification*

Revise the second paragraph to read:

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

1. Public Works Agreement executed by Contracting Agency and Contractor
2. Addenda,
3. Proposal Form,
4. Special Provisions, including APWA General Special Provisions, if they are included,
5. Information and Checklist for Bidders
6. Contract Plans,
7. Amendments to the Standard Specifications,
8. WSDOT Standard Specifications for Road, Bridge and Municipal Construction,
9. Contracting Agency's Standard Plans (if any), and
10. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

*(City GSP)*

*Supplement*

The Information and Check list for Bidders is hereby made a part of the Contract Documents.

### **1-04.6 Variation in Estimated Quantities**

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

*Modification*

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

Payment to the Contractor will be made only for the actual quantities of work performed and accepted in conformance with the contract. When the accepted quantity of work performed under a unit item varies from the original proposal quantity, payment will be at the unit contract price for all work unless the total accepted quantity of any contract item, adjusted to exclude added or deleted amounts included in change orders accepted by both parties, increases or decreases by more than 25 percent from the original proposal quantity, and if the total extended bid price for that item at time of award is equal to or greater than 10 percent of the total contract price at time of award. In that case, payment for contract work may be adjusted as described herein.

## **1-04.11 Final Cleanup**

*(City GSP)*

*Supplement*

All costs associated with “Final Cleanup” shall be considered **incidental** to the Contract and no additional compensation will be made.

## **1-05 CONTROL OF WORK**

### **1-05.4 Conformity with and Deviations from Plans and Stakes**

*(Special Provision)*

*Supplement*

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

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

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

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

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

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

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.
2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.

3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.
4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor
5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.
6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.
7. Establish intermediate elevation benchmarks as needed to check work throughout the project.
8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.
9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.
10. The Contractor shall collect additional topographic survey data as needed in order to match into existing roadways such that the transition from the new pavement to the existing pavement is smooth and that the pavement and ditches drain properly. If changes to the profiles or roadway sections shown in the contract plans are needed to achieve proper smoothness and drainage where matching into existing features, the Contractor shall submit these changes to the Project Engineer for review and approval 10 days prior to the beginning of work.

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

To facilitate the establishment of these lines and elevations, the Contracting Agency will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control, and descriptions of two additional primary control points for every additional three miles of project length. Primary control points will be described by reference to the project alignment and the

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.
2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.
3. Establish offsets to footing centerline of bearing for structure excavation.
4. Establish offsets to footing centerline of bearing for footing forms.
5. Establish wing wall, retaining wall, and noise wall horizontal alignment.
6. Establish retaining wall top of wall profile grade.
7. Establish elevation benchmarks for all substructure formwork.
8. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.

9. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.
10. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.
11. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.
12. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.
13. Establish grout pad locations and elevations.
14. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.
15. Establish box girder bottom slab grades and locations.
16. Establish girder and/or web wall profiles and locations.
17. Establish diaphragm locations and centerline of bearing.
18. Establish roadway slab alignment, grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.
19. Establish traffic barrier and curb profile.
20. Profile all girders prior to the placement of any dead load or construction live load that may affect the girder's profile.

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

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

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

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

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

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

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

Piles  
Shafts  
Footings  
Columns

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

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

### **Protection and Restoration of Existing Markers and Monuments**

All existing markers and/or monuments that must be removed for construction purposes are to be referenced by survey ties and then replaced by Contractor.

Perpetuating and documenting existing monuments must be done by a Professional Land Surveyor in compliance with the Application for Permit to Destroy a Survey Monument (WAC 332-120). Following approval by the Public Land Survey Offices, copies of the Application for Permit shall be forwarded to the City of Maple Valley. After receiving approval from WSDOT and the City to destroy the survey monuments the Contractor shall completely dig up the monuments identified on the Plans for removal and backfill the void per the typical sections. The exposed area shall be temporary patched with HMA or cold mix asphalt as approved by the Engineer. Destroyed monuments shall be returned to the State.

All existing property corner markers and/or monuments disturbed or removed by Contractor's operations that, in the opinion of Engineer, were not required to be removed for construction purposes shall be replaced, at Contractor's own expense, by a Professional Land Surveyor registered in the State of Washington. Resetting of property corners for which there is no Record of Survey or Short Plat filed with the County Auditor may require exhaustive and expensive resurvey, all at Contractor's sole expense.

## **Record Drawings**

*(March 8, 2013 APWA GSP) 1-05.18 (3 2013)*

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

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

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

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

- 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 markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

If the Contract calls for the Contracting Agency to do all surveying and staking, the Contracting Agency will provide the elevations at the tolerances the Contracting Agency requires for the Record Drawings.

When the Contract calls for the Contractor to do the surveying/staking, the applicable 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

#### Making Entries on the Record Drawings:

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

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

#### Payment

“Surveying”, lump sum.

The lump sum contract price for "Surveying" shall be full pay to perform the Work specified, including any resurveying, checking, correction of errors; replacement of missing, moved, or damaged stakes, property corners, or monuments; and coordination. Specific dates of payment shall be determined at the Pre-Construction Meeting.

"As-Built Survey and Record Drawings", lump sum.

Payment for this item will be made on a prorated monthly basis for work completed in accordance with this section up to 75% of the lump sum bid. The final 25% of the lump sum item will be paid upon submittal and approval of the completed Record Drawings set prepared in conformance with these Special Provisions.

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

*(October 1, 2005 APWA GSP)*

*Supplement*

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

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

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

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

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

### **1-05.10(1) One-Year Guarantee Period**

*(Special Provision)*

*New*

Contractor shall be responsible for correcting all defects in workmanship and material within one year after Final Acceptance of this work by Owner except as required in Section 8-02.3(13). Contractor shall start work to remedy such defects within 7 calendar days of written notice of discovery thereof by Owner, unless otherwise mutually agreed, and shall complete such work within the time stated in the notice. In emergencies, where damage may result from delay or where loss of services may result, such corrections may be made by Owner, in which case the cost shall be borne by Contractor. In the event Contractor does not accomplish corrections at the time specified, the work will be otherwise accomplished and the cost of same shall be paid by Contractor.

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

This guarantee is supplemental to and does not limit any other contractual remedies of Contracting Agency.

### **1-05.11 Final Inspections and Operational Testing**

Delete this section and replace it with the following:

#### **1-05.11 Final Inspections and Operational Testing**

*(October 1, 2005 APWA GSP)*

*Supplement*

##### **1-05.11(1) Substantial Completion Date**

When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor's request shall list the specific items of work that remain to be completed in order to reach physical completion. The Engineer will schedule an inspection of the work with the Contractor to determine the status of completion. The Engineer may also establish the Substantial Completion Date unilaterally.

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

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

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

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

When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Engineer to schedule a final inspection. The Engineer will set a date for final inspection. The Engineer and the Contractor will then make a final inspection and the Engineer will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or unacceptable. The Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the

listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies have been corrected.

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

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

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

### **1-05.11(3) Operational Testing**

It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Engineer to have the Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Engineer, so that the Engineer may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Engineer.

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

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

### **1-05.13 Superintendents, Labor and Equipment of Contractor**

*(March 25, 2009 APWA GSP)*

*Modification*

Revise the seventh paragraph to read:

Whenever the Contracting Agency evaluates the Contractor's qualifications pursuant to Section 1-02.14, it will take these performance reports into account.

### **1-05.14 Cooperation with Other Contractors**

*(Special Provision)*

*Supplement*

The Contractor must also coordinate their work with the franchise and other utilities in the area, including all work related to the undergrounding of utilities. This coordination is further described in Special Provisions Sections 1-07.17 and 8-31. See Appendix C for contact information. Construction of the Franchise Joint Utility Trench and installation of Franchise Utility Structures, once commenced, shall be completed with a single continuous effort during back to back working days with no interruptions.

### **1-05.15 Method of Serving Notices**

*(March 25, 2009 APWA GSP)*

*Modification*

Revise the second paragraph to read:

All correspondence from the Contractor shall be directed to the Project Engineer. All correspondence from the Contractor constituting any notification, notice of protest, notice of dispute, or other correspondence constituting notification required to be furnished under the Contract, must be in paper format, hand delivered or sent via mail delivery service to the Project Engineer's office. Electronic copies such as e-mails or electronically delivered copies of correspondence will not constitute such notice and will not comply with the requirements of the Contract.

### **1-05.16 Water and Power**

*(October 1, 2005 APWA GSP)*

*New*

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

### **1-05.17 Oral Agreements**

*(October 1, 2005 APWA GSP) Not in 2019 GSP or 2020 Std spec*

*New*

No oral agreement or conversation with any officer, agent, or employee of the Contracting Agency, either before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the contract. Such oral agreement or conversation shall be considered as unofficial information and in no way binding upon the Contracting Agency, unless subsequently put in writing and signed by the Contracting Agency.

### **1-05.18 Daily Construction Report**

*(Special Provision) (3 2013)*

*New*

The Contractor and subcontractors shall maintain daily, a Daily Construction Report of the Work. The Diary must be kept and maintained by Contractor's designated project superintendent(s).

Entries must be made on a daily basis and must accurately represent all of the project activities on each day. Provide signed copies of diary sheets for the previous week to Engineer at each Weekly Coordination Meeting.

Every single diary sheet/page must have:

- Project name & number;
- Consecutive numbering of pages, and
- Typed or printed name, signature, and date of the person making the entry.

At a minimum, the diary shall, for each day, have a separate entry detailing each of the following:

1. Day and date.
2. Weather conditions, including changes throughout the day.
3. Complete description of work accomplished during the day, with adequate references to the Plans and Contract Provisions so the reader can easily and accurately identify said work on the Plans. Identify location/description of photographs or videos taken that day.
4. Each and every changed condition, dispute or potential dispute, incident, accident, or occurrence of any nature whatsoever which might affect Contractor, Contracting Agency, or any third party in any manner.
5. List all materials received and stored on- or off-site by Contractor that day for future installation, including the manner of storage and protection of the same.
6. List materials installed that day.
7. List all subcontractors working on-site that day.
8. List the number of Contractor's employees working during each day, by category of employment.
9. List Contractor's equipment on the site that day; showing which were in use, and which idle.
10. Notations to explain inspections, testing, stake-out, and all other services furnished by Contracting Agency or other party during the day.
11. Verify the daily (including non-work days) inspection and maintenance of traffic control devices and condition of the traveled roadway surfaces.
12. Any other information that serves to give an accurate and complete record of the nature, quantity, and quality of Contractor's progress on each day.
13. Hours worked.
14. Specific equipment and vehicle hours used, hours standby and hours worked for each employee

It is expressly agreed between Contractor and Contracting Agency that the Daily Diary maintained by Contractor shall be the "Contractor's Book of Original Entry" for the documentation of any potential claims or disputes that might arise during this Contract. Failure of Contractor to maintain this Diary in the manner described above will constitute a waiver of any such claims or disputes by Contractor.

All costs associated with the Daily Construction Report are considered incidental to and included in the various bid items.

## **1-06 CONTROL OF MATERIAL**

### **1-06.6 Source of Materials**

*(Special Provision) GSP provided (1-2016)*

*New*

No source has been provided for any materials necessary for the construction of the work, other than those items specified herein to be provided by others (Contracting Agency and utilities).

The Contractor shall make arrangements to obtain the necessary materials at their own expense, and all costs of acquiring, producing, and placing this material in the finished work shall be included in the unit contract prices for the various bid items in this contract and no additional compensation shall be made.

If the sources of materials provided by the Contractor necessitate hauling over roads other than City streets, the Contractor shall, at his own cost and expense, make all arrangements for the use of the haul routes.

#### **“Or Equal” Provisions**

The responsibility and cost for furnishing necessary evidence, demonstrations, or other information required to obtain the approval of alternate materials or processes by the Owner shall be entirely borne by the Contractor.

Existing water lines, meters, and hydrants on the Project are owned by “others.” The Contractor shall make all necessary arrangements for obtaining a water source, coordinating operations, and obtaining necessary use permits from the utility company, as may be required.”

## **1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**

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

*(October 1, 2005 APWA GSP)*

*Supplement*

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

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

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

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

### **1-07.2 State Sales Tax**

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

### **1-07.2 State Sales Tax**

*(June 27, 2011 APWA GSP)*

*Replacement*

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

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

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

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

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

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

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

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

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

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

**1-07.2(3) Services**

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

*(City GSP)*

*Supplement*

When payment of sales tax to the Washington State Department of revenue is required, that payment is to be made by the Contractor. The Contractor shall, at the time of making payment of sales tax, identify the work as having been performed within the City of Maple Valley. The Contractor is responsible for identifying sales tax to be paid, on each invoice or progress payment submitted to the City for payment.

## **1-07.6 Permits and Licenses**

*(Special Provision)*

*Supplement*

The Contractor shall procure and pay for at its own expense, all permits and licenses that are necessary to perform the Work.

No hydraulic permits are required for this project unless the Contractor's operations use, divert, obstruct, or change the natural flow or bed of any river or stream, or utilize any of the waters of the State or materials from gravel or sand bars, or from stream beds.

Prior to the Notice to Proceed, the Contractor shall fill out, execute and submit a Transfer of Coverage to the Department of Ecology to transfer the Construction Stormwater General Permit (NPDES and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity) from the City to the Contractor. See the following website for transfer form: <https://fortress.wa.gov/ecy/publications/summarypages/ecy02087a.html>.

In addition, upon physical completion, the Contractor shall fill out, execute and submit a Notice of Termination form to the Department of Ecology. Copies of the completed Transfer of Coverage and the completed Notice of Termination shall be sent to the Engineer. See section 8-01 for related SWPPP and stormwater monitoring requirements. See Appendix E for a copy of the City's Construction Stormwater General Permit, and for a copy of the City's Notice of Intent Application.

## **1-07.9(5) Required Documents**

*(City GSP)*

*Supplement*

The Contractor must prepare certified payrolls and collect them weekly from every subcontractor of every tier and certain material manufacturers and deliverers, depending on the regulations. Certified payrolls are to be kept on file and made available to the Contracting Agency on request.

## **1-07.16(1) Private/Public Property**

*(Special Provision)*

*Supplement*

Materials shall not be deposited upon private property without the approval of the property owner and Engineer. All material so deposited shall be in compliance with the City of Maple Valley Municipal Code and other applicable laws.

## **1-07.17 Utilities and Similar Facilities**

*(Special Provision)*

*Supplement*

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

Public and private utilities, or their contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special

Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project.

Addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are provided in Appendix C for the Contractor's convenience. The Contractor is responsible for contacting and coordinating with all affected utilities, whether or not they are listed in Appendix C.

The Contractor shall give forty-eight (48) hour notice to all utility companies/agencies involved where work is to take place and in all other respects comply with the provisions of Chapter 19.122 RCW.

The Contractor shall excavate around and under utilities with care. When required the Contractor shall support and maintain utility. If a utility conflict is identified, the Contractor shall contact the Engineer. The Contractor and City shall locate alternative locations for the improvements to be constructed. The Contractor shall obtain approval from the Engineer prior to installation. Potholing alternative locations, as directed by the Engineer, will be paid for by a separate bid item with approval of the Engineer as detailed below.

The Contractor shall not adjust the location of; or cut, move or reconnect, an existing utility unless specifically agreed to by the utility owner and the Contracting Agency.

The Contractor shall also coordinate with franchise and public utilities in the undergrounding of utility systems. The undergrounding work is described in Section 8-31 of the Special Provisions, along with responsibilities of both Contractor and utilities. The known contact information for the various utilities is listed in Appendix C.

### **1-07.18 Public Liability and Property Damage Insurance**

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

#### **1-07.18 Insurance**

*(January 24, 2011 APWA GSP)*

##### **1-07.18(1) General Requirements**

1. The Contractor shall obtain the insurance described in this section from insurers approved by the State Insurance Commissioner pursuant to RCW Title 48. The insurance must be provided by an insurer with a rating of A-: VII or higher in the A.M. Best's Key Rating Guide, which is licensed to do business in the state of Washington (or issued as a surplus line by a Washington Surplus lines broker). The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer (including financial condition), terms and coverage, the Certificate of Insurance, and/or endorsements.
2. The Contractor shall keep this insurance in force during the term of the contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated (see C. below).

3. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Final Completion or earlier termination of this contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period (“tail”) or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.
4. The insurance policies shall contain a “cross liability” provision.
5. The Contractor’s and all subcontractors’ insurance coverage shall be primary and non-contributory insurance as respects the Contracting Agency’s insurance, self-insurance, or insurance pool coverage.
6. The Contractor shall provide the Contracting Agency and all Additional Insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.
7. Upon request, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s).
8. The Contractor shall not begin work under the contract until the required insurance has been obtained and approved by the Contracting Agency.
9. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days’ notice to the Contractor to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.
10. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the contract and no additional payment will be made.

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

All insurance policies, with the exception of Professional Liability and Workers Compensation, shall name the following listed entities as additional insured(s):

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers
- PBS Engineering and Environmental Inc.

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, whether primary, excess, contingent or otherwise, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(3) describes limits lower than those maintained by the Contractor.

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

Contractor shall ensure that each subcontractor of every tier obtains and maintains at a minimum the insurance coverages listed in 1-07.18(5)A and 1-07.18(5)B. Upon request of the Contracting Agency, the Contractor shall provide evidence of such insurance.

### **1-07.18(4) Evidence of Insurance**

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. The certificate and endorsements must conform to the following requirements:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as Additional Insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement. A statement of additional insured status on an ACORD Certificate of Insurance shall not satisfy this requirement.
3. Any other amendatory endorsements to show the coverage required herein.

### **1-07.18(5) Coverages and Limits**

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated minimum limits shall not be construed to relieve the Contractor from liability in excess of such limits. All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible shall be the responsibility of the Contractor.

#### **1-07.18(5)A Commercial General Liability**

A policy of Commercial General Liability Insurance, including:

Per project aggregate

Premises/Operations Liability

Products/Completed Operations – for a period of one year following final acceptance of the work.

Personal/Advertising Injury

Contractual Liability

Independent Contractors Liability

Stop Gap / Employers' Liability

Explosion, Collapse, or Underground Property Damage (XCU)

Blasting (only required when the Contractor's work under this Contract includes exposures to which this specified coverage responds)

Such policy must provide the following minimum limits:

\$1,000,000	Each Occurrence
\$2,000,000	General Aggregate
\$1,000,000	Products & Completed Operations Aggregate
\$1,000,000	Personal & Advertising Injury, each offence

Stop Gap / Employers' Liability:

\$1,000,000	Each Accident
\$1,000,000	Disease - Policy Limit
\$1,000,000	Disease - Each Employee

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

Automobile Liability for owned, non-owned, hired, and leased vehicles, with an MCS 90 endorsement and a CA 9948 endorsement attached if "pollutants" are to be transported. Such policy(ies) must provide the following minimum limit:

\$1,000,000	combined single limit
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**1-07.18(5)C Workers' Compensation**

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the state of Washington.

**1-07.18(5)F Excess or Umbrella Liability (1 2016)**

The Contractor shall provide Excess or Umbrella Liability coverage at limits of \$3 million per occurrence and annual aggregate. This excess or umbrella liability coverage shall apply, at a minimum, to both the Commercial General and Auto insurance policy coverage.

This requirement may be satisfied instead through the Contractor's primary Commercial General and Automobile Liability coverage, or any combination thereof.

**1-07.18(5)G Pollution Liability**

*(May 10, 2006 APWA GSP) NO GSP ANYMORE. Does the city still need this?*

The Contractor shall provide a Pollution Liability policy, providing coverage for claims involving bodily injury, property damage (including loss of use of tangible property that has not been

physically injured), cleanup costs, remediation, disposal or other handling of pollutants, including costs and expenses incurred in the investigation, defense, or settlement of claims arising out of:

Contractor's operations related to this project; and/or

Remediation, abatement, repair, maintenance or other work with lead-based paint or materials containing asbestos; and/or

Transportation of hazardous materials away from any site related to this project.

Such Pollution Liability policy shall provide the following minimum coverage:

\$1,000,000          Each loss and annual aggregate

### **1-07.23(1) Construction under Traffic (5 2017)**

*(Special Provision)*

*Supplement*

Within the Project Limits the Contractor shall establish and maintain a detour along Lake Wilderness Country Club Drive SE during working hours only. The Contractor will close Witte Road SE within the Project Limits to all traffic except local residents. The Contractor shall provide two pilot vehicles at both ends of the road closure to escort local residents through the project area.; and

The Contractor shall notify the City Engineer or his/her designee, City of Maple Valley Police, Tahoma School District, Maple Valley Fire, Life and Safety, the King County Sheriff, and all other entities who might be affected by construction activities in writing at least (48 hours in advance of any temporary lane closures or detours, with copies delivered to the Engineer). See Appendix J for contact information.

Any asphalt concrete pavement, crushed surfacing or gravel borrow required to maintain traffic during the life of this contract shall be furnished and placed by the Contractor immediately upon request by the Engineer. The items designated shall be paid for per the unit contract bid prices.

Lighting used for **nighttime work** shall be directed away from, or shielded from, residences and oncoming traffic.

### **1-07.24 Rights of Way**

*(October 1, 2005 APWA GSP) (7 2015)*

*Supplement*

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

Street right of way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public right of way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours' notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.

### **1-07.28 Notifications Relative to Contractor's Activities**

*(Special Provision)*

*New*

Contractor shall notify the following listed agencies and individuals, prior to commencement of the work, and submit to these agencies/individuals:

1. The name(s) of the construction superintendent in responsible charge, and other individuals having full authority to execute the orders or directions of Engineer, in the event of an emergency.

2. The time of the commencement and completion of work.
3. Names of streets or locations of alleys to be closed.
4. Schedule of operations.
5. Routes of detours where possible.
6. Planned utility shutdown times and locations.
7. Construction staging.

Notification shall be written, with a copy delivered to Engineer five (5) days prior to the commencement of work on the project.

Contractor must notify the same parties, in writing, of all changes to any of the above items during the project. The police, sheriff, Fire & Life Safety, Postmaster, bus companies, and emergency personnel must be notified at least four (4) hours in advance of any temporary lane closures or detours.

Currently known contacts, addresses and telephone numbers of public and franchise utilities and public services are supplied for the Contractor's convenience, in Appendix C; however, the Contractor is solely responsible notifying the appropriate party in each case.

## **1-08 PROSECUTION AND PROGRESS**

Add the following new section:

### **1-08.0 Preliminary Matters**

*(May 25, 2006 APWA GSP)*

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

*(October 10, 2008 APWA GSP)*

*Supplement*

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

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;

5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

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

1. A breakdown of all lump sum items; and
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable; and
4. A construction schedule with critical paths and milestones in MS Project; and
5. Contact information (24-hour cell phone) for Project Manager, Site Superintendent, Traffic Control Supervisor, and Certified Erosion and Sediment Control Lead.

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

*(June 27, 2011 APWA GSP) (12 2014)*

*Supplement*

Except in the case of emergency or unless otherwise approved by the Contracting Agency, the normal straight time working hours for the contract shall be any consecutive 10-hour period between 7:00 a.m. and 5:00 p.m. of a working day with a maximum 1-hour lunch break and a 4-day work week, Monday through Thursday. The normal straight time 10-hour working period for the contract shall be established at the preconstruction conference or prior to the Contractor commencing the work.

Written permission from the Engineer is required, if a Contractor desires to perform work on holidays, Fridays, Saturdays, or Sundays; before 7:00 a.m. or after 5:00 p.m. on any day; or longer than a 10-hour period on any day. The Contractor shall apply in writing to the Engineer for such permission, no later than noon on the working day prior to the day for which the Contractor is requesting permission to work.

Permission to work between the hours of 10:00 p.m. and 7:00 a.m. during weekdays and between the hours of 10:00 p.m. and 9:00 a.m. on weekends or holidays may also be subject to noise control requirements. Approval to continue work during these hours may be revoked at any time the Contractor exceeds the Contracting Agency's noise control regulations or complaints are received from the public or adjoining property owners regarding the noise from the Contractor's operations. The Contractor shall have no claim for damages or delays should such permission be revoked for these reasons.

Permission to work Fridays, Saturdays, Sundays, holidays or other than the agreed upon normal straight time working hours Monday through Thursday may be given subject to certain other conditions set forth by the Contracting Agency or Engineer. These conditions may include but are not limited to:

- The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include but are not limited to: survey crews; personnel from the Contracting Agency’s material testing lab; inspectors; and other Contracting Agency employees when in the opinion of the Engineer, such work necessitates their presence.
- On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times.
- Considering the work performed on Fridays, Saturdays, Sundays, and holidays as working days with regard to the contract time.
- Considering multiple work shifts as multiple working days with respect to contract time, even though the multiple shifts occur in a single 24-hour period.

Add the following new section:

**1-08.0(3) Reimbursement for Overtime Work of Contracting Agency Employees**

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

*New*

Where the Contractor elects to work on a Saturday, Sunday, or holiday, or longer than an 8-hour work shift on a regular working day, as defined in the Standard Specifications, such work shall be considered as overtime work. On all such overtime work an inspector will be present, and a survey crew may be required at the discretion of the Engineer. In such case, the Contracting Agency may deduct from amounts due or to become due to the Contractor for the costs in excess of the straight-time costs for employees of the Contracting Agency required to work overtime hours.

The Contractor by these specifications does hereby authorize the Engineer to deduct such costs from the amount due or to become due to the Contractor.

**1-08.3(1)A Weekly Coordination Meeting**

*(Special Provision)*

*New Section*

A coordination meeting will be held each week on site or in the Engineer’s conference room (City Public Works or Job Site Trailer) to discuss the work schedule. The Contractor shall make a presentation of interim and updated schedules to the Engineer, to provide an overview of the project's schedule and provide an opportunity to discuss items of coordination. Consideration of materials, crews, and equipment shall be addressed to ascertain their respective availability. The meeting shall identify actions necessary to provide adherence to the Schedule.

**1-08.3(2)B Type B Progress Schedule**

*(October 10, 2008 APWA GSP; (11 2018)*

*Modification*

Revise the first paragraph to read:

The Contractor shall submit a preliminary Type B Progress Schedule at or prior to the preconstruction conference. The preliminary Type B Progress Schedule shall comply with all of these requirements and the requirements of Section 1-08.3(1), except that it may be limited to only those activities occurring within the first sixty (60) working days of the project.

Revise the first sentence of the second paragraph to read:

The Contractor shall submit 1 electronic file and 1 paper copies of a Type B Progress Schedule depicting the entire project no later than 21-calendar days after the preconstruction conference.

#### **1-08.4 Prosecution of Work**

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

#### **1-08.4 Notice to Proceed and Prosecution of Work**

*(June 27, 2011 APWA GSP) (7 2015)*

*Replacement*

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

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

#### **1-08.5 Time for Completion**

*(August 14, 2013 APWA GSP, Option A) (11 2018)*

*Modification*

Revise the third and fourth paragraphs to read:

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

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the

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

Revise the sixth paragraph to read:

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

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
  - a. Certified Payrolls (per Section 1-07.9(5)).
  - b. Material Acceptance Certification Documents
  - c. Quarterly Reports of Amounts Credited as DBE Participation, as required by the Contract Provisions.
  - d. Final Contract Voucher Certification
  - e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all Subcontractors
  - f. Property owner releases per Section 1-07.24

### **1-08.9 Liquidated Damages**

*(August 14, 2013 APWA GSP)*

*Modification*

Revise the fourth paragraph to read:

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine that the 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 Contractor shall furnish a written schedule for completing the physical Work on the Contract.

## **1-09 MEASUREMENT AND PAYMENT**

### **1-09.6 Force Account**

*(October 10, 2008 APWA GSP)*

*Supplement*

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by Engineer.

### **1-09.8 Payment for Material on Hand**

*(August 3, 2009 WSDOT GSP)*

*Supplement*

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

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

### **1-09.9 Payments**

*(March 13, 2012 APWA GSP)*

*Supplement*

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

*(March 13, 2012 APWA GSP)*

*Modification*

Delete the first four paragraphs and replace them with the following:

The basis of payment will be the actual quantities of Work performed according to the Contract and as specified for payment.

The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction Conference, to enable the Project Engineer to determine the Work performed

on a monthly basis. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a determination based on information available. The Project Engineer's determination of the cost of work shall be final.

Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.

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

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

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

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

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

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

*(City GSP)*

*Supplement*

Each voucher claim submitted by Contractor shall state that the prevailing wages have been paid in accordance with the prefiled statement or statements of Intent to Pay Prevailing Wages on file with the City. Contractor shall submit a Contracting Agency Tax Identification Number.

Vouchers are paid on the Tuesday following the second and fourth Mondays of each month, following City Council approval. Invoices must be received at least ten (10) days prior to the approval date.

### **1-09.9(1) Retainage**

*(City GSP)*

*Supplement*

The Contractor may submit a bond for all or any portion of the contract retainage in a form acceptable to the Contracting Agency and from a bonding company meeting the same standards as established for the Performance and Payment Bonds. The Contracting Agency will accept a bond meeting these requirements unless the Contracting Agency demonstrates good cause for refusing to accept it. Such a bond and any proceeds therefrom is subject to all claims and liens and in the same manner and priority as set forth for retained percentages in RCW 60.28. The Contracting Agency will release the bonded portion of the retained funds to the Contractor within thirty (30) days of accepting the bond from the Contractor. Whenever the Contracting Agency accepts a bond in lieu of retained funds from the Contractor, the Contractor must accept like bonds from any subcontractors or suppliers from which the Contractor has retained funds. The Contractor must then release the funds retained from the Subcontractor or Supplier to the Subcontractor or Supplier within thirty (30) days of accepting the bond from the Subcontractor or Supplier.

### **1-09.13 Claim Resolution**

#### **1-09.13(3) Claims \$250,000 or Less**

*(October 1, 2005 APWA GSP)*

*Replacement*

Delete this Section and replace it with the following:

The Contractor and the Contracting Agency mutually agree that those claims that total \$250,000 or less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

#### **1-09.13(3)A Administration of Arbitration**

*(October 1, 2005 APWA GSP) (11 2018)*

*Modification*

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 are located. 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.

## **1-10 TEMPORARY TRAFFIC CONTROL**

### **1.10.1 General**

*(Special Provision)*

*Modification*

Section 1-10.1 is revised with the following:

Revise the first paragraph to read:

If the Contractor opts to utilize traffic control plans other than those provided in these Contract Documents, the Contractor shall provide traffic control plans to the City of Maple Valley for review and approval a minimum of ten (10) working days prior to implementation. These plans shall supplement Construction Staging Plans. The plans as provided by the Contractor shall include and not be limited to the following information:

- Stop line locations with station and offset to verify safety of intersection turning radius for vehicles.
- Minimum lane widths provided for vehicular travel.
- Turn pocket length, gap, and tapers in conformance with the City of Maple Valley standard details, and WSDOT standard plans.

The Contractor shall provide flaggers, signs, and other traffic control devices not otherwise specified as being furnished by the Contracting Agency. The Contractor shall erect and maintain all construction signs, warning signs, detour signs, and other traffic control devices necessary to warn and protect the public at all times from injury or damage as a result of the Contractor's operations which may occur on highways, roads, streets, sidewalks, or paths. No work shall be done on or adjacent to any traveled way until all necessary signs and traffic control devices are in place.

### **1-10.2 Traffic Control Management**

#### **1-10.2(1) General**

*(December 1, 2008 WSDOT GSP)*

*Supplement*

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

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

Evergreen Safety Council  
401 Pontius Ave. N.  
Seattle, WA 98109  
1-800-521-0778 or

(206) 382-4090

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

### **1-10.2(1)A Traffic Control Management**

*(Special Provision)*

*Supplement*

When a Contractor assigned Traffic Control Manager or Supervisor becomes aware or is notified by the Engineer, through verbal or written communication, that an element of an approved traffic control plan (TCP) is not properly installed, the Contractor shall correct any TCP discrepancies within 45 minutes of the notice. It is the responsibility of the Contractor to ensure that a Traffic Control Manager or Supervisor contact is available at all times during Work or make known to the Engineer a delegated individual to contact should a TCP correction becomes necessary.

If the Contractor proceeds with Work that impacts vehicular traffic or pedestrian access that is not covered by an approved TCP in accordance with 1-10.2(2), the Contractor shall stop Work immediately and return Work area to a safe condition. Work shall not resume until a TCP is approved by the Engineer. All costs to provide temporary detours, repairs to the Work area and their subsequent removals as a result of the stoppage, and construction delays associated with the proper submittal for review and approval of traffic control plans shall be borne by the Contractor.

The Contracting Agency also reserves the right to address safety hazards not addressed by the Contractor within the time specified, without notice to the Contractor or the Surety, and deduct actual costs of equipment and personnel or the amount below, whichever is greater, from the Contract amount.

Contracting Agency provided Traffic Control - \$50/hr per each of the following traffic control elements used:

1. Vehicles
2. Personnel
3. PCMS

Contracting Agency provided traffic control devices or signs - \$50/day/sign or traffic control device.

### **1-10.2(2) Traffic Control Plans**

*(Special Provision)*

*Supplement*

The following minimum Traffic Control requirements shall be maintained during the construction of the project:

1. The Contractor shall maintain continuous two-way traffic along streets throughout the project site. The Contractor shall have the option, with the approval of the Engineer, of momentarily interrupting the continuous two-way traffic to allow one-way traffic. Such interruptions shall utilize qualified flaggers placed in strategic locations to ensure the public safety and minimize driver confusion. A momentary interruption shall be defined as a period of time not to exceed two (2) minutes. Regardless of the period of time no queue greater than ten (10) cars in length will be allowed.
2. The Contractor shall be responsible for notifying all affected property owners prior to commencing the barricading of streets, sidewalks and driveways.
3. All business driveways shall remain open except as necessary to permit curing of construction materials or for short periods of time as required for excavations. However, at least one (1) driveway per business shall remain open to vehicular traffic at all times unless otherwise approved by the Engineer and affected property owner in writing. If a business has only one driveway, then that driveway must be constructed one-half at a time to allow the passage of vehicles. The amount of time that a driveway can be closed will be limited. Business owners shall be notified in writing at least 48 hours in advance of any planned driveway closures.
4. Signs and barricades shall be supplemented by Type C steady burn lights to delineate edge of roadway during the hours of darkness.
5. Any asphalt concrete pavement, crushed surfacing, or gravel base for maintaining traffic during the life of this contract shall be placed by the Contractor immediately upon request by the Engineer. In addition, cuts made in the traveled lanes or on walkways that are paved will be temporarily patched with hot mix and maintained daily until such time as a permanent patch can be made. Payment for crushed surfacing, gravel and asphalt will be paid at their respective bid items, as included in the contract.
6. Detours are noted in Section 1-07.23(1) as amended.
7. Drivers of motor vehicles used in connection with the construction shall obey traffic rules posted for such location in the same manner and under the same restrictions as provided for the drivers of private vehicles.
8. The Contractor shall, at all times throughout the project, conduct the work in such a manner as will obstruct and inconvenience vehicular and pedestrian traffic as little as possible. The streets, sidewalks and private driveways shall be kept open by the Contractor except for the brief periods when actual work is being done. The Contractor shall so conduct his operations so as to have under construction no greater length or amount of work than he can prosecute vigorously and he shall not open up sections of the work and leave them in an unfinished condition. See Section 1-07.23(1) for additional driveway closure requirements.
9. The Contractor shall provide traffic cones, barricades and drums, with warning lights in sufficient number and in good condition as required to protect the work and the public throughout the length of the job. Traffic Safety Drums with flashers in addition to

temporary striping will be used to channelize traffic through construction zones. Opposing lanes of traffic will be separated by pylons when clearance for drums is not adequate. All signing and channelization shall be per current MUTCD standards.

10. Temporary paint striping, reflective marking tape, and/or retroreflective tubular markers shall be required for each shift of traffic control. The Contractor shall provide temporary striping, reflective marking tape, and/or retroreflective tubular markers as required at the direction of the Engineer.
11. The Contractor provided Traffic Control Plans shall lay out traffic control device spacing, tapers, etc., to scale, shall contain accurate dimensions and legends and shall be signed by the preparer.

### **1-10.3 Traffic Control Labor, Procedures and Devices**

#### **1-10.3(1) Traffic Control Labor**

*(Special Provision)*

*Supplement*

##### **1-10.3(1)A Flaggers**

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

The Contractor shall furnish the flashing stop/slow paddles for the flagging stations. The use of conventional flagging paddles will only be allowed in the case of an emergency or temporary use while a failed FSSP is replaced or repaired.

##### **1-10.3(1)B Other Traffic Control Labor**

The Contractor shall use the assistance of an off duty Uniformed Police Officer (UPO) when the Engineer requires the control of a signalized intersection during Work, or during joint utility trench Work involving Roadway crossings as shown in the Contract Plans. The Engineer will generally require the control of a signalized intersection in the following conditions:

1. When the operation of a signal is interrupted as part of required Work; or
2. When detouring traffic safely through a signalized intersection becomes necessary as part of required Work.

The Contractor shall use City of Maple Valley police enforcement unless it is unable to respond to a request to assist with the Work.

A UPO shall be provided in the event of accidental power outages or disruption of a signalized intersection as a result of Contractor Work. The UPO shall be provided at Contractor expense, and remain in place until the intersection becomes satisfactorily operational as determined by City of Maple Valley Police Department.

**1-10.3(3) Traffic Control Devices**

*(Special Provision)*

*Modification*

Section 1-10.3(3) of the Standard Specifications is revised to read as follows:

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

All orange background signs shall utilize materials, and be fabricated in accordance with, Section 9-28. All new orange background signs and all W20-7a "Flagger Ahead" signs shall be fabricated with Type IV or Type VII fluorescent orange sign sheeting.

All post mounted signs with Type IV or VII sheeting shall use a nylon washer between the twist fasteners (screw heads, bolts, or nuts) and the reflective sheeting. There shall be no intermixing of signs with non-fluorescent orange reflective sign sheeting and signs with fluorescent orange reflective sign sheeting on the same sign post.

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

If it is necessary to add weight to signs for stability, only a bag of sand that will rupture on impact shall be used. The bag of sand shall: (1) be furnished by the Contractor, (2) have a maximum weight of 40 pounds, and (3) be suspended no more than 1 foot from the ground.

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

Traffic Safety Drums used to delineate driveways and access locations to private properties within the work zone shall be yellow in color.

*(Special Provision)*

*Supplement*



Reflexite/Eastern Metals

DF 400 & DF 4700 TX (Endurance plastic)

(Aluminum signs are not approved for use with the above listed stands at this time)

### **Wood Sign Posts**

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

#### **One Post Installation**

<b>Post Size</b>	<b>Min. Sign Sq. Ft.</b>	<b>Max. Sign Sq. Ft.</b>
<b>4x4</b>	<b>-</b>	<b>16.0</b>
<b>4x6</b>	<b>17.0</b>	<b>20.0</b>
<b>6x6</b>	<b>21.0</b>	<b>25.0</b>
<b>6x8</b>	<b>26.0</b>	<b>31.0</b>

## **Two Post Installation**

**(For signs 5 feet or greater in width)**

<b>Post Size</b>	<b>Min. Sign Sq. Ft.</b>	<b>Max. Sign Sq. Ft.</b>
<b>4x4</b>	<b>-</b>	<b>16.0</b>
<b>4x6</b>	<b>17.0</b>	<b>36.0</b>
<b>6x6</b>	<b>37.0</b>	<b>46.0</b>
<b>6x8</b>	<b>47.0</b>	<b>75.0</b>

**\* The Engineer shall determine post size for signs greater than 75 square feet.**

### **1-10.3(3)A Construction Signs Supplement**

Class B signs may remain longer than 3-days provided they do not impede pedestrian routes (unless designed to), conflict with vehicular traffic movements, or have a restricted view.

### **1-10.3(3)C Portable Changeable Message Sign Supplement**

A portable changeable message sign (PCMS) shall be placed at locations as shown on the approved TCP. The message shall be operating 24 hours per day for the duration of traffic revisions or as otherwise approved by the Engineer.

Contractor shall transport and operate all PCMS units.

### **Temporary Pavement Marking**

*New Section*

All Temporary Pavement Markings shall be measured in accordance with Section 8-23.4 and paid in accordance with Section 8-23.5.

#### **Description**

The Contractor shall install and remove approved 4-inch-wide reflective traffic tape, paint line, RPMs and pavement markings per Standard Plans, as shown on the Plans, specified in the Special Provisions for this Contract, or as directed by the Engineer. Temporary pavement markings shall be removed after the installation of permanent lane marking is approved in writing by the Engineer.

#### **Materials**

Materials for temporary pavement markings shall be selected from approved materials listed in the Qualified Products List (QPL).

## **Preliminary Spotting**

The Contractor is responsible for preliminary spotting (layout work) of the lines before marking begins. The City may provide pavement marking layout work for the Contractor if existing workloads permit, but all costs incurred by the City in providing layout work at the Contractor's request shall be charged to the Contractor.

## **Temporary Pavement Markings**

Temporary pavement markings shall be installed and maintained by the Contractor whenever permanent pavement markings are included in the Contract and traffic is released onto public streets or roadways prior to installation of permanent pavement markings. The Contractor shall perform preliminary layout work to the satisfaction of the Engineer prior to installation of the temporary pavement markings. The temporary pavement markings shall be installed and maintained to the satisfaction of the Engineer until the permanent pavement markings are installed and approved in writing by the Engineer. After approval of permanent lane markings, the Contractor shall remove the temporary lane markings to the satisfaction of the Engineer.

Appropriately colored 4-inch-wide reflective traffic tape shall be installed with a skip pattern based on a 10-foot unit consisting of a 1-foot line of tape and a 9-foot gap, unless otherwise specified on the Plans or in the Special Provisions for this Contract. Reflective traffic tape markings shall generally follow the alignment for the permanent pavement markings and double lines shall be used when specified for the permanent pavement markings. Reflective tape shall not be used when the temporary pavement markings are to be exposed to traffic for more than two weeks without the written approval of the Engineer.

The Contractor shall provide paint lines per sections 8-22 and 9-34, and RPMs per sections 8-09 and 9-21, at the direction of the Engineer for temporary pavement markings for construction staging. Paint lines shall be provided for temporary pavement markings for any conditions not applicable for reflective tape. Paint lines for temporary pavement markings shall be paid under "Paint Line", "Raised Pavement Marker Type 1", and Raised Pavement Marker Type 2".

## **1-10.4 Measurement**

### **1-10.4(3) Reinstating Unit Items with Lump Sum Traffic Control**

*(GSP August 2, 2004)*

*Supplement*

The bid proposal contains the item "Project Temporary Traffic Control," lump sum and the additional temporary traffic control items listed below. The provisions of Section 1-10.4(1), Section 1-10.5(3) shall apply

"Flaggers and Spotters", per hour

Measurement for "Portable Changeable Message Sign" shall be lump sum for project duration to physical completion.

“Off-Duty Uniformed Police Officer” per hour

### **1-10.5 Payment**

(Special Provision)

*Supplement*

Section 1-04.6 shall not apply to Bid items listed in Section 1-10.

“Project Temporary Traffic Control” lump sum.

The lump sum Contract payment for “Project Temporary Traffic Control” shall be full compensation for all costs incurred by the Contractor in performing Work defined in Section 1-10.2.

“Flaggers and Spotters” per hour.

The unit Contract price, when applied to the number of units measured for this item in accordance with Section 1-10.4(2), shall be full compensation for all labor costs incurred by the Contractor in performing the Work specified for this item in Section 1-10.2.

“Portable Changeable Message Sign” per lump sum.

The lump sum Contract payment for “Portable Changeable Message Sign” shall be full compensation for all costs incurred by the Contractor in performing Work defined in Section 1-10.2.

“Off-Duty Uniformed Police Officer”, per hour.

The unit Contract price for “Off-Duty Uniformed Police Officer” shall be full compensation for providing a UPO as specified in 1-10.3(1)B. If not shown on an approved TCP or used by the Contractor as shown in the Contract Plans, no payment will be made for a UPO.

**END OF DIVISION 1**

## DIVISION 2 - EARTHWORK

### 2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

#### 2-01.1 Description

*(Special Provision)*

*Supplement*

The Contractor shall install international orange construction fence for protection of those trees identified on the Plans and where directed by the Project Engineer. Fence shall remain in place until all construction is completed. The costs associated with providing and maintaining the orange construction fences shall be incidental to and included in the contract price for "Clearing and Grubbing" and no additional compensation will be made.

The Contractor shall stake the proposed clearing limits at 25' minimum intervals. Clearing and grubbing shall be performed within the approximate limits shown in the Plans. For graphical clarity, the Clearing limits as depicted in the Site Preparation Plans is shown in the approximate locations only. The staked clearing limits shall not go beyond City right of way or temporary construction use easements or right of entry. The Contractor shall allow 48 hours for the Engineer to approve the clearing limits before commencing activities. At the direction of the Engineer, the limits shall be adjusted in the field. When staking the clearing limits, the Contractor shall protect from damage existing landscaping items, such as vegetation, rockeries, irrigation and other items.

When landscape vegetation on private property exists within the proposed clearing limits, the Contractor shall provide at least seven (7) days written notice to the property owners before commencing removal of the materials to allow time for private salvage. If the property owners do not desire to salvage materials, then clearing may commence upon approval of the limits.

#### 2-01.2(2) Disposal Method No. 2 - Waste Site

*(Special Provision)*

*Supplement*

No waste site has been provided for the disposal of excess or excavated materials. The Contractor shall make his or her own arrangements for obtaining waste sites in accordance with Section 2-03.3(7)C of the Standard Specifications. All costs associated with providing a waste site shall be considered **incidental** to the various bid items and no additional payment will be made.

### 2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

#### 2-02.1 Description

*(Special Provision)*

*Supplement*

For the purpose of this Contract, "Removal of Structures and Obstructions" shall include the removing, resetting, protecting, storing, salvaging, and replacement of miscellaneous objects required to complete the new construction.

If requested by a specific adjacent property owner, existing decorative or landscaping items (such as rocks, walls, wood edges, timbers, planter boxes, etc.) shall be protected, salvaged, and returned to the property owner. See also Property Owner Commitments in Appendix I.

The lump sum contract price for "Removal of Structures and Obstructions" shall be full compensation for furnishing all labor, tools, materials, and equipment necessary to:

Satisfactorily remove and dispose of the items specified, backfill, and compact the resulting void

Satisfactorily abandon the items specified, including plugging, capping, and backfilling with CDF or other materials that are required by the Plans or Specifications

Satisfactorily salvage the items specified for re-use or to be returned to the property owner

Satisfactorily reset the items specified, including replacing posts, traffic signs, worn materials, and/or hardware

Removing drainage structures (for example, culverts, CBs, inlets, storm pipes) is not included in this Section and shall be included in the bid items "Roadway Excavation, Including Haul" and "Structure Excavation Including Haul".

Removal and relocation of private utility poles and structures is not included in this Section. That work shall be performed by the private utility purveyor. Contractor shall coordinate that work.

Removal of pavements, other curbs, and sidewalks is not included in this Section and is included in the bid item "Roadway Excavation, Including Haul."

The following partial list of items to be removed and disposed of is provided for the convenience of the contractor and are included in the lump sum bid item "Removal of Structures and Obstructions" (the Contractor shall review the Plans, Specifications, and project site to verify other items to be removed):

<b>Item</b>	<b>Approximate Location</b>	<b>Quantity</b>
Remove/relocate street signs and mailboxes	various locations	11 EA
Replace painted rocks after construction	Sta 133+00	minor

All work associated with removals shall be included in the lump sum for "Removal of Structures and Obstructions". Quantities indicated in the Bid Documents are informational use only. Items listed in the bid proposal as being measured and paid as unit costs shall be specifically measured for payment and are not included in the lump sum for "Removal of Structures and Obstructions".

Structure excavation and backfill quantities for the removal of items are not shown in the Plans. This excavation and backfill work shall be considered incidental to the removal of structures and obstructions and no further compensation will be made. No additional payment shall be made under Roadway Excavation or Structure Excavation for the items included in 2-02.

## **2-02.3 Construction Requirements**

### **2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters**

*(Special Provision)*

*Supplement*

Prior to removal of pavement, the Contractor shall make a full-depth sawcut to delineate the areas of pavement removal from those areas of pavement to remain. The Engineer shall approve the equipment and procedures used to make the full depth sawcut. No wastewater from the saw-cutting operation shall be released directly to any stream or storm sewer system. Removal of pavement, sidewalks, curbs, and gutters within the entire project limits shall be measured and paid as "Roadway Excavation incl. Haul" in accordance with Section 2-03.

The approximate thickness of the HMA pavement on Witte Road is 8-inches.

### **2-02.3(3)1 Removing Pavement Markings**

*(Special Provision)*

*Supplement*

Existing pavement markings include stop bars, crosswalk stripes, traffic arrows, lane markers, legends, paint stripes, and raised pavement markers shall be removed prior to HMA overlay.

All conflicting channelization shall be removed as necessary to install temporary and final pavement markings.

Removal of existing pavement markings shall be conducted using such methods to prevent damage to the remaining pavement. The use of chemicals that may be harmful to the pavement will not be permitted. Damaged pavement shall be replaced at the Contractor's expense.

All costs shall be considered incidental to and included in the lump sum "Removal of Structures and Obstructions."

### **2-02.3(4) Resetting of Miscellaneous Items**

*(Special Provision)*

*New Section*

#### **Property Corner Markers**

Where encountered, iron pipes, brass plumbs, rebar, or other surveying devices used to mark property corners shall be preserved and protected from damage and undisturbed as is practically possible. Property corners disturbed by the Contractor's operations shall be replaced per the provisions of the Washington State law. All associated costs shall be considered incidental to and included in the various bid items.

All costs associated with the above items shall be considered incidental to and included in the lump sum "Removal of Structures and Obstructions."

### **2-02.3(5) Removal and Relocation of Existing Private Improvements**

*(Special Provision)*

*New Section*

When directed by the Engineer, the removal and relocation of certain specified existing private improvements are to be paid for on the basis of force account in accordance with Section 1-09.6 of the Standard Specifications.

For the purpose of providing a common proposal, and for that purpose only, the Contracting Agency has estimated the cost of accomplishing this item of work and has arbitrarily entered that amount in the bid proposal to become part of the total bid by the Contractor.

Typical items of work covered by this bid item include:

1. Relocate Mailbox (2 EA)
2. Relocate SE 254<sup>th</sup> Place Entrance Irrigation
3. Relocation SE 254<sup>th</sup> Place Entrance Ground Lighting
4. Relocate Lake Wilderness Golf Club Sign
5. Relocate Lake Wilderness Golf Club Ground Lighting for Sign

Existing materials that are removed shall be stored, stockpiled and protected during construction for reinstallation at the new location. Any materials that are damaged (either during removal, storage, or construction) shall be repaired or replaced with new, like materials. Existing wood posts and footings that are removed shall be disposed of and new posts and footings shall be installed in the same general design and configuration (i.e., size, type, and spacing) as the existing.

### **2-02.3(6) Salvage**

*(Special Provision)*

*New Section*

Any salvage material not named in the Special Provisions, identified on the Plans, or otherwise identified by the Owner as City property will become the property of the Contractor. The Contractor shall dispose of such material off the project limits.

When salvageable material is to remain City property, the specifications or plans will identify the material and describe how the Contractor shall remove it. Such material shall be stockpiled and/or delivered to the Maple Valley City Hall located at 22017 S.E. Wax Road, Suite 5, (telephone (425) 413-8800), Maple Valley, WA 98038, as directed by the Project Engineer.

### **2-02.4 Measurement**

*(Special Provision)*

*Supplement*

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

“Saw-cutting” shall be measured by the lineal foot.

## **2-02.5 Payment**

*(Special Provision)*

*Supplement*

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

“Saw-cutting”, per lineal foot.

“Removal and Relocation of Existing Private Improvements”, estimate

“Removal of Structure and Obstruction”, lump sum

No Structure Excavation Class B or backfill quantities are indicated on the Plans for the Removal of Structure and Obstruction. Structure Excavation Class B for the removal of items shall be considered incidental to the removal of structures and obstructions and no further compensation will be made for the work included in Section 2-02.

## **2-03 ROADWAY EXCAVATION AND EMBANKMENT**

### **2-03.1 Description**

*(Special Provision)*

*Supplement*

Excavated material unsuitable for roadway embankment shall be disposed of. All cost associated with hauling and disposal of the excavated material or reuse of excavated materials shall be considered incidental to the various bid items in the Contract and no additional compensation shall be considered. The contractor shall provide storage and stockpiling of materials excavated which can be used later as embankments.

Native materials may be reused for embankment and backfill with the approval of the Engineer. The Contractor shall provide necessary materials testing (modified proctor) prior to the approval of any native material for reuse. All costs associated with reusing native materials shall be considered incidental to and included in the various bid items.

### **2-03.3(7)B Haul**

*(Special Provision)*

*Supplement*

All costs in connection with hauling and disposal of surplus materials will be considered incidental to the various bid items of the project and no additional compensation will be made.

### **2-03.3(14) Embankment Construction**

*(Special Provision)*

*Supplement*

Embankments shall be constructed in compacted layers of uniform thickness by Method C of Section 2-03.3(14)C **Compacting Earth Embankments** of the Standard Specifications.

All embankment construction and compaction shall be considered **incidental** to and included in the various bid items and no additional compensation shall be considered.

### **2-03.3(14)E Unsuitable Foundation Excavation**

*(Special Provision)*

*Supplement*

The provisions of Section 2-03.3(14)E of the Standard Specifications shall apply except that “**Subexcavation**” as described in Section 2-03.3(3) of the Standard Specifications shall be included as "Unsuitable Foundation Excavation Including Haul."

This Work shall also include hauling and disposal of unsuitable foundation materials and shall only be performed as directed and approved by the Engineer. Unauthorized unsuitable foundation excavation shall be replaced with select backfill at the Contractor's expense.

Payment will be made under the respective unit contract price for material used to backfill the resulting void to a maximum of 18-inches below subgrade. This may include "Crushed Surfacing Base Course" or "Gravel Borrow Including Haul."

If excessive unsuitable foundation is encountered beneath the roadway section, and as approved by the Engineer, the Contractor shall supply Construction Geotextile for Separation between subgrade and backfill materials. The geotextile shall be wrapped on the sides and installed per Section 2-12 of the Standard Specifications. If necessary this work shall be as authorized by the Engineer per 1-09.6 of the Standard Specifications.

The Contractor is advised that "Unsuitable Foundation Excavation Including Haul" is contingent on the presence of unsuitable foundation. A quantity has been provided solely to provide a common basis for bidders. The quantity may be greatly increased or decreased or reduced to zero. The increase or decrease in this quantity will not constitute a basis for claim by the Contractor for extra payment or damages. Payment will be only for actual work performed based upon the unit contract prices and shall be considered full compensation to the Contractor for the work.

### **2-03.3(14)J Gravel Borrow Including Haul**

*(Special Provision)*

*Supplement*

Gravel Borrow shall be used in the construction of embankments, subgrade, trench backfill, filling ditches, conflicts with incidental work to block wall, or where required by the Engineer. Gravel borrow used as fill material shall be constructed in compacted layers of uniform thickness by Method C of Section 2-03.3(14)C **Compacting Earth Embankments** of the Standard Specifications.

Gravel borrow as used for replacement material when over-excavation is performed in lieu of shoring shall **NOT** be paid under this item.

## 2-03.4 Measurement

*(March 13, 1995 WSDOT GSP)*

*Supplement*

Only one determination of the original ground elevation will be made on this project. Measurement for roadway excavation and embankment will be based on the original ground elevations recorded subsequent to clearing & grubbing.

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

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

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

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

The Contractor shall provide all construction surveying necessary to calculate neat-line measurement limits as required. The contractor is also advised of the Record Drawing provisions of 1-05.4 herein. All costs associated with surveying cross sections and neat-line limits shall be considered **incidental** to and included in the lump sum "*Surveying*" and no additional payment will be made.

## 2-03.5 Payment

*(Special Provision)*

*Supplement*

All costs associated with removing, stockpiling and re-using native and recycled materials for embankments or roadway bases shall be considered incidental to the various bid items and no additional payment shall be made. Included in "Roadway Excavation Including Haul" shall be HMA pavements, paths, driveways, gravel, sidewalks, curbs and those items described in 2-03 of the Standard Specifications.

## 2-04 HAUL

### 2-04.1 Description

*(Special Provision)*

*Supplement*

In reference to the term "haul" as used in Section 2-04 and Section 2-09.3(1)D of the Standard Specifications, all costs and expense involved in haul will be considered **incidental** to the unit contract prices of the bid items and no additional compensation will be made.

## **2-06 SUBGRADE PREPARATION**

### **2-06.3 Construction Requirements**

*(Special Provision)*

*Supplement*

Compaction of the subgrade shall be considered **incidental** to and included in the unit contract prices of other items in the contract, and all costs thereof shall be included by the Contractor in other pay items. The subgrade shall be shaped and maintained to drain at all times during construction, including temporary ditches, and modifications to drainage structures necessary to eliminate standing water on the subgrade.

## **2-07 WATERING**

### **2-07.1 Description**

*(Special Provision)*

*Supplement*

Water shall be acquired and placed in compliance with Section 2-07 of the Standard Specifications except as modified herein.

Water may be obtained from Covington Water District hydrants. The Contractor will be required to pay a deposit for rental of a hydrant meter and backflow prevention assembly from the District and pay for all water used on the project at the rates in effect at the time of bidding.

### **2-07.5 Payment**

*(Special Provision)*

*Supplement*

No specific payment for furnishing and placing water shall be made. Water used on the project will be considered incidental to the contract, including water used to disinfect, fill and flush the new mains.

## **2-09 STRUCTURE EXCAVATION**

### **2-09.1 Description**

*(Special Provision)*

*Supplement*

See Division 8-31 herein for treatment of excavation bid items relating to the franchise aerial utility conversion.

### **2-09.3(1)C Removal of Unstable Base Material**

*(Special Provision)*

*Supplement*

Unsuitable and unstable foundation material shall be excavated, removed, and replaced per the Standard Specifications. Payment shall be made per "Unsuitable Foundation Excavation Including Haul" as described in Section 2-03 herein.

### **2-09.3(1)D Disposal Of Excavated Material**

*(Special Provision)*

*Modification*

All costs associated with disposing of, hauling, or reusing excavated material shall be considered **incidental** to various bid items and no additional compensation shall be considered.

It is anticipated that excavated materials from structure excavation shall be suitable for re-use as backfill. The Contractor shall store and stockpile excavated materials to be re-used as trench backfill and embankments.

### **2-09.3(1)E Backfilling**

*(Special Provision)*

*Modification*

Method C per Section 2-03.3(14)C shall be used for compaction during backfilling.

### **2-09.4 Measurement**

*(Special Provision)*

*Supplement*

No specific unit of measurement shall apply to "Shoring or Extra Excavation Class B" which shall be measured and paid per lump sum.

The Contractor shall provide all construction surveying necessary to calculate neat line limits for payment of structural excavation items. All costs shall be considered included in the "Surveying" lump sum and no additional payment will be made.

### **2-09.5 Payment**

*(Special Provision)*

*Supplement*

"Shoring or Extra Excavation Class B," per lump sum.

Payment will be made for Structure Excavation associated with the aerial utility conversion per Section 8-31 herein.

## **2-11 TRIMMING AND CLEANUP**

### **2-11.3 Construction Requirements**

*(Special Provision)*

*Supplement*

The Contractor shall take every possible precaution to preserve the existing improvements. All damages to existing improvements from the Contractor's operation, whether within the road right-of-way or in private property, shall be the sole responsibility of the Contractor to remedy. All such areas shall be restored to their preconstruction equivalent or as shown on the Landscape Restoration Plans to the satisfaction of the Owner.

All areas disturbed by the Contractor shall be smoothed, finished, cleaned, and dressed to appear uniform in all respects in accordance with Section 2-11 of the Standard Specifications.

### **2-11.5 Payment**

*(Special Provision)*

*Supplement*

No specific payment shall be made for "Trimming and Cleanup". Work performed under this section shall be considered incidental to the unit Contract prices for the various bid items included in the Bid Proposal and no additional compensation will be made.

## **2-12 CONSTRUCTION GEOSYNTHETIC**

### **2-12.3 Construction Requirements**

*(Special Provision)*

*Supplement*

#### **Installing Guardrail Posts in Geosynthetic Reinforced Slopes**

The Contractor shall install guardrail posts as shown in the Plans after completing the reinforced slopes. The Contractor shall install the posts in a manner that prevents bulging of the slope face and prevents ripping, tearing, or pulling of the geosynthetic reinforcement. Holes through the geosynthetic reinforcement shall be the minimum size necessary for the post. The Contractor shall demonstrate to the Engineer prior to beginning guardrail post installation that the installation method will not rip, tear, or pull the geosynthetic reinforcement.

**END OF DIVISION 2**

(THERE ARE NO SPECIAL PROVISIONS FOR DIVISION 3)

## DIVISION 4 - BASES

### 4-04 BALLAST AND CRUSHED SURFACING

#### 4-04.2 Materials

*(Special Provision)*

*Supplement*

##### *Concrete Rubble*

Contractors are encouraged to consider using recycled concrete that meets the requirements of Section 4-04 of the Standard Specifications and these Special Provisions. Recycled concrete is encouraged for use as a base course or top course material under cement concrete sidewalk or Portland cement concrete pavement. **Recycled concrete crushed surfacing is not acceptable as a top course under asphalt concrete pavement.**

##### *Recycled Asphalt Pavement*

Base material placed underneath concrete sidewalks shall be millings produced from planing asphalt roadway within the Witte Road right of way limits. This material shall not be used underneath driveways.

##### *Structural Soil*

Provide structural soil sub-base material classified as a GP-GM material as defined by the Unified Soil Classification System and compacted to 95% optimum (Proctor) density with a minimum California Bearing Ratio of 50. Structural soil shall be “CU-Structural Soil” or equivalent if approved by the Engineer. Provide manufacturer’s technical data sheets, installation instructions and Material Safety Data Sheets (MSDS) for each product used. Furnish tools and equipment recommended by the manufacturer to complete installation of the structural soil.

#### 4-04.4 Measurement

*(Special Provision)*

*Supplement*

“Trench Backfill - Crushed Surfacing Top Course” shall be measured and paid to the neatline limits shown on the Plans as calculated per structure excavation quantities.

#### 4-04.5 Payment

*(Special Provision)*

*Supplement*

“Trench Backfill - Crushed Surfacing Top Course” per ton.

“Crushed Surfacing Top Course” as used as a base course for drainage pipes and structures, as pipe zone bedding, for replacement material when over-excavation is performed in lieu of shoring,

or when unauthorized over-excavation is performed and is being replaced with select material at the Contractor's expense shall **not** be paid under this item.

The contract bid price above, including all incidental work, shall be full compensation for all labor, material, tools and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

All costs associated with removing, stockpiling and re-using native and recycled materials for embankments or roadway bases shall be considered incidental to the various bid items and no additional payment shall be made.

#### **END OF DIVISION 4**

## DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS

### 5-04 HOT MIX ASPHALT

#### 5-04.1 Description

*(Special Provision)*

*Supplement*

This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on 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) process 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

*(Special Provision)*

*Supplement*

The grade of paving asphalt used in HMA shall be PG 64-22 unless otherwise directed by the Engineer.

*(January 6, 2014, GSP)*

*Supplement*

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
Warm Mix Asphalt 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

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 amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) or reclaimed asphalt shingles (RAS) in the production of HMA. The RAP may be from pavements removed under the

Contract, if any, or pavement material from an existing stockpile. The RAS may be from reclaimed shingles.

If greater than 20 percent of the total weight of HMA is RAP or any amount of RAS is utilized in the production of HMA, the Contractor shall sample and test the RAP and RAS during stockpile construction in accordance with WSDOT FOP for AASHTO T 308 for the determination of the asphalt binder content and WSDOT FOP for WAQTC/AASHTO T 27/T 11 for the gradation of the aggregates. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The RAS shall be sampled and tested at a frequency of one sample for every 100 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency prior to or when submitting the mix design. If utilized, the amount of RAS shall not exceed 5-percent of the total weight of the HMA. The Contractor shall include the RAP and RAS as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted. For HMA with either a RAP percentage greater than 20 percent of the total weight or any amount of RAS the actual grade of the final blended asphalt binder (after inclusion of RAP, RAS, new asphalt binder and recycling agent) shall not exceed the grade of asphalt binder required by the Contract and comply with the requirements of Section 9-02.1(4). The actual grade of the new binder and the final blended asphalt binder shall be verified in accordance with AASHTO R 29 and reported to the Contracting Agency when submitting the mix design for evaluation.

The Contractor may use warm mix asphalt (WMA) processes in the production of HMA with a RAP percentage of 20 percent of the total weight or less. WMA processes shall not be used in the production of HMA with a RAP percentage greater than 20 percent of the total weight or any amount of RAS. The Contractor shall submit to the Engineer for approval the process that is proposed and how it will be used in the manufacture of HMA.

When the Contracting Agency provides aggregates or provides a source for the production of aggregates, the Contract Provisions will establish the approximate percentage of asphalt binder required in the mixture for each class of HMA.

Production of aggregates shall comply with the requirements of Section 3-01.

Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

#### **5-04.2(9-02.1) Asphalt Material, General**

Section 9-02.1 is supplemented with the following:

#### **5-04.2(9-02.1)**

(January 6, 2014)

The recycling agent used to rejuvenate the recovered asphalt binder from recycled asphalt pavement (RAP) and reclaimed asphalt shingles (RAS) shall meet the specifications in Table 1:

<b>Table 1</b>		<b>RA 1</b>		<b>RA 5</b>		<b>RA 25</b>	
<b>Test</b>	<b>ASTM Test Method</b>	<b>Min.</b>	<b>Max.</b>	<b>Min.</b>	<b>Max.</b>	<b>Min.</b>	<b>Max.</b>
Viscosity @ 140°F cSt	D2170 or D2171	50	150	200	800	1000	4000
Flashpoint COC, °F	D92	400		400		400	
Saturates, Wt. %	D2007		30		30		30
Specific Gravity	D70 or D2198	Report		Report		Report	
Tests on Residue from RTFC	D2872						
Viscosity Ratio <sup>1</sup>			3		3		3
Mass Change ± %			4		4		4
<sup>1</sup> Viscosity Ratio = $\frac{\text{RTFC Viscosity @ 140°F, cSt}}{\text{Original Viscosity @ 140°F, cSt}}$							

**5-04.2(9-02.1(4)).GR5 Performance Graded Asphalt Binder (PGAB)**

Section 9-02.1(4) is supplemented with the following:

**5-04.2(9-02.1(4)).OPT1.GR5**

(January 6, 2014)

For HMA with either a RAP percentage greater than 20 percent of the total weight or any amount of RAS the following shall apply: the new asphalt binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the proportions of the mix design shall meet the PGAB requirements of AASHTO M 320 Table 1 for the grade of asphalt binder specified by the Contract.

**5-04.2(9-03.8(2)).GR5 HMA Test Requirements**

Section 9-03.8(2) after the first paragraph is revised to read:

**5-04.2(9-03.8(2))**

(March 3, 2014)

The mix design shall produce HMA mixtures when combined with RAP, RAS, coarse and fine aggregate within the limits set forth in Section 9-03.8(6) and mixed in the laboratory with the designated grade of asphalt binder, using the Superpave gyratory compactor in accordance with

WSDOT FOP for AASHTO T 312, and at the required gyrations for N initial, N design, and N maximum with the following properties:

Mix Criteria	HMA Class							
	3/8 inch		1/2 inch		3/4 inch		1 inch	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Voids in Mineral Aggregate	15.0		14.0			13.0	12.0	
<b>Voids Filled with Asphalt (VFA), %</b>								
ESALs (millions)	VFA							
<0.3	70	80	70	80	70	80	67	80
0.3 to <3	65	78	65	78	65	78	65	78
3 to <10	73	76	65	75	65	75	65	75
10 to <30	73	76	65	75	65	75	65	75
≥ 30	73	76	65	75	65	75	65	75
Dust/Asphalt Ratio	0.6	1.6	0.6	1.6	0.6	1.6	0.6	1.6
Hamburg Wheel-Track Testing, WSDOT FOP for AASHTO T 324 Rut Depth (mm) @ 15,000 Passes		10		10		10		10
Hamburg Wheel-Track Testing, WSDOT FOP	15,000		15,000		15,000		15,000	
for AASHTO T324 Number of Passes with no Stripping Inflection Point								
Indirect Tensile(IDT) Strength (psi) of Bituminous Materials WSDOT FOP for ASTM D 6931		175		175		175		175

	ESALs (millions)	N initial	N design	N Max.
% Gmm	< 0.3	≤ 91.5	96.0	≤ 98.0
	0.3 to < 3	≤ 90.5	96.0	≤ 98.0
	≥ 3	≤ 89.0	96.0	≤ 98.0
Gyratory Compaction (number of gyrations)	< 0.3	6	50	75
	0.3 to < 3	7	75	115
	3 to < 30	8	100	160
	≥ 30	9	125	205

The mix criteria VMA and VFA only apply to HMA accepted by statistical evaluation.

The mix criteria for Hamburg Wheel-Track Testing and Indirect Tensile Strength of Bituminous Materials do not apply to HMA accepted by commercial evaluation.

When material is being produced and stockpiled for use on a specific contract or for a future contract, the uncompacted void content, fracture, and sand equivalent requirements shall apply at the time of stockpiling. When material is used from a stockpile that has not been tested as provided above, the Specifications for uncompacted void content, fracture, and sand equivalent shall apply at the time of its introduction to the cold feed of the mixing plant.

#### **5-04.2(9-03.8(3)B) Gradation – Recycled Asphalt Pavement and Mineral Aggregate**

Section 9-03.8(3)B is supplemented with the following:

#### **5-04.2(9-03.8(3)B)**

(August 6, 2012)

For HMA with a RAP percentage greater than 20 percent of the total weight the RAP shall be processed to ensure that 100 percent of the material passes a sieve twice the size of the maximum aggregate size for the class of mix to be produced.

When RAS is used in the production of HMA the RAS shall be milled, crushed or processed to ensure that 100 percent of the material passes the ½ inch sieve. Extraneous materials in RAS such as metals, glass, rubber, soil, brick, tars, paper, wood and plastic shall not exceed 2.0 percent by mass as determined on material retained on the No. 4 sieve.

#### **5-04.2(9-03.21(1)) General Requirements**

Section 9-03.21(1) is supplemented with the following:

#### **5-04.2(9-03.21(1))**

(August 2, 2012)

Reclaimed asphalt shingles samples shall contain less than the maximum percentage of asbestos fibers based on testing procedures and frequencies established in conjunction with the specifying jurisdiction and state or federal environmental regulatory agencies.

#### **5-04.3(1) HMA Mixing Plant**

(November 12, 2012)

*Supplement*

#### **Equipment for Processing RAP and RAS.**

When producing HMA for mix designs with greater than 20 percent of the total weight RAP or any amount of RAS the HMA plant shall be equipped with screens or a lump breaker to eliminate oversize RAP/RAS particles from entering the pug mill or drum mixer.

### **5-04.3(5)E Pavement Repair**

*(Special Provision)*

*Supplement*

The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with the details shown in the Plans and as staked. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Project Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within one lane at time unless approved otherwise by the Project Engineer. The Contractor shall not excavate more area than can be completely finished during the same shift. The Project Engineer will determine the excavation depth, which may vary up to a total depth of 1 foot. The determination will depend on the location of material suitable for support of the pavement. The minimum width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, the existing pavement shall be sawcut or shall be removed by a pavement grinder. Excavated materials will become the property of the Contractor and shall be disposed of in a Contractor provided site off the City right of way or used in accordance with Sections 2-02.3(3) or 9-03.21. Asphalt for tack coat shall be required as specified in Section 5-04.3(5)A. A heavy application of tack coat shall be applied to all surfaces of existing pavement in the pavement repair area. Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted depth. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

### **5-04.3(7) Preparation of Aggregates**

*(August 6, 2012)*

*Revision*

The aggregates, RAP and RAS shall be stockpiled according to the requirements of Section 3-02. Sufficient storage space shall be provided for each size of aggregate, RAP and RAS. The Contractor may uniformly blend fine aggregate or RAP with the RAS as a method of preventing the agglomeration of RAS particles. The aggregates, RAP and RAS shall be removed from stockpile(s) in a manner to ensure a minimum of segregation when being moved to the HMA plant for processing into the final mixture. Different aggregate sizes shall be kept separated until they have been delivered to the HMA plant.

### **5-04.3(7)A Mix Design**

*(January 7, 2013)*

*Supplement*

If the mix design/anti-strip evaluation report delays work on a critical activity, then the day(s) from the receipt of the completed mix design from the Contractor until the mix design/anti-strip evaluation report is completed will be unworkable.

### **5-04.3(7)A 1 General**

*(August 4, 2014)*

*Supplement*

For mix designs with greater than 20 percent of the total weight RAP or any amount of RAS the Contractor shall develop a mix design including RAP, RAS, recycling agent and new asphalt binder. The mix design aggregate structure, RAP, RAS, recycling agent and new asphalt binder content shall be determined in accordance with Materials Manual WSDOT Standard Operating Procedure No. 732 and meet the requirements of Sections 9-03.8(2) and 9-03.8(6). The total quantity of asphalt binder contributed from the RAP and RAS shall not exceed 40 percent of the total asphalt binder content of the HMA. Once the RAP and RAS stockpiles have been constructed the Contractor shall extract, recover and test the asphalt residue from the RAP and RAS stockpiles to determine the percent of recycling agent and/or grade of new asphalt binder needed to meet the grade of asphalt binder required by the contract. The asphalt extraction testing shall be performed in accordance with AASHTO T 164 or ASTM D 2172 using reagent grade trichloroethylene. The asphalt recovery shall be performed in accordance with AASHTO R 59, or ASTM D 1856. The recovered asphalt residue shall be tested in accordance with AASHTO R 29 to determine the asphalt binder grade in accordance with Section 9-02.1(4). Once the recovered asphalt binder grade is determined the percent of recycling agent and/or grade of new asphalt binder shall be determined in accordance with ASTM D 4887. The final blend of recycling agent recovered and new asphalt shall be tested in accordance with AASHTO R 29 to confirm that it meets the grade of asphalt binder required by the contract in accordance with Section 9-02.1(4). All recovered and blended asphalt binder test data shall be reported to the Contracting Agency prior to or when submitting the mix design for evaluation.

### **5-04.3(10)B Control**

*(Special Provision)*

*Replacement*

For HMA, where paving is in the traffic lanes, including lanes for ramps, truck climbing, weaving, speed changes, and left turn channelization, and the specified compacted course thickness is greater than 0.10 foot, the acceptable level of compaction shall be a minimum of ninety-two percent (92%) of the maximum density as determined by WSDOT Test Method 705. The level of compaction attained will be determined as the average of not less than five (5) nuclear density gauge tests taken on the day the mix is placed (after completion of the finish rolling) at randomly selected locations within each lot. The quantity represented by each lot will be no greater than a single day's production or approximately 400 tons, whichever is less.

Control lots not meeting the minimum density standard shall be removed and replaced with satisfactory material. At the option of the Engineer, noncomplying material may be accepted at a reduced price.

Cores may be used as an alternate to the nuclear density gauge tests. When cores are taken by the Engineer at the request of the Contractor, the request shall be made by noon of the first working day following placement of the mix. The Engineer shall be reimbursed for the coring expenses at the rate of seventy-five and 00/100 dollars (\$75.00) per core when the core indicates the acceptable level of compaction within a lot has not been achieved.

At the start of paving, if requested by the Contractor, a compaction test section shall be constructed as directed by the Engineer to determine the compatibility of the mix design. Compatibility shall be based on the ability of the mix to attain the specified minimum density (ninety-two percent (92%) of the maximum density determined by WSDOT Test Method 705). Following determination of compatibility, the Contractor is responsible for the control of the compaction effort. If the Contractor does not request a test section, the mix will be considered compactable.

HMA constructed under conditions other than 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.

Preleveling mix shall be compacted to the satisfaction of the Engineer.

In addition to the randomly selected locations for tests of the control lot, the Engineer reserves the right to test any area which appears defective and to require the further compaction of areas that fall below acceptable density readings. These additional tests shall not impact the compaction evaluation of the entire control lot.

#### **5-04.3(12) Joints**

*(January 5, 2004)*

*Supplement*

HMA utilized in the construction of the feathered connections shall be modified by eliminating the coarse aggregate from the mix at the Contractor's plant or the commercial source or by raking the joint on the roadway, to the satisfaction of the Engineer.

#### **5-04.3(13) Surface Smoothness**

*(January 5, 2004)*

*Revision*

The completed surface of the wearing course shall not vary more than 1/4 inch from the lower edge of a 10-foot straightedge placed on the surface parallel to centerline.

#### **5-04.3(14) Planing Bituminous Pavement**

*(January 5, 2004)*

*Supplement*

The Contractor shall perform the planing operations no more than 5 calendar days ahead of the time the planed area is to be paved with HMA, unless otherwise allowed by the Engineer in writing.

Millings shall be temporarily stockpiled on site and reused as base material underneath concrete sidewalks (see Section 4-04.2).

### **5-04.3(21) Preleveling**

*(Special Provision)*

*Supplement*

The locations for preleveling will be as identified and field-marked by the Contractor and approved by the Project Engineer at least 48 hours prior to the scheduled paving operations.

### **5-04.4 Measurement**

*(Special Provision)*

*Supplement*

Measurement for HMA Cl. 1/2" PG 64-22 shall include HMA used for pre-leveling, base course, wearing/top course, and all other incidental uses.

### **Incidental uses for HMA**

Incidental uses for Asphalt Concrete Pavement shall consist of restoration and adjustment to paved areas such as the back of sidewalks, sidewalk ramps, behind driveway approaches and other such uses as directed by the Engineer.

Incidental uses for HMA shall be measured and paid as "HMA Class 1/2" PG-64-22" shall be full compensation for

### **5-04.5 Payment**

*(Special Provision)*

*Supplement*

The unit Contract price per ton for "HMA Cl. 1/2" PG 64-22" shall include HMA used for pre-leveling, base course, wearing/top course, and all other incidental uses.

Section 5-04.5 is revised with the following section:

All costs associated with anti-stripping additive shall be considered incidental to and included in the cost for HMA.

All costs for asphalt tack coat shall be included in the unit contract price per ton of the HMA.

All costs associated with "Preparation of Untreated Roadway," "Soil Residual Herbicide," "Longitudinal Joint Seals," and "Anti-Stripping Additive" shall be considered incidental to and included in the cost of the Hot Mix Asphalt furnished and installed.

### **5-04.5(1)A Price Adjustments for Quality of HMA Mixture**

*(March 17, 2008, APWA GSP)*

*Supplement*

Statistical analysis of quality of gradation and asphalt content will be performed based on Section 1-06.2 using the following price adjustment factors:

## Table of Price Adjustment Factors

Constituent	Factor “F”
All aggregate passing: 1-1/2", 1", 3/4", 1/2", 3/8", and No. 4 sieves	2
All aggregate passing No.8	15
All aggregate passing No. 200 sieve	20
Asphalt binder	52

Items 1–3 are deleted and replaced with:

A pay factor will be calculated for sieves listed in Section 9-03.8(7) for the class of HMA and for the asphalt binder.

- 1. Nonstatistical Evaluation.** 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 acceptance tolerance limits in Section 9-03.8(7), 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 street shall be tested to provide a minimum of three sets of results for evaluation.
- 2. 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 acceptance tolerance limits in Section 9-03.8(7), the lot shall be evaluated 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 produced under Nonstatistical or 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 the 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.

### **5-04.5(1)B Price Adjustments for Quality of HMA Compaction**

*(March 17, 2008 APWA GSP)*

*Supplement*

The maximum CPF of a compaction lot is 1.00.

For each compaction lot of HMA when the CPF is less than 1.00, a Nonconforming Compaction Factor (NCCF) will be determined. THE NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of the NCCF, the quantity of HMA in the lot in tons and the unit contract price per ton of the mix.

**END OF DIVISION 5**

## DIVISION 6 - STRUCTURES

### 6-02 CONCRETE STRUCTURES

#### 6-02.3(2)B Commercial Concrete

*(Special Provision)*

*Supplement*

Mobile mixed Commercial Concrete shall not be accepted.

#### 6-02.3(4)A Qualifications of Concrete Suppliers

*(Special Provision)*

*Supplement*

All concrete shall be supplied from concrete batch plants that have been prequalified by WSDOT.

### 6-07 PAINTING

#### 6-07.1 Description

*(Special Provision)*

*Supplement*

This work shall consist of painting systems and colors for metal elements as shown on the Plans.

#### 6-07.2 Materials

*(Special Provision)*

*Supplement*

Paint materials shall comply with the requirements in Section 9-08 unless described in this section. Paint shall be provided as follows:

Surface Preparation: Shop sandblast using SSPC-6 Commercial Blast, using non-metallic abrasive.

Prime Coat: Tnemec Series 90-97 Tnemec Zinc, apply at 2.5 to 3.5 mils DFT

Intermediate Coat: Tnemec Series 27 Typoxy, apply 4.0 to 6.0 mils DFT

Finish Coat: Tnemec Series 73 Endurashield, apply at 3.0 to 5.0 mils DFT

#### 6-07.3 Construction Requirements

*(Special Provision)*

*Supplement*

Apply entire finish system in the shop. Hold back finish system at all welded areas. Bolted connections should be primed with 90-97 Tnemec Zinc or approved equal.

Field welds and abrasions should be touched up after installation. Touch up surface preparation using SP-11 primer 90-97, 2.5 mils dry, and paint 3 mils dry.

Preparation, cleaning, priming, shop painting and field touch-up for all fabricated decorative exterior metal work will be included in the project and no additional compensation will be made.

### **6-07.5 Payment**

*(Special Provision)*

*Supplement*

Measurement and payment for all painting and finishes shall be incidental to the related bid items that receive the painting and finishes included all labor, equipment, materials and tools necessary to complete the work as shown on the Plans and required by the Specifications.

## **6-15 SOIL NAIL WALLS**

### **6-15.1 Description**

*(Special Provision)*

*Supplement*

This work consists of soil nail walls, decorative shotcrete facing, and embedded/anchored artwork.

### **6-15.2 Materials**

*(Special Provision)*

*Supplement*

[add material requirements for artwork at 100%]

### **6-15.3 Construction Requirements**

*(Special Provision)*

*Supplement*

#### **6-15.3(3) Submittals**

*(Special Provision)*

*Supplement*

[add provisions for Bidder Design similar to 6-13 at 100%]

[add construction requirements for artwork at 100%]

### **6-15.5 Payment**

*(Special Provision)*

*Supplement*

Payment will be made for each of the following Bid items:

“Soil Nail – Bidder Design”, per each.

No separate payment will be made for materials and workmanship for embedding and anchoring artwork pieces. Payment shall be incidental to other Bid Items in this Section.

**END OF DIVISION 6**

## **DIVISION 7 - DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS AND CONDUITS**

### **7-01 DRAINS**

#### **7-01.2 Materials**

*(Special Provision)*

*Supplement*

All drainpipe shall be manufactured of Polyvinyl Chloride (PVC) per 9-05.1(5) of the Standard Specifications or Corrugated Polyethylene (CPE) per Section 9-05.1(6) of the Standard Specifications.

#### **Construction Geotextile for Underground Drainage**

Filter fabric shall meet the requirements of Sections 2-12.2 **Construction Geotextile - Materials** and 9-33 **Construction Geotextile** of the Standard Specifications and as modified herein.

#### **7-01.3 Construction Requirements**

*(Special Provision)*

*Supplement*

#### **Construction Geotextile for Underground Drainage**

Filter fabric shall be installed at the locations and per the details shown in the Plans in accordance with the requirements of Sections 2-12.3 and 2-12.3(1) of the Standard Specifications.

#### **Pipe Bedding, Trenching, and Backfill**

Pipe Bedding, Trenching, and Backfill shall be performed for drainpipe and underdrain pipe in accordance with the requirements in Section 7-01.3 **Construction Requirements** of the Standard Specifications.

#### **Gravel Backfill for Drain - Perforated Pipe**

Where indicated on the Plans or directed by the Engineer, Gravel Backfill for drain shall be placed in accordance with Standard Specifications and shall meet the requirements of Section 9-03.12(4) **Gravel Backfill for Drains** of the Standard Specifications.

#### **Fittings for Drain Pipe**

The Contractor shall install cleanouts at the terminal end and the mid-point along Additional sections of underdrain pipe and at one hundred foot (100') maximum spacing. Installation of all cleanouts and bends shall be at the locations shown on the Plans and per the Standard Detail in Appendix A and manufacturer's recommendations. All costs associated with providing cleanouts

and fittings shall be considered incidental to and included in the linear foot unit contract price for "Underdrain Pipe, 6 Inch Diameter."

#### **7-01.4 Measurement**

*(Special Provision)*

*Supplement*

Gravel Backfill for Drain, Fittings and Cleanout, Gravel Backfill for Drywell, and Construction Geotextile for Underground Drainage shall **not** be measured or paid for separately.

#### **7-01.5 Payment**

*(Special Provision)*

*Supplement*

Payment shall be made for the following bid item(s):

The unit contract price for "Underdrain Pipe 6 In. Diam." shall include all incidental items of work including, but not limited to, excavation, gravel backfill, construction geotextile, connections to structures, furnishing and installing cleanouts, flushing and cleaning.

The contract bid prices above, including all incidental work, shall be full compensation for all labor, material, tools, and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

### **7-04 STORM SEWERS**

#### **7-04.2 Materials**

*(Special Provision)*

*Revised*

Storm sewer pipe shall be Solid Wall PVC storm sewer pipe per 9-05.12(1)

#### **7-04.3 Construction Requirements**

*(Special Provision)*

*Supplement*

Provide temporary sheeting over trenches to accommodate (2) two lanes of traffic during non-working days and times, specifically, 5PM to 7AM, Monday through Thursday and Thursday 5PM through Monday 7AM unless otherwise approved by the Engineer. All costs associated with providing steel plates for temporary cover of storm sewer trenches shall be considered incidental to the various bid items and no additional compensation shall be considered. See Section 7-08 herein for further construction requirements.

Water settling will not be permitted. Backfill shall be compacted by mechanical tampers in accordance with section 2-03.3(14)C "Method B" of the Standard Specifications.

See Section 7-08 herein for further construction requirements.

### **7-04.3(1) Cleaning and Testing**

*(Special Provision)*

*Supplement*

Cleaning and testing of storm sewer pipe shall be in accordance with Section 7-04.3(1) of the Standard Specifications, except as modified herein:

Prior to testing, storm sewers will be visually inspected by the Engineer's representative either by external physical observation before backfilling, by physical observation from inside the pipe and the Contractor shall provide CCTV video inspection reports to the Engineer. The contractor shall provide all necessary video inspection and/or safety equipment, including mechanical ventilation, and as requested by the Engineer, with all related costs to be included in the unit bid price of the related item. Any departures from the best construction practices, such as pipe line misalignment, presence of foreign matter in the pipes or catch basins (see Section 7-07 for cleaning requirements), poor catch basin construction, etc., shall be corrected by the Contractor at the Contractor's own expense.

Testing will not be authorized until such corrections have been made to the satisfaction of the Engineer.

Should high groundwater conditions be encountered, the completed storm sewers may be required to be infiltration tested. Infiltration testing shall be utilized only when ordered by the Engineer.

Cleaning and flushing of the pipes and structures shall be considered **incidental** to and included in the various bid items necessary for a complete and function storm drainage system.

#### **CCTV Report Format Requirements:**

##### File Naming

Drainage files shall be named with the following convention:

123456\_20150704

Where 123456 denotes the pipeline asset number and 20150704 denotes the date the video was taken (July 4, 2015 for the above example).

If the same line is videoed more than once in the same day, then the different videos shall be distinguished by adding an underscore and video number after the date (e.g., 123456\_20150704\_1, 123456\_20150704\_2, etc.).

##### Required Inspection Report Data

The following information shall be included on all inspection reports:

1. Date video taken
2. P/O No. (on an as-needed basis)
3. Pipe Segment Reference (asset number) – to be supplied

4. Pre-Cleaning and/or Root Sawing (denote if done)
5. Street Name
6. Use of Sewer (stormwater or wastewater)
7. Drainage Area (basin name) – to be supplied
8. Length surveyed
9. Upstream manhole
10. Downstream manhole
11. Direction of survey
12. Section Length
13. Purpose of survey (overlay, pipe replacement, critical pipe, etc.)
14. Diameter
15. Material

### Field Corrections

Simple field corrections (e.g. the existence of structure that is not shown on the maps) shall be denoted on the inspection report forms. If the field conditions are significantly different than the maps, the video contractor shall notify the City of Maple Valley (COMV) before proceeding.

### Format Requirements

1. Contractor must use GXP (COMV will stipulate what version must be used).
2. Contractor must provide the COMV with a copy of the instructions that are provided to their operators so we know the COMV instructions are being followed.

Television inspection shall be performed on all new pipes and on existing pipes where indicated on the Plans. All costs shall be considered incidental and included in the bid item Cleaning and Testing.

### **7-04.3(2) Connections to Concrete Structures**

*(Special Provision)*

*New*

When connecting to a concrete structure, openings shall be core-drilled, unless an existing knockout is available. Connections shall be made with watertight rubber boots, sand collars, manhole adapters, or other approved watertight connections, except for concrete, ductile iron, or corrugated metal pipe. For concrete, ductile iron, or corrugated metal pipe, connections shall be made with non-shrink Portland cement grout to make a watertight fit.

### **Coordination with Utility Companies**

*(Special Provision)*

It is anticipated that minor adjustments will need to be made by the utility companies to avoid the proposed storm drainage system. Known relocations not to be performed by the Contractor have been shown on the Plans to be performed "by others". The Contractor shall identify any additional utility crossings that may conflict with the storm drainage system and notify the Engineer immediately prior to construction in vicinity of conflicts.

The Contractor is responsible for coordinating anticipated relocation work with the respective utility companies. This coordination shall include contacting the utility company representative listed in Section 1-05.14(A) of these Special Provisions at least fifteen (15) working days prior to installing storm drain pipe that may conflict with the utility companies' respective facilities; and coordinating the construction of the storm drainage system with the respective utility construction crews.

Coordination with utility companies shall be considered incidental to the Contract and no additional compensation will be made.

### **7-04.5 Payment**

*(Special Provision)*

*Supplement*

The unit Contract price per linear foot of storm sewer pipe of the type and size specified shall be full pay for furnishing all labor, material, tools, and equipment necessary to satisfactorily complete the work in this Section including but not limited to dewatering, temporary flow bypass, pipe zone bedding, backfilling, compaction, connection to new and existing structures, cleaning and testing, temporary sheeting over trenches to accommodate traffic.

## **7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS**

### **7-05.1 Description**

*(Special Provision)*

*Supplement*

All work necessary to intercept existing storm drain lines for the installation of catch basins, inlets, or manholes as shown on the Plans or as directed by the Engineer, shall be considered **incidental** to the type and size of drainage structure installed.

### **7-05.3 Construction Requirements**

*(Special Provision)*

*Supplement*

Backfill around catch basins shall be compacted by mechanical tampers in accordance with Section 2-03.3(14)C “Method B” of the Standard Specifications.

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

*(Special Provision)*

*Supplement*

Manholes, valve boxes, catch basins, and other structures shall not be adjusted to final grade until the adjacent pavement is completed, at which time the center of each structure shall be carefully relocated from references previously established by the Contractor. The asphalt concrete pavement shall be removed to a neat circular shape for manholes and catch basin conversion risers and a neat rectangular shape for type 1 catch basins. The edge of the cut shall be 18 inches from the outside edge of the cast iron frame of the structure. The base materials and crushed rock shall be removed.

The manhole and catch basin frames shall be lifted and reset to the final grade, plumb to the roadway, and shall remain operational and accessible.

The Contractor shall adjust the manholes and catch basins with pre-cast grade rings and mortar. The top ½” minimum adjustment shall be made using either tapered or non-tapered Infra-Riser® rubber adjustment rings as manufactured by East Jordan Ironworks or approved equal, with a maximum 2-inch thickness, as required.

Metal adjustment rings shall not be used. If more than three grade rings are required to adjust a manhole to final grade, including existing grade rings, the Contractor shall remove the existing cone section, install a pre-cast manhole section of sufficient height to limit the number of grade rings to a maximum of three, and reinstall the cone section prior to paving operations. Cover and grate frames shall be securely grouted to the structure. Where existing structures are located within the wheel path of a proposed travel lane, catch basins adjusted to grade shall also include conversion risers and heavy duty locking covers per Section 7-05.3(9).

Commercial HMA shall be placed and mechanically compacted in uniform lifts to finished grade. The Hot Mix Asphalt (HMA) top course shall meet the requirements of Section 5-04 of the Standard Specifications. The joint between the patch and existing pavement shall then be painted with asphalt for tack coat (per City of Federal Way Standard Dwg 3-55) and immediately covered with dry paving sand before the asphalt for tack coat solidifies.

See section 7-05.3 of these special provisions for ring & cover and frame & grate requirements as applicable to both existing and proposed structures.

### **7-05.3(2) Abandon Existing Manholes**

*(Special Provision)*

*Supplement*

The requirements of this section shall also apply to connections to existing catch basins.

### **7-05.3(3) Connections to Existing Manholes**

*(Special Provision)*

*Supplement*

The requirements of this section shall also apply to connections to existing catch basins.

*(Special Provision)*

*New*

The contractor shall connect (or reconnect) existing pipes to the new manholes or catch basins without obstructing flow from upstream locations. Where new pipe is connected to existing pipe, the Contractor shall verify the type of existing pipe and join the pipes with a pipe adapter specifically manufactured for joining the pipes involved or as directed by the Engineer. The connection shall be made by carefully cutting or removing the existing pipe and installing a new section of pipe from the existing pipe into the new catch basin. Care shall be taken in cutting the existing pipe. The new section of pipe shall be the same size and material as the existing pipe, or an approved substitution. Connections, grouting, backfilling, and all other work necessary to make the connection shall conform to appropriate provisions of Section 7-05.3.

All costs associated with this work shall be included in the unit contract price for the related item of work (new manhole or catch basin). No extra compensation will be made for removal of existing pipe damaged by Contractor negligence.

#### **7-05.4 Measurement**

*(Special Provision)*

*Supplement*

“Abandon Existing Catch Basin” shall be per each.

#### **7-05.5 Payment**

*(Special Provision)*

*Supplement*

“Catch Basin Type 1”, per each

“Catch Basin Type 1L MOD”, per each

“Catch Basin Type 2, \_\_\_ In. Diam.”, per each

"Spill Control Tee" per each.

The unit contract price per each for all bid items above shall be full pay for furnishing all labor, tools, equipment, and materials necessary to complete each unit according to the Plans and Specifications. This includes all pavement removal and disposal, dewatering (if required), temporary flow bypass, connections to existing and new pipe, foundation material, bedding material, backfilling, compaction, surface restoration, testing, and furnishing and placing of all accessories such as frames, grates, combination inlets, rings, traps, steps or ladders, temporary patching hot mix to allow for the passage of traffic, and other items as applicable.

Abandon Existing Catch Basin, per each

### **7-07 CLEANING EXISTING DRAINAGE STRUCTURES**

#### **7-07.5 Payment**

*(Special Provision)*

*Supplement*

Cleaning shall be considered **incidental** to and included in the unit contract prices for the various bid items in this contract.

### **7-08 GENERAL PIPE INSTALLATION REQUIREMENTS**

#### **7-08.3 Construction Requirements**

*(Special Provision)*

*Supplement*

## **Dewatering Trenches**

Where water is encountered in the trench, it shall be removed during pipe-laying operations and the trench so maintained until the ends of the pipe are sealed and provisions are made to prevent floating of the pipe. Trench water or other deleterious materials shall not be allowed to enter the pipe at any time.

All work associated with maintaining a trench suitable for pipeline construction will be incidental and included in other items of work.

### **7-08.3(1) Excavation and Preparation of Trench**

*(Special Provision)*

*Supplement*

During excavation, installation of pipe, structures, appurtenances, backfill operation, and the placing and curing of concrete, all excavation areas shall be kept free of water. The Contractor shall, at all times, control surface and subsurface drainage so as to prevent its entering the work. In no case shall the pipe or appurtenances being installed be used as a conduit to remove or transport surface or subsurface drainage.

The Contractor shall furnish, install, and operate in such locations and, when necessary, such equipment and materials that are required to keep excavations free from water, and shall dispose of water without causing nuisance, damage, or injury to persons or property. Adequate and competent manpower to operate and maintain such equipment shall be available at all time as necessary.

The control of groundwater shall also prevent the softening of the trench and excavation bottoms and dewatering materials, equipment, and methods shall prevent the removal of natural soils. Dewatering operations shall draw down subsurface water to a level at least 1 foot below the bottom of the excavation, result in the maintenance of the undisturbed state of foundations soils, and allow proper pipe, structure, and appurtenance installation, as well as the installation and compaction of all backfill materials to the specified density. Dewatering installation and operations shall not reduce the water level to the extent that it may damage or endanger other structures or improvement in the vicinity.

Open and cased sumps shall not be used as primary dewatering methods for excavation deeper than 3 feet below the static water level.

### **7-08.3(1)A Trenches**

*(Special Provision)*

*Supplement*

Material excavated that is unsuitable for backfill shall be hauled away and wasted at the Contractor's expense.

### **7-08.3(1)C Bedding the Pipe**

*(Special Provision)*

*Supplement*

Pipe bedding costs shall be included in the unit contract price for the type and size of pipe installed. Native material shall not be used as pipe bedding unless approved by the Engineer.

### **7-08.3(2)J Vertical Clearance Between Utility Lines**

*(Special Provision)*

*New*

A pad is required where the vertical clearance between storm sewers and water, sanitary sewer or power lines is 2 to 6 inches. The pad shall be 3 feet x 2.5 inches minimum, and placed between the sewer pipe and the utility pipe. The pad shall be polyethylene foam plank, Dow Plastics Ethafoam™ 220 or approved equal. All costs necessary to furnish and install the pad shall be considered incidental to and included in the unit contract prices of other items in this contract.

### **7-08.3(3) Backfilling**

*(Special Provision)*

*Supplement*

Where new utilities cross under existing utilities, the existing line shall be bedded in controlled density backfill per Section 2-09.3(1)E, or other material approved by the Engineer.

Initial backfilling shall be performed only after inspection and approval of the installed pipe. Backfill shall be accomplished in such a manner that the pipe is not damaged by impact or overloading. Unless otherwise directed by the Engineer, all trenches will be backfilled with native material. Where the Engineer has determined that native material is suitable, backfill shall be considered **incidental** to and included in the unit contract price for the size and type of pipe installed.

All backfill shall be mechanically compacted by a power operated tamper or approved alternate. Trenches shall be compacted per Section 2-03.3(14)C **Compacting Earth Embankments, Method B** of the Standard Specifications. All costs associated with compaction and backfill for storm sewer trenches shall be considered **incidental** to and included in the unit contract price for storm sewer pipe per size and type.

### **7-08.3(4) Plugging Existing Pipe**

*(Special Provision)*

*Revision*

Section 7-08.3(4) is replaced with the following:

Where shown on the Plans and when the pipe will not be removed by excavation for new structures, or when designated by the Engineer, existing pipes shall be plugged with controlled density fill (CDF) for the entire length of the pipe or as directed by the Engineer.

## 7-08.4 Measurement

*(Special Provision)*

*Revision*

Plugging pipes will be measured for their entire distance for each pipe that is plugged.

## 7-08.5 Payment

*(Special Provision)*

*Supplement*

All costs associated with stockpiling, compacting, and re-using native backfill for trenches shall be considered **incidental** to and included in the various bid items and no additional compensation will be made.

When it becomes necessary to excavate and backfill the trench to a depth greater than shown on the Standard Detail in Appendix B, over-excavation shall be measured and paid as "Unsuitable Foundation Excavation Including Haul" as specified in these Special Provisions. The backfill material placed to fill the resultant void shall be paid per the respective bid item unit contract price for "Trench Backfill - Crushed Surfacing Top Course" as directed by the Engineer.

All costs associated with furnishing and installing bedding and pipe zone backfill material and meeting these **General Pipe Installation Requirements** shall be considered **incidental** to and included in the unit contract price for the type and size of pipe or structure installed.

All costs for materials, equipment, tools, and labor, associated with "Plugging Existing Pipe" shall be included in the linear foot of pipe that is plugged.

## 7-09 WATER MAIN

### 7-09.1 Description

*Revision*

Delete and replace with:

This work consists of constructing water mains 16 inches in diameter and smaller in accordance with the Plans; the Covington Water District Standard Plans and Specifications; these Standard Specifications; the Special Provisions and the Standard Plans, at the location shown on the Plans. For water main related work, the Covington Water District Standard Plans and Specifications shall take precedence.

### 7-09.1(1)F District

*New*

Add new section:

The Covington Water District.

### 7-09.1(1)G District Engineer

*New*

Add new section:

The designated Engineering Authority of the Covington Water District, which includes the District Manager, the District’s Engineering Manager or the District’s Project Engineer.

**7-09.1(1)D Pipe Zone Backfill**

*Replace*

Delete and replace with:

**Pipe zone backfill** includes material placed above the gravel backfill for pipe zone bedding up to the depths shown in the Covington Water District Standard Plans.

**7-09.2 Materials; Aggregates**

*Revision*

Revise this section with:

Pipe Zone Backfill 9-03.12(3)

Trench Backfill 9-03.19 or per Transportation Authority

**7-09.3 Construction Requirements**

**7-09.3(9) Bedding the Pipe**

*Supplement*

Supplement this section with:

All backfill for pipe zone bedding shall be import. No native material shall be allowed for pipe zone bedding.

**7-09.3(10) Backfilling Trenches**

*Supplement*

Supplement this section with:

All backfill for trenches shall be import. No native material shall be allowed for trench backfill unless screened to specifications and approved by the Covington Water District and Transportation Authority.

**7-09.3(13) Handling of Pipe**

*Supplement*

Supplement this section with:

The open ends of pipe shall be covered with temporary bags, caps or plugs from the manufacturer or supplier to the project site and maintained by the contractor until such time as the pipe is installed in the trench.

**7-09.3(15)A**

*Revision*

Remove the last sentence in the first paragraph and replace with:

For water mains 12-inch diameter or less, pipe joint deflections shall not exceed 3-degrees per joint for unrestrained pipe and 1-1/2 degrees per joint for restrained pipe. Joint deflections shall not exceed 11 inches for every 18-feet of unrestrained pipe, or 5.5-inches for every 18-feet of restrained pipe. Joint deflection requirements for pipe larger than 12-inch diameter shall be at the discretion of the District Engineer. The use of short pipe segments to achieve a greater rate of deflection is prohibited. Angle fittings may be required to maintain proper water main alignment within public right-of-way easements.

### **7-09.3(19) Connections**

*Revision*

Remove and replace paragraph one with:

Points of connection to existing water mains shall be exposed prior to trenching of the new mains, and not less than 48 hours prior to the anticipated connection time. The Contractor is responsible for giving at least five (5) working days' notice to the District for the required water main shutdown. Water main shutdown shall not be scheduled to take place on Fridays, or on the day before a holiday, unless otherwise approved by the District. Only District staff shall operate valves in the existing system and shut down the water mains. Connection to the existing water system shall be done only after the new mains are flushed and have passed pressure and purity tests. The District may delay the planned shutdown if complications to system operation is expected and will notify the Contractor that alternate plans will be required. The Contractor shall submit a plan for providing immediate thrust restraint at connection points requiring thrust blocks. The plan must be approved by the District prior to commencing with the connection. All connections to the existing water system must be approved by the District and in the presence of the District Inspector.

Supplement paragraph two with:

When connecting to Asbestos Cement Pipe, conform to Federal and State requirements for removal, handling and disposal of Asbestos Pipe.

Remove and replace paragraph five with:

If the connection to the existing system involves turning off the water, the District shall plan the shutdown and notify the affected customers and Fire Authority.

Remove and replace paragraph six with:

Where cut-ins are required to be made in existing pipes, the work shall be conducted at such a time and in such a manner as to minimize the interruption of service. The necessary pipe, fittings and gate valves shall be assembled at the site ready for installation prior to shut-off of water in the existing main. The interiors of all pipe and fittings, particularly couplings and sleeves, to be used in the final cut-in connection shall be swabbed or sprayed with a minimum 12.5% hypochlorite solution before they are installed. The pipe and fittings to be treated by swabbing and spraying shall consist of less than one full stick of pipe. The remainder of the new main shall be disinfected and accepted as a whole, previous to the connection process. Flushing shall start as soon as repairs or connections are completed and shall be continued until discolored water and air is eliminated. Flushing shall be supervised by the District.

Add a new paragraph to read:

In non-residential areas, all effort will be made not to interrupt service to a commercial business during business hours. Contractor shall accommodate temporary water service to businesses should they be out of service during business hours. Temporary water service shall be provided in accordance with requirements of the International Plumbing Code for potable water supply. Residential customers shall not be placed out of service for any period in excess of 8 hours.

Add a new paragraph to read:

The Contractor shall ensure that existing fittings are in accordance with the approved plans and that the connection can be made in accordance with the Plans. The contractor shall immediately notify the District Engineer and the Design Engineer if the connection cannot be made in accordance with the plans so that the connection details may be revised and approved by the District.

Add a new paragraph to read:

Connections to the existing water system may be made under pressure with a tapping machine by determining the size and type of pipe and installing a tapping tee with a tapping gate valve for instances where valves are not being added at the tee. Tapping tees shall be installed as shown on the Covington Water District's Standard Details; Appendix A. Work shall not start until all materials, equipment, and labor are on-site and ready. The tapping tee and valve shall be installed in a horizontal position so that the valve stem is vertical. Once the water main has been shut off, the work shall be prosecuted vigorously and shall not be halted until the water main is back in service. District inspection shall be provided throughout the connection process and the Contractor shall compensate the District for any required overtime to complete the work. Scheduling of the work shall be only as approved by the District.

**7-09.3(19)B Maintaining Service**

*Revision*

Delete the first subparagraph and substitute with the following:

Where existing services are to be abandoned and new services installed which connect to new mains, the contractor shall plan and coordinate its work so that service will be available with the least possible inconvenience to customers. The existing main shall not be abandoned until such time as existing customers are connected to the new main unless a temporary arrangement for service has been approved by the District Engineer.

**7-09.3(20) Detectable Marking Tape**

*Replace*

Replace this section with:

A tracer wire shall be buried with nonmetallic water lines and service lines. Reference the latest version of Covington Water District's Standard Plans and Specifications for details.

**7-09.3(23) Hydrostatic Pressure Tests**

*Replacement*

Replace this section with:

Prior to calling the Inspector for pressure test, the Contractor shall have all equipment set up for operation and shall have successfully performed a pre-test to ensure that the pipe is capable of meeting test conditions. All service lines shall be flushed, before scheduling the pressure test.

Water main, appurtenances and service connections shall be tested in sections of convenient lengths under a hydrostatic pressure of 200 psi to 210 psi for 15 minutes.

Pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished and operated by the Contractor. The Contractor shall demonstrate the gauge is working properly before the testing begins. Sections to be tested shall normally be limited to 1,000 feet.

The pipe shall be backfilled sufficiently to prevent movement of the pipe under pressure. Thrust blocking shall be in place for an adequate time for concrete to cure before testing. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking and remove it after testing. Thrust-blocking shall meet the performance requirements of the details shown in Standard Drawings for specific orientations of the main. In no case shall pressure be applied before 48 hours cure time of the thrust blocking.

The Contractor shall use a meter cart rented from the District to fill new water mains for testing and flushing. New water mains shall be filled and remain under 100 psi to 200 psi pressure for 24 to 48 hours to allow air to escape and the lining of the pipe to absorb water.

The pressure test shall be accomplished by pumping the main up to 200 psi to 210 psi and maintaining the pressure, stopping the pump for 15 minutes, and pumping the main up to the test pressure again. During the test, the section being tested shall be observed to detect any visible leakage.

A clean container shall be used for holding water for pumping up pressure on the main being tested. This makeup water shall be sterilized by the addition of chlorine to a concentration of 50 ppm.

The quantity of water required to restore the pressure shall be accurately determined by pumping through a positive displacement water meter. The meter shall be approved by the District. Essentially no loss will be allowed.

There shall not be an appreciable or abrupt loss in pressure during the 15-minute test period. Any visible leakage detected shall be corrected by the Contractor regardless of the allowable leakage specified above. Should the tested section fail to meet the pressure test successfully as specified, the Contractor shall locate and repair the defects and then retest the pipeline. There shall be no additional cost to the District for failed tests.

Tests shall be made with the hydrant auxiliary gate valves open and the hydrant valve in the closed position. Once the new line is successfully tested, each valve shall be tested by closing each in turn and relieving the pressure behind it. The mains shall be tested between valves. Insofar as possible, no hydrostatic pressure shall be placed against the opposite side of the valve being tested. This test

of the valve will be acceptable if there is no immediate loss of pressure on the gauge when the pressure comes against the valve being checked. The Contractor shall verify that the pressure differential across the valve does not exceed the rated working pressure of the valve.

Defective materials or workmanship discovered as a result of hydrostatic field test shall be replaced by the Contractor. Whenever it is necessary to replace defective material or correct the workmanship, the hydrostatic test shall be repeated to the satisfaction of the District.

### **7-09.3(24) Disinfection and Flushing of Water Mains**

*Replacement*

Replace this section in its entirety with the following:

Before being placed into service, new water mains and repaired portions of existing mains shall be chlorinated and thoroughly flushed followed by a minimum of two bacteriological samples at each sampling point collected consecutively 24 hours apart by Covington Water District staff. Water samples will be submitted to a certified laboratory and confirmation of satisfactory results will be received on a DOH approved form utilized by the certified laboratory. Disinfection of water mains shall be accomplished by the Contractor in accordance with the requirements of the Washington State Department of Health, AWWA Standard C651 and in a manner satisfactory to the District. All filling and flushing shall be done through a hydrant meter cart rented from the District. A chlorination apparatus capable of accurately introducing chlorine solution shall be used for the disinfection process. Refer to Section 7-09.3(19) for disinfection of connections and repairs. Flush and sample from the downstream flow. Sampling criteria shall be as follows: First day samples shall reflect flow through a hydrant meter to all end points and arterials. The system should set dormant for 24 hours and second set of samples taken which shall be representative of the water in the pipe; there should be no additional flushing in order to obtain a representative sample of water remaining in the pipe for 24 hours.

#### **A. Flushing**

The section to be disinfected shall be first flushed to remove any solids or contaminated material that may have become lodged in the pipe at maximum flow established by the District Engineer prior to chlorination. Where dry calcium hypochlorite tablets are used for disinfection of the pipe, flushing shall be done after disinfection. If a hydrant is not installed at the end of the water main, the Contractor shall provide a tap large enough to develop a flow velocity of at least 2.5 feet/sec in the water main or adequate flushing facilities such as a blow-off described in these specifications. The flushing period must be approved by the District Engineer.

The source water used for disinfection and pressure testing shall be flushed by District Staff prior to its use to ensure that contaminants or debris are not introduced into the new pipe.

Taps for temporary or permanent release of air, introduction of chlorine or flushing purposes shall be provided by the Contractor as a part of the construction of water mains. Temporary taps shall be plugged after use with threaded brass plugs.

#### **B. Requirement of Chlorine**

The section to be tested shall be chlorinated so that a free residual of no less than 25 ppm (parts per million) is measured at the end of all main arterials. At a minimum, flush each service line to disinfect those portions allowing the chlorinated water to remain in facilities, blow offs, hydrant spools, and service lines, etc. for a minimum of 24 hours. The initial chlorine content of the water shall not be less than 50 ppm nor more than 100 ppm. The forms of chlorine that may be used in the disinfection operations are liquid chlorine injection at 12.5% and calcium hypochlorite tablets installed in the pipe segments.

1. Liquid Chlorine: Chlorine shall be applied by solution fed at one end of the section with a service or hydrant at the opposite end open sufficiently to permit a flow through during chlorine application. The chlorine solution shall be fed into the pipeline already mixed by an automatically proportioning applicator to provide a steady application target rate of 50 ppm chlorine. Hydrants, services and blow-offs along the chlorinated section shall be open during application until the presence of chlorine has definitely been detected in each hydrant and service run. When a chlorine concentration no less than 25 ppm has been established throughout the line, the valves shall be closed and the line left undisturbed for 24 hours. If the chlorine concentration in the pipeline exceeds 100 ppm, the pipeline shall be flushed immediately and the process shall start over.
2. Dry Calcium Hypochlorite – Tablet Method: Calcium Hypochlorite conforming to AWWA B300 is available in granular tablet form and must contain approximately 65% available chlorine by weight. This procedure is allowed only when the extension has been kept clean and dry. If piping has been submerged, or is unclean, refer to AWWA Standard C651. Tablets shall be affixed to the pipe wall with food grade adherent.

Granulated hypochlorite designed for pools and hot tubs are unacceptable for use on water mains.

The main shall be filled with water at a rate to ensure that the water within the main will flow at a velocity no greater than 1ft/s. Precautions shall be taken to ensure that air pockets are eliminated. When a chlorine concentration of not less than 25 ppm and not more than 100 ppm has been established throughout the line, the valves shall be closed and the line left undisturbed for 24 hours. If chlorine concentration exceeds 100ppm the Contractor will immediately effect a reduction in the concentration by properly flushing the main and removing chlorine at the discharge. If the water temperature is less than 41 degrees F, the water shall remain in the pipe for at least 48 hours to complete disinfection. The line shall then be thoroughly flushed and water samples taken. The Contractor shall exercise special care in flushing to avoid damage to surrounding property and to conform to Covington Water District Standards. The Contractor shall provide an accurate written report of the procedure used to the construction inspector.

### C. Final Flushing and Testing

Following chlorination, chlorinated water shall be flushed from the new water main until the replacement water throughout its length shows residuals equal to background chlorine levels in the system.

After final flushing and before the new water main is connected to the distribution system, two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected from the new main. The

Contractor shall schedule the sample collection with the District a minimum of three (3) workdays in advance of test. The number of samples from the source and the number of representative sample points required will be determined by the District. Appropriate sample taps shall be furnished by the Contractor. No hose or fire hydrant shall be used in the collection of samples unless directed by District Engineer.

At least one set of samples shall be collected from every 1,200 feet of the new water main, plus one set from the end of the line and at least one set from each branch. All samples shall be tested for total coliform bacteria and for heterotrophic bacteria by the heterotrophic plate count (HPC) analysis. The maximum allowable coliform content of the flushed sample shall be zero. The maximum allowable HPC population count in all source samples shall be 300/ml. Any source sample that exceeds a count of 300/ml shall be ruled as an indeterminate test and a new set of source and construction samples for analysis shall be required. The maximum allowable HPC population count from any construction sample shall be no greater than twenty (20) counts above the highest source HPC population count.

Before placing the lines into service, a satisfactory report shall be received by the District from the certified laboratory evidencing successful tests on samples collected from representative points in the system extension.

Should the initial test result in an unsatisfactory bacteriological test, additional chlorination using the procedure as specified above shall be repeated by the Contractor until satisfactory results are obtained. The Contractor shall be responsible for disposal of treated water flushed from the mains including de-chlorination as necessary to protect the environment. Chlorinated water shall never be flushed into the storm drain without local agency approval or to a natural body of water. This includes lakes, rivers, streams, storm drainage systems, and any and all other waters where fish or other natural aquatic life can be expected. Chlorinated water may be discharged to an available sanitary sewer system with the appropriate sewer District's approval and where the rate of discharge will not overload the sanitary sewer.

### **7-09.5 Payment**

*Modification*

Modify the description of payment for water main by replacing the second sentence to read:

—D.I. Water Main - \_\_-inch Diameter, per linear foot

The unit contract price per linear foot for —D.I. Water Main – \_-inch Diameter shall be full compensation for all Work to complete the installation of the water main, including but not limited to, pipe, fittings, trench excavation, bedding material, import trench backfill material or suitable native material meeting Covington Water District standards, laying and jointing pipe and fittings, backfilling, compacting, concrete thrust blocking, testing, disinfection, flushing, dechlorination of disinfecting water, and cleanup. Additionally, the contract price shall be compensation for:

- All costs associated with removal, haul, and disposal of native material excavated from trench not used for backfill.

—Connection to Existing Water Main, per each.

The unit contract price per —Connection to Existing Water Main shall be full compensation for all work to connect new water main to existing water main including but not limited to excavating and backfilling as shown on the contract plans. The measurement shall include removing existing pipe and fittings from connection point, cleaning and disinfecting mating surfaces, all transition couplings, pipe spools, thrust blocking, miscellaneous material, equipment, and labor as set forth in Section 7-09.3(19)A except that, in addition, valves will be paid at their appropriate unit prices bid. All joints shall be mechanically restrained, in addition to thrust blocks and temporary blocks, to provide restraint following activation, and shall be incidental to the unit price. The unit price also includes abandonment and/or removal of existing waterline as shown on the Plans.

No separate payment for imported trench backfill shall be made. Furnishing and placing imported backfill meeting Covington Water District standards shall be incidental to the unit price for —D.I. Water Main - \_\_- inch Diameter.

## **7-12 VALVES FOR WATER MAINS**

### **7-12.3 Construction Requirements**

*Supplement*

Supplement this section with:

Valves on active mains shall be accessible at all times for operations. Separate payment will not be made for maintaining valve accessibility.

#### **7-12.3(1) Installation of Valve Marker Post**

*Revision*

Replace the first sentence of this section with:

All valves shall be installed with a valve marker post. The cost for furnishing and installing will be incidental to the valve installation.

## **7-14 FIRE HYDRANTS**

### **7-14.3 Construction Requirements**

#### **7-14.3(1) Setting Hydrants**

*Supplement*

Supplement this section with:

After installation, each new or reset hydrant shall receive two field coats of paint. The first coat shall be

Formula B-1-57 (no lead) and the second coat shall be Traffic Yellow Farwest Paint #1071.

#### **7-14.3(1) Setting Hydrants**

*Revision*

Modify subparagraph one as follows:

"...a minimum 4-foot radius unobstructed..."

Modify subparagraph four as follows:

"...be painted with two coats of first quality industry quick dry enamel Canary Yellow Paint, Far West Paint

Company #260 or approved equal. Do not paint Storz Adaptor."

**7-14.3(2)A Hydrant Restraints**

*Replacement*

Delete this paragraph in its entirety and substitute with the following:

Hydrant laterals shall be restrained in accordance with paragraph 9-30.2(6).

**7-14.3(2)B Auxiliary Gate Valves and Valve Boxes**

*Replacement*

Delete this section in its entirety and substitute the following:

Auxiliary gate valves and valve boxes shall be installed in accordance with section 7-12. End connections shall be as shown on the standard plan and shall be compatible with the restraint system.

**7-14.4 Measurement**

*Revision*

Delete the last sentence and replace with:

Hydrant extensions are incidental to the —Fire Hydrant Assemblyl bid item.

**7-14.5 Payment**

*Revision*

Delete the first two paragraphs and replace with:

Payment will be made at the unit contract price bid per each for —Fire Hydrant Assembly.

—Fire Hydrant Assembly, per each.

Payment for —Fire Hydrant Assembly shall be full compensation for all labor, materials, and equipment necessary or incidental to furnishing and installing fire hydrant assemblies, including all costs for vertical hydrant extensions, hydrant tee, auxiliary gate valve, valve box, ductile iron pipe from main to hydrant, shackles, mega- lugs or other joint restraints, concrete block, gravel, washed rocks, painting, Storz adaptors, concrete pad around hydrant, and any other requirements for the complete installation of the hydrant assembly as specified in the District Standards.

Where shown on the plans, salvage existing hydrants and deliver to the owner’s utility storage yard. This work is incidental to construction.

**7-15 SERVICE CONNECTIONS**

**7-15.3 Construction Requirements**

*Revision*

Supplement and amend this section with:

Delete the first paragraph and replace with:

All service connections shall be made using a service saddle, without exception. Corporation stops shall be installed on the service saddle, with the service line extending from the stop. Service lines shall be installed perpendicular to the main, unless shown otherwise in the Plans. Service lines shall be high density polyethylene pipe conforming to AWWA C901. Service lines shall be copper tube sized with a minimum pressure rating of 200 psi, and a standard dimension ratio (SDR) not to exceed 9. The pipe will be either black with blue striping or blue in color. Stainless steel stiffening inserts are required at all connection points. Service lines shall be a single continuous line between the water main and the meter. No splices or couplings will be allowed in the line. Installation shall include a continuous insulated 10-gauge solid core copper tracer wire for locating purposes. The tracer wire shall be wrapped around the service line and taped every 3-feet to prevent movement. For installations on ductile iron mains, connect the tracer wire to the corp stop and wrap in tape for protection. Installation on PVC mains requires the service line tracer wire to be spliced with the water main tracer wire; the splice must be waterproof using a wire connector design for underground installations. The end of the tracer wire shall be connected to the meter setter or angle stop and wrapped in tape for protection. See Covington Water District Standard Plan No. 15 & 16

Delete the fourth paragraph and replace with:

Where shown in the plans, existing copper water service connections shall be reconnected to the new water mains installed under this Contract using the materials specified. The location of the water service connections shall be verified in the field by the Contractor. The Contractor shall notify affected customers of the service interruption at least 24 hours prior to service inter

Delete the fifth paragraph and replace with:

Pipe materials used to extend or replace existing water service lines beyond the meter box shall be copper pipe or polyethylene tubing. Insulating couplings shall be used at any connection between galvanized steel or iron pipe and copper pipe. All fittings, appurtenances, and other miscellaneous materials on the sections of existing pipe, which have been removed, shall become the property of the Owner or disposed of by the Contractor as directed by the Engineer.

Add new paragraph:

Long side service lines shall be installed using a pneumatic mole or engineer-approved alternative method. Water jetting will not be permitted. Short side service lines shall be installed using a pneumatic mole or engineer-approved alternative method. Water jetting will not be permitted. All other materials shall be as specified on the drawings.

### **7-15.3(1) Flushing and Disinfection**

*Supplement*

Supplement this section with:

Existing service connections shall not be transferred to the new main until the new main has been successfully flushed, disinfected and tested. When transferring services from the existing main to the new main, Contractor shall take sanitary precautions to protect the potable water supply in the existing main, new main and services.

### **7-15.5 Payment**

*Replacement*

Delete the third line and second paragraph and replace with:

— \_\_\_\_\_-inch (Single, Double, or Dual-Meter) Service, per each.

The unit contract price per each for —\_\_-inch (Single, Double, or Dual-Meter) Service, shall be full pay for all work to install the indicated size and type of water service connection, including but not limited to,

excavating, tapping the main, laying and jointing the pipe and fittings and appurtenances including meter stop(s), meter box(es), service saddle(s), check valve(s), length of type K copper or polyethylene pipe required, locating wire, and bedding material, backfilling, testing, flushing, and disinfection of the service connection and final connection to customer's service line(s) including necessary fittings and pipe as shown in the Contract Drawings.

## **7-20 STORM WATER TREATMENT SYSTEMS**

Section 7-20 is a new Section.

### **7-20.1 Description**

This work consists of constructing storm water treatment systems of the types and sizes designated in accordance with the Plans and Specifications.

Like items of equipment specified herein shall be the end products of one manufacturer in order to achieve standardization for operation, maintenance, spare parts, and manufacturer's service.

The use of the manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration only. Products of other manufacturers will be considered in accordance with the General Conditions.

Submit manufacturer's shop drawings to Project Engineer for review prior to installation.

Submit one-year maintenance plan to Project Engineer upon completion of construction.

A manufacturer's representative for the equipment specified herein shall be present on the jobsite for a minimum of three (3) person-days total, travel time excluded, for installation assistance, inspection, and certification of the equipment installation and proper operation.

Provide two (2) hours of on-site instruction to Owner's maintenance personnel in proper use and maintenance of equipment.

The Contractor is advised that Perk Filter vaults with cartridges require significant lead time to manufacture and deliver after ordering.

### **7-20.2 Materials**

[to be added at 100%]

### **7-20.3 Construction Requirements**

PerkFilter Cartridge Vaults

[to be added at 100%]

### **7-20.4 Measurement**

No specific unit of measurement shall apply to the lump sum items for Water Quality Treatment Units.

### **7-20.5 Payment**

“Water Quality Treatment Units”, Lump Sum.

The lump sum Contract price for “Water Quality Treatment Units ” shall be full compensation for furnishing and installing the proprietary units internal components, dewatering, disposal of material, backfilling and compaction, connection to pipe, cleaning, testing, tree grate, tree, and other hardware, labor, tools and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions including the manufacturer’s representation and instruction and one-year maintenance plan.

**END OF DIVISION 7**

## DIVISION 8 - MISCELLANEOUS CONSTRUCTION

### 8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

#### 8-01.3 Construction Requirements

##### 8-01.3(1) General

*(Special Provision)*

*Supplement*

The Contractor shall install and maintain all temporary and permanent erosion control measures and Best Management Practices (BMPs) in accordance with the Plans, Standard Specifications, Special Provisions, permit conditions, or as directed by the Engineer prior to clearing, grubbing, or grading or as necessary as clearing and grading progress. The Contractor shall provide erosion control as required for material stockpiled within the project limits at no cost to the City.

##### Removal of Temporary Erosion Control and BMPs

Maintenance and removal of all BMPs shall be considered **incidental** to and included in the unit contract price for the erosion control item provided.

##### 8-01.3(1)A Submittals

*(Special Provision)*

*Supplement*

Section 8-01.3(1)A is supplemented by the following:

An initial Stormwater Pollution Prevention Plan (SWPPP) has been prepared for this project. The Contractor shall modify that plan as necessary to suit their means and methods of construction so that it consists of the Contractor's complete strategy to meet the requirements of the Department of Ecology's NPDES and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity (General Permit). The SWPPP shall include and modify as necessary the Site Preparation and Erosion Control Plan drawings provided as part of the Contract Plans. The Contractor shall prepare review and modify the SWPPP as necessary to be consistent with the actual work schedule, sequencing, and construction methods that will be used on the project. The Contractor's SWPPP shall meet the requirements of the general permit. The Contractor's modifications to the SWPPP shall also incorporate the content and requirements for the Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with Section 1- 07.15(1).

The SWPPP shall document all the erosion and sediment control Best Management Practices (BMPs) proposed, whether permanent or temporary. The plan shall document installation procedures, materials, scheduling, and maintenance procedures for each erosion and sediment control BMP. The Contractor shall submit the SWPPP for the Engineer's approval before any work begins. The Contractor shall allow at least five working days for the Engineer's review of the initial SWPPP or any revisions to the modified SWPPP. Failure to approve all or part of

any such plan shall not make the Contracting Agency liable to the Contractor for any work delays. The Contractor may not begin work without an approved Contractor's SWPPP.

In addition, the SWPPP shall outline the procedures to be used to prevent high pH storm water or dewatering water from entering surface waters. The plan shall include how the pH of the water will be maintained between pH 6.5 and pH 8.5 prior to being discharged from the project or entering surface waters. Prior to beginning any concrete or grinding work, the Contractor shall submit the plan, for the Engineer's review and approval.

### **Turbidity and pH Exceedances**

Following any Exceedances of the turbidity or pH benchmarks, the Contractor shall provide the following at no additional cost to the Contracting agency:

The necessary SWPPP revisions and on-site measures/revisions including additional source control, BMP maintenance, and/or additional storm water treatment BMPs that are necessary to prevent continued Exceedances of turbidity and/or pH benchmarks.

The regulatory notification to the Department of Ecology and to the Engineer of any monitoring results requiring regulatory notification.

The additional daily sampling and reporting measures described in the General Permit to verify when project site runoff is in compliance.

### **8-01.3(1)B Erosion and Sediment Control (ESC) Lead**

*(Special Provision)*

*Supplement*

Section 8-01.3(1)B is supplemented by the following:

The ESC Lead shall be responsible for Water Quality Sampling, Recording and Reporting in accordance with the following procedures:

- a. Sampling equipment and methodologies shall meet the requirements of the Construction Stormwater General Permit (General Permit).
- b. Prior to water quality sampling the ESC Lead shall:
  1. Review project maps, project definition, and schedule to understand when and where construction activities have the greatest potential to impact specific water quality parameters.
  2. Read the local, state, or federal permit(s) in the contract documents to ensure a good understanding of all water quality requirements of the project.
  3. Establish sampling station locations to determine background, outfall, and downstream water quality conditions and submit for approval to the Engineer for the City.

- a) Locate background sampling stations at points upstream of the project clearing limits where the water quality will not be influenced by construction operations.
  - b) Locate discharge sampling points where any construction stormwater runoff will outfall to ditches that are adjacent to the work area.
  - c) Locate the downstream sampling station for ditches adjacent to the work areas.
4. Develop a map depicting the project; sampling station locations and major water, land, and road characteristics. Keep the map with the monitoring and reporting forms to assure that any personnel responsible for monitoring, recording and reporting can understand the locations and access the sampling stations.
  5. Establish a sampling schedule to ensure that monitoring is conducted daily during storm events that exceed 0.5 inches of rainfall within 24 hours, while the project is active. The ESC Lead shall perform water quality sampling for the project at least once a week, regardless of rainfall amounts, unless the City grants a waiver to this sampling requirement.
  6. Establish procedures to adapt to unanticipated events such as severe storms, schedule adjustments, modified construction techniques, etc. and submit to the Engineer for approval. Submit any modifications to the procedures submit to the Engineer for approval. Following any water quality exceedance, additional sampling will be required to verify when site runoff is in compliance.
  7. Calibrate equipment according to manufacturers' recommendations and according to their specified schedule. If data appears suspect, perform additional calibrations immediately.
  8. Set up sampling stations as follows:
    - a) Mark all sampling station locations with clearly labeled survey stakes.
    - b) Photograph each sampling station for future reference and reporting. Picture(s) should show a good relationship of the project, sampling station and surrounding environment.
    - c) If sampling outside of land owned by the City, survey stake locations should be within land owned by the City with direction and distance labels to the exact sampling point locations.
- c. Conduct one baseline water sampling prior to the beginning of any construction activities to establish background water quality characteristics above and below the site. Whenever possible, baseline monitoring should be performed during a rainstorm.

- d. After the start of construction activities, conduct compliance monitoring in accordance with the established schedule. The following sampling procedures must be used:
  1. Sampling shall occur from the most downstream station first and work upstream to the upper most station to avoid contamination. Testing of samples should occur at the designated sampling station whenever possible.
  2. Collect samples from as close to the center of the water body as practical using a sampling rod if necessary.
  3. Fill the sampling bottle (downstream) at least once prior to collecting the sample to remove possible contaminants. Shake the sample prior to turbidity testing.
  4. pH sampling should occur prior to turbidity as temperature affects pH.
  5. Follow the manufacturers' recommendations for equipment operations.
- e. All data shall be recorded and submitted within 24 hours to the Engineer on a WSDOT Daily Data Record Form. Summary data shall also be provided using WSDOT's Excel Summary and Monitoring Report Forms. Copies of all submitted data for each sampling event shall be kept on-site in a field notebook. The following elements shall be included on the Monitoring Report Form:
  1. The date, time and location of the sample.
  2. Project name and contract number.
  3. Personnel who collected the sample.
  4. Field conditions (weather, temperature, pertinent construction activities, note any prior disturbance of the water body, etc.)
  5. The testing results for measured parameters (turbidity, pH, and water temperature).
  6. Date and time of the last calibration of sampling equipment.
  7. Notes summarizing critical activities, unusual conditions, corrective actions, whether or not photographs were taken as supporting documentation, etc.

The ESC lead shall also complete and submit monthly Discharge Monitoring Reports (DMRs) to the WSDOE in accordance with the General Permit, regardless of site discharge, for the full duration of permit coverage.
- f. Keep all project water quality monitoring forms, maps, and pictures of the sampling stations in a single location on-site with the project permits. Standard forms for recording

and reporting monitoring results shall be used and can be obtained from the Project Engineer.

- g. Immediately after each sampling event, the ESC Lead or a certified designate shall analyze the sampling results and compare them with the following water quality protocols below (which are described in the Daily Data Record Form):
- Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less or have more than a 10 percent increase when the background turbidity is more than 50 NTU.
  - pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.2 units.

If sampling results indicate that the project is not in compliance with water quality standards or permit conditions, the ESC Lead shall note the non-compliance issue, the results, the duration of the noncompliance issue, time of day, and characteristics of the activity causing the non-compliance. The ESC Lead shall immediately notify the Project Engineer of the situation, possible consequences, and potential corrective actions.

The Engineer may stop construction to investigate and correct sources creating non-compliance conditions.

### **8-01.3(2) Seeding, Fertilizing, and Mulching**

#### **8-01.3(2)A Preparation for Final Application**

*(Special Provision)*

*Supplement*

#### **Seed Bed Preparation**

All disturbed areas, which are not otherwise restored, shall be seeded. All areas to be seeded shall be raked or similarly treated so as to provide a smooth, consistent, friable surface, acceptable for seeding as determined by the Engineer.

All areas to be seeded shall be free of all visible clods, rocks and debris measuring one inch or larger in any dimension. Any exposed tree roots in cut slopes shall be cut neatly and protected, as detailed on Plans. All costs involved in seed bed preparation shall be included in the square foot price for "Seeding Fertilizing and Mulching."

### **8-01.3(2)B Seeding and Fertilizing**

*(Special Provision)*

*Supplement*

#### **Seeding**

Where feasible, the hydroseeding method of application shall be used. A slurry consisting of seed, fertilizer, mulch and water shall be uniformly applied over all unpaved disturbed areas, except planted areas per Plans, within easements and right-of-way unless directed otherwise. Seed shall be applied at a rate per Section 9-14.2 **Seed**, of these Special Provisions.

#### **Hand Seeding**

Seed shall be applied at the rate of 6 pounds per 1,000 square feet. The seed shall be applied by an approved handheld spreader. The seed shall be evenly distributed over the disturbed area. Apply seed after the fertilizing has been accomplished and rake the seed into the surface soil to a depth of 1-1/4-inch.

#### **Fertilizing**

Fertilizer shall be applied at the rates specified, per Section 9-14.3(1) **Fertilizer**, of these Special Provisions. Fertilizer shall be incorporated into the seed, mulch and water slurry and shall be applied as specified under "Seeding."

#### **Liming**

Agricultural lime shall be applied to all hydroseeded areas at the rate of 100 pounds per 1,000 square feet.

#### **Hand Fertilizing**

Fertilizer shall be applied at the rate of 10 pounds per 1,000 square feet. The fertilizer shall be applied by an approved hand or mechanical method. It shall be raked into the surface soil to a depth of 1 inch.

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

*(Special Provision)*

*Supplement*

Mulch shall be applied at the rate of 2,000 pounds per acre. The Contractor shall follow manufacturer's recommended quantities of mulch in pounds to the tank capacity in gallons. One thousand (1,000) pounds of mulch shall be included in the slurry of seed, fertilizer and water and applied to the areas to be seeded. The remaining 1,000 pounds of mulch shall be applied in a separate operation immediately following the first application. The square foot price for "Hydroseeded Lawn," shall include two separate applications as specified and no further compensation shall be made.

## **Hand Mulching**

Straw shall be transported to the location site in bales for distribution. Bales shall be broken and the loose straw evenly spread over the hand seeded and fertilized areas to a depth of 2-inches. Straw mulch shall be placed prior to any netting or tackifier. Each bale shall cover an area not to exceed 100 square feet.

### **8-01.3(5) Placing Plastic Covering**

*(Special Provision)*

*Supplement*

#### **Clear Plastic Covering**

Clear plastic covering shall be placed on slopes and disturbed areas that cannot be prepared and seeded during the specific seeding periods in accordance with Section 8-01.3(4) of the Standard Specifications. Clear plastic covering may be required on slopes and disturbed areas that are prepared and seeded just prior to fall rains or other potential erosive conditions. When the clear plastic covering is used on unseeded slopes it shall be left in place until the next seeding period.

#### **Black Plastic Covering**

Black plastic covering shall be used for stockpiles or other areas where vegetative growth is unwanted.

The cover shall be maintained tightly in place by using sandbags or tires or ropes in a 10-foot, maximum, grid. All seams shall be taped or weighted down, full length. A minimum overlap of 12 inches is required.

#### **Removing Plastic Covering**

Clear plastic covering shall be removed when directed by the Engineer. On unseeded areas it shall be removed outside a specified seeding period.

### **8-01.3(8) Street Cleaning**

*(Special Provision)*

*Supplement*

The roadway shall be swept daily and as needed. Flushing will not be permitted. All costs associated with street and roadway cleaning shall be considered incidental and included in the Erosion/Water Pollution Control bid item and no additional payment made.

### **8-01.3(9)D Inlet Protection**

*(Special Provision)*

*Supplement*

Inlet protection can be in the form of internal devices and shall be installed prior to clearing, grubbing or earthwork activities. Catch Basin Inserts shall be installed on all new Catch Basins that are constructed as part of this contract.

When the depth of accumulated sediment and debris reaches approximately one-half the height of an internal device or one-third the height of the external device (or less if so specified by the manufacturers), the deposits shall be removed and stabilized on site.

### **Inlet Protection**

Catch basin inserts shall be installed at all catch basins within project limits and those immediately downstream of the project site that could possibly receive sediment laden runoff from the site. They shall be installed and meet the requirement of the detail in the Plans. Simply placing a piece of geotextile under the catch basin grate is not acceptable.

Catch basin inserts shall be installed, maintained, inspected and removed per the Standard Specifications and as recommended by the manufacturer. Pre-approved manufactured products include:

- Siltsack by Atlantic Construction Fabrics, Inc. (800) 448-3636
- StreamGuard by Foss Environmental, (800) 909-3677
- Emcom Insert by Emcom NW, (425) 462-1280
- Beaver Dam or Dandy Bag by Dandy Products Inc., (800) 591-2284
- Envirodrain
- Drain Warden, or
- Approved Equal

### **8-01.3(16) Removal**

*(Special Provision)*

*Supplement*

### **Removing Temporary Erosion I Water Pollution Control BMPs**

The Contractor shall removal all Temporary Erosion I Water Pollution Control BMPs within twenty (20) days after final slope stabilization, landscape restoration, or after the BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site

### **8-01.3(17) Maintenance**

*(Special Provision)*

*Supplement*

### **Protection and Care of Seeded Areas**

Maintenance shall begin immediately following seeding operations and shall extend for a minimum of ten weeks or longer as needed to establish a uniformly, healthy, thick stand of grass. Seeded areas shall be watered as necessary for healthy growth. All costs involved in the maintenance and establishment of seeded areas shall be included in the square foot price for "Hydroseeded Lawn." Any areas damaged by erosion or the Contractor's operations shall be immediately repaired by the Contractor, at the Contractor's cost.

### **8-01.3(18) Inspection**

*(Special Provision)*

*New Section*

The Contractor shall be responsible to notify the Engineer prior to mixing the seed, fertilizer and mulch. The Engineer shall be present during the mixing and seeding operation to verify quantity and quality of the work. At the end of 10 weeks the Engineer shall inspect the seeded area. Areas not established with a uniform healthy thick stand of grass, as determined by the Engineer, shall be reseeded, remulched or re-fertilized at the Contractor's expense prior to payment.

All cut and fill slopes will be inspected by the Engineer prior to seeding. Determination shall be made at this time as to topsoil utilization and hydroseeding procedures. Written authorizations shall be required for all subsequent changes as determined by the Engineer.

Inspection of all areas shall be made upon completion of seeding operations and at the completion of the maintenance period.

### **8-01.3(19) Suspension of Work**

*(Special Provision)*

*New Section*

If at any time during the life of this Contract it becomes necessary to suspend work due to weather conditions or other constraints, it shall be the Contractor's obligation to meet the following requirements:

The Contractor shall remain obligated to meet the Temporary Erosion/Water Pollution Control requirements of the Bid Documents during any suspension of work

The Contractor shall remain obligated to meet the Temporary Traffic Control (both vehicular and pedestrian) requirements of the Bid Documents during any suspension of work

The Contractor shall maintain vigilance and maintain a safe project area free of hazards to public safety and shall remedy all hazardous situations immediately.

All costs associated with maintenance during the Suspension of Work shall be considered incidental to and included in the various bid items.

### **8-01.4 Measurement**

*(Special Provision)*

*Supplement*

Catch basin inserts, "Inlet Protection" will be measured per each. Replacement of damaged protection devices will not be measured or paid for and shall be replaced at the Contractor's expense.

"Erosion/Water Pollution Control" shall be measured per lump sum.

No separate measurement for Stormwater Pollution Prevention Plan, weekly monitoring or daily monitoring if needed will be made.

## **8-01.5 Payment**

*(Special Provision)*

*Supplement*

"Erosion/Water Pollution Control" per lump sum shall include all labor, materials and equipment necessary to meet the project specific SWPPP and all requirements of the Standard Specifications and Highway Runoff Manual.

All costs associated with providing temporary erosion control that are not specifically listed as bid items shall be included in the lump sum "Erosion/Water Pollution Control".

All costs associated with providing plastic covering and street cleaning shall also be included in the lump sum "Erosion/Water Pollution Control."

Payment shall be made for the following bid item(s):

“Erosion/Water Pollution Control” per lump sum.

“Stormwater Pollution Prevention Plan”, lump sum

The contract bid prices above, including all incidental work, shall be full compensation for all labor, material, tools, and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

All costs associated with removal of BMP items measured and paid as separate bid items shall also include maintenance and removal of the item installed.

## **8-02 ROADSIDE RESTORATION**

### **8-02.1(1) Submittals**

*(Special Provision)*

*New Section*

Contractor shall submit the following a minimum of 45 days prior to start of Work under this section:

**Materials Lists:** A complete list of plant, sod, seed mixes and miscellaneous staking materials proposed to be furnished and installed, demonstrating conformance with the requirements specified. List to include names and addresses of all nurseries and suppliers as well as type and quantity of plants, sod, or seed mix being supplied by each nursery or supplier. Contractor shall submit documentation from each of the plant suppliers within 45 days of notice-to-proceed that the plant materials have been secured. Securing plant materials shall include documented orders or other approved documentation. Submittal shall be grouped into one package. This submittal does not preclude other acceptance and warranty requirements.

**Watering Plan:** Contractor shall submit a Watering Plan that outlines schedule, frequency, volumes, and general delivery method for watering new plantings and seeded areas from

installation through 2-year establishment. Watering Plan during the 2-Year Plant Establishment Period shall be included in the Plant Establishment Plan.

Source name, samples and data demonstrating conformance to specification for 1 pound sample of Topsoil Type A, Compost, and Mulch to the Engineer for approval. Include names and addresses of suppliers.

Provide test reports for supplied Topsoil and Compost including composition and nutrient levels from an approved agricultural testing laboratory at Contractor's expense.

Submit description of equipment, methods and procedures for ripping/ scarifying areas specified for soil preparation.

Landscape Contractor/Installer qualifications per this Section.

### **8-02.2 Materials**

*(Special Provision)*

*Supplement*

Refer to Section 9-14 **Roadside Planting** of these Special Provisions.

### **8-02.3(1) Responsibility during Construction**

*(Special Provision)*

*Supplement*

The Contractor shall locate all underground utilities (both new and existing) prior to starting work and shall not disturb or damage them. The Contractor shall promptly notify the Project Engineer of any conflict between the proposed work and the obstructions. The Contractor shall be responsible for making any and all repairs for damage, at his own expense.

Landscape construction is anticipated to begin after all other work is complete. Landscape materials shall not be installed until weather permits and installation has been authorized by the Project Engineer. If water restrictions are in force, planting landscape materials may be delayed.

Throughout planting operations, the Contractor shall keep the premises clean and free of excess soils, plants, and other refuse and debris. At the end of each workday, and as each planting area is completed, it shall be neatly dressed to the satisfaction of the Project Engineer.

No flushing will be allowed. At the conclusion of the landscape constructions, the Contractor shall remove surplus plant materials and installation debris from the construction site. The project shall be left in a condition acceptable to the Project Engineer.

### **8-02.3(1)A Landscape Contractor/Installer Qualifications**

*(Special Provision)*

*New Section*

Landscape Installer: Landscape Installer shall be a company specializing in the Work of this section with a minimum of 5 years recent documented experience in commercial landscape installation and restoration of a similar nature.

Lead Foreman: Landscape Installer to provide at least one person as the Lead Foreman who will be present onsite at all times during execution of the Work of this section and who has a minimum of 5 years documented experience in commercial landscape installation and natural areas restoration of a similar nature. The Lead Foreman is required to be thoroughly familiar with the type of materials being installed and the proper materials and methods for their installation and is to direct Work performed under this section.

### **8-02.3(1)B Restoration Pre-Installation Meeting**

*(Special Provision)*

*New Section*

At least fourteen (14) days prior to commencement of Work of this section, schedule an onsite meeting with the Project Engineer, Contractor, and Contractor's Landscape Installer and Lead Foreman to review the following:

1. Existing condition of subgrades to receive Topsoil. Landscape Installer to accept, in writing the condition of the subgrades prior to subgrade preparation, Topsoil placement, tilling and planting operations.
2. Planting and seeding schedule and potential conflicts with work by other trades.
3. Quality control and watering and maintenance.

### **8-02.3(2) Roadside Work Plan**

*(Special Provision)*

*Supplement*

The Work Plan as described in the Standard Specifications shall be submitted to the Project Engineer at least one week prior to initiating the proposed work.

### **8-02.3(2)A Chemical Pesticides**

*(Special Provision)*

*Supplement*

No chemical herbicides or pesticides will be allowed in any planting areas.

### **8-02.3(4)A Topsoil Type A**

*(Special Provision)*

*Supplement*

Topsoil Type A shall conform to Section 9-14.1(1) Topsoil Type A of the Special Provisions and shall be supplied by the Contractor's approved source.

### **8-02.3(5) Planting Area Preparation**

*(Special Provision)*

*Supplement*

Remove all construction debris prior to placing topsoil.

Subgrade preparation will require review and approval by the Project Engineer prior to the placement of topsoil.

Restoration planting and Streetscape planting beds (excluding planting beds over structural fill): Thoroughly scarify subgrade in tree, shrub and ground cover areas to depth indicated on Plans. Scarified subgrade shall be inspected and approved by the Project Engineer prior to placement of topsoil. Remove all construction debris and rocks over four inches (4") in diameter prior to the placement of topsoil.

Restoration planting, Streetscape planting beds and Seeding areas over structural fill: no subgrade preparation for planting beds or seeding areas over structural soil. See Plans and Details for subgrade elevations.

Roadside Restoration Seeding and Fine Lawn Seeding areas: Thoroughly scarify subgrade in seeded areas to depths indicated on Plans.

Upon approval of the subgrade by Project Engineer, place Topsoil Type A to depth as indicated and shown on the Plans. Lightly compact soil to 85% of maximum density and establish a smooth and uniform finished grade that protects against obstruction to surface drainage and ponding.

Fine grade beds to lines and grades shown on Plan, one quarter inch (1/4") plus specified depth of mulch below the level of adjacent walks, pavements and curbs unless otherwise noted. Fine finish grade topsoil by raking smooth and even and removing extraneous matter. Work as necessary, until surface is smooth, friable and uniformly textured, ready for planting. Allow room for mulch depth as noted on Plans.

### **8-02.3(7) Layout of Planting**

*(Special Provision)*

*Supplement*

The Contractor shall layout plantings as shown on the Plan or as indicated in this section.

The Contractor shall place groundcover plantings starting from the perimeter of the planting area and progress to the center. Field adjustments for plant layout shall be approved by the Project Engineer.

### **8-02.3(8) Planting**

*(Special Provision)*

*Supplement*

All trees, shrubs, and groundcover shall be planted as indicated on the Plans and at the spacing indicated on the Plans.

The plant material shall be handled in such a manner that the root systems are kept covered and damp at all times. Plants which receive unsatisfactory treatment, as judged by the Project Engineer, during transport from the source or on the job site shall be rejected. Rejected materials shall be immediately removed from the job site. Planting shall be done under the supervision of a person experienced in horticultural practices.

Trees and shrubs shall be installed by individually excavating planting pits as detailed on the Plans. Scarify the sides of the pit prior to planting.

Set plants in center of pits, on prepared subgrade or amended soils. Plants to bear same relationship with finish grade after settlement as they bore natural grade. Remove excess soil that may have collected around the crown at the nursery.

Orient plants as directed in the Plans or by Owner's Representative for best appearance. Place trees first. Follow with shrubs, then ground cover.

Completely remove wire baskets, peat pots, containers, burlap wrappings and ties from root balls. Cleanly cut off broken or frayed roots. Do not install any plants that are root bound or have cracked root balls. If approved by Project Engineer, plants with circling roots may be installed after roots have been properly loosened and pruned to remove circling roots.

Hold tree or shrub firmly in position while backfill mixture is placed to grade. Place backfill mixture carefully, avoiding root damage and filling voids. When hole is approximately two-thirds full, compact fill by watering to avoid air pockets. Complete backfill to finished grade and install bark mulch to the depth shown on the Plans.

Thoroughly water each plant and entire planting area immediately after planting.

After trees have been installed, 2 Watering Bags per tree shall be installed in accordance with the manufacturer's recommendations on each tree.

Watering: Provide water to plantings from installation through 2-year establishment. Provide water to apply a minimum of 1" of water per week.

### **8-02.3(10) Fertilizers**

*(Special Provision)*

*Supplement*

Fertilizers shall not be applied at the time of planting. Fertilizers to be applied during plant establishment period. Fertilizers shall be approved by the Project Engineer.

### **8-02.3(11) Wood Chip Mulch**

*(Special Provision)*

*Supplement*

Wood Chip Mulch shall be applied as indicated and shown on the Plans. Place two inches depth of Wood Chip Mulch around all newly planted trees, shrubs and groundcover, extending throughout plantings areas and a minimum of two (2) feet from trunk or stem as shown on plans, whichever is greater. Place Wood Chip Mulch in other areas as indicated on Plans.

### **8-02.3(12) Completion of Initial Planting**

*(Special Provision)*

*Supplement*

The Contractor shall notify the Project Engineer and request an inspection upon completion of initial planting. The Project Engineer will make an inspection and prepare a list of all planting items that remain to be completed. The Contractor shall then complete or correct all items

identified by the Project Engineer within ten (10) working days and request another inspection. Acceptance of planting shall be per Section 1-05.10-12 of the Standard Specifications and the APWA supplement. Upon acceptance, the plant establishment and maintenance period shall begin.

Completion of initial planting includes, but is not limited to, the following:

- Installation of all required planting materials.
- Complete wood chip mulch coverage.
- All planting areas in a weed-free conditions. Planting area cleanup.

### **8-02.3(13) Plant Establishment**

*(Special Provision)*

*Supplement*

It shall be the Contractor's responsibility to maintain all the landscaped area of this contract from the time of installation until the project is completed and accepted by the Engineer as complete. The plant establishment period shall begin when the planting has been completed and accepted by the Engineer and shall extend for two (2) years.

It shall be the Contractor's responsibility to identify maintenance requirements that will affect proper and healthy maturation of the landscaping on this project. The Plant Establishment Plan shall be submitted in writing to the Engineer prior to project acceptance and shall identify special needs, time requirements and duration of maintenance for the Contracting Agency's staff for the period following the end of the Plant Establishment period.

The Plant Establishment Plan must be signed and dated and include the following:

- Supervisor/Responsible Party Contact Name
- Local address
- Local telephone number  
(\*\*\*\*\*)

*The following is added after the second paragraph:*

The Plant Establishment Plan shall show the scheduling, frequency, dates, materials and equipment utilized, as applicable, for all plant establishment activities including, but not limited to, the following:

1. Watering:

Watering shall be performed and is to include but is not limited to: Provide plant establishment hand watering of all newly planted trees, shrubs and groundcover to provide a minimum of 1 inch of water per week to ensure continued vigorous growth of planted materials.

Fill tree bags as needed, to provide a minimum of 1 inch of water per week to ensure continued vigorous growth of planted materials.

2. Litter and Debris Removal:

Keep walks, trail, swales, planting beds and fine lawn areas free of leaves, branches and litter on a bi-weekly basis throughout the plant establishment period.

Deliver biodegradable landscape debris (clippings, thatch, leaves, branches, annuals, dead plant material, and the like) to yard refuse recycling facility. Acceptable sites include topsoil producing facilities and/or other facilities which compost or utilize yard waste for landscape purposes. No biodegradable material should be disposed of at landfill sites.

3. Fertilizing:

Test soils of planting beds yearly to determine fertilizer requirements. Use an organic, slow release fertilizer as recommended by the testing.

Assume one application of fertilizer per year, at rate as recommended by manufacturer, in the spring. Modify these recommendations per results of soil tests.

4. Staking and Guying:

Repair tree stakes and guys as needed. Remove stakes as soon as they are no longer needed for tree stabilization, but no later than one year after installation. Inspect and adjust stakes and connections to provide support, to prevent girdling of trunks or branches, and to prevent rubbing that causes bark wounds.

5. Pruning and dead heading:

Prune deciduous trees and shrubs during the dormant season to enhance the natural growth and shape of the plant. Eliminate dead, diseased or damaged growth.

Provide clearance at roadways and walkways for vehicular and pedestrian traffic.

Remove limbs or foliage that visibly obstruct street or trail signs, traffic signals, and streetlights. Maintain shrubs and perennials at two feet high within 20 feet of a crosswalk and 10 feet of a driveway.

Do not prune shrubs into ball shapes. Avoid shearing of plants. Selective thinning is preferred. Allow shrubs to spread naturally and form masses to prevent weed growth below the shrubs.

Prune clean, flush and in accordance with accepted horticultural practices. Pruning must only be performed by trained personnel. Replace plant materials that are disfigured or damaged due to improper pruning at no additional cost.

Dead head perennials in the fall.

## 6. Weeding and Pest Control:

Weeding of the planted landscape areas: Weeding of the planting beds to occur a minimum of once a month between March and October. Weed more frequently as needed to prevent weeds from going to seed. Apply mulch topdressing to any previously mulched areas immediately after April and October weeding.

The Contracting Agency strongly encourages environmentally sensitive maintenance practices. The principals of Integrated Pest Management are preferred over chemical applications. Use of chemicals must be approved in writing in advance. Under no circumstances should a preventative “blanket” application of herbicide, fungicide, or insecticide be used without prior approval of the Engineer. Provide the Engineer a minimum of 15 days’ notice prior to large scale applications. Applications must be coordinated with the Engineer. Applications must be made before 7 a.m., after 6 p.m. and coordinated with the Engineer to avoid special event conflicts. Chemicals must be EPA approved and applied by a licensed Washington State Pesticide Applicator and per the manufacturer’s recommendations. Chemicals used must have a MSDS filed with the Engineer.

Remove the majority of weeds manually by use of pincer-type weeding tools, flame or hot water weeders. Spot treat isolated weeds with the least toxic method, such as fatty-acid (soap) based non-selective herbicides. Plantings may, at some time, require corrective insect and/or pest control. Maintain close inspection on each trip to the site to insure immediate identification of disease or insect infestation. An integrated pest management program is recommended. However, it is acknowledged that other methods may be required. When necessary, and as approved by Engineer, apply the appropriate and least toxic pesticide in accordance with state and local regulations. Applications are to be corrective rather than preventative.

Spray only as required to control disease or insect infestation, and as necessary to break egg or spore cycle reoccurrence.

Materials and methods must be in accordance with state and local regulations and applied only by licensed applicators.

## 7. Mulching:

Replace or augment Wood Chip Mulch to maintain a depth of at least two inches. Re-mulch tree pits in the late fall. Mulch must not be left in contact with tree trunks; feather mulch away from trunks.

## 8. Plant Replacement:

Report dead and dying plants immediately to Engineer. Coordinate removal and replacement of dead and dying plants within 30 days of notification by the Engineer with new plants of equal size, condition, and variety of original planting. This shall include, but is not limited to labor and materials necessary for removal and replacement of any

rejected plant material planted under this contract. The contractor shall replace all plants stolen or damaged by the acts of others.

All plants shall be guaranteed by the Contractor to remain in a vigorous, healthy condition from the time of planting until the completion of the plant establishment period. Loss, deterioration, damage, or disturbance of plant material for any reason, as determined by the Engineer, may be cause for rejection. Such deterioration shall include but not be limited to-substantial dieback of branches resulting in a deficiency of foliage or improper balance of branching. Dead plants shall be removed as directed by the Engineer, who shall record plants removed.

Plantings areas shall be properly protected against harm from wind, unusual weather, and the public. Special planting techniques, defoliating, wilt proofing, or spray misting may be required for unseasonable planting, prolonged periods of drought, etc. No work shall be performed in, over, or adjacent to planting areas without proper protection and safeguards.

9. Top Dressing for Settlement:

45 days after initial planting review all planting areas for settlement. In areas where settlement is greater than 2 inches add Topsoil below any mulch layer. If settlement is less than 2 inches in mulched areas, difference can be made up with mulch. Monitor for settlement every six months.

10. Follow Contracting Agency's Arborist's recommendations for tree maintenance for both newly installed and existing trees (within project area):

Arborist recommendations shall include but are not limited to hazard evaluation, pruning for clearance and shape, watering, weeding, pest and disease control, root treatment, drainage, fertilizing, supporting, mulching and schedule of work. Assume a minimum of one day per year for a landscape crew.

11. Cleanup:

Cleanup shall be made immediately after and as part of the work done in the area. The cleanup shall include the entire area under this contract. The contract area shall be cleaned of litter and debris at least once each month. Such cleanup shall include the pickup and removal from the contract area of all clippings, trimmings, leaves, litter, and debris originating from any source whatsoever. Planting areas shall be neatly dressed and finished; walks and paved area shall be hosed off with water as necessary and otherwise kept clean and free from dirt, bark, and litter.

12. Inspection and Reporting:

At the end of each month during the plant establishment period, the Contractor shall supply the Engineer with an itemized list of maintenance work performed during the month for which payment is requested. The list shall include a detailed account of the type of maintenance work performed, on what date, the materials and equipment used,

the total number of man hours expended, and shall call to the attention of the Engineer any existing condition that may require special consideration or treatment. Failure to follow this procedure at the end of any month during the plant establishment period shall result in forfeiture of the monthly payment for the month involved.

The Contractor is responsible for periodic inspection during the plant establishment period. In addition, the Contractor shall meet with the Engineer on a monthly basis for the purpose of joint inspection of the plant materials. These meetings shall take place on the closest working day to the first day each month during the plant establishment period. All conditions unsatisfactory to the Engineer shall be corrected by the Contractor within a ten (10) day period immediately following the inspection. Corrective work shall include the removal and disposal of all unsatisfactory plant material. Failure to comply with corrective steps outlined by the Engineer shall constitute justification for the City to take corrective steps and to deduct all costs thereof from any monies due the Contractor. All plants which, at any point during the plant establishment period, do not show healthy and vigorous growth shall be removed and replaced.

### **8-02.3(14) Plant Replacement**

*(Special Provision)*

*Supplement*

Dead or impaired plants shall be replaced during specified planting seasons.

### **8-02.3(16) A Lawn Installation**

*(Special Provision)*

*Supplement*

This section applies to the hydroseeding of Restoration Seeding and Fine Lawn Seeding areas. Proceed as rapidly as the site becomes available, consistent with normal seasonal limitations for lawn hydroseeding.

Remove any debris from other trades prior to beginning work.

Review existing soil conditions for any contaminants that may have been discarded by other trades, such as thinner, paint, or plaster and notify the Engineer immediately if any contaminants are present.

No hydroseeding shall be undertaken when the temperature is below 40°F unless otherwise approved in writing by the Engineer.

#### Hydroseeding:

Fertilizer, seed and mulch shall be applied in one operation with approved hydraulic equipment. Apply materials at the following rates:

Seed Mixes: Per Section 9-14.2

Hydroseeding Additives (applied to all hydroseeding applications):

Fertilizer - 8 lbs per 1,000 square feet

Tackifier (Soil Binding Agent) - One lb per 1,000 square feet

Wood Fiber - 50 lbs per 1,000 square feet

Do not seed during windy weather or when the ground is frozen. Contractor shall give the Engineer 48 hours' notice of seeding operation.

Equipment shall utilize water as carrying agent utilizing continuous built-in agitation system. Equipment with a gear pump is not acceptable. Pump a continuous, non-fluctuating supply of homogenous slurry to provide a uniform distribution of material over designated areas.

Perform cleaning during installation of the work and upon completion of the work. Remove from the site all excess materials, soil, debris, and equipment. All hydroseed slurry over-sprayed onto equipment, pavements, trees, shrub beds, etc. shall be immediately cleaned/washed off before it dries. Restore any areas damaged due to hydroseeding operations.

#### Lawn Watering:

Water shall be applied to seeded areas as needed to ensure germination and growth of seed mix following hydroseeding. Water for watering shall be provided by the Contractor. Watering of seeded areas shall provide a minimum of 1.5" of water per week. Contractor shall be prepared to water more frequently should very dry conditions occur.

### **8-02.3(17) Property Restoration**

*(Special Provision)*

*New Section*

Roadside planting for property restoration shall consist of fine grading adjacent landscaped areas, placement of additional plant materials, extra seeding or bark mulch, slope restorations and all other work **not currently identified on the Plans**, as directed by the Engineer.

The contract bid item for "Property Restoration" also includes any adjustments to and replacements of existing irrigation systems not covered under Section 8-03 **Irrigation System** of the Special Provisions.

The Contractor is advised that protecting existing private irrigation and illumination systems from damage does not constitute a basis for claim or extra work. "Property Restoration" has been provided as a basis for modifications or improvements to private illumination systems and irrigation systems that may become necessary, but could not be foreseen prior to construction.

**The Contractor is specifically reminded that any unnecessary damage caused by construction activities will be repaid at the Contractor's sole expense.**

All materials shall conform to Sections 9-14 **Erosion Control and Roadside Planting** and 9-15 **Irrigation System** of the Standard Specifications.

### **8-02.4 Measurement**

*(Special Provision)*

*Supplement*

The pay quantities for plant materials will be determined by a count of the number of satisfactory plants accepted by the Engineer.

"Topsoil Type A" and "Wood Chip Mulch" will be measured by the cubic yard in the haul conveyance at the point of delivery.

No specific unit of measure will be provided for "Property Restoration". All work associated with completing property restoration that has no specific bid item provided shall be measured and paid per Force Account.

## **8-02.5 Payment**

*(Special Provision)*

*Supplement*

The contract bid prices including all incidental work, shall be full compensation for all labor, material, tools and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

Payment shall be made for the following bid item(s):

Topsoil Type A, per cubic yard.

The unit contract price for "Topsoil Type A" shall be full pay for providing the source of material for topsoil Type A, for pre-excavation weed control, excavating, loading, hauling, intermediate windrowing, stockpiling, weed control on stockpiles of windrows, removal, subgrade preparation, placing, spreading, processing, tilling, cultivating, compacting and fine grading of Topsoil Type A

Wood Chip Mulch, per cubic yard NOT IN COST ESTIMATE

Property Restoration, per force account

All plantings shall be "Plant Selection \_\_\_\_\_" per each

The contract bid price for "Plant selection..." per each, shall be full compensation for all labor, material, tools, equipment, and supplies necessary to fine grade, produce, plant, cultivate and cleanup for the particular items called for in the Plans. Payment for water used to water plantings, unless otherwise specified, is the responsibility of the Contractor.

"Plant Establishment – \_\_\_\_\_ Year", per year.

The unit Contract price per year for "Plant Establishment – \_\_\_\_\_ Year" shall be full pay for all Work described in the special provisions including but not limited to watering, weeding, top dressing for settlement, plant replacement, mulching, weeding and pest control, pruning and dead heading, staking and guying, fertilizing, litter and debris removal. Payment for water used to water plantings, unless otherwise specified, is the responsibility of the Contractor.

## **8-04 CURBS, GUTTERS, AND SPILLWAYS AND INLETS**

### **8-04.1 Description**

*(Special Provision)*

*New Section*

Construct Modified Concrete Curb and Gutter at driveways where shown on the Plans according to details in the Plans.

### **8-04.3(6) Adjustment of Curb and Gutter**

*(Special Provision)*

*New Section*

Curb elevations have been prepared and included in the Plans for constructing curb and gutter. The Contractor shall allow for the inspection of curb forms or string lines at least 48 hours ahead of concrete delivery to provide for adjustments to the lines and grades. Minor adjustments of 6 inches or less may be directed by the Engineer and shall not be basis for any claim of delay or extra work.

All costs associated with adjusting curb and gutter shall be considered **incidental** to the various bid items and no additional compensation will be considered.

### **8-04.4 Measurement**

*(Special Provision)*

*Supplement*

Modified Concrete Curb and Gutter shall be measured Cement Concrete Traffic Curb and Gutter, per linear foot.

### **8-04.5 Payment**

*(Special Provision)*

*Supplement*

Payment for Modified Concrete Curb and Gutter shall be made under the bid item “Cement Conc. Traffic Curb and Gutter”.

## **8-05 POTHOLING**

### **8-05.1 Description**

*(Special Provision)*

*New Section*

This work shall consist of providing subsurface utility exploration where shown on the plans or as directed by the Engineer during construction.

### **8-05.3 Construction Requirements**

*(Special Provision)*

*New Section*

Potholing has been included in the bid item list for the use in the determination of the location of existing utilities in advance of the Contractor's operations. The Engineer shall approve all potholing requests from the Contractor prior to potholing. Additionally, the Contractor shall provide potholes at Engineer's request.

The Contractor shall pothole ahead of excavation operations noting the depth, location, size and material of the underground utilities exposed. The locations of potholing shall be marked with surface paint and a PK nail noting pothole number. The Contractor shall survey the locations of these PK's and include them in the Record Drawings.

Any necessary design modifications resulting from potholing shall be returned to the Contractor within three calendar days and shall constitute no basis for a claim of delay.

Payment shall be made for the following bid item: "Potholing" per each.

The unit Contract price for "Potholing" per each shall be full compensation for all labor, tools, equipment, and materials necessary to expose the locations of existing utilities, record vertical and horizontal locations, determine if a conflict exists, backfill, and compact excavated areas. This unit price shall also include the cost for rescheduling work as required to allow the City time (up to seven working days) to issue any design modifications as may be required.

### **8-05.5 Payment**

*(Special Provision)*

*New Section*

"Potholing" by each as provided in Section 1-09.6.

## **8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES**

### **8-06.1 Description**

*(Special Provision)*

*Supplement*

Concrete approaches for driveways as well as curb and gutter adjacent to driveway approaches shall be constructed with 3-day Portland cement concrete per Sections 8-06.3(1) Proportioning Materials and 9-01.2(1) Portland Cement of the Standard Specifications. Approaches shall be constructed per the details on the Plans. Approach locations and width are shown on the Plans.

If curb and gutter sections are poured monolithic with driveway approaches, these sections of curb and gutter shall be paid per square yard under the unit contract price for "Cement Concrete Driveway Entrance, 3-Day." Otherwise they shall be paid for by the linear foot of "Cement Concrete Curb and Gutter, 18 Inch." See also Section 8-04 Curbs, Gutters, Spillways and Inlets herein.

### **8-06.3 Construction Requirements**

*(Special Provision)*

*Supplement*

Section 8-06.3 is supplemented with the following:

Section 1-07 of these Special Provisions describes the restrictions to driveway closures and construction that will be in place for this contract. To meet these requirements, the Contractor may use a quick setting concrete. The Engineer shall approve the quick-setting mix prior to use.

Driveway entrances shall be constructed as detailed in the Plans.

### **8-06.5 Payment**

*(Special Provision)*

*Supplement*

Payment shall be made for the following bid item(s):

"Cement Conc. Driveway Entrance Type 1, 3-Day" per square yard.

The contract bid prices above, including all incidental work, shall be full compensation for all labor, material, tools, and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications, the Standard Plans, and these Special Provisions.

### **8-09 RAISED PAVEMENT MARKERS**

#### **8-09.1 Description**

*(Special Provision)*

*Supplement*

This work shall consist of furnishing and installing raised pavement markings at locations designated in the Plans or as directed by the Engineer. Prior to installing lane markers the Contractor shall pre-mark the layout of all channelization and receive approval from the Engineer.

### **8-11 GUARDRAIL**

#### **8-11.2 Materials**

*(Special Provision)*

*Supplement*

All guardrail shall be Weathering Steel Beam Guardrail per Section 9-16.8.

Guardrail terminals products must be listed in the most current WSDOT Qualified Products List (QPL).

### **8-13 MONUMENT CASES**

#### **8-13.1 Description**

*(Special Provision)*

*Supplement*

**Existing Monuments** are survey monuments that existed prior to construction of the proposed improvements and are subject to removal or destruction as a result of said construction.

### **8-13.3 Construction Requirements**

*(Special Provision)*

*Supplement*

#### **Section 8-13.3 is replaced with the following:**

The Contractor shall furnish and set the monument pipe in accordance with City of Maple Valley Standard Plan No MV-5-012.

#### **Adjustment of Monument Cases**

The Contractor shall adjust monument cases to grade as staked by the Engineer. Riser rings if required will be allowed.

Following monument case adjustment, the monument shall be verified for position by the City. If the monument has been displaced by the Contractor's operations the Contractor shall at their own expense remove and replace the case and notify the City which will reestablish the monument.

#### **Destruction of Monuments**

The Professional Land Surveyor who has been engaged by the Contractor for the purposes of roadway surveying shall be responsible for perpetuating and documenting existing monuments in compliance with the Application for Permit to Destroy a Survey Monument (WAC 332-120). Following approval by the Public Land Survey Offices, copies of the Application for Permit shall be forwarded to the City of Maple Valley.

Reestablishing monuments which are destroyed shall be performed by a PLS and shall be considered incidental to and included in the various bid items.

### **8-13.4 Measurement**

*(Special Provision)*

*Supplement*

Measurement of monument case, cover, and pipe will be by the unit for each monument case, cover, and pipe furnished and set.

### **8-13.5 Payment**

*(Special Provision)*

*Supplement*

‘Monument Case, Cover, and Pipe’, per each.

The contract bid prices for Monument Case, Cover, and Pipe including all incidental work, shall be full compensation for all labor, materials, tools, and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

## **8-14 CEMENT CONCRETE SIDEWALKS**

### **8-14.1 Description**

*(Special Provision)*

*Supplement*

This work shall also consist of providing cement concrete sidewalks with different finishes, coloring, and scoring patterns as indicated and detailed on the plans.

### **8-14.2 Materials**

*(Special Provision)*

*Supplement*

Cement concrete sidewalks shall be constructed in accordance with section 8-14 of the Standard Specifications and as shown on the Standard Details, including the sidewalk details shown on the Plan.

Base material installed underneath concrete sidewalks shall be millings from planing operations required as part of the Contract work (see Special Provisions Sections 4-04.2 and 5-04.3(14)).

### **8-14.3 Construction**

#### **8-14.3 Construction Pre-Meeting**

*(April 4, 2011 WSDOT GSP)*

*New Section*

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

1. The Prime Contractor and Subcontractor in charge of constructing forms, and placing, and finishing the cement concrete.
2. Project Engineer (or representative) and Project Inspectors for the cement concrete sidewalk, curb ramp or pedestrian access route Work.

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

1. Slopes shown on the Plans
2. Inspection
3. Traffic control
4. Pedestrian control, access routes and delineation
5. Accommodating utilities
6. Form work
7. Installation of detectable warning surfaces

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

*(Special Provision)*

*Supplement*

Place recycled asphalt pavement (see Special Provisions Sections 4-04.2 and 5-04.3(14)) underneath sidewalk section as detailed in the Plans. Compact millings to a firm and even surface prior to placing concrete.

#### **8-14.4 Measurement**

*(Special Provision)*

*Supplement*

Limits between cement concrete sidewalk and cement concrete curb ramp type parallel A are shown on the Plans.

#### **8-14.5 Payment**

*(Special Provision)*

*Revision*

Payment shall be made under the following bid item(s):

"Cement Concrete Curb Ramp Type Parallel A," per each

Payment for detectable warning surface shall be incidental to the bid item for cement concrete curb ramp type \_\_\_\_\_. No separate payment shall be made for detectable warning surface. Payment for curb and gutter adjacent to curb ramps shall be made as provided in Section 8-04.

### **8-19 PREFABRICATED PEDESTRIAN BRIDGE**

Section 8-19 is a new section.

#### **8-19.1 Description**

*(Special Provision)*

*New Section*

These specifications are for fully engineered half through truss (no overhead bracing) bridge(s) of steel construction and shall be regarded as minimum standards for design and fabrication. The work included under this item shall consist of design, fabricating, finishing and transporting the steel truss bridge superstructure(s) including bearings.

Contractor is required to identify their intended supplier as part of the bid submittal. Qualified Bridge Manufacturers must have at least 5 years of experience fabricating these types of structures and shall have an up to date quality certification by AISC as Certified Bridge Fabrication - Advanced (Major) with Fracture Critical Endorsement and Sophisticated Paint Endorsement. All suppliers shall fabricate their product; no brokers are allowed.

Pre-Approved Bridge Manufacturer:

Big R Bridge  
1-800-234-0734  
E-mail: info@bigrbridge.com

Bridge Manufacturers, like the one listed above, may be used provided the Engineer receives a written request at least 10 days prior to the bid. The written request shall accompany the following information:

- Bridge manufacturer's product literature,
- Name and resume of bridge manufacturer's design professional who will be signing and sealing the engineering submittals,
- Copy of current AISC certification,
- Representative copies of detailed drawings, field procedures, calculations, quality control manual, and welder's certifications,
- Listing of projects including owner, location, size, year of fabrication, and contact person.

The above will be evaluated by the Engineer for accuracy and ability to provide the bridge(s) in accordance with these specifications. Bridge manufacturers other than those listed above may only be used if the Engineer provides written approval 5 days prior to the bid. The Engineer's ruling shall be final.

The Bridge manufacturer shall have as a direct employee, an engineer who is experienced in bridge design to perform all engineering related tasks and design. The engineer shall have a minimum of 10 years of experience in bridge design and be a currently licensed civil or structural engineer in the State of Washington.

Engineering drawings, 11"x17" format, shall be prepared and submitted to the Contractor or Owner for their review after receipt of the order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the bridge being fabricated. All relative design information such as member size, ASTM/AASHTO material specifications, dimensions necessary to fabricate, and required welding shall be clearly shown on the drawings. Drawings shall have cross referenced details and sheet numbers. All drawings shall be stamped, signed, and dated by the bridge manufacturer's design professional.

Structural calculations for the design of the bridge superstructure shall be prepared and submitted to the Customer for their review after receipt of the order. Calculations shall include complete design, analysis, and code checks for the controlling members, connectivity and support conditions, truss stability checks, deck design, deflection checks, bearings, and all splices.

Bridge(s) shall be designed in compliance with the AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, 2009 (AASHTO Ped). Calculations shall be in accordance with this document, and formulas shall reference the appropriate sections.

Other reference codes, specifications and standards:

- AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017 (AASHTO LRFD)
- AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, First Edition, 2005 (AASHTO Signs)
- AISC Steel Construction Manual, 15th Edition, 2017 (AISC)
- International Building Code, 2015 (IBC)
- American Welding Society, Structural Welding Code, D1.1, 2015 (AWS D1.1)

- ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures, 2010 (ASCE 7)
- ANSI/AWC NDC-2015 National Design Specification for Wood Construction, 2015 (NDS)
- Tropical Timbers of the World, US Forest Products Laboratory

The AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges shall control if any conflicting requirements occur with the other reference documents and/or other local codes.

## **8-19.2 Materials**

*(Special Provision)*

*New Section*

### **8-19.2(1) Structural Steel**

All members of the truss and deck support system shall be fabricated from square or rectangular hollow structural shapes (HSS), with the exception that floor beams may be wide flange shapes. All open ends of end posts and floor support beams shall be capped. Drain holes shall be provided for all sections at the low point of the member that may become filled with water. City will select specific steel type for 100% designs.

### **8-19.2(2) Fasteners**

Structural bolts used to field splice or connect all main members shall be ASTM F3125 Grade A325. The nuts for these structural bolts shall be ASTM A563. The bridge manufacturer shall determine the finish of the structural bolts. They will be either Type 3 (Weathering) or Type 1 (hot-dipped or mechanically galvanized) as specified by the bridge manufacturer.

Bolts used for the connection of a rub rail shall be ASTM A307 or SAE J429 Grade 2, 1/4" diameter carriage bolts, zinc plated.

Screws for the attachment of wood deck shall be Type F, 5/16" diameter flat head, six lobe drive, self-tapping screws, zinc plated.

Self-drilling fasteners for attachment of the form decking shall be #14 x 1" zinc plated hex washer head Tek screws.

Power actuated fasteners shall be Hilti sheet metal nail X-ENP-19 fastener.

Other miscellaneous fasteners shall be ASTM A307 zinc plated or galvanized, as determined by the bridge manufacturer.

### **8-19.2(3) Rub Rail Timber**

Rub Rail timber planks shall be Ipe wood (*Tabebuia* spp. -lapacho group), all heartwood (no sapwood), clear (no knots), straight grained, with no worm holes, surfaced 4 sides (S4S) and eased at four edges, and be air dried to no more than 20% moisture content prior to installation. Planks shall be untreated, except ends of planks shall be sealed with "Anchorseal" as manufactured by

Mobil CER-M or an equal aqueous wax log sealer. Based on the Forest Products Laboratory value of 27,270 psi for modulus of rupture, modulus of elasticity of 3,030,000 psi and maximum crush strength of 13,720 psi, the following allowable stresses shall apply: Allowable bending stress without modification factors of 3,700 psi; allowable shear without modification factors of 320 psi.

**8-19.2(4) Finish**

City shall select steel surface cleaning types and steel surface finish systems for 100% designs.

**8-19.2(5) Attachments**

**8-19.2(5)A Safety Rails**

Safety rail system shall be placed on the (City to select) of the structure, spaced so as to prevent a (City to select \_\_ inch) sphere from passing through the side truss for the full height of the side truss, or (City to select \_\_ inches), whichever is less. The top of the top chord may be considered the top of the rail system.

City shall select safety rail system type for 100% designs.

Each element of the pedestrian rail system shall be designed to support a uniformly applied load of 50 pounds per lineal foot, both transversely and vertically, acting simultaneously. In addition, each longitudinal element shall be designed to support a concentrated load of 200 pounds, which will act simultaneously with the above uniform loads at any point and in any direction at the top of the longitudinal element.

The posts of the pedestrian rail system shall be designed for a concentrated load applied at either the center of gravity of the upper longitudinal element or 60" above the top of the walkway, whichever is less. This concentrated load shall be equal to 200 pounds plus 0.05 times the post spacing in feet.

**8-19.2(5)B Fencing**

Chain link fencing shall be installed. Fencing wire shall be galvanized steel with a minimum thickness of 9-gage. Fencing shall be knuckled-knuckled both top and bottom. Fencing shall be in continuous runs as detailed on the bridge manufacturer's drawings, from end to end of shipped section. End attachment of the fencing shall follow industry standards using tension bars and tension bands, attached to a steel frame which is part of the bridge. Along the length of the bridge, the fencing shall be attached to a steel frame utilizing aluminum tie wires at a maximum spacing of 2'-0" on center. Longitudinal framing shall be placed such that the fencing does not span more than 5'-0".

Fencing shall be installed on both side truss, on the (City to select location) of the structure for the full height of the side truss or to a height of \_\_'-\_\_", whichever is less.

City shall select fencing mesh size for 100% designs.

All fence mesh, hardware, tension bars, tension bands, and tie wires shall have the following finish: (City shall select finish for 100% designs).

All elements of the fence system (support frames, posts, fence fabric, attachments, etc.) shall be designed to support a uniform load of 15 pounds per square foot applied normal to the entire surface.

#### **8-19.2(5)C Toe Plate**

City shall select a toe plate for 100% designs.

#### **8-19.2(5)D Rub Rail - Wood**

Rub Rails shall be provided at a height of 3'-6" from top of the deck to the top of rub rail. Rub Rails shall be nominal 5/4x6 Ipe hardwood unless the center to center spacing of truss verticals exceeds 6'-0" at which time a mid-bay support shall be used. For spans exceeding 6'-0" without a mid-bay support, but less than 8'-0", the Rub Rails shall be nominal 2x6 Ipe hardwood. Nominal 2x6 Ipe hardwood shall require mid-bay supports for spans exceeding 8'-0" but less than 12'-0". Rub Rails shall be supplied S4S. All exposed surfaces shall be smooth with no exposed sharp edges. Rub Rails shall be attached using two 1/4" diameter zinc plated carriage bolts with lock nuts at each attachment. Attachment shall be to a structural angle welded directly to the side of the vertical. Where a seam occurs between two adjacent pieces of Rub Rail, two structural angles shall be used, one on each side of the truss vertical. Slotted holes in the structural angles shall be used to provide thermal differential movement between the Rub Rail and the steel truss.

#### **8-19.2(5)E Pipe Handrail**

A steel pipe handrail shall be installed on each side of the bridge, at a height of 3'-0" +/- 2" from the top of the deck to the top of the pipe handrail. The pipe shall be ASTM A53, Grade B, Schedule 40 pipe. The pipe shall be attached to handrail brackets which are then attached to the truss verticals. 1 1/4" diameter pipe shall be used unless the center to center spacing of the truss verticals exceeds 6'-0". For vertical spacing larger than this, 1 1/2" diameter pipe shall be used. The ends of the pipe shall be capped with either a welded plate or a push-in cap. Pipe handrail shall be placed so as to provide a minimum 1 1/2" knuckle clearance from any surface.

City shall select the finish of the pipe handrail for 100% designs.

#### **8-19.2(5)F Expansion Joint**

If the gap between the end of the bridge deck and the back wall of the foundation system is 1" or less, then no expansion joint cover is required. If the gap is greater than 1", then the joint shall be covered with a 1/4" thick plate which attaches to the bridge and extends over the gap and onto the top of the foundation system back wall. This plate shall have its edges beveled at a 45-degree angle to minimize the potential trip hazard.

#### **8-19.2(6) Bearings**

City shall choose bearing type for 100% designs.

### **8-19.2(6)A Design Temperature Range**

The design temperature range will be site specific and will be determined per AASHTO LRFD Article 3.12.2.

### **8-19.2(6)B Non-Shrink Grouting**

The bridge will be supplied with a lower setting plate. This setting plate shall be leveled and shimmed to the proper elevation. The space between the lower surface of the setting plate and the foundation surface shall be filled with a non-shrink grout capable of achieving a minimum compressive strength of 4000 pounds per square inch. The cost of the leveling, shimming, and non-shrink grout shall be the responsibility of the Contractor.

### **8-19.2(6)C Anchor Bolts**

The bridge manufacturer shall design the diameter and grade of anchor bolts, based on the shear and tensile strength of the anchor rod material only. All design considerations regarding concrete breakout strength in shear and tension, pullout strength, concrete side-face blowout strength, concrete pry out strength, embedment depth, type of anchorage or any other concrete failure modes are the responsibility of the foundation engineer and shall be shown on the final contract plans. All anchor bolts shall be galvanized. The foundation engineer shall determine if the anchor rods shall be cast-in-place, drilled/epoxy, or expansion anchors. Anchor bolts shall be provided and installed by the Contractor.

## **8-19.3 Construction Requirements**

*(Special Provision)*

*New Section*

### **8-19.3(1) Bridge System Type**

City to select truss elevation, diagonal style, deck system, and floor beam locations for 100% designs.

### **8-19.3(2) Bridge Geometry**

City to select span length, width, top of truss height above deck, lower steel clearance, truss bay spacing, camber, and elevation difference for 100% designs.

### **8-19.3(3) Structural Design Loads**

#### **8-19.3(3)A Dead Load**

City shall choose dead load for 100% designs.

#### **8-19.3(3)B Pedestrian Loading (PL)**

The bridge structure shall be designed for a uniform pedestrian loading of 90 psf. This loading shall be patterned to produce the maximum load effects. Consideration of dynamic load allowance is not required with this loading.

### **8-19.3(3)C Vehicle Load (VL)**

City shall choose vehicle load for 100% designs.

### **8-19.3(3)D Equestrian Load (EL)**

When equestrian traffic is anticipated, the deck system shall be designed for a patch load of 1,000 pounds over a square area measuring 4' on a side.

### **8-19.3(3)E Wind Load (WS)**

Pedestrian bridges shall be designed for wind loads as specified in AASHTO Signs, Articles 3.8 and 3.9. The loading shall be applied over the exposed area in front elevations of both trusses including all enclosures.

In addition to the wind load specified above, a vertical uplift line load as specified in AASHTO LRFD Article 3.8.2 and determined as the force caused by a pressure of 20 psf over the full deck width, shall be applied concurrently. This loading shall be applied at the windward quarter point of the deck width.

### **8-19.3(3)F Fatigue Load (FL)**

The fatigue loading shall be as specified in Section 11 of AASHTO Signs. The natural wind gust specified in Article 11.7.1.2 and the truck-induced gust specified in Article 11.7.1.3 of AASHTO Signs only need be considered, as appropriate.

### **8-19.3(3)G Combination of Loads**

The load combinations and load factors to be used shall be as specified in AASHTO LRFD Table 3.4.1-1, with the following exceptions:

- Load combinations Strength II, Strength IV, and Strength V need not be considered.
- The load factor for Fatigue I load combination shall be taken as 1.0, and Fatigue II load combination need not be considered.

## **8-19.4 Structural Design Criteria**

### **8-19.4(1) Modeling**

The bridge shall be modeled and analyzed utilizing a three-dimensional computer software which shall account for moments induced in members due to joint fixity where applicable. Moments due to both truss deflection and joint eccentricity must be considered. Analyzing the truss as a pure pinned structure will not be allowed. All loads listed in Section 8-19.3(3) of these specifications shall be applied to the model and analyzed appropriately.

### **8-19.4(2) Lateral Frame Design**

The bridge shall be designed and proportion such that appropriate lateral stiffness is provided locally and globally to ensure that the structure is stable.

For bridges without any overhead members (half-through trusses), the vertical truss members, the floor beams and their connections shall be proportioned to resist a lateral force applied at the top of the truss verticals. This lateral force shall be applied as an additional load to the top of the vertical, creating a cantilever moment, which is then added to the forces obtained from the three-dimensional model. The magnitude of this lateral force shall not be less than  $0.01/K$  times the average factored design compressive force in the two adjacent top chord members.

The top chord shall be analyzed as a column with elastic lateral supports at the panel points, taking into account all moments due to in-plane and out-of-plane bending, along with moments due to eccentricities of the members.

The U-frame stiffness of the verticals and floor beams shall be as specified in AASHTO Ped Article 7.1.2, assuming that the vertical and floor beam connection is rigid. This means that the following must be met:

- Matched member widths in simple unreinforced HSS connections between the floor beam and vertical; that is, no deformation is allowed due to tube wall plastification of the member faces at service loads.
- The connection of the floor beam to the vertical shall not include the HSS bottom chord member; that is, the vertical and floor beam shall not be connected to different sides of an HSS chord. These members shall not be connected to faces of the bottom chord at a 90-degree to one another.
- All fixed end moments in the floor beams and verticals due to floor beam rotations, in addition to the loads derived from a U-frame analysis have been accounted for in the strength design of the connections.

At no time shall a  $K > 2.0$  be used in the design of the top chord.

The end verticals shall be designed as a simple cantilever to carry the loads obtained from the three-dimensional model, plus the cantilever moment due to a lateral load of  $0.01$  times the axial force in the end vertical, applied laterally at the upper end of the end vertical.

The floor beams shall always be sized for the forces obtained from a simple span, pinned end analysis, or from the forces obtained from the three-dimensional model, whichever controls.

The diagonals and brace diagonals shall be analyzed as pinned-end connection members. All other members shall be analyzed as fixed-end connections.

### **8-19.4(3) Deflections**

The vertical deflection of the bridge due to the unfactored pedestrian live loading shall not exceed  $1/360$  of the span length.

The horizontal deflection of the bridge under unfactored wind loading shall not exceed  $1/360$  of the span length.

#### **8-19.4(4) Fracture**

The fracture toughness requirements and designation of Fracture Critical Member and Main Member designation are hereby waived for these structures.

#### **8-19.4(5) Vibrations**

Vibration of the structure shall not cause discomfort or concern to the users of the bridges. To assure this, the fundamental frequency (f) of the pedestrian bridge in the vertical direction, without live load, shall be greater than 3.0 hertz (Hz) to avoid the first harmonic. The fundamental frequency of the pedestrian bridge in the lateral direction, shall be greater than 1.3 Hz. If the fundamental frequency cannot satisfy these limitations, then the bridge should be proportioned such that either of the following criteria are satisfied:

$$f > 2.86 * \ln(180/W)$$

or

$$W > 180 * e^{(-0.35 * f)}$$

Where W is the weight of the bridge in kips and f is the fundamental frequency in the vertical direction in Hz.

#### **8-19.5 Fabrication**

##### **8-19.5(1) Welding**

Welding procedures and weld qualification test procedures shall conform to the provisions of AWS D1.1. Filler metal shall be in accordance with the applicable AWS filler metal specification and shall match the corrosion properties of the base metal.

##### **8-19.5(2) Welders**

Welders shall be qualified for each process and position used while fabricating the bridge. Qualification tests shall be in accordance with AWS D1.1. All weld qualifications and records shall be kept in accordance with the Fabricator's Quality Assurance Manual which has been approved by AISC.

##### **8-19.5(3) Shop Splices**

Shop splices for main truss members shall be full penetration welds all around the perimeter of the member. These shop splices shall be performed using a full perimeter backing plate. After welding of the shop splices, the weld shall be ground smooth to match the perimeter of the member. Grinding these welds smooth is required and will be grounds for rejection of the bridge upon delivery if not completed.

Shop splices for all horizontal rail components to be located at the centerline of the truss verticals, each end welded to the truss vertical and seal welded together. Seal welds shall be ground smooth.

Grinding these welds smooth is required and will be grounds for rejection of the bridge upon delivery if not completed.

Shop splices for all horizontal stringers to be located at the centerline of the floor beams, each end welded to the floor beam and seal welded together.

#### **8-19.5(4) Bolted Splices**

For shipping purposes, the bridge may be fabricated in sections. Sections shall be field assembled using bolted connections. No field welding of members shall be allowed.

The chord members of the bridge shall be bolted such that all faces of the member are bolted. This is to provide equal force distribution around the perimeter of the member. Bolting in only two faces of an HSS is not allowed. Bolted splices shall be designed and fabricated such that the head of the bolt is the only item exposed. No through-bolting of the member is allowed.

The diagonals and brace diagonals shall be bolted utilizing a through-bolt system with plates on the exterior faces of the members. An internal stiffening plate is required to keep the member from crushing during the bolt tightening process.

All bolted connections are considered to be pretensioned or slip-critical connections. All bolts are to be pretensioned per the requirements of Section 8.2 of the Specification for Structural Joints Using High-Strength Bolts. Recommended tightening method of all structural bolts shall be turn-of-the-nut pre-tensioning. No washers will be required or furnished by the bridge manufacturer.

#### **8-19.6 Quality Control**

##### **8-19.6(1) AISC Certification**

The bridge shall be fabricated in a shop owned by the bridge manufacturer. This facility shall have up to date quality certification by AISC as Certified Bridge Fabrication - Advanced (Major) with fracture critical endorsement and sophisticated paint endorsement.

##### **8-19.6(2) Certified Weld Inspector**

The bridge manufacturer shall employ a Certified Weld Inspector (CWI), with endorsement by AWS QC1. This CWI shall be present during the complete fabrication of the bridge. The CWI shall provide written documentation that the bridge has been fabricated in accordance with these specifications and the approved design drawings.

##### **8-19.6(3) Documentation**

Material certifications shall be available for review for all materials within the bridge. Traceability of heat numbers is required for all steel.

Documentation showing the performance of all critical quality checks shall also be made available for review by the Engineer or Owner.

#### **8-19.6(4) Non-Destructive Testing**

All welds within the structure shall be visually inspected for conformance to size, under cut, profile and finish.

All shop splices of main truss members shall be magnetic particle tested.

#### **8-19.7 Delivery and Erection**

*(Special Provision)*

*New Section*

##### **8-19.7(1) Delivery**

Delivery shall be made via truck to a location nearest the site which is accessible to normal over-the-road equipment. All trucks delivering bridge materials will need to be unloaded at the time of arrival. If the erection Contractor needs special delivery or delivery is restricted, he shall notify the bridge manufacturer prior to bid date. This includes site issues which may prevent over-the-road equipment from accessing the site. Steerable dollies are not used in the cost provided by the bridge manufacturer. Determining the length of bridge section that can be delivered is the responsibility of the Contractor and shall be communicated to the bridge manufacturer prior to the bid date.

##### **8-19.7(2) Installation and Lift Procedures**

The bridge manufacturer will provide standard typical written procedures for lifting and splicing the bridge. All actual methods, equipment, and sequence of erection used are the responsibility of the Contractor.

#### **8-19.8 Warranty**

*(Special Provision)*

*New Section*

The bridge manufacturer shall warrant their steel structure(s) to be free of design, material, and workmanship defects for a period of 10 years from the earlier of the date of delivery or from 60 days after final fabrication. Naturally durable hardwood decking, and hardwood attachments shall carry a 1-year warranty against rot, termite damage, or fungal decay from the earlier of the date of delivery or from 60 days after installation on the structure. Other types of wood are excluded under this warranty. This warranty shall not cover defects in the bridge caused by abuse, misuse, overloading, accident, improper maintenance, alteration, or any other cause not the result of defective materials or workmanship. This warranty shall be void unless Owner's records can be supplied which shall indicate compliance with the minimum guidelines specified in the inspection and maintenance procedures. Paint, galvanizing, and other special coatings shall be warranted by the coating manufacturer and is not covered by the bridge manufacturer. Repair or replacement shall be the exclusive remedy for defects under this warranty. The bridge manufacturer shall not be liable for any consequential or incidental damages for breach of any express or implied warranty on their structures. Use of de-icing or dust prohibitive chemicals or salts to any part of the bridge structure will void this warranty.

## **8-19.9 Measurement**

*(Special Provision)*

*New Section*

No specific unit of measurement shall apply to this Lump Sum item.

## **8-19.10 Payment**

*(Special Provision)*

*New Section*

The work included under this item shall consist of design, fabricating, finishing, transporting, and installing the steel truss bridge superstructure(s) including bearings.

## **8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS AND ELECTRICAL**

### **8-20.1 Description**

*(Special Provision)*

*Revision*

The work performed under this Section consists of:

1. Installing illumination conduit and illumination pole foundation forms for the street lighting system. Power cables, concrete for foundations, poles, and fixtures will be installed by others during the course of the Contract and after the Contract work is closed out. Coordination and accommodation of work by others is required and is incidental to the unit bid items in this section.
2. Replacing signal detector loops.
3. Replacing signal control equipment (Opticon) wiring, conduit, and junction boxes associated with the existing signal system at the Witte Road/SE 240<sup>th</sup> ST intersection. Coordination with the King County Signal technician and City of Maple Valley Public Works will be required prior to demolition.

### **8-20.1(1) Regulations and Code**

*(Special Provision)*

*Supplement*

The Department of Labor and Industries' (L&I) electrical inspector shall inspect and approve the electrical portions of the project. Before work begins, the Contractor shall contact the Department of Labor and Industries' electrical inspector to coordinate a schedule of electrical inspection. This project shall be accomplished in compliance with L&I Policy Letter 98-11. This project shall conform to the latest NEC. When electrical inspection of work is required, the Contractor shall notify the electrical inspector at least two days in advance. The request by the Contractor to the State Department of Labor and Industries shall be sent by certified mail with a copy forwarded to the City. The electrical inspector's inspection and approval of all electrical work is required before final acceptance of the project.

### **8-20.1(2) Industry Codes and Standards**

*(Special Provision)*

*Supplement*

National Electrical Safety Code (NESC), PO Box 1331, 445 Hoes Lane, Piscataway, New Jersey.

### **8-20.1(3) Restrictions on the Schedule of Work**

*(Special Provision)*

*New Section*

- A. **Work in Roadway:** The roadway shall be closed (local traffic only) with a Contractor operated pilot car at both ends of the road closure to escort local residents through the construction zone. Through-traffic shall be detoured around the work area along Lake Wilderness Country Club Drive SE. All work within the traveled way of any roadway shall be limited to the hours between 7:00 a.m. to 5:00p.m. Monday through Thursday. During non-working hours and days, Witte Road SE (the work area) shall be open to all traffic. Exceptions to this will require a 3-day advance approval from the Engineer.
- B. **Traffic Control during the Construction:** The Contractor shall submit a detailed traffic control plan and obtain approval from the Engineer prior to roadway trenching, erection of mast arms and other activities requiring lane closures or detours. The plan shall also identify the duration of each activity impacting traffic. During traffic interruptions, traffic will be controlled by qualified flag persons unless otherwise specified.

During the erection of mast-arm assemblies, the Contractor, with the authorization of the Engineer, may block all traffic lanes for a maximum of 10 minutes between 9:30 a.m. and 11:30 a.m. on any day of the week. Work performed on Saturday, Sunday, or holidays requires the presence of a City inspector.

Unless otherwise approved by the Engineer, the Contractor shall furnish an off-duty police officer for traffic control during all roadway work performed at night, for all roadway work performed within 150 feet of an intersection, and for all other conditions where the Engineer deems it necessary for safety. The off-duty police officer shall be in addition to all other personnel required for flagging.

- C. **Permits:** The Contractor will be responsible for coordinating, obtaining, and paying for all permits necessary to complete this work in a timely fashion. A Right-of-Way Use permit shall be obtained before beginning any activities in the Right-of-Way and an electrical permit shall be obtained before beginning trench excavation.

### **8-20.1(4) Special Provisions Cost Included In Contract Price**

*(Special Provision)*

*New Section*

All costs incurred by reason of, or in connection with, the **Special Provisions** shall be included in the contract bid price.

### **8-20.1(5) Errors and Omissions**

*(Special Provision)*

*New Section*

The Contractor shall immediately notify the Engineer upon discovery of any errors or omissions in the Contract Documents, in the layout as given by survey points and instructions, or of any discrepancy between the Contract Documents and the physical conditions of the locality. If deemed necessary, the Engineer shall rectify the matter and advise the Contractor accordingly. Any work done after such discovery without authorization by the Engineer will be done at the Contractor's risk.

### **8-20.1(6) Warranties**

*(Special Provision)*

*New Section*

The Contractor shall provide a warranty for all materials to be furnished under this Bid for a period of 1 year, unless otherwise specified, from the date of actual construction completion. The warranty shall apply to all material including those items not manufactured by the Contractor.

The warranty shall provide that all material at the time of delivery shall be free from defects in material and workmanship and shall be fit for the uses set forth in these Specifications.

The warranty shall assign responsibility to the Contractor for all costs of replacement or repair of defective materials except those materials supplied by the City. Replacement or repair shall be made within 5 working days following notification of a discrepancy.

### **8-20.2 Materials**

*(Special Provision)*

*Supplement*

Illumination pole foundation forms shall be 30" diameter x 5' length lined corrugated polyethylene storm sewer pipe per Standard Specification Section 9-05.20.

The Engineer reserves the right to inspect the manufacturing process of all materials. Final inspection and acceptance of the installed materials will not be given until final installation and testing has been completed on the systems. Approval to install materials and equipment must be obtained from the Engineer at the job site before installation.

### **8-20.2(1) Equipment List and Drawings**

*(Special Provision)*

*Revision*

Add the word "calendar" after "twenty" in the first paragraph.

Delete "If required to do so," in the first sentence of the second paragraph. After the fourth paragraph add the following:

Shop drawing for all standards shall be provided in an electronic format, AUTOCAD 2002, or newer, as well as complying with Section 6-03.3(7).

The last paragraph which begins "Submittals required shall include... "shall be deleted. Manufacturer's technical information shall be submitted for all poles, mast arms, wire, conduit, junction boxes, control equipment, and all other items to be used on the Project. All approvals by the Engineer must be received by the Contractor before material will be allowed on the job site. Materials not approved will not be permitted on the job site.

Manufacturer's data for materials proposed for use in the contract which requires approval shall be submitted in one complete package. Signal pole dimensions including pole base to signal mast arm connection point, mast arm length, offset distances to mast arm mounted appurtenances, and orientations of pole mounted appurtenances will be submitted by the Contractor to the Engineer as part of the final approved shop drawings prior to fabrication.

The Engineer shall have 14 calendar days to review information for each submittal that is made. Approval of shop drawings does not constitute final acceptance or guarantee of the material, but is solely to assist the Contractor in providing the specified materials.

Final ground and roadway cross sections at the locations of the signal and luminaire poles shall be submitted for approval along with the shop drawings.

### **8-20.3(1) General**

*(Special Provision)*

*Supplement*

Poles designated for relocation shall not be removed prior to approval of the Engineer.

Removals associated with the electrical system shall not be stockpiled within the job site without the Engineer's approval.

All removals associated with an electrical system, which are not designated to remain the property of the Contracting Agency, shall become the property of the Contractor and shall be removed from the project.

The Contractor shall:

Remove all wires for discontinued circuits from the conduit system. Remove elbow sections of abandoned conduit entering junction boxes.

Abandoned and cap conduit encountered during excavation shall be removed to the nearest outlets or as directed by the Engineer.

Backfill voids created by removal of sections of foundations and junction boxes. Backfilling and compaction shall be performed in accordance with Section 2-09.3(1)E.

Electrical appurtenances to be surface mounted on structures shall be mounted so that a minimum 1/4-inch space is maintained between the appurtenance and structure.

### **Coordination with PSE**

The Contractor shall coordinate with PSE/Intolight (contact person: Lars Larsen (425) 456-2701) for all required illumination installation work, installation of the meter base and testing.

### **8-20.3(2) Excavating and Backfilling**

*(Special Provision)*

*Supplement*

The Contractor is reminded of Section 1-07.17 Utilities and Similar Facilities of the Standard Specifications. The Contractor shall protect all private and public utilities from damage resulting from the work.

All adjacent surfaces damaged by the Contractor's operations shall be repaired at his expense. All conduits shall be in place prior to placement of ATB.

Excavating and backfilling shall be performed in accordance with Section 8-20.3(2) of the Standard Specifications except as modified herein:

#### **Utility Conflicts**

Underground utilities of record will be shown on the construction plans insofar as it is possible to do so. These, however, are shown for convenience only and the City assumes no responsibility for improper locations or failure to show utility locations on the construction plans.

The location of existing underground utilities, when shown on the plans, is approximate only, and the Contractor shall be responsible for determining their exact location. The Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area, as not all utilities may be shown on the plans.

The Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits.

If a conflict is identified, the Contractor shall contact the Engineer. The Contractor and City shall locate alternative locations for poles, cabinet, or junction boxes. The Contractor shall get approval from the Engineer prior to installation. The Contractor may consider changing depth or alignment of conduit to avoid utility conflicts. Potholing alternative locations, as directed by the Engineer, will be paid for by a separate bid item with approval of the engineer per Section 8-05.3(3).

Before beginning any excavation work for foundations, vaults, junction boxes or conduit runs, the contractor shall confirm that the location proposed on the Contract Plans does not conflict with utility location markings placed on the surface by the various utility companies. If a conflict is identified, the following process shall be used to resolve the conflict:

1. Contact the Engineer and determine if there is an alternative location for the foundation, junction box, vault, or conduit trench.
2. If an adequate alternate location is not obvious for the underground work, select a location that may be acceptable and pothole to determine the exact location of other utilities. Potholing must be approved by the Engineer.

3. If an adequate alternate alignment still cannot be identified following potholing operations, the pothole area should be restored and work in the area should stop until a new design can be developed.

The Contractor shall not attempt to adjust the location of an existing utility unless specifically agreed to by the utility owner.

### **Trench Installation**

Construction: The Contractor shall provide trenching as specified herein, regardless of the material encountered, as necessary for complete and proper installation of the signal and illumination conduit. Trenching for conduit runs shall be done in a neat manner, and the trench bottom shall be graded to provide a uniform grade, with a width and depth as specified herein. All trenches for placement of conduit shall be straight and as narrow in width as practical to provide a minimum of pavement disturbance.

Trench Inspection: No work shall be covered until it has been examined by the Engineer. Earth which fills around and over the conduit shall be free of rocks greater than 2 inches up to a depth of 6 inches. When trenching is being accomplished within the sidewalk area, the backfill can be made with acceptable materials from the excavation and shall be considered a necessary part of an incidental to the excavation in accordance with the Standard Specifications. The compaction requirements for the roadway backfill shall apply.

### **Trenching Across Roadways and Other Areas:**

Trenching through *concrete sidewalk areas* shall require removal and replacement of the concrete to the limits of the existing sidewalk joints. The costs for removal and replacement shall be incidental to the trenching.

Trenching across *all other paved areas* shall be approved by the Engineer. Trenching and backfilling shall be done prior to any paving. Trenches in all paved areas shall be saw cut. The saw cuts shall be a minimum of 2 inches deep and shall be parallel. Slurry from saw cutting must be vacuumed up as cutting is taking place and disposed of properly. The Contractor shall be responsible for providing all necessary traffic control measures, including, but not limited to, lighting and an off-duty police officer. Trenches located within roadways and driveways shall be backfilled with control density fill (CDF) to the base of the existing pavement or within 3 inches of finished grade and covered with steel plates for 24 hours to prevent traffic contact with CDF. After the CDF has set, the trench shall be patched with asphalt concrete pavement. The pavement patch shall match the thickness of the existing roadway pavement or shall be at least 3 inches thick, whichever is greater. CDF shall meet the requirements of Section 2-09.3(1)E. The City reserves the right to make additions or deletions to the trenching which prove necessary for the completion of this Project.

Trenches in *landscaped areas* shall be placed to have minimum impact on existing landscaping and irrigation systems. Any damage due to the Contractor's operation shall be repaired or replaced by the Contractor at his own expense and to the satisfaction of the Engineer. Compaction below topsoil should be 80 percent of the standard compaction requirements and per Plans.

Removal of Pavement, Sidewalk, and Curbs: Removal shall be as specified in Division 2-02 of the Standard Specifications and as modified in these Special Provisions. Removal of pavement, sidewalk, and curbs shall be paid under the bid item "Road Excavation". Pavement shall be removed in a manner approved by the Engineer. The Contractor shall take care in removing existing paving not to damage the pavement outside of the saw cut lines.

Conduit Trench Bedding: Bedding for conduit trenches shall conform to Section 9-03.16 Bedding Material for Thermoplastic Pipe of the Standard Specifications. A minimum of 3 inches of bedding material is required around all conduits. All costs associated with pipe bedding shall be considered *incidental* to and included in the respective bid items.

Conduit Trench Backfill: All conduit trenches shall be backfilled with select material per Section 7-08.3(3) Backfilling of the Standard Specifications. All backfill shall be mechanically compacted by a power-operated tamper or approved alternate. Trenches shall be compacted per Section 2-03.3(14)C Compacting Earth Embankments, Method C of the Standard Specifications. All costs associated with conduit trench backfill shall be considered *incidental* to and included in the respective bid items.

For conduit within existing pavement, which will remain, the top 8 inches shall consist of HMA CI ½" PG 64-22, placed flush with the surface of the adjacent existing pavement. HMA CI ½" PG 64-22 shall be placed in accordance with Section 5-04 Hot Mix Asphalt of the Standard Specifications.

Temporary patching, if required, shall be as directed by the Engineer.

### **Directional Boring**

At the Contractor's option, conduit can be installed using a surface launched steerable drilling tool. Directional boring shall only be performed by an experienced Contractor specializing in directional boring and whose key personnel performing the work have at least 5 years' experience in this work. The Contractor shall submit a plan and methodology of the proposed areas where directional boring is proposed to the Engineer for approval at least ten (10) working days in advance of the work.

Drilling shall be accomplished using a high-pressure fluid jet tool head. The drilling fluid shall be used to maintain the stability of the tunnel, reduce drag on the conduit and provide backfill between the conduit and tunnel. A guidance system which measures the depth, lateral position and roll shall be used to guide the tool head when creating the pilot hole. Once the pilot hole is established a reamer and swivel shall be used to install the conduit. Reaming diameter shall not exceed 1.5 times the diameter of the conduit being installed. Conduit which is being pulled into the tunnel shall be protected and supported so that it moves freely and is not damaged during installation. The pullback force on the conduit shall be controlled to prevent damage to the conduit. A vacuum spoils extraction system shall be used to remove any excess spoils generated during the installation. Excess drilling fluid and spoils shall be disposed of by the Contractor. The method and location used for disposal of excess drilling fluid and spoils shall be subject to the Engineers approval. Drilling fluid returns (caused by fracturing of formations) at locations other than the entry and exit points shall be minimized. Any drilling fluid that surfaces through fracturing shall be cleaned up

immediately. Mobile spoils removal equipment capable of quickly removing spoils from entry or exit pits and areas with returns caused by fracturing shall be used as necessary during drilling operations. The Contractor shall be responsible for restoration for any damage caused by heaving, settlement, separation of pavement, escaping drilling fluid, or the directional drilling operation, at no cost to the City.

A complete set of as-built plans showing all bores (successful and failed) within 10 calendar days of completing the boring shall be submitted to the Engineer. The plans shall be copies of the Contract Plans and include roadway profile, cross-section, boring location, and subsurface conditions. The plans must include elevations of the installation.

### **8-20.3(3) Removing and Replacing Improvements**

*(Special Provision)*

*Supplement*

All work related to salvaging or removal of existing equipment shall be considered incidental to and included in the unit contract price for related items in this contract.

All salvaged equipment shall be returned to the City to a location determined by the Engineer. The Contractor shall be responsible for unloading the equipment where directed by the Engineer at the delivery site. Equipment damaged during relocation, removal or delivery shall be repaired or replaced to the Engineer's satisfaction at no cost to the contracting agency. Items not specifically identified by the Engineer to be salvaged shall become the property of the contractor and be removed from the site. Five days written advance notice shall be delivered to both the Engineer. Delivery shall occur during the hours of 8:00 a.m. to 2:00 p.m. Monday through Friday. Material will not be accepted without the required advance notice.

All existing wires from terminated circuits shall be removed from the conduit system during the completion of the new illumination system.

The Contractor shall remove all nonessential junction boxes. The voids left by these removals shall be backfilled in 6-inch lifts with an approved material and the backfill compacted to the satisfaction of the Engineer.

The Contractor shall grind all foundations that are not to be reused to a depth of at least 2 feet below the existing or finished grade, whichever is lower, or removed entirely, unless otherwise noted on the Plans. The conduits connecting to the foundation shall be cut off and capped or removed as designated by the Engineer. Any such foundation or conduit left below the surface shall be noted on the as-built plans provided to the City by the Contractor.

The Contractor shall be responsible for disposing of all other waste created during construction and non-salvageable illumination equipment as directed by the Engineer. All excess materials shall be removed from the construction site and disposed of at the Contractor's expense.

Concrete sidewalk removal necessary as part of the installation of foundation shall be removed and replaced to the limits of existing joints. The costs for removal and replacement shall be incidental to their respective bid items.

### **8-20.3(4) Foundations**

*(Special Provision)*

*Supplement*

#### **Setting Illumination Pole Foundation Forms:**

Light pole foundation forms (see materials in 8-20.2) shall be installed where shown on the Plans and in accordance with Puget Sound Energy/Intolight specifications and details (see PSE “Underground Installation of Streetlights and Supply Circuits” brochure included in Appendix G) and shall include temporary tube covers. Cut slots in form for conduit entrance and install conduit as shown in PSE brochure details. Coordinate inspection of form and conduit placement with PSE/Intolight project engineer prior to backfilling. Protect other work and existing improvements in the vicinity of the work. Coordinate exact location of conduits with other utility conduits to be installed in the vicinity.

### **8-20.3(5) Conduit**

*(Special Provision)*

*Supplement*

The Contractor shall install conduit in the joint utility trench where practicable. The conduit runs shown on the Plans are schematic, however, they shall be followed as closely as site conditions will allow and may be revised, as directed by the Engineer, to allow for unforeseen obstructions.

Streetlight system conduit shall be placed in accordance with Puget Sound Energy/Intolight specifications and details (see PSE “Underground Installation of Streetlights and Supply Circuits” brochure included in Appendix G) and shall include stubbing conduit up at junction box locations where shown on the Plans and as detailed in the PSE brochure.

Conduits entering through the cabinet foundation shall be arranged toward the front of the cabinet for maximum accessibility or as directed by the Engineer. Spare conduits shall be run from the service cabinet to the nearest junction box (as shown on the Plans) and be included in all road crossings. No conduit run shall exceed 220 feet. Spare conduits shall include a bull-line tape and shall be capped. Spare illumination conduits shall be labeled "City of Maple Valley."

Conduit installed at the following locations shall be Rigid Galvanized Steel:

- Within railroad right of way unless otherwise specified in the contract.
- All runs within slip form structures.
- Conduit risers except as otherwise required by serving utilities.
- Surface mounted conduit other than conduit risers.

Couplings in cabinet foundations shall be PVC schedule 40. The stubouts above the couplings shall be PVC end bell bushings. The schedule 40 section of PVC between the coupling and end bell bushing shall be installed without glue.

Conduit installed using the directional boring method shall be UL listed High Density Polyethylene (HDPE) Schedule 80, Carlon Bore-Gard Schedule 80 or Rigid Galvanized Steel. When HDPE is used, the crossing shall be extended into the associated junction boxes with PVC schedule 80

elbows. The PVC elbows shall be connected to the HDPE conduit with an approved mechanical coupler.

At all other locations, unless otherwise specified in the Plans, conduit shall be PVC or Rigid Galvanized Steel.

With the exception of HDPE conduit crossings and associated PVC conduit elbows, the same type of conduit shall be used for the entire length of the run from outlet to outlet. Where PVC or HDPE conduit is used, the same schedule shall be used for the entire length of the run from outlet to outlet.

Conduit shall be laid to a minimum depth of:

- 24 inches below the curb grade in the sidewalk area.
- 24 inches below finished grade in all other areas.

Conduit stubouts within cabinet foundations shall be placed so that they do not interfere with cabinet installation. Modification of the cabinet to accommodate stub-out placement is not allowed.

All conduit including spare conduits shall be installed with bushings. Rigid galvanized steel (RGS) conduit shall be installed with insulated grounding bushings. Insulated grounding end bushings shall have standard threading, which extends around the entire circumference of the bushing.

PVC conduit shall be installed with molded one-piece end bell bushings. PVC conduit installed shall be schedule 40, with the exception that roadway crossings, and service lateral runs shall be schedule 80.

All conduits including spare conduits shall be installed with plugs, which shall not be removed until installation of conductors or bull line tape. Upon installation of wiring, conduit shall be sealed with duct seal. Upon installation of the bull line tape, spare conduit shall be plugged.

Conduit between light standards or Type II poles and the nearest junction box shall be the diameter specified in the Plans. Larger size conduit is not allowed at these locations.

Spacing of unistrut type channel supports for surface mounted conduit shall not exceed 5 feet. Eighteen-inch radius elbows shall be used for conduit of 2-inch nominal diameter or less.

Standard sweep elbows shall be used for conduit with greater than 2-inch nominal diameter unless otherwise specified in the Plans.

With the exception of connections to HDPE conduit, joints shall be connected with medium grade gray cement solvent applied per the manufacturer's recommendations.

On new construction, conduit shall be placed prior to the placement of base course pavement.

### **8-20.3(6) Junction Boxes, Cable Vaults, and Pull Boxes**

*(Special Provision)*

*Supplement*

All required junction boxes might not be shown on the Plans. Provide junction boxes as required due to field conditions and to meet requirements for number and size of bends between junction boxes. The locations of the junction boxes as shown in the Plans are approximate and the exact locations shall be determined in the field. Junction boxes shall be located outside the traveled way, wheelchair ramps and landings, and driveways. The new junction box shall not interfere with any other previous or relocated installation. The lid of the junction box shall be flush with its frame and with the surrounding area whether it be shoulder, sidewalk, or other surface.

All junction box lids and frames shall be grounded by means of a minimum No.8 AWG braided tinned copper bonding jumper bolted to the lid with countersunk stainless-steel bolts that will allow the removal of the junction box lid without breaking the ground.

If a cable vault or pull box is installed outside a paved area, an asphalt pad shall be constructed surrounding the box.

All openings around conduits shall be sealed and filled with grout to prevent water and debris from entering the vaults or pull boxes. The grout shall meet the specifications of the cable vault and pull box manufacturers.

Adjustments involving raising or lowering the junction boxes shall require conduit modification if the resultant clearance between the top of the conduit and the junction box lid becomes less than 6 inches or more than 8 inches in accordance with Standard Plans.

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

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

All new junction boxes installed in the sidewalks shall have non-skid lids.

### **8-20.3(8) Wiring**

*(Special Provision)*

*Supplement*

All illumination system wiring will be installed by PSE/Intolight during the course of this Contract work. Contractor shall coordinate and accommodate work to be performed by PSE/Intolight.

### **8-20.3(9) Bonding, Grounding**

*(Special Provision)*

*Supplement*

Where existing conduits are utilized, an equipment-grounding conductor shall be installed (if not present). In addition, where shown in the plans or where designated by the Engineer, the metal frame and lid of existing junction boxes shall be grounded to the existing equipment grounding system. The existing equipment grounding system shall be derived from the service serving the raceway system of which the existing junction box is a part.

All conduit shall be installed with an equipment-grounding conductor, sized per NEC 250-122, with the exception that the minimum size shall be 8 AWG.

Supplemental grounding shall be provided at light and signal standards. Foundations for these standards shall be installed with a bare, 6 AWG copper wire that is connected to the reinforcing cage with an approved acorn clamp or exothermic weld and routed to connect to the pole at the grounding lug.

Where conductors are adjusted in size to compensate for voltage drop, equipment grounding conductors shall be adjusted proportionately according to circular mil area in compliance with NEC 250-122(b).

The grounding electrode system shall consist of a ground ring and shall be 25 ohms or less impedance. The ground ring shall be placed in contact with the earth at a depth of 2.5 feet or more and consist of bare copper conductor not smaller than No. 2. The grounding electrode system shall be tested with a ground rod tester in the presence of the Electrical Inspector prior to activating the service.

### **8-20.3(10) Services Transformer, Intelligent Transportation System Cabinet**

*(Special Provision)*

*Supplement*

The Contractor shall furnish and install type EUSERC electrical service as detailed in the Plans. The illumination components shall be connected by the Contractor to the 240-volt, 60-hertz power. The pole mounted receptacles and irrigation controller components shall be connected by the Contractor to 1 of the 120-volt, 60-hertz elements. No modifications to the cabinet will be allowed.

Power sources shown in the Plans are approximate only; exact locations will be determined in the field.

The Contractor shall request the State Department of Labor and Industries (L&I) to perform required inspections for service approval. The final approval shall be given to the Contractor by the Engineer. The request by the Contractor to L&I shall be sent by certified mail with a copy forwarded to the City. The Contractor shall notify the City inspector when the service is ready for connection.

The underground electrical service shall be brought to the load center in 3-inch conduit. The service shall be split in the load center into 120-volt circuits. The Contractor shall provide conduit from the electrical service to the power source as shown on the Plans (coordinate work with PSE prior to installation). In addition, the Contractor shall provide service conductors from the electrical service to the power source location (with 30 feet of spare service wire coiled) and coordinate the connection with PSE.

The twist lock photocell shall be mounted on top of the luminaire closest to the electrical service. A 3/C #12 IMSA cable shall be provided from the photocell to the electrical service.

### **8-20.3(13)A Light Standards**

*(Special Provision)*

*Supplement*

Street lighting shall meet all requirements as stated in the latest version of AASHTO and shall be able to withstand winds of 80 miles per hour (mph) with a gust factor of 1.3. Hand holes shall be located at 180° from luminaire arm. Fabrication for pole length shall be within a six-inch tolerance.

Fixed base installation shall conform to the following:

The base and flange plates shall be meeting ASTM grade A-36 specifications. The anchor bolts shall be 1-inch x 36-inch x 4-inch ASTM A 307 steel. Longitudinal welds shall be butt welded by the submerged arc process and circumferential welds shall be welded with a permanent backup ring. All butt welds shall be ground flush with the base metal.

Existing or higher illumination levels shall be maintained by using existing or temporary illumination until the new system is operational. The Contractor shall be responsible for coordination of installation of temporary illumination systems (if required) and shall notify service area power company if required illumination levels cannot be maintained during the construction.

The Contractor shall be also responsible for maintaining 10' clearance zone around existing aerial primary power lines during the construction.

### **8-20.3(16) Reinstalling Salvaged Material**

*(Special Provision)*

*Supplement*

Metal poles relocated to new permanent locations shall be inspected by the Contractor in the presence of the Electrical Inspector for structural integrity prior to reinstalling. The Contractor shall arrange for a mag particle test, at the Contractor's expense, on all metal poles to be relocated.

### **8-20.3(17) "As-Built" Plans**

*(Special Provision)*

*Modification*

Upon completion of the construction and prior to the turn-on of any electrical system, the Contractor shall furnish an "as-built" plan showing pole locations, abandoned existing foundations, junction boxes, miscellaneous equipment, conductors, cable wires up to the service cabinet, and with a special symbol identifying those items that have been changed from the original Contract Drawings. All items shall be located within 1-foot horizontal distance and 6 inches vertical distance above, below, or at the surface.

### **8-20.4 Measurement**

*(Special Provision)*

*Replacement*

When shown as lump sum in the Plans or in the proposal as illumination System, no specific unit of measurement will apply, but the measurement will be for the sum total of all items for a complete system to be furnished and installed.

## 8-20.5 Payment

*(Special Provision)*

*Replacement*

Payment shall be made for the following bid item(s):

"Setting Illumination Pole Foundation Form" per each.

The unit price for "Illumination Pole Foundation" shall include excavation, haul, backfilling, backfilling material, compaction, openings for conduit, and temporary plywood covers. Forms will be filled with concrete by others.

"Illumination Conduit, 2 In. Diam." Per lineal foot.

The lump sum contract price for the above bid item shall be full pay for the construction of the complete electrical system, modifying existing systems, or both, as shown in the Plans and herein specified including excavation, backfilling, junction boxes, conduit, wiring, restoring facilities destroyed or damaged during construction, salvaging existing materials, and for making all required tests. All additional materials and labor, not shown in the Plans or called for herein and which are required to complete the signal control system, shall be included in the lump sum contract price.

Sawcutting, pipe zone bedding, gravel borrow, shall be **incidental** to the bid items in this Section and no separate payment will be made.

Temporary surface restoration items required for resuming pedestrian and vehicular traffic prior to final surfacing, including steel sheeting, crushed rock, and cold mix asphalt, shall be **incidental** to the bid items in this Section and no separate payment will be made.

All costs for removal and replacement of existing sidewalks shall be incidental to the bid items in this Section and no separate payment will be made.

Bidders are cautioned to include in the bid items all costs related to protection of items to remain, removal and disposal costs of removed items not specified to be salvaged. All costs for adjustment of junction boxes, both to the final grade and any grade adjustments required for the various construction stages proposed in the Contract, or for alternative stages proposed by the Contractor, shall be included in each respective lump sum contract price.

## 8-21 PERMANENT SIGNING

### 8-21.1 General

*(Special Provision)*

*Supplement*

### **8-21.3 Construction Requirements**

*(Special Provision)*

*Supplement*

All relocated signs shall have new posts installed. All worn hardware shall be replaced.

Signs shall be manufactured and installed in accordance with the current edition of the **Washington State Sign Fabrication Manual** of the Department of Transportation, and the **Manual on Uniform Traffic Control Devices**, and Section 9-28 **Signing Materials and Fabrication** (except as modified by 8-21.2 above) of the Standard Specifications. Code numbers on the Plans are in reference to the Washington State Sign Fabrication Manual.

#### **8-21.3(9)C Timber Posts**

*(Special Provision)*

*Supplement*

Signs shall be mounted on 2x2 steel posts unless otherwise indicated on the Plans or Standard Details in Appendix A. Relocated signs shall be installed on new posts or luminaire poles as shown on the Plans.

Locations are subject to adjustment by the Engineer. Post lengths given on the Plans are estimates only and are subject to adjustment to fit field conditions.

### **8-21.4 Measurement**

*(Special Provision)*

*Supplement*

Internally illuminated signs shall be measured and paid in "Illuminations System Complete" per 8-20 herein. Measurement and payment for removal and/or relocation of existing signs or placing existing signs on new posts shall be paid for under "Permanent Signing" and no additional payment shall be made for this work under any other bid item.

Measurement and payment for all new signs shall include the sign, post and all incidental work necessary to satisfactorily complete the installation. Measurement for all new signs and posts shall be paid for per lump sum under the bid item "Permanent Signing" and no additional compensation shall be made under any other bid item.

## **8-22 PAVEMENT MARKINGS**

### **8-22.1 Description**

*(Special Provision)*

*Supplement*

This work shall consist of furnishing and installing pavement markings upon the roadway surface and detectable warning surface on the sidewalk ADA ramps at locations shown in the plans or as directed by the Engineer. Prior to installing pavement markings, the Contractor shall pre-mark the layout of all channelization and receive approval from the Traffic Engineer. See Section 8-22.3(1) **Preliminary Spotting** herein.

The Contractor is advised to review 8-22.3(2) of the Standard Specifications for pavement curing time necessary prior to placing thermoplastic pavement markings.

**8-22.2 Materials**

*(Special Provision)*

*Supplement*

Materials for pavement markings shall be paint, plastic, or retroreflective film as noted on the Plans and herein. Paint and sprayed or extruded plastic materials shall be applied with a top dressing of glass beads.

**8-22.3(1) Preliminary Spotting**

*(Special Provision)*

*Supplement*

Prior to installing pavement markings, the Contractor shall pre-mark the layout of all channelization and receive approval from the Engineer. Pre-marks shall consist of painted spot markings. The Contractor shall notify the Traffic Engineer and request approval of the pre-mark channelization at least 48 hours prior to placement of the pavement markings. (See also Section 8-09 Raised Pavement Markers herein.)

**8-22.3(3) Paint Application**

*(Special Provision)*

*Supplement*

When the paint marking is to be applied to a newly paved surface or when the paint marking is not applied over an existing paint marking, two applications of paint will be required. The time period between applications shall be per the Standard Specification.

Only paints on the WSDOT Approved Materials List shall be allowed.

**8-24 ROCK AND GRAVITY BLOCK WALL AND GABION CRIBBING**

**8-24.2 Materials**

*(Special Provision) Supplement*

Materials for the gravity block wall shall be precast concrete blocks produced by a licensed manufacturer. Blocks shall be made with Ready-Mixed concrete in accordance with ASTM C94, latest revision, and per the following chart:

Climate	Air Content	28 Day Compressive Strength, psi	Slump*
Negligible	1½%-4½%	4000	5” ±1 ½”
Moderate	3%-6%	4000	5” ±1 ½”

Severe	4½%- 7½%	4000	5" ± 1 ½"
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\*Higher slumps are allowed if achieved by use of appropriate admixtures.

Notwithstanding anything stated above, all material used in the wall units must meet applicable ASTM and local requirements for exterior concrete. Exterior block dimensions shall be uniform and consistent. Maximum dimensional deviations shall be 1% excluding the architectural surface. Maximum width (face to back) deviation including the architectural surface shall be 1.0 inch. Exposed face shall be finished as specified. Other surfaces to be smooth form type. Dime-size bug holes on the block face may be patched and/or shake-on color stain can be used to blend into the remainder of the block face.

### **8-24.3(2) Gravity Block Wall**

*(Special Provision)*

*Supplement*

Native foundation soil shall be compacted to 95% of standard proctor or 90% of modified proctor prior to placement of the Leveling Pad material. In-situ foundation soil shall be examined by the Engineer to ensure that the actual foundation soil strength meets or exceeds assumed design strength. Soil not meeting the required strength shall be removed and replaced with acceptable, compacted material.

The first course of wall units shall be placed on the prepared Leveling Pad with the aesthetic surface facing out and the front edges tight together. All units shall be checked for level and alignment as they are placed. Ensure that units are in full contact with Leveling Pad. Proper care shall be taken to develop straight lines and smooth curves on base course as per wall layout.

Leveling Pad shall be placed as shown on the construction drawings. Leveling Pad shall be placed on undisturbed native soils or suitable replacements fills. Leveling Pad shall be compacted to 95% of standard proctor or 90% of modified proctor to ensure a level, hard surface on which to place the first course blocks. Pad shall be constructed to the proper elevation to ensure the final elevation shown on the plans. Leveling Pad shall have a 6-inch minimum depth for walls under 8 feet in height. Pad dimensions shall extend beyond the blocks in all directions to a distance at least equal to the depth of the pad or as designed by Engineer.

The backfill in front and back of entire base row shall be placed and compacted to firmly lock them in place. Check all units again for level and alignment. All excess material shall be swept from top of units. Install next course of wall units on top of base row. Position blocks to be offset from seams of blocks below. Blocks shall be placed fully forward so knob and groove are engaged. Check each block for proper alignment and level. Backfill to 12-inch width behind block with free draining backfill as identified. Spread backfill in uniform lifts not exceeding 9 inches. Employ methods using lightweight compaction equipment that will not disrupt the stability or batter of the wall. Hand-operated plate compaction equipment shall be used around the block and within 3 feet of the wall to achieve consolidation. Compact backfill to 95% of standard proctor (ASTM D 698, AASHTO T-99) density within 2% of its optimum moisture content. Install each subsequent course in like manner. Repeat procedure to the extent of wall height.

Allowable construction tolerance at the wall face is 2 degrees vertically and 1 inch in 10 feet horizontally. All walls shall be installed in accordance with local building codes and requirements.

### **8-24.5 Payment**

*(Special Provision)*

*Modification*

Payment shall be made under the following bid item(s):

Gravity Block Wall, per square foot

The unit bid price for gravity block wall shall include all excavation, bedding, backfill, construction geotextile for underground drainage, labor, equipment and tools necessary to complete the work per shown in the plans or directed by the Engineer. Underdrain pipe for Gravity Block Wall shall be paid under the bid item in 7-01 herein.

### **8-26 SITE FURNISHINGS**

*(Special Provision)*

*New*

#### **8-26.1 Description**

*(Special Provision)*

*New*

This work shall consist of providing and installing City of Maple Valley decorative standard pedestrian railing, litter receptacles, and benches in locations as shown on the Plans.

#### **8-26.2 Materials**

*(Special Provision)*

*New*

##### **8-26.2(1) Pedestrian Railing**

Pedestrian railing shall be hot rolled structural steel, per ASTM A513, and shall meet the requirements of the Standard Specifications, Sections 6-03 and 9-06.

Pedestrian railing includes posts, rails and all connections necessary for fabrication and installation including but not limited to the plans and these specifications. Fittings and fasteners shall be same basic material as parts being joined. Do not use materials that will be corrosive or incompatible with materials being fastened; do not utilize pop-rivets, sheet metal screws, adhesives or cast fittings.

Provide materials free from surface blemishes where exposed to view in the finish installation. Pedestrian railing shall be painted per Section 6-07 Painting. Paint color shall be RAL 8015 “Chestnut Brown”. Touch up for scratches as recommended by coating manufacturer for field application.

Hemisphere post caps shall be hollow steel half balls, #B4120, available from J.G. Braun Architectural Metals, 1-800-323-4072, or approved equal.

Pedestrian railing shall be installed completely assembled in the locations shown on the Plans and as shown on the Urban Design Detail Sheet in the Plans. The pedestrian railing installation, when completed, shall be in true alignment, on proper grade, with all posts plumb.

Pedestrian railing will require inspection upon delivery to the Project site. Any pieces damaged during shipping or having inconsistent color shall be removed from the Project site and rejected for construction.

### **8-26.3 Construction**

*(Special Provision)*

*New*

#### **8-26.3(1) Pedestrian Railing**

Contractor shall submit 3 sets of shop drawings of pedestrian railings for approval, showing complete dimensions and details of fabrication, including an assembly diagram with fittings and connections. Materials being used shall be specified in shop drawings. Contractor shall field verify the slope required for raked sections of the pedestrian railing. Contractor shall field verify all dimensions on site prior to shop fabrication. Coordinate fabrication schedule with construction progress to avoid delay of work.

Pedestrian railing shall be shop fabricated and assembled per approved shop drawings to the greatest extent possible. Assembly shall be in a neat, craftsmanship manner, in accordance with the highest industry standards. All welding shall be in accordance with AISC and AWS Standards and shall be performed by a WABO certified welder. Welds shall be Section 6-03.3 (25) of the Standard Specifications.

All posts shall be structurally welded to top rail and lower horizontal members to assure fixed fastening for the life of the railing. Corners shall be fitted by miter and further welded as required to obtain maximum assurance of strength through the railing's useful life. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.

Install rails in unspliced lengths between posts except where locating expansion joints and sleeves. Install posts in continuous sections from the mounting base to the top rail.

Allow for thermal action resulting from the maximum range (change) in ambient temperature in the design, fabrication, and installation of rail systems, to prevent opening of joints, buckling, and other detrimental effects, including over stressing of connections and components. Expansion joints shall be provided as needed to allow for thermal expansion or contraction. Provide weep holes or other means to exit entrapped water from hollow sections of railing members exposed to exterior condensation, or moisture from other sources. Prevent galvanic action and other forms of corrosion by isolating dissimilar materials from each other.

Exposed mechanical fastenings shall be flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

Install posts in concrete footings with pipe sleeves preset and anchored into concrete whenever possible. After posts are inserted solidly fill the remaining space between post and side of sleeve or hole, with non-shrink, nonmetallic grout to approximately Y2" below exposed surface. Install appropriate waterproof sealant, slightly taper away from posts. As installation is completed, clean railing with plain water containing a mild detergent.

### **8-26.3(2) Bench and Litter Receptacle**

Surface mount and install Bench and Litter Receptacle in locations shown, as detailed per Plans and per manufacturer's recommendations, with approved expansion bolts.

### **8-26.4 Measurement**

*(Special Provision)*

*New*

Pedestrian railing shall be measured per linear foot of acceptable railing installed in its final location.

Bench shall be measured per each installed in its final location.

### **8-26.5 Payment**

*(Special Provision)*

*New*

Payment shall be made for the following bid item(s):

"Pedestrian Railing" per linear foot.

All costs associated with sidewalk and rail penetration shall be included in the unit contract price for Pedestrian Railing. The contract bid prices above, including all incidental work, shall be full compensation for all labor, materials, tools, and equipment necessary to satisfactorily complete the work as defined in the Plans, the Standard Specifications and these Special Provisions.

## **8-31 PRIVATE CONNECTION AND BID ITEMS**

### **8-31.3(7) Private Connection**

*(Special Provision)*

*New*

Connections to private systems will be paid by each private resident, as per RCW 35.96.050. The contractor will provide the City with a work plan and a detailed cost estimate for each private connection prior to all work. At that time, the City will have the opportunity to review and accept or reject the estimate and require the homeowner to connect to the public system.

At the locations shown on the Plans, the Contract shall excavate a trench for secondary electrical, telephone and cable connections to existing homes. The trench shall begin at the service handles/pedestals and terminate at the existing electrical meter box location.

Conduits, conductors and other materials shall be installed by the Contractor. Conversion of meter boxes to underground feeds from overhead shall be the responsibility of the homeowner, as well as coordinating installing of the secondary power connection.

The Contract shall provide bedding and backfill for the private connection per Puget Sound Energy standards in the Appendix G.

### **8-31.3(8) Regulations and Codes**

*(Special Provision)*

*New*

Installation of all electrical and telecommunication vaults and ducts shall conform to the appropriate sections of the latest editions of the following standards and codes (The more stringent standards shall apply in case of discrepancies):

- National Electrical Code (NEC), National Electric Safety Code (NESC), Underwriters Laboratories (UL)
- National Electrical Manufacturer's Association (NEMA)
- American Association of State Highway and Transportation Officials (AASHTO)
- National Electrical Contractors Association (NECA)
- WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (2008 Edition)

In all cases, the Contractor shall install a complete and operable system in compliance with the plans and specifications. The Contractor shall also coordinate and obtain inspections and approvals from the various utilities, Engineer, and from the local Authorities Having Jurisdiction (AHJ) prior to duct and vault burial.

### **8-31.4 Measurement**

*(Special Provision)*

*New*

The following items shall be measured for payments:

No particular unit of measure shall be applied to "Franchise Utility Coordination" which shall be paid per lump sum.

"Joint Utility Trench" (JUT) is defined as a trench that includes both PSE and telecommunications conduits. Joint utility trench excavation and backfill will be measured per linear foot of joint utility trench that is installed per the plans, specification, and the standard plans and specifications found in the appendixes. Fluidized thermal backfill shall be incidental to the JUT and no separate measurement will be made.

"Lateral Trench" (LT) is defined as a trench that includes PSE or other City/franchise utility conduits, but not both. LT excavation and backfill will be measured by the linear foot,

beginning at the point where excavation for LT construction requires the width of the lateral trench to be increased by 12 inches or more to accommodate PSE and other City/franchise utility conduits.

“Controlled Density Fill”, when used to backfill the trench underneath driveways and roads or as otherwise explicitly directed by the Engineer will be measured by the cubic yard.

“Franchise Utility Trench Backfill-CSTC”, when used to backfill the trench underneath driveways and roads or as otherwise explicitly approved by the Engineer for use in the absence of suitable native backfill, will be measured by the ton.

“Install Franchise Utility Conduit, Type, Size” shall be measured and paid per linear foot of conduit installed when the conduit is furnished by Others. The Contractor shall keep record for which utility the installed conduit will be used by.

“Install Franchise Utility Structure” shall be measured and paid per each structure installed when the structure is furnished by others and shall include vaults, manholes, hand holes and all structures other than conduits to be installed. Installation shall be measured per each, regardless of type or size of structure.

No particular unit of measure shall be applied to “Shoring or Extra Excavation Class B” which shall be paid per lump sum.

Saw cutting and pavement removal that is not covered by other items in the utility undergrounding bid schedule shall be incidental to various utility undergrounding bid items involved and no separate measurement will be made.

Sand pipe zone bedding shall be incidental to the various items and no separate measurement will be made.

Surface restoration items required for resuming pedestrian and vehicular traffic prior to final surfacing, including steel sheeting, crushed rock, and cold or hot mix asphalt, that are not covered by other items in the utility undergrounding bid schedule shall be incidental to the various utility undergrounding bid items involved and no separate measurement will be made.

No specific unit of measure will be provided for “Private Service Trench and Service Conversions”. All work outside of the right-of-way associated with completing trenching, conduit, wiring, obtaining electrical permits and other work required to complete conversion of private service connections to receive underground feeds and restoration on private property will be measured and paid per Force Account. Work of this same nature that is allowed to be performed by the serving utility, as part of their routine work to provide/restore underground service connections, shall not be included under this item.

## **8-31.5 Payment**

*(Special Provision)*

*New*

Payment will be made for the bid items and per the units indicated in the Bid Proposal form.

“Franchise Utility Coordination” per lump sum.

“Joint Utility Trench” per linear foot.

“Lateral Trench” per linear foot.

The unit bid price for “Joint Utility Trench” and for “Lateral Trench” per linear foot shall be full compensation for all labor, materials, tools, and equipment, supplies, incidental work necessary for the excavation, sand bedding, and backfilling of the franchise utility trench with native material. The cost of furnishing and installing sand pipe bedding and fluidized thermal backfill (FTB), placing and compacting native trench backfill, and other necessary work to allow the installation of conduits shall be included in this item.

“Franchise Utility Trench Backfill- CSTC,” per ton

The unit contract price per ton for “Franchise Utility Trench Backfill- CSTC” shall be full pay for all work to furnish, place, and compact the material in the trench. Also included in the unit contract price is the disposal of excess and unusable material excavated from the trench.

“Shoring or Extra Excavation, Class B for Utility,” per lump sum

“Install Utility Conduit, PSE, \_\_\_ In. Diam.” per linear foot

“Install Utility Conduit, Comcast, \_\_\_ In. Diam.” per linear foot

The unit price per linear foot of “Install Conduit Pipe \_\_\_\_\_ In. Diam. – \_\_\_\_\_” shall be full pay for labor, material, equipment, and supplies necessary for installing and proofing all pipe, pipe connections, elbows, bends, caps, reducers, conduits, unions, and hardware for placing the pipe in accordance with the above provisions in the Contractor provided joint utility trench, lateral trench and pole risers.

“Install PSE Structure, Type \_\_\_\_\_” per each

“Install Comcast Structure, Type \_\_\_\_\_” per each

The unit price bid for “Install \_\_\_\_\_ shall be full compensation for installing the utility-provided vault or handholes of the size and type specified. Including all labor, materials, tools and equipment, supplies, and other incidental work required to satisfactorily complete the work defined in the Standard Specifications, Special Provisions for the particular vault or handhole called for in the Plans. The unit cost per vault shall include vault excavation, foundation, bedding, installation, and backfilling.

“Private Service Trench and Service Conversions,” by force account as provided in Section 1-09.6.

The Contractor shall provide written estimates of each parcel’s conversion work prior to commencing the force account work. To provide a common Proposal for all Bidders, the Contracting Agency has estimated the amount of force account for “Private Service Trench and

Service Conversions” and has entered the amount in the Proposal to become a part of the total Bid by the Contractor.

The contract unit prices, including all incidental work, shall be full compensation for all labor, material, tools and equipment necessary to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions.

The Contractor shall furnish and install bedding in the joint trench and structure excavations for all franchise utilities, regardless if the Contractor or Others install the conduit or vault.

## **END OF DIVISION 8**

# DIVISION 9 - MATERIALS

## 9-03 AGGREGATES

### 9-03.8(2) HMA Test Requirements

(May 25, 2006 APWA GSP)

*Supplement*

#### ESALs

The number of ESALs for the design and acceptance of the HMA shall be 0.591 million.

### 9-03.8(7) HMA Tolerances and Adjustments

(May 25, 2006 APWA GSP)

*Modification*

Item 1 is deleted and replaced with: (\*\*\*\*)

1. **Job Mix Formula Tolerances.** After the JMF is determined as required in 5-04.3(7)A, the constituents of the mixture at the time of acceptance shall conform to the following tolerances:

	<b>Nonstatistical Evaluation</b>	<b>Commercial Evaluation</b>
<b>Aggregate, percent passing</b>		
1", 3/4", 1/2", and 3/8" sieves $\pm 6\% \pm 8\%$		
U.S. No. 4 sieve	$\pm 6\%$	$\pm 8\%$
U.S. No. 8 sieve	$\pm 6\%$	$\pm 8\%$
U.S. No. 200 sieve	$\pm 2.0\%$	$\pm 3.0\%$
Asphalt Binder	$\pm 0.5\%$	$\pm 0.7\%$

These tolerance limits constitute the allowable limits as described in Section 1-06.2. The tolerance limit for aggregate shall not exceed the limits of the control points section, except the tolerance limits for sieves designated as 100% passing will be 99-100. The tolerance limits on sieves shall only apply to sieves with control points.

## 9-14 EROSION CONTROL AND ROADSIDE PLANTING

The materials for roadside planting shall meet the requirements of Section 9-14 of the Standard Specifications supplemented as follows. Irrigation water shall conform to the provisions of Section 9-25.2.

**9-14.1(1) Topsoil, Type A**

*(Special Provision)*

*Supplement*

This section is supplemented with the following:

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

Topsoil A shall consist of 2/3 sandy loam and 1/3 Compost.

1. Sandy loam or loamy sand shall consist largely of sand, but with enough silt and clay present to give it a small amount of stability. Individual sand grains can be seen and felt readily. On squeezing in the hand when dry, it shall form a cast that will not only hold its shape when the pressure is released but shall withstand careful handling without breaking.
2. Compost per section 9.14.4(8).
3. The mixed soil shall meet the following gradation:

<u>Screen Size</u>	<u>Percent Passing</u>
3/8 inch	100
#4	95
#10	85
#30	70
#60	50
#100	30
#270	15

4. Shall have a pH from 5.5 to 7.5 with dolomitic limestone added as necessary to attain this range.

**9-14.2 Seed**

*(Special Provision)*

*Supplement*

Section 9-14.2 shall be supplemented with the following:

The dealer shall mix the grass seed for hydroseeding. The Contractor shall furnish to the Engineer the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety. Hydroseeded lawn shall be composed of the following varieties mixed in the properties indicated.

**Roadside Restoration Seed Mix:**

<u>Seed Mix Shall Be One of the Following:</u>	<u>Source</u>
<b>Native E/C Mix</b> (40% Meadow Barley, 35% California Brome, 20% Native Red Fescue, 3% Tufted Hairgrass, 2% Spike Bentgrass)	Sunmark Seeds International. 18032 NE Airport Way, Portland, OR 97230. 503-241-7333. Sunmarkseeds.co
<b>PT 460 Native Upland Mix for Shade</b> (Blue Wildrye, California Brome, California Oatgrass, Roemer’s Fescue, Prairie Junegrass)	Pro Time Lawn Seed. 1712 SE Ankeny St, Portland, OR 97214. 203-239-7518. Protimelawnseed.com
<b>Or Approved Equal</b>	

All species used in Roadside Restoration Seed Mix shall be native to western Washington.

**Fine Lawn Seed Mix:**

<u>Kind and Variety of Seed in Mixtures</u>	<u>% by Weight</u>	<u>% Pure Seed</u>	<u>Minimum % Germination</u>
Turf-Type Perennial Rye – 3 approved varieties (Lolium Perenne)	100	99	90

Contractor to coordinate with Cedar Downs Homeowner’s Association for selection of seed varieties for Fine Lawn Seed Mix that will provide sufficient match to existing lawn.

Seed shall be applied per manufacturer’s recommendations, at a minimum rate of 40 pounds per acre on areas requiring seeding, fertilizing and mulching.

All seed shall be Pure Live Seed. Inert and other crop material shall not exceed 5%, noxious weeds not to exceed 0%.

**9-14.3 Fertilizer**

*(Special Provision)*

*Supplement*

Fertilizer with an organic, 7-4-9 or 7-5-7 fertilizer 8-2-4. All fertilizers shall be furnished in standard unopened containers with weight, name of plant nutrients and manufacturer's guaranteed statement of analysis clearly marked, in accordance with State and Federal law. Apply per Manufacturer’s recommendations.

**9-14.4(9) Bark or Wood Chip Mulch**

*(Special Provision)*

*Supplement*

This section is supplemented with the following:

Wood Chip Mulch shall be coarse ground wood chips (approximately ½” to 4” along the longest dimension) derived from the mechanical grinding or shredding of the above-ground portion of trees. It may include wood, wood fiber, bark branches, and leaves, but may not include lumber, construction debris, or visible amounts of soil. It shall be free of weeds and

weed seeds including but not limited to plants on the King County Noxious Weed list and shall be free of invasive plant portions capable of resprouting, including but not limited to horsetail, ivy, clematis, knotweed, etc. It may not contain trash or other inert material (plastic, concrete, ceramics etc.).

## **9-14.6 Plant Materials**

### **9-14.6(1) Description**

*(Special Provision)*

*Supplement*

The Contractor shall provide total number of plants as indicated on Plans. If this total differs from number shown on plant lists, notify the Project Engineer before bid date. Plan takes precedence over plant lists for total plant quantities.

### **9-14.6(2) Quality**

*(Special Provision)*

*Supplement*

Plant material shall be free from disfiguring knots, swollen grafts, sunscale injuries, bark abrasions, evidence of improper pruning or other objectionable disfigurement.

Potted and container stock shall be well rooted and vigorous enough to ensure survival and healthy growth. Shrubs shall have full foliage (not leggy). Container stock shall be grown in its delivery container for not less than six (6) months, but not for more than two (2) years. Root bound or broken containers will not be accepted. Bare root, liner and root stock with dried or shriveled roots from exposure will not be accepted.

Trees will be provided with untapped, straight, single leaders, except for multiple stem (clump) trees. Trees shall have full crowns and balanced branching.

### **9-14.6(3) Handling and Shipping**

*(Special Provision)*

*Supplement*

All plant material shall be transported to planting locations with care to prevent damage. Tie back branches as necessary and protect bark from chafing with burlap bags. Do not drag plant materials along ground without proper protection of roots and branches. Protect rootballs from environmental or mechanical damage and water as necessary to keep roots moist. Do not store plants for more than one week.

Within 14 days after award of this contract, the Contractor shall submit to the Engineer written documentation that all specified plant material has been located:

1. List suppliers' names, addresses and phone numbers
2. List respective growing or storage locations

Plant delivery is to be scheduled as close to plant installation as possible to avoid extended storage of materials on site.

#### **9-14.6(4) Tagging**

*(Special Provision)*

*Supplement*

All plant material except ground cover shall be legibly tagged. Tagging may be by specie or variety with minimum of one tag per ten trees, shrubs, or vines. Remove all tagging prior to final acceptance.

#### **9-14.6(5) Inspection**

*(Special Provision)*

*Supplement*

The Project Engineer shall reserve the option of selecting and inspecting plant material at the nursery. The contractor shall provide the Engineer with at least one week notice prior to preparing plants for shipping and delivery. The Contractor shall neither deliver to site nor install plant materials until authorized by the Project Engineer.

Plants trimmed from larger sizes to meet the specified sizes will not be accepted. Plants shall not have any cuts in excess of 0.75-inch in diameter that have not completely healed over. Leaders shall be intact on all plants. Trees shall not be pruned before delivery. Any plant that, in the opinion of the Engineer, does not comply with these general conditions will be rejected.

The review and approval of all plant material by the Engineer prior to planting is required. The Contractor is to immediately remove rejected plants from the site.

#### **9-14.6(6) Substitution of Plants**

*(Special Provision)*

*Supplement*

No substitution of plant species, varieties, sizes or shapes will be allowed without written authorization by the Project Engineer.

Contractor shall provide the Project Engineer with at least (3) nursery sources, including phone numbers, showing material is unavailable before requesting a substitute for specified plant material.

#### **9-14.6(7) Temporary Storage**

*(Special Provision)*

*Supplement*

Cold storage of plants will not be permitted.

If planting is delayed more than 24 hours after delivery, set balled and burlapped plants on the ground, well protected with soil or wet peat. Adequately cover all roots of bare root material with soil or wet peat. Protect rootballs from freezing, sun, drying winds or mechanical damage. Water material as necessary until planted.

Plants shall not be stored for more than one week. Longer storage period at project site will result in rejection of plant materials by the Project Engineer.

### **9-14.7 Stakes, Guys, and Wrapping**

*(Special Provision)*

*Supplement*

Staking and guying materials shall be as indicated on Plans and as approved by the Project Engineer.

### **9-14.8 Watering Bag**

*(Special Provision)*

*Supplement*

Tree Bag: Minimum two 20-gallon watering bags per tree.

## **9-15 IRRIGATION SYSTEM**

### **9-15.1 Pipe, Tubing and Fittings**

*(Special Provision)*

*Supplement*

All pipe and tubing shall be PVC or approved equal. All fittings shall be Sch 80 PVC. All sleeving shall be Sch 40 PVC.

#### **9-15.1(2) Polyvinyl Chloride Pipe and Fittings**

*(Special Provision)*

*Supplement*

PVC pipe shall be Schedule 40 PVC pipe for the main, laterals and sleeves.

### **9-15.5 Valve Boxes and Protective Sleeves**

*(Special Provision)*

*Supplement*

Valve boxes for automatic control valve with extensions as necessary and bypass assemblies shall be Series 1419E by Carson, Model 141 9E-1 2B or approved equal.

Valve boxes for quick coupler shall be Series 610 by Carson or approved equal.

### **9-15.17 Electrical Wire and Splices**

*(Special Provision)*

*Supplement*

Electrical Wire shall be #14 UF wire. Utilize 3M DBY splice kits.

## 9-16 FENCE AND GUARDRAIL

### 9-16.8 Weathering Steel Beam Guardrail

*(Special Provision)*

*Modification*

Steel for rail elements and terminal sections shall conform to ASTM A 606 or ASTM A 607. Bolts, nuts, and washers for installation of weathering steel shall meet the requirements of Section 9-16.3(4), and be galvanized in accordance with Section 9-16.3(3). If required, 6-inch channels and fittings shall conform to ASTM A 242. In addition, all steel for the guardrail components shall conform to one of the following chemical compositions, percent (ladle):

	<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Si</b>	<b>Cu</b>	<b>Cr</b>	<b>Ni</b>	<b>Zr</b>
	0.12	0.20	0.07	0.05	0.25	0.25	0.30	0.65	
<b>No. 1</b>	<b>Max.</b>	<b>to</b>	<b>to</b>	<b>Max.</b>	<b>to</b>	<b>to</b>	<b>to</b>	<b>Max.</b>	
		0.50	0.15		0.75	0.55	1.25		
	0.12	0.50	0.12	0.05	0.20	0.50	0.40	1.00	1.00
<b>No. 2</b>	<b>Max.</b>	<b>to</b>	<b>Max.</b>	<b>Max.</b>	<b>to</b>	<b>Max.</b>	<b>to</b>	<b>Max.</b>	<b>Max.</b>
		1.00			0.90		1.00		

Blast cleaning or pickling to remove mill scale will not be required. All fabricated steel parts shall be handled with care to avoid gouges, scratches, and dents. The steel shall be kept clean of all foreign material, such as point, grease, oil, chalk marks, crayon marks, concrete spatter, or other deleterious substances. Natural oxidation of the steel will not be considered foreign material. Storage in transit, in open cars and trucks, for an extended period will not be permitted. Steel parts stored outside in yards or at job sites shall be positioned to allow free drainage and air circulation.

## 9-29 ILLUMINATION, SIGNALS, ELECTRICAL

### 9-29.1(2) Rigid Metal Conduit Fittings and Appurtenances

*(Special Provisions)*

*Supplement*

Unistrut type channel supports and fastening hardware components shall be stainless steel. Conduit clamps shall be hot-dip, galvanized steel or stainless steel, and shall be one piece, two bolt units with lock washers. The clamps shall be attached to the unistrut type channel supports on both sides of the conduit with bolts and associated hardware. The minimum distance between adjacent clamps and between the clamp and the end of the unistrut type channel supports shall be one inch. Unistrut type channel supports shall be installed with stops, which prevent clamps from sliding out of the ends.

### 9-29.1(2)A Expansion Fittings, Deflection Fittings, and Combination Expansion/Deflection Fittings

*(Special Provisions)*

*Supplement*

Expansion fittings, deflection fittings, and expansion/deflection fittings embedded in concrete shall be PVC coated.

### **9-29.2(1) Standard Duty and Heavy-Duty Junction Boxes**

*(Special Provisions)*

*Supplement*

All new illumination system junction boxes shall comply with NESC requirements and shall be Quazite type by Hubbell Power Systems Inc. (or approved equal) with Penta head latching bolts. Manufacturer's technical information shall be submitted to and approved by an Engineer and Intolight/PSE representative before material will be allowed on the job site.

Packaging: Box and cover with Penta bolts shall be delivered as an assembled handhole unit. Handholes shall be palletized for handling by forklift. Pallet shall not fracture during shipping or handling. Each container shall be marked with manufacturer's name or symbol, catalog number, name of item, and PSE's purchase order number and material ID (MID). A packing slip shall be included with each shipment.

Junction box connector shall be mechanical, single set screw type, 600 volt with insulated rubberized bar and four conductor holes. Set screws shall be designed for 5/16" Allen wrench. Conductor size range shall be #10 AWG to 350 kcmil. Conductor holes shall be supplied with inhibitor. Conductor sealing sleeves and set screw sealing covers shall be assembled with connector.

All junction boxes installed in the sidewalks shall have non-skid lids. The non-skid surface shall be made of slip resistant steel plate and be 5/16 inch in thickness. Approved plates are MEBAC 1 (their most aggressive surface) as manufactured by IKG Industries, or approved equal.

All signal-related junction boxes shall conform to WSDOT Standard Plan Nos. J-40.10 (Locking Lid Standard Junction Box Types 1 & 2), and J-40.30 (Locking Standard Duty Junction Box Type 8). All junction boxes shall have galvanized frames and lids, with bonding screws. Grounding lugs shall be stainless steel and shall be mechanically and electrically bonded.

### **9-29.2(4) Cover Markings**

*(Special Provisions)*

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

Junction boxes installed for future use, which are not yet part of an illumination, signal or interconnect system shall not be labeled.

### **9-29.3 Conductors, Cable**

*(Special Provisions)*

*Supplement*

All illumination conductors shall be USE rated.

## **9-29.21 Rectangular Rapid Flash Beacon (RRFB) System**

*(Special Provisions)*

*Supplement*

Section 9-29.21 is supplemented with the following:

Rectangular Rapid Flashing Beacon (RRFB) system shall consist of RRFB LED light bars, controller cabinet, controller panel, push button assemblies, and associated warning signs, all mounted on poles (configuration per the Plans). RRFB System shall be Carmanah Technologies Corp. RRFB system or City of Maple Valley approved equal.

### **Controller Cabinet**

The cabinet shall be manufactured of 0.125-inch sheet aluminum and shall be a Type 3X NEMA enclosure. Nominal cabinet dimensions shall be 13.63" H x 15.5" W x 14.75" D. The cabinet shall be a one (1) compartment type with a neoprene gasket seal for a weather seal. The cabinet shall have wire screened insect-proof louvers on each side for ventilation. The louvers shall be designed to not allow any rain to enter the cabinet. On the bottom of the cabinet there shall be two screened insect-proof drain holes. The door shall be a single unit with a continuous piano hinge riveted to the door and the cabinet. The door shall incorporate a neoprene gasket which, when closed, forms a snug weather-tight seal. The door lock shall be a standard police lock, reinforced with a steel plate. Each cabinet shall be equipped with the necessary rigid mounts appropriately sized for the pole as dimensioned on the plans. All necessary hardware for the proper mounting shall be included.

### **Control Panel**

The control panel containing the electronics (circuit breaker, surge arrestor, flasher, countdown timer, and a 120 VAC to 12 VDC power supply) shall be mounted in the cabinet using bolts with wing nuts for quick and easy removal. The back panel and flashing beacons shall be connected through a main wiring harness via a circular pin connector (CPC). All modular components shall be connected in such a manner that they are easily removed for replacement or maintenance. Two control panels will be supplied, one in the upper compartment and one in the lower compartment. Each control panel will control the flashing beacons for one set of lanes.

The circuit breaker must be a one pole, 20A, 120 VAC with reversible line or load lugs for line or surface mounting wiring. The flasher shall be solid state, two circuit device which controls the flashing sequence of the beacon. The flasher will have a selectable flash rate of 35 to 70 flashes per minute and will flash a duty cycle of 50 percent on and 50 percent off. The flasher shall be a separate unit easily removable for maintenance. The flasher will be capable of operating in a temperature range of -40 degrees C and +85 degrees C. The surge arrestor will be capable of protecting up to 120 VAC, 60A service, will have no follow current, respond in 5 nanoseconds, and will allow automatic recovery. It must be flame retardant epoxy encapsulated. The peak surge current will be 13kA/mode/phase total. The surge arrestor will be approximately 0.5" H x 1.5" W x 2.0" L. It will operate from -40 degrees C to +85 degrees C. The system shall employ a countdown timer that allows the end user to adjust the length of time that the RRFBs flash upon activation. The range of time shall be adjustable from 1 second

to a maximum of 1 minute in 1 second intervals. The timer shall operate such that any time the pedestrian pushes the button the timer resets to its preset time to allow the pedestrian the full amount of time to cross the street.

The countdown timer will operate from -20 degrees C to +60 degrees C.

## **RRFB LED Light Bar**

The RRFB shall comply with the latest FHWA guidelines, and the housing shall have a brushed aluminum finish and shall have rectangular shape, high intensity LED alternating patterns flashing beacons with number of LEDs and configuration per the Plans. All RRFB light bars shall be manufactured by Carmanah Technologies Corp. or approved equal. Mounting shall be per manufacturer's recommendation- coordinate work with the Engineer in the field. The RRFBs will wig wag with a flash pattern of two rapid flashes on one beacon and then four short rapid flashes and one longer rapid flash on the other beacon as specified in the latest interpretation letter from FHWA dated June 13, 2012. The beacons shall flash at a rate between 70 and 80 flashes per minute. The LED light on the end facing the pedestrian crosswalk shall be a Whelen Class 1 light.

The LEDs used in the light bar shall meet the SAE J595 requirement for peak luminous (candelas) for Class 1. The vendor shall submit third-party lab certification that the LEDs have been tested and certified for Class 1 intensity. The RRFB light bar will be assembled and wired as a unit, and shall include two flasher timers: one for pedestrian push button and one for future detection. It will consist of a mounting bracket, a bottom shell that attaches to the mounting bracket, and a top shell that attaches to the bottom shell. It shall be mounted on the pole with Ubolts.

The system shall be supplied with Advisor Guide Accessible Pedestrian Station from Campbell Company or City of Maple Valley approved equal.

## **9-29.24 Service Cabinets**

*(Special Provisions)*

*Supplement*

Section 9-29.24 is supplemented with the following:

(December 18, 2009 \*\*\*\*\*)

The service cabinet shall be aluminum, and shall conform to WSDOT standard plan J-10.10-03. The unit shall be modified as necessary to meet all current requirements of the Department of Labor and Industries and Puget Sound Energy. The service cabinet shall be equipped with a lockable stainless steel handle and a three-point locking system. The service cabinet shall contain one (1) ground fault receptacle. Main breaker, branch breakers, and contactors shall be rated per the Breaker Schedule on the Plans.

The service cabinet shall be equipped with a door-in-door, dead-front assembly, which shall prevent the exposure of circuit breakers and wiring. Wiring shall be arranged so that any piece of apparatus may be removed without disconnecting any wiring, except the lead to that piece

of apparatus. All wiring shall be appropriately marked with a permanent, indelibly marked, clip-sleeve wire marker. All wiring shall conform to NEMA Class II C.

The service cabinet shall be aluminum, and shall be a Skyline Electric Series 47700 or approved equal with Underwriters Laboratory label on the panel boards.

A copy of the wiring diagram shall be provided in a plastic holder mounted conveniently inside the service cabinet. Nameplates shall be provided for each control component and shall be embossed phenolic with white letters on black background. Nameplates shall be screw-fastened.

## **9-30 WATER DISTRIBUTION MATERIALS**

### **9-30.1 Pipe**

*Supplement*

Supplement this section with:

The pipe manufacturer shall test all pipe and fittings as required by these Specifications and the standards referenced. The pipe manufacturer shall submit to the Engineer two copies of all test results, including a certification that material to be delivered is represented by the samples tested and that such delivered materials meet or exceed the specified requirements. No pipe shall be delivered until test results and certifications are received by the Engineer.

The Engineer shall have free access to all testing and records pertaining to material to be delivered to the job site. The Engineer may elect to be present at any or all material testing operations.

### **9-30.1(1) Ductile Iron Pipe**

*Replacement*

Replace this section with:

Ductile iron pipe shall be cement-lined unless otherwise specified and shall conform to AWWA C151 standards. Ductile iron pipe shall be thickness class 52 or greater. Standard thickness of cement-mortar lining shall be in accordance with AWWA C104 standards. Greater thickness or pressure class may be required where the pipe will be exposed to high external loads, depth of bury outside of District Standards or as directed by the District Engineer. Special design submittal will be required in such circumstances. Ductile iron pipe shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

Restrained Joint ductile iron pipe 12-inch diameter and larger, shall have a positive metal-to-metal contact locking system that is cast integrally into the bell of the pipe, and does not rely on the use of gripping teeth or lugs. Restrained Joint pipe shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

Push-on joint gaskets are not interchangeable between brands and shall be of the same manufacturer as the pipe provided. The Contractor shall assure the use of correct gaskets.

## **9-30.2 Fittings**

### **9-30.2(1) Ductile Iron Pipe Fittings**

*Replacement*

Replace this section with:

Fittings for all water pipe shall be furnished with either mechanical joints, rubber gasket push-on type joints, or restrained joints where called out on the plans. For pipe diameters 16-inch and less, the fittings shall be ductile iron short body (compact) conforming to AWWA C153, and C111 and shall be cement-mortar lined conforming to AWWA C104. For pipe diameters larger than 16-inches, the fittings shall be full-body ductile iron conforming to AWWA C111 and shall be cement-mortar lined conforming to AWWA C104. At the Contractor's option, full-body ductile iron fittings may be used for diameters 24-inch and smaller. Ductile iron fittings shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

Gaskets shall be rubber, either ring or full face and 1/8" thick unless otherwise specified. Gaskets shall fully comply with AWWA C111/A21.11-00.

Restraining devices provided shall be intended for the pipe material on which they are installed (D.I. or PVC)

### **9-30.2(6) Restrained Joints**

*Replacement*

Replace this section with:

Restrained joints shall be either bolted or boltless design and flexible after assembly. Any device utilizing set screws is not permitted. Restrained joint devices shall not be used on plain end fittings. Use of shackle rods on ductile iron bell-and-spigot pipe is not permitted. Thrust blocks shall be provided in addition to the joint restraint system unless otherwise approved by the District. Restrained joint waterlines greater than 16-inches are specialty design which may require additional considerations not addressed in this specification.

Boltless designs shall utilize gripping gaskets suitable for a 350 psi working pressure. Gripping gaskets shall be rubber gaskets with stainless steel teeth for wedging action on bell-and-spigot DI pipe, 16-inch diameter and smaller. Gasket material and dimensions shall conform to AWWA C111. Gaskets shall only be used on compatible pipe as recommended by the manufacturer.

Bolted joint restraint systems shall utilize multiple gripping wedges incorporated into a ductile iron retainer gland. The gland body and wedges shall be cast from grade 65-45-12 ductile iron in conformance with ASTM A536. Glands for mechanical joints shall be compatible with all mechanical joints conforming to AWWA C111. Split designs are only allowed on mid-pipe installations for embedment into concrete for thrust restraint. The working pressure of the joint restraint system when used on ductile iron pipe shall be a minimum of 350 psi for pipe diameters of 16-inches or less. Wedge-action joint restraint systems used on PVC pipe shall have a working pressure rating equal to the pipe rating with a minimum safety factor of two.

Bolted restraint for C900 and C905 PVC bell-and-spigot pipe joints shall utilize a full-circle bell restraint harness with stainless steel clamping hardware. Harnesses shall be split design, provide full 360-degree contact and support of pipe and incorporate serrations on the inner face to provide full restraint. Restraint harnesses shall be epoxy coated grade 65-45-12 ductile iron. Use of a back-up ring against the pipe bell is prohibited. Threaded thrust rods and nuts used to connect the harnesses over the bell shall be constructed of high strength low alloy steel in accordance with AWWA C111. After assembly, thrust restraint hardware shall be field coated with an epoxy designed for underground conditions. Bell-and-spigot restraint systems used on PVC pipe shall have a working pressure rating equal to the pipe rating with a minimum safety factor of two. Wedge-action retainers designed for PVC pipe meeting the requirements herein may be utilized in lieu of serrated harnesses.

Joint Restrain Systems shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

### **9-30.3 Valves**

#### **9-30.3(1) Gate Valves (3 Inches to 16 Inches)**

*Replacement*

Replace this section with:

Gate valves shall be resilient wedge gate valves manufactured in conformance with AWWA C509 or C515. Valve body and bonnet shall be epoxy coated. The seating mechanism shall be a one-piece wedge design. The single Ductile Iron wedge shall be encapsulated with a bonded-in-place Nitrile elastomeric covering. Minimum thickness of the rubber seating area shall be 1/4 inch. The wedge shall be symmetrical and be capable of sealing with flow in either direction with equal torque. The valve shall be designed so that no exposed metal seams, edges, or screws are within the waterway when the valve is in the closed position. The waterway shall be smooth, with no bottom recesses. All gate valves shall be furnished with 2-inch operating nuts and open by turning counter-clockwise. Stem seals shall be O-ring type. Gate valves shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

#### **9-30.3(4) Valve Boxes**

*Replacement*

Replace this section with:

Valve Boxes shall be installed on all buried valves. The box and lid shall be cast iron, 2-piece slip type. The cover shall have the word "WATER" cast in the upper surface. Valve box lids shall be deep style. Valve box paving risers shall be cast iron suitable for H-20 traffic loading. All castings shall be coated with asphaltic varnish.

A valve operating nut extension shall be furnished and installed on all valves where the finished grade is more than 36 inches above the valve operating nut. Extensions are to be a minimum of 12" with only one extension per valve. The operating nut extension shall extend into the top section of the valve box. Valve boxes shall be manufactured by an approved manufacturer as indicated in

the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

### **9-30.3(5) Valve Marker Post**

*Supplement*

Supplement this section with the following:

Valve markers posts shall be Rhino Marking and Protective Systems TriView Post, model number TVF36BB.

### **9-30.3(8) Tapping Sleeve and Valve Assembly**

*Supplement*

Supplement this section with:

No size-on-size taps on ductile or cast-iron pipe shall be allowed. Tapping Sleeve and Valve Assemblies shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

### **9-30.5 Hydrants**

*Replacement*

Remove and replace with:

Fire Hydrants shall be 5-1/4 MVO, meet or exceed the requirements of AWWA C502 and the “Rules and Regulations Relating to Fire Hydrants and Water Mains” issued by King County Department of Planning and Community Development, as well as the following:

1. Hydrant shall have a standard 4 ½-inch NST pumper port and two 2 ½-inch NST side ports, all opening by turning counter-clockwise with 1 ½-inch operating nut;
2. Hydrant shall be painted with two coats of paint as specified in Section 7-14.3(1) Setting Hydrants
3. 4-inch Storz adaptor is required with Fire District #43 (Maple Valley Fire and Life Safety); #37 (Covington) and #44 (Black Diamond Fire Department) as specified by the appropriate fire marshal.

Hydrant Locking Mechanisms will be applied to all new hydrants installed in the District or used during a project. Locks are specific to the District and to the particular hydrant. The District will obtain and install the locks at the Contractor’s cost. Fire hydrants shall be the “Traffic Model” type with approved breakaway features. Every effort will be made to avoid angle fittings in the hydrant branch. Hydrants shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

### **9-30.6 Water Service Connections**

#### **9-30.6(1) Saddles**

*Replacement*

Replace this section with:

Saddles shall have stainless steel double straps. Saddles shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

**9-30.6(2) Corporation Stops**

*Replacement*

Replace this section with:

Corporation stops for use with the saddle shall be of bronze in accordance with AWWA Standard C800 with AWWA tapered thread (CTS) inlet by compression fitting for 1” copper outlet, complete with compression nuts for copper service. Corporation stops shall be the ball valve type.

Corporation Stops shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

**9-30.6(3)B Polyethylene Tubing**

*Replacement*

Replace this section with:

Polyethylene tubing shall meet the requirements of AWWAC901. Tubing shall be high molecular mass with a 200-psi rating or greater. Tubing shall be SDR 9 (copper tube size). Polyethylene Tubing shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

**9-30.6(5) Meter Setters**

*Supplement*

Supplement this section with:

Meter Setters shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

**9-30.6(7) Meter Boxes**

*Supplement*

Supplement this section with:

Meter Boxes shall be manufactured by an approved manufacturer as indicated in the most recent version of the Covington Water District Standards and Specifications Approved Materials List; Appendix C.

**END OF DIVISION 9**