

EAST FORK LEWIS RIVER RECONNECTION PROJECT

Amendments to the Standard Specifications and Special Provisions

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INTRODUCTION

The following Amendments to the Division 1, Division 2, Division 5, Division 6, and Division 8 Standard Specifications are made a part of this contract and supersede any conflicting provisions of the 2024 Standard Specifications for Road, Bridge and Municipal Construction, and the foregoing Amendments to the Standard Specifications, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project. The following Amendments and Special Provisions shall be used in conjunction with the applicable provisions of Washington Department of Transportation Standard Specifications for Road, Bridge and Municipal Construction 2024 M 41-10, or as amended hereafter.

The "Contracting Agency" or "Owner" shall be the Lower Columbia Estuary Partnership (LCEP). The "Engineer" shall be the consultant's engineer of record. The "Right-of-Way" shall be the Project Limits.

Sections 1-02, 1-03, 1-08 (except 1-08.6 Suspension of Work, 1-08.7 Maintenance During Suspension, 1-08.8 Extension of Time, and 1.08.9 Liquidated Damages), and 1-10 of the Standard Specifications do not apply, except where noted herein. The Standard Specifications may include additional content and references that are not relevant and do not apply to this project. Final determination of content and reference applicability shall be made by the Owner. Terms and Conditions of the Construction Services Agreement shall take precedence over the Standard Specifications, Amendments to the Standard Specifications, Special Provisions, and the Contract Plans unless otherwise indicated in writing by the Owner.

DIVISION 1 GENERAL REQUIREMENTS**1-01 DEFINITIONS AND TERMS****1-01.3 Definitions**

All references in the Standard Specifications to the terms “State”, “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to have equal meaning for “Owner and Engineer”. All references to “State Materials Laboratory” shall be revised to read “Owner designated location”.

1-05 CONTROL OF WORK**1-05.4 Conformity with and Deviations from Plans and Stakes**

Add the following new subsections:

1-05.4(1) Contractor Surveying and Tolerances

The Owner will establish primary control at the project site for use by the Contractor. All other survey necessary to establish sufficient secondary control and complete construction stakeout and to accommodate the Work shown on the Plans shall be the responsibility of the Contractor. The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the project. All calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility. Electronic copies of alignments, surfaces, design linework, and/or points will be made available upon request by the Contractor to supplement the stakeout points provided in the Plans.

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

1. Utilizing Owner provided primary control to establish secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of all control to the Owner. The description shall include coordinates and elevations of all control points.
2. Establish the centerline and/or other relevant breaklines for all proposed channel and floodplain benches.

3. For all other types of construction included in the Plans, provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

Primary construction stakes and survey markers will be conspicuously marked with flagging tape or paint if desired by the Contractor. In the event the Contractor's operations destroy any of the primary control points, the Contractor shall replace such control points at their expense, subject to verification by the Design Engineer. All verification costs shall be borne by the Contractor. The cost of any such verification or replacement of control survey points will be deducted from any monies due to the Contractor. The Contractor will not be allowed any adjustment in working days for such verification or replacement of survey control points.

The Contractor shall inform all Subcontractors of the importance of the preservation of all survey markers. The Contractor shall be responsible for protecting and maintaining all stakes from destruction. In the event that one or more of the stakes are damaged or destroyed by one or more subcontractors, the Contractor shall replace the stakes at no cost to the Owner.

Contractor shall ensure a surveying accuracy of within the following grading tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
Box culvert inverts	±0.02 ft	±0.10 ft
Asphalt surfaces	±0.02 ft	±0.10 ft
Gravel surfaces	±0.05 ft	±0.25 ft
Channel and floodplain grading	±0.10 ft	±0.25 ft
Large wood pools	±0.25 ft	±0.50 ft

The Engineer and/or Owner may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

The Contractor shall provide the Owner copies of any calculations and staking data when requested.

1-05.4(2) Measurement

“Construction Surveying” will be measured by lump sum, including the above amendments to the item.

1-05.4(3) Payment

Payment will be made in accordance with Section 1-04.8 and Section 1-09.9 for the following bid items: “Construction Surveying” per lump sum.

1-05.6 Inspection of Work and Materials

Supplement this Section with the following:

The Contractor shall accommodate periodic verification of accuracy of local positioning systems and global positioning systems used by the Contractor to layout and check the locations and elevation of the work.

The Contractor shall accommodate inspection of grading by the Owner’s Representative. The first inspection shall occur when each area has been rough graded to elevations shown on the Plans. The second inspection shall occur when the grading is complete but before grading equipment has been removed from the work area. The Contractor shall notify the Owner’s Representative once the rough grading and final grading has been completed for each project area. Time required to conduct inspections shall not warrant a time extension. Inspections by the Owner’s Representative shall not relieve the Contractor from the responsibility of checking grades and slopes as the work progresses and conformance with the grades and slopes shown on the Plans.

1-05.8 Vacant

Section 1-05.8 is deleted and replaced with the following:

1-05.8 Required Submittals and Approvals

The Contractor shall prepare and submit the following submittals according to the requirements for each submittal. The Owner’s approval shall be required prior to commencing work related to each submittal.

Submittal

1-07.15 Spill Prevention, Control, and Countermeasure (SPCC) Plan

- 1-08.3 Type B Project Schedule
- 1-10 Traffic Control Plan (if deemed necessary)
- 2-01.3 Site Access Plan
- 2.05.3 Construction Sequencing Plan
- 8-01.3(1)A Construction General Stormwater Permit
- 8-01.3(1)A Temporary Erosion and Sediment Control (TESC)/SWPP Plan
- 8-19.3 Temporary Bridge Plan
- 8-26.3(1) Large Wood Management Plan
- 8-31.2 Work Area Isolation and Dewatering Plan

Product data/Samples/Certificates:

- Crushed Rock Materials
- Asphalt and Paving Materials
- Seed
- Fertilizers
- Mulches
- Tackifiers
- Box Culvert

Approval Name	Spec Section	Notice Period
Clearing Limits	2-01.3(1)	3 days
Grading Inspections by Engineer	1-05.6	3 days
Large Wood Structure Oversight	8-32.4(2)	2 days
Request for Fish and Aquatic Species Exclusion	8-31.3(6)	5 days

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.16(1)C Private Property

Supplement this Section with the following:

The Contractor shall utilize steel plates, composite matting, or other similar protective measures to prevent damage to the existing Daybreak Park trail system and the existing underground pipe between the irrigation pump and pump house along the unimproved access road near the Dyer Creek outlet channel. The Contractor shall be responsible for repairing any trail or pipe damage at no additional cost to the Owner.

1-07.16(2) Vegetation Protection and Restoration

Supplement this Section with the following:

The overall intent of this Project is ecological restoration. It is understood that the Project site includes forested areas which shall be impacted as a result of the planned construction. In order to minimize the disturbance to the forested community, the Contractor shall identify the vegetation preservation line which shall be the Limit of Disturbance. The Contractor shall mark this boundary by installing four (4) foot tall wood lath stakes and with high-visibility orange flagging tied at the top. These stakes shall be installed at a distance of no greater than 25 ft apart and at a closer spacing where required to follow turns in the alignment. The Owner's Representative shall inspect and approve the Limit of Disturbance prior to the initiation of any site work.

The Owner has performed a detailed tree survey within the project Limits of Disturbance. This tree survey has identified over 2,300 trees greater than six (6) inches diameter at breast height (DBH) that may be subject to removal or disturbance within the Limit of Disturbance. This tree survey has additionally identified over 180 individual "preserve" trees greater than 24" DBH located within or adjacent to the Limit of Disturbance. These "preserve" trees have been individually identified with numbered aluminum tags. To the extent possible, the Engineer has designed the site grading to avoid these "preserve" trees. Where conflicts are found between the Limit of Disturbance and the "preserve" trees, the Owner, Contractor and Engineer shall work in concert to modify/adjust the Limit of Disturbance to avoid damage to, or the removal of, the "preserve" trees. This may include adjusting the Limit of Disturbance to avoid the dripline of the "preserve" trees.

The Owner may also identify additional individual stands of trees that are not identified as "preserve" trees that may be deemed to be worthy of avoiding entirely or minimizing disturbance to root zones.

The Contractor shall provide the Owner's Representative at least three (3) days' notice to perform the boundary inspection and request any adjustments.

Vegetation protection and restoration shall be incidental to Clearing and Grubbing.

1-07.16(2)A Wetland and Sensitive Area Protection

Supplement this Section with the following:

The Project site includes wetlands and sensitive vegetation communities. Wetlands have been field delineated and locations are depicted on site design plans. The Project has been designed to avoid wetlands; however, in some cases the wetlands may be enhanced through minor grading, designed to improve hydrology. As described above, under Item 1-07.16(2), the Contractor shall identify the vegetation preservation line which shall be the Limit of Disturbance. The Contractor shall mark this boundary by installing four (4) foot tall wood lath stakes and with high-visibility orange flagging tied at the top. These stakes shall be installed at a distance of no greater than 25 ft apart and at a closer spacing where required to follow turns in the alignment. The Owner's Representative shall inspect and approve the Limit of Disturbance prior to the initiation of any site work. The Owner's Representative may request minor changes in the placement of this Limit of Disturbance.

The Contractor shall provide the Owner's Representative at least three (3) days' notice to perform the boundary inspection and request any adjustments.

Wetland and sensitive area protection shall be incidental to Clearing and Grubbing.

1-07.17(2) Utility Construction, Removal, or Relocation by Others

Supplement this Section with the following:

The Owner will coordinate with Clark Public Utilities to relocate the existing power pole located within the Daybreak Trail Floodplain grading footprint prior to construction.

1-10 TEMPORARY TRAFFIC CONTROL**1-10.1 General**

Supplement this Section with the following:

Temporary traffic control may be required during mobilization, demobilization, and delivery of materials to the project site. The Contractor shall review road conditions and site access to determine if traffic control will be required for any of the Work covered by this Contract and shall acquire necessary permits if needed. The determination of when to use temporary

traffic control and how to accomplish temporary traffic control shall be the responsibility of the Contractor. The Contractor shall bear the responsibility of determining appropriate temporary traffic control measures which allow safe completion of the Work. The Contractor shall be responsible for implementing temporary traffic control as necessary to meet permit requirements and provide safe working and road conditions. Any traffic control measures utilized for this project shall be conducted in such a way that the abutting public roadways always remain open to travel. If traffic on any public roadway will be disrupted due to construction activities, the Contractor shall develop a Traffic Control Plan, and obtain any required authorization from the jurisdictional authority of the road system.

DIVISION 2 EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description

Supplement this Section with the following:

Areas for Clearing include the Grading Extents, Staging Areas, Temporary Access Routes, and select invasive vegetation areas outside Grading Extents as shown on the Plans.

Grubbing shall occur within the Grading Extents and select invasive vegetation areas outside Grading Extents, but Grubbing should be avoided to the extent practical within the Staging Areas and along the Temporary Access Routes unless those areas are coincident with grading areas or invasive vegetation removal limits. Adjustments to Clearing and Grubbing alignments and extents shall be as determined by the Owner to reduce damage to the environment. The final Clearing areas will be flagged in the field by the Contractor and approved by the Owner prior to Clearing and Grubbing work. Clearing and Grubbing shall not occur outside of the designated limits. Temporary site access routes shall be restored to original or better condition in accordance to Section 8-02.3(5)C of these Special Provisions.

Included in this item are the removal and salvage of trees and other woody vegetation. “Salvage of Woody Vegetation” means removal, sorting and stockpiling of select non-invasive trees, brush, and downed timber for re-use primarily as wood incorporated into constructed large wood structures and secondarily scattered on-site as directed by the Owner’s Representative. After trees are salvaged and stockpiled, the Owner’s Representation shall inspect the salvaged wood. The Owner’s Representative reserves the right to reject any tree that is observed with excessive damage that compromises its integrity for its intended use in construction of the large wood structures.

This Work includes protecting from harm all sensitive areas as well as trees, bushes, shrubs, or other objects selected to remain outside of identified clearing areas and earthwork areas.

If fence is removed to facilitate access or construction, the Contractor shall replace or repair fence at no additional cost to the Owner.

2-01.2 Disposal of Usable Material and Debris

2-01.2(1) Disposal Method No. 1 – Open Burning

Revise this Section to read:

Open burning of cleared and grubbed materials shall not be allowed.

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

Supplement this Section with the following:

This disposal method shall only be used for the following types of vegetation:

1. Minimum burial depth of 3 feet for invasive and non-native cleared and grubbed vegetation.
2. Burial of salvaged trees stems that exceed the specified size classes of whole trees to be incorporated into the large wood structures, unless otherwise directed by the Engineer.

2-01.2(3) Disposal Method No. 3 – Chipping

Supplement this Section with the following:

Material shall only be chipped with prior approval of the Owner. Other disposal methods shall take precedence. Plant species listed as noxious weeds by the Washington State Noxious Weed Control Board may not be chipped.

Add the following new Sections:

2-01.2(4) Disposal Method No. 4 – Inclusion in Large Wood Structures

All native vegetation debris meeting the specifications for re-use in the proposed large wood structures shall be salvaged, stockpiled, and incorporated in the structures as slash or whole trees as shown on the Plans and as directed by the Engineer.

2-01.2(5) Disposal Method No. 5 – Floodplain Placement

Salvaged whole trees that are not able to be incorporated into the large wood structures may be wholly or partially disposed of by placing them on the adjacent floodplain at a location and orientation determined by the Owner's Representative or Engineer. When this disposal method is used, trees shall be left intact unless handling and manipulating the whole tree is

not possible. Handle and place whole trees carefully such that damage to the tree and other existing vegetation is minimized.

2-01.3 Construction Requirements

2-01.3(1) Clearing

Supplement this Section with the following:

8. The Contractor shall stake and flag all areas of Clearing and temporary access routes at least 3 business days prior to each phase of construction in accordance with Section 1-07.16(2) of these Special Provisions. Clearly flag or otherwise identify all branches larger than 4 inches in diameter that are proposed to be trimmed to allow for equipment access or material transport. The Contractor shall inform the Owner when the flagging is installed. The Owner will then inspect proposed Clearing areas and flag any trees or native vegetation areas that shall be protected.
9. Tip existing trees greater than 6-inches that have been approved for removal by the Owner. If tipping with rootwad intact is not possible, fell trees to preserve as much of the tree intact as possible. Do not clear vegetation greater than 6-inches in diameter without approval from the Owner's Representative.
10. Neatly cut all limbs or branches approved for removal close to the tree trunk.
11. No loose woody material shall be left in waterways.
12. Stockpile salvaged woody material within designated staging areas for eventual re-use in the proposed large wood structures. Stockpiling methods shall limit damage to the wood vegetation such as breaking of trunks and limbs. Broken limbs smaller than 6-inches diameter shall be added to the slash pile for re-use in large wood structures. Salvaged wood shall not be stored in a location subject to potential inundation by river water prior to installation in large wood structures.
13. Backfill all depressions resulting from clearing operations using fine-grained borrow material.
14. Use selective clearing methods to clear areas where invasive species, noxious weeds, or other unwanted vegetation exist, or where clearing is required to occur near vegetation to be preserved or salvaged. Selective clearing methods consist of lightweight hand or hand-held equipment to prevent damage to roots of existing vegetation, compaction of the soil, or spreading of seed or pollen from invasive species.

2-01.3(3) Vacant

Replace this Section with the following:

2-01.3(3) Submittals

Prior to starting each phase of Work, the Contractor shall prepare and submit a Site Access Plan for Owner's review and approval prior to mobilizing to the project site. The Plan shall include a brief narrative and description of all temporary access routes, waterway crossing locations, staging areas, and methods for decompacting and stabilizing the temporary work areas upon completion of the Work.

2-01.4 Measurement

Supplement this Section with the following:

"Clearing and Grubbing," shall be measured as percent complete relative to the area delineated for clearing and grubbing. Any areas cleared or grubbed beyond limits delineated without the Owner's prior written authorization shall be at no additional cost to the Owner and shall be restored at no additional cost to the Owner.

Salvage of Woody Vegetation shall be considered incidental to the Clearing and Grubbing bid item. Measurement and compensation for the installation of the salvaged woody material is described in Section 8-26 and paid under that item. No separate compensation shall be made for placement of the salvaged woody material.

2-01.5 Payment

Revise this Section to read:

Payment shall be made in accordance with Section 1-04.8 and Section 1-09.9 for the following bid item: "Clearing and Grubbing" per lump sum on a percent complete basis as approved by the Owner. Payment includes the Contractor's preparation and submittal of the Site Access Plan(s).

2-02 REMOVAL OF STRUCTURES OR OBSTRUCTIONS

Supplement this Section with the following:

2-02.1 Description

Supplement this Section with the following:

This work includes the removal of three corrugated metal culverts, an asphalt road, a chain link fence, and asphalt and concrete segments of the pedestrian trail system at Daybreak Park. These removed materials will be considered unsuitable for re-use within the Project and shall be hauled to an off-site disposal site accordance with applicable regulations.

The Work also includes excavating and stockpiling of the gravel pedestrian trail at Daybreak Park for re-use as Select Borrow Material within the Project.

2-02.3 Construction Requirements

Supplement this Section with the following:

All trenches, holes, or pits that result from removal activities described in this Section shall be backfilled to a level matching the existing surrounding grade. The top 6-inches of backfill shall consist of stripped topsoil, and the remaining depth shall consist of a mix of Fine Gravels and Sand and Non-Select borrow material from the project area, as approved by the Owner's Representative. Backfill shall be compacted to a firm condition, confirmed by field inspection by the Owner's Representative. No testing will be required.

2-02.3(2) Removal of Bridges, Box Culverts, or Other Drainage Structures

Supplement this Section with the following:

Corrugated Metal Pipe (CMP) Culverts

The Contractor shall remove and dispose of three existing 24-inch diameter, approximately 50 feet long corrugated metal pipe culverts in the Dyer Creek project area. The culverts are within the proposed excavation footprint for other work shown on the Plans. The base rock, if any, can be left in place if below the proposed grade of the new channel features, or salvaged and re-used as fill material as part of the project.

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

Supplement this Section with the following:

Danger Park Asphalt Road

The Contractor shall decommission the existing asphalt road by removing and disposing of the asphalt surface course and base rock to the limits shown on the Plans. The road is estimated to be 20-foot-wide, which will be verified in the field prior to removal. The thickness of the road section is not known but assumed to be approximately 12-inches. The road materials shall not be considered suitable for re-use within the project area.

Daybreak Asphalt Trail

The Contractor shall remove and dispose of the existing asphalt trail and base rock to the limits shown on the Plans. The 10-foot-wide trail section is assumed to consist of 3 inches HMA over 4 inches of crushed surfacing base course. The crushed surfacing base course is assumed to have a width of 12 feet. The asphalt trail materials, including the base course, shall not be considered suitable for re-use within the project area.

Daybreak Gravel Trail

The Contractor shall remove and salvage the existing gravel trail and base rock to the limits shown on the Plans. The 6-foot-wide trail section is assumed to consist of 2 inches of 1/4-inch minus crushed rock over 4 inches of 5/8-inch minus crushed rock. The top 2 inches are assumed to be above the surrounding grade. The gravel trail material shall be hauled and stockpiled for eventual re-use as structural backfill for the proposed Dyer Creek box culvert, unless otherwise directed by the Engineer.

Daybreak Concrete Overlook Pad

The Contractor shall remove and dispose of the existing concrete overlook pad and base rock along the trail at the location shown on the Plans. The concrete pad is approximately 30-feet in diameter, and the pad section is assumed to consist of 4 inches concrete over 2 inches of crushed surfacing base course. The concrete pad and base course materials shall not be considered suitable for re-use within the project area.

Add the following new Section:

2-02.3(4) Removal of Fence

The Contractor shall remove and dispose of portions of the existing chain link fence in the County Yard project area to the limits shown on the plans. The limits of fence removal shall be flagged by the Contractor and confirmed by the Owner's Representative before the Work

proceeds. The fence removal shall include all wire, posts, foundations, concrete, and fence hardware. Fence materials shall not be considered suitable for re-use within the project area.

2-02.5 Payment

Supplement this Section with the following:

Compensation for the cost necessary to complete the work described in Section 2-02 will be made as follows:

“Demo – 24 in Dia CMP Culverts” per Each. Excavation and backfill for the culverts are already included in various Earthwork Bid Items.

“Demo – Danger Park Asphalt Road” per lump sum.

Includes:

Asphalt and Base Rock Removal - 10,000 SF

Sawcut and Seal Asphalt - 30 LF

Backfill with 6-inches Topsoil over Fine Gravels and Sand - 370 cubic yards

“Demo – Daybreak Asphalt Trail” per lump sum.

Includes:

Asphalt and Base Rock Removal - 12,430 SF

Sawcut and Seal Asphalt - 10 LF

Backfill with Stripped Topsoil - 155 cubic yards

“Demo – Daybreak Concrete Pad” per lump sum.

Includes:

Concrete and Base Rock Removal – 710 SF

“Remove/Salvage – Daybreak Gravel Trail” per lump sum.

Includes:

Surface and Base Rock Removal – 8,790 SF

Sawcut and Seal Asphalt - 10 LF

Backfill with Stripped Topsoil - 110 cubic yards

Removal and haul of any additional obstructions within the work areas not listed here shall be considered incidental to these bid items.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 Description

Supplement this Section with the following:

This Work includes all tasks required for excavating the sub-grades of the proposed Daybreak Park Trails, the new County Yard Maintenance Pad, and the Dyer Creek Seasonal Fords. The work also includes hauling and stockpiling the excavated material for re-use in the greater Project per Section 2-05. The Work also includes subgrade preparation as described in Section 2-06.

2-03.3(14)C Compacting Earth Embankments

Supplement this Section with the following:

The Contractor shall use Method A for fill areas within the channel and floodplain.

The Contractor shall use Method C for fill areas within subgrade areas.

2-03.4 Measurement

Replace this Section with the following:

“Subgrade Excavation” shall be measured by cubic yard in the position it occupied prior to excavation as determined at the time construction stakeout occurs. An estimate of quantities has been prepared based on available LiDAR data supplemented with ground survey and adjusted based on the proposed thickness of the surface treatments. Should the Contractor elect to verify or update quantities by performing a pre-excavation ground survey conducted by a Professional Land Surveyor licensed in the State of Washington hired by the Contractor, all such Work shall be performed at no additional cost to the Owner. Requests for modifications to quantities shall be based on survey data provided by the Contractor and verified by the Engineer; a record of load tickets of material transported or similar measures will not be considered valid survey data.

No additional compensation will be made for excavated material that is stockpiled, re-excavated, and moved again. No allowance is made for expansion of excavated materials nor compaction of placed materials. Expansion of excavated materials and compaction of placed materials shall be incidental to other bid items for purposes of handling, haul, stockpile, etc.

2-03.5 Payment

Replace this Section with the following:

Payment shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete the Work in Section 2-03 as specified. Payment will be made in accordance with *Section 1-04.8* and *Section 1-09.9* for the following bid items:

“Subgrade Excavation – Dyer Creek Seasonal Fords”

“Subgrade Excavation – New County Yard Maintenance Pad”

“Subgrade Excavation – Daybreak Park Trails”

The unit contract price per cubic yard for Subgrade Excavation shall include “Haul” and “Stockpile” of material, and “Subgrade Preparation” per Section 2-06.

2-05 VACANT

Delete Section 2-05 and replace with the following:

2-05 CHANNEL AND FLOODPLAIN EARTHWORK

2-05.1 Description

This Work includes, regardless of the nature or type of materials encountered, all tasks required for excavating channel and floodplain materials, hauling, and segregating and temporary stockpiling of sandy gravels, coarse substrate, and riprap. The Work also consists of using salvaged materials to construct the channel beds, riffle structures, and floodplain gravel bars to the extents and depths shown on the Plans. The Work includes the associated mixing of salvaged materials as specified, final shaping of the channel and floodplain, and compacting on-site embankment, decompacting restoration areas, or otherwise disposing of material in designated spoils areas.

The Work also includes stripping and placing topsoil amendment to provide a suitable growing medium for revegetation within excavated regions of the floodplain where predominantly coarse substrate is exposed. “Stripping” means removal and satisfactory disposal of weeds, grass, and other vegetative materials to the ground surface and then removing and stockpiling topsoil and duff material for eventual re-use as a top dressing in Topsoil Amendment areas shown on the Plans and described in this Special Provision.

The Work also includes excavating and stockpiling of base course rock in the existing County Maintenance Yard gravel pad for re-use as fill within the new Maintenance Yard gravel pad and to reconstruct the gravel access road at the Dyer Creek Box Culvert crossing.

All Work described here shall conform to the alignments, grades, and cross-sections shown in the Plans or established by the Engineer. The proposed grading includes irregular grading features with variable bank and floodplain slopes. While not required, the Contractor may find that equipment outfitted with GPS/GNSS machine control systems will greatly reduce the time needed to perform construction staking, as well as reduce the time spent reworking grading areas to meet the specified grading tolerances.

In zones of fill within the proposed channel and floodplain, salvaged rock material will typically be required to be placed as a top dressing over finer-grained material to provide erosion resistance. It is anticipated that most of the zones of predominantly cut will encounter a natural coarse substrate layer at the proposed depth of excavation, and rock treatments will not typically be required in the channels and floodplains within these excavated areas. In the event that gravels and cobbles are not encountered at the design elevation of the new excavated channels during construction, the Engineer may direct the Contractor to install rock grade controls or supplemental bed material to reduce the risk of channel migration.

The Contractor is advised that surface water and groundwater will likely be encountered in portions of the proposed work area, particularly within the deeper excavations. Surface water and groundwater shall be managed per the requirements of Section 8-31 of these Special Provisions.

Portions of work will be in and near sensitive wetland areas. The Contractor shall not disturb the ground outside the limits of disturbance, unless the limits of disturbance are revised by the Owner.

The Contractor is advised that on-site **archeological monitoring** will be necessary for ground-disturbing work within **(describe areas)**. The Contractor shall notify the Owner at least **one week prior** to beginning ground disturbing work in these areas so that consulting parties can be notified in time to provide on-site monitoring.

2-05.2 Materials

The vast majority of the excavated material is expected to consist of native soils and substrates, with a lesser component of historically placed non-native soil/fill materials. The subsurface material is expected to range from fine silts and sands to significant volumes of gravels and cobbles. All of the materials listed in this Section are anticipated to be sourced from the excavations within the project limits.

Pre-project subsurface field investigations were performed to identify the depth of gravels and cobbles, and this information was used to estimate the quantity of coarse substrate that is potentially available within each region of the Project. The estimated coarse rock volumes that can potentially be sourced from each region are provided on the Plans, as well as the calculated volume of rock that is required to be placed as fill. It is the Contractor's responsibility to field verify these assumptions to the extent feasible and to notify the Engineer of any significant discrepancies in coarse substrate quantities.

2-05.2(1) Streambed Substrate

Streambed Substrate material shall consist of salvaged coarse substrate that approximately meets the requirements of the 12-inch Streambed Cobbles set forth in Standard Specification 9-03.11(4). Suitable locations for borrow will be approved in the field by the Owner's Representative.

Salvaged Streambed Substrate will be used to construct new channels within zones of fill to the depth and limits shown on the Plans, and as a component of the Riffle Mix and Gravel Bar Mix.

Within excavated segments of the proposed channels and floodplain, the exposed native substrate at the depth of the proposed channel bed is anticipated to consist of a cobble/gravel/sand matrix which will typically be considered suitable to meet the specification for the Streambed Substrate material.

2-05.2(2) Salvage EF Lewis River Riprap

Riprap material shall consist of salvaged riprap from within the project limits. The bulk of the existing Riprap ranges from 12 to 36 inches in equivalent diameter. Known areas with riprap are depicted on the Plans.

Riprap material with sizes ranging between 18 to 36-inch equivalent diameter (as measured by the average axis length) will be used as a component of the Riffle Mix.

2-05.2(3) Fine Gravels and Sand

Fine Gravels and Sand material shall consist of a salvaged well-graded mixture of silt, sand, and river run fine gravel that approximately meets the requirements of the 12-inch Streambed Cobbles set forth in Standard Specification 9-03.11(2). Suitable locations for borrow will be approved in the field by the Owner's Representative.

Fine Gravels and Sand will be used as a component of the Gravel Bar Mix and may also be used to supplement the Riffle Mix as necessary to prevent flows from going subsurface.

2-05.2(4) Topsoil

Topsoil material shall consist of a stripped fine-grained soils that approximately meets the requirements of the Topsoil Type B set forth in Standard Specification 9-14.2. Suitable locations for borrow will be approved in the field by the Owner's Representative.

Topsoil will be used to amend predominantly rocky exposed soils and as a lesser component of the Gravel Bar Mix.

2-05.2(5) Salvaged Crushed Rock

Salvaged crush rock shall consist of angular rock within the project area that approximately meets the specifications for Crushed Surfacing Base Course and Top Course Material set forth in Standard Specification 9-03.9(3). Suitable locations for borrow are anticipated to include

the existing County Maintenance Yard pad and excavated portions of the existing BPA access road through the Dyer Creek area. Other areas may be approved in the field by the Owner's Representative.

Salvaged crushed rock will be used to construct the new County Maintenance Yard gravel pad and to rebuild the gravel access road over the Dyer Creek culvert.

2-05.2(6) Non-Select Material

Non-Select material consists of all remaining suitable excavated soils and substrates that do not meet the material specifications for Streambed Substrate, Fine Gravels and Sand, Riprap, or Topsoil. Non-select material could be granular or nongranular soil and/or aggregate which is free of deleterious material. Deleterious material includes woody debris larger than 8 inches diameter or 10 feet long, coal, charcoal, metallic debris, construction debris, hazardous waste, or any other extraneous or objectionable material.

Non-Select material will be used to fill the deeper portions of the channels and floodplain to serve as the sub-grade of the proposed rock mixes.

2-05.2(7) Riffle Mix

Riprap Mix material shall consist of salvaged Streambed Substrate with salvaged 18 to 36-inch diameter riprap (as measured by the average axis length) to the depth, limits, and quantities shown on the Plans. If the material lacks a fine-grained component due to segregation of materials during handling and placement, a 1-inch layer of Fine Gravels and Sand will be washed into each 24-inch-thick layer of the placed Riffle Mix.

The Riffle Mix will be used to construct the proposed riffle structures within the Powerline Bend Side Channel, Pits Main Channel, Pits West Channel, and Pits East Channel, as well as any other riffles that lack in-situ coarse substrate at the proposed elevation of the new channels.

2-05.2(8) Gravel Bar Mix

Gravel Bar Mix material shall consist of salvaged Coarse Substrate mixed with 30 to 50 percent salvaged Fine Gravels and Sand by volume to the depth and limits shown on the Plans. The coarse substrate component shall meet the requirements of the Streambed

Substrate Mix. The sandy soils with gravels shall be sourced from salvaged material meeting the requirements of Fine Gravels and Sand.

The Gravel Bar Mix will be used to top dress the relatively low zones of the floodplain within areas of proposed fill and within areas that will be frequently inundated.

2-05.3 Construction Requirements

2-05.3(1) Submittals

Prior to starting each phase of Work, the Contractor shall submit a Construction Sequencing Plan for Owner approval. The Plan shall include figures depicting the proposed limits of work and a narrative of the work to be performed, including the methods for sourcing, segregating, stockpiling, handling, mixing, protecting, and placing the earthwork materials. The Contractor's Plan shall list the equipment to be used and describe the sequence of material placement within channel and floodplain fill areas within the Core Pits and Danger Park Pit area. The Construction Sequencing Plan must adhere to the BMP's described in the Plans and all permitting requirements, including those associated with maintaining surface water quality standards and endangered species act approvals.

The Plan shall provide a breakdown of the anticipated cut and fill earthwork quantities by type of material within each Work area. Special consideration shall be given to the amount of coarse material required to construct the new channel and floodplain features. The Contractor shall describe any methods that will be used to check the depth to coarse materials within the proposed borrow zones. Temporary stockpile locations shall be shown on a figure.

The Plan shall also include the anticipated quantity of whole trees by size class that will be salvaged and re-used in large wood structures during each phase.

The Plan shall aim to balance the earthwork and whole tree quantities by phase to limit overwinter staging of materials. The Plan should also describe potential contingencies to address shortages of materials.

If necessary, modify the Plan as required to meet field conditions, and obtain written approval of modifications prior to implementing.

2-05.3(2) Excavation, Sorting, Temporary Stockpiling of Excavated Materials

The Contractor shall preserve for reuse all excavated material. Excavated material shall be used selectively as backfill within the proposed channels and floodplain areas, and to supplement the required coarse substrate backfill component of the proposed large wood structures, as necessary. The Contractor shall generally sort and stockpile excavated material based on the material size classes described in Section 2-05.2.

Use suitable backfill material from material excavated from required excavations for project Work and at the discretion of the Engineer. Excess coarse streambed substrate shall be hauled and placed beneath the finished grade of the new channels and riffle structures.

If excavation yields more material than needed to complete a given phase of the project, the Contractor shall stockpile the material by type at a location approved by the Owner's Representative.

2-05.3(3) Coarse Substrate Placement

The salvaged Coarse Substrate, Riffle Mix, and Gravel Bar Mix shall be placed to the depths and extents shown on the Plans. Salvaged coarse substrate shall be handled, stockpiled, and mixed (if necessary) so that it is placed in a manner that minimizes the segregation of sizes or results in void spaces. The coarse substrate mixes shall be placed as follows:

1. Contractor shall provide a 2-day notice to the Engineer prior to the initial placement of each coarse substrate mix to allow a visual observation of the material and a grade check of the subgrade, prior to placement of fill material in the channels and floodplain. Thereafter, the Contractor shall notify the Owner's Representative once other channel and floodplain subgrades have been prepared so that a subgrade check can be performed prior to placing the coarse material.
2. If the Riffle Mix or Streambed Substrate material lacks a finer substrate component following handling and placement, place rock in two (2) layers and wash a 1-inch lift of Fine Gravels and Sand material into the voids of each layer until water ponds on the surface. If water does not pond on the surface, wash more Fine Gravels and Sand material into the mix. Completion of power wash shall be approved by the Owner's

Representative. The Contractor is responsible for providing a sufficient supply of water to perform the surface water ponding tests.

3. Place Streambed Substrate material and the Gravel Bar Mix with individual particles protruding up to half of the maximum grain-size diameter from the finished grade. Place Riprap material with rocks protruding no more than one-third by volume from the bed.
4. Streambed Substrate shall extend to the elevation of the bankfull channel as defined on the Plans. If necessary, riffle crests shall be keyed-in to the surrounding floodplain as shown on the Riffle Structure Detail on the Plans.
5. Engineer will review areas of fill placement and check for conformance with the Plans. The Engineer may direct minor adjustments to the design grades based on field conditions at the time of construction prior to finish grading.

2-05.3(4) Placement of Surplus Material

The Daybreak Trail spoil disposal area shall have a minimum 6-inch top layer consisting of stripped topsoil from the Daybreak Trail excavation zone to enable successful revegetation.

2-05.3(5) Channel and Floodplain Shaping

Channel shaping and microtopographic floodplain grading shall be completed after design grades meeting the allowable tolerances specified in Section 1-05.4(1) are achieved. Final shaping is a field-set item to be accomplished with the review and concurrence of the Engineer and is not depicted through design lines and grades in the Drawings.

The channel thalweg position should be varied within the cross-section, particularly within meander bends where the thalweg should be shifted towards the outer bank.

Microtopography grading will result in a variable and irregular ground surface that is plus (+) 1.0 feet to minus (-) 1.0 feet relative to the finish graded surface, with an average ground surface equal to the finished grade elevation described above. The earthwork for this final shaping will locally balance, and no additional haul will be necessary.

Fine grading includes, but is not limited to: excavating, digging, ripping, ploughing and/or harrowing excavated and/or undisturbed surfaces to achieve a variable, irregular disturbed surface condition.

2-02.3(6) Salvage and Placement of Crushed Rock

The Contractor shall remove and stockpile approximately 3,990 cubic yards of the existing County Maintenance Yard gravel pad (which roughly equates to an average 11-inch thick salvaged layer of the area of the pad). The existing pad materials consist of non-native crushed rock materials that shall be re-used to construct the new County Maintenance Yard gravel pad. The salvaged crushed rock can also be used to rebuild the gravel access road over the proposed Dyer Creek box culvert.

The Contractor shall selectively stockpile rock that approximately meets WSDOT Standard Specification 9-03.9(3) for Crushed Surfacing Base Course and Top Course Material. The Owner's Representative will inspect the material and subgrade as the Work progresses to determine if the depth and/or extents need to be revisited. The salvaged material shall be stockpiled at an approved location in the vicinity of the new County Maintenance Yard pad.

Refer to Section 4-04 of these Special Provisions for a bid alternate to import crushed base surface course material to top-dress the gravel pad and road, which would reduce the amount of salvaged crushed rock required for these project elements.

2-05.3(7) Topsoil Amendment

The Contractor shall strip, stockpile, and place 4-inches of salvaged topsoil within excavated regions of the floodplain where predominantly coarse substrate is exposed to create a suitable growing medium for revegetation. The salvaged topsoil shall be spread over the mass graded surface within the treatment area and ripped to a depth of at least 18-inches. No additional excavation of the floodplain surfaces will be required prior to the placement of the salvaged topsoil. Refer to Section 8-02.3(4) of these Special Provisions for additional information.

Anticipated treatment areas are depicted on the Earthwork sheets of the Plans, and include portions of the following sub-regions:

- Old Channel Floodplain – 3.63 Acres (1,950 CY)
- Oxbow Floodplain – 3.49 Acres SF (1,880 CY)
- County Yard Floodplain – 6.61 Acres (3,550 CY)
- Daybreak Floodplain – 1.89 Acres (1,020 CY)

2-05.3(8) CONTINGENCY – Additional Topsoil Amendment

If coarse substrate is exposed at the final graded surface within other areas of the excavated floodplain not listed in Section 2-05.3(7), the Owner's Representative may direct the Contractor to place 4-inches of stripped topsoil to create a suitable growing medium for revegetation. Placement shall be in accordance with Section 2-05.3(6).

2-05.3(9) CONTINGENCY – Supplemental Substrate Placement in Excavated Channels

If finer substrate material is encountered for extended lengths of excavated channels, the Engineer may direct the Contractor to over-excavate to a depth of up to 3 feet (or less if material meeting the Streambed Substrate is intercepted) and then replace the existing bed material with salvaged Streambed Substrate or Riffle Mix material. This action will generally only be considered if stretches longer than 50 feet of channel are lacking coarse substrate material, particularly in the vicinity of a proposed riffle structure or near a channel bifurcation.

2-05.4 Measurement

“Excavation” shall be measured by cubic yard in the position it occupied prior to excavation as determined at the time construction stakeout occurs. An estimate of quantities has been prepared based on available LiDAR data supplemented with ground survey. Should the Contractor elect to verify or update quantities by performing a pre-excavation ground survey conducted by a Professional Land Surveyor licensed in the State of Washington hired by the Contractor, all such Work shall be performed at no additional cost to the Owner. Requests for modifications to quantities shall be based on survey data provided by the Contractor and verified by the Engineer; a record of load tickets of material transported or similar measures will not be considered valid survey data.

No additional compensation will be made for excavated material that is stockpiled, re-excavated, and moved again. No allowance is made for expansion of excavated materials nor compaction of placed materials. Expansion of excavated materials and compaction of placed materials shall be incidental to other bid items for purposes of handling, haul, stockpile, etc.

2-05.5 Payment

Payment will be made per cubic yard in accordance with *Section 1-04.8* and *Section 1-09.9* for the following bid items:

- “Excavation – Channels”
- “Excavation – Floodplain”
- “Excavation – Daybreak Floodplain, Haul to Core Pits”
- “Excavation – Daybreak Floodplain, Haul to Local Spoils Area”
- “Excavation – Salvage and Place Riprap”
- “Excavation – Strip and Place Topsoil Amendment”
- “Excavation – Salvage and Place Crushed Rock”
- “CONTINGENCY – Additional Topsoil Amendment”
- “CONTINGENCY – Supplemental Placement of Coarse Substrate”

Payment shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete the Work in Section 2-05 as specified. The unit contract price per cubic yard for Excavation shall include haul, stockpile, mixing, placement, and compaction, of material.

No separate or additional payment will be made for shaping the channel thalweg or performing the surface water ponding tests.

2-09 SUBGRADE PREPARATION

2-06.3 Construction Requirements

2-06.3(1) Subgrade for Surfacing

Supplement this Section with the following:

The required compaction depth is revised from a depth of 6 inches to 1 foot.

2-06.3(1) Subgrade for Pavement

Supplement this Section with the following:

In the second sentence of the first paragraph of Section 2-06.3(2), the compacted depth is revised from a depth of 6 inches to 1 foot.

2-09 STRUCTURE EXCAVATION

2-09.3(3) Construction Requirements, Structure Excavation, Class A

2-09.3(3)D Shoring and Cofferdams

Supplement this Section with the following:

Cofferdams shall conform to the requirements provided in the Permits. See Section 8-31 for additional requirements on cofferdams.

2-09.4 Measurement

Supplement this Section with the following:

There shall be no measurement of Structure Excavation. The Work is considered incidental to the Bid Item “Reinforced Concrete Box Culvert, 6 x 10 ft” in Section 6-20.

2-09.5 Payment

Replace this Section with the following:

Compensation for Structure Excavation, hauling, stockpiling, and backfilling with suitable native material or suitable granular material shall be considered to be included in the price paid for the Bid Item “Reinforced Concrete Box Culvert, 6 x 10 ft” in Section 6-20.

DIVISION 4 BASES**4-04 BALLAST AND CRUSHED SURFACING****4-04.1 Description**

Replace this Section with the following:

This Work shall consist of constructing one or more courses of crushed stone upon a prepared Subgrade in accordance with these Specifications in conformity with the lines, grades, depth, and typical cross-sections shown in the Plans or established by the Engineer.

Crushed stone is proposed in the following project elements:

- Dyer Creek Gravel Access Road (salvaged from existing BPA access road near proposed Box Culvert and existing County Yard Maintenance Pad)
- County Yard Asphalt Maintenance Pad (imported)
- County Yard Gravel Maintenance Pad (salvaged from existing County Yard Maintenance Pad)
- Daybreak Park Asphalt Trail (imported)
- Daybreak Park Gravel Trail (imported)

4-04.3(5) Shaping and Compaction

Supplement this Section with the following:

Course base rock layers shall be compacted to 95 percent of maximum density per ASTM D1557 (modified).

Add the following new Section:

4-04.3(13) BID ALTERNATE – Imported Crushed Surfacing, County Yard Pad

At the option of the Owner, the Contractor may be directed to top dress the new gravel County Maintenance Yard with 6-inches of imported Crushed Surfacing Top Course material. In this scenario, the displaced portion of the salvaged gravel material from the old County Yard Maintenance gravel pad would be used as fill within the deeper portion of an existing gravel mine pit in either the Core Pits or Danger Park Pond project areas.

4-04.4 Measurement

Supplement this Section with the following:

The Bid Items for “Crushed Surfacing Base Course” and “Crushed Surfacing Top Course” will be measured by the ton.

The Bid Items for “Gravel Trail Base Course” and “Gravel Trail Surfacing Course” will be measured by the cubic yard. Measurement will be made for material compacted in-place according to neat-line plan dimensions.

4-04.5 Payment

Replace this Section with the following:

Compensation for the cost necessary to complete the work described in Section 4-04 will be made as follows:

“Crushed Surfacing Base Course – County Yard Asphalt Pad” per ton.

“Crushed Surfacing Base Course – Daybreak Asphalt Trail” per ton.

“Gravel Trail Base Course – 5/8 in minus” per cubic yard.

“Gravel Trail Surfacing Course – 3/8 in minus” per cubic yard.

“BID ALTERNATE – County Yard Gravel Pad” per lump ton.

Includes:

Furnish and place crushed surfacing top course – 2,460 tons

Haul and placement of a portion of the stockpiled gravel material from the old County Maintenance Yard to Core Pits or Danger Pond areas - 1,330 cubic yards

Subgrade preparation is paid for by Bid Items in Section 2-03.

DIVISION 5 SURFACE TREATMENTS AND PAVEMENTS

5-04 Hot Mix Asphalt

Section 5-04 content and amendments are deleted and replaced with the following.

5-04.1 Description

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

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

5-04.2 Materials

Materials shall meet the requirements of the following sections:

Asphalt Binder	9-02.1(4)
Cationic Emulsified Asphalt	9-02.1(6)
Anti-Stripping Additive	9-02.4
HMA Additive	9-02.5
Aggregates	9-03.8
Recycled Asphalt Pavement	9-03.8(3)B
Mineral Filler	9-03.8(5)
Recycled Material	9-03.21
Portland Cement	9-01
Sand	9-03.1(2)
(As noted in 5-04.3(5)C for crack sealing)	
Joint Sealant	9-04.2
Foam Backer Rod	9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the 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) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile. Recycled asphalt shingles (RAS) shall not be used in the production of HMA.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. 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 asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP 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.

The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20 percent or less RAP by total weight of HMA. 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.

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(1) How to Get an HMA Mix Design on the QPL

If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(2) Mix Design – Obtaining Project Approval

No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review:

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

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

Mix designs for HMA accepted by Nonstatistical evaluation shall:

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

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

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

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

[Obtain ESAL number from Pavement Preservation. Fill in value shall be one of the following range values: <0.3; 0.3 to <3; 3 to <10; 10 to <30; ≥30]

ESAL’s

The number of ESAL’s for the design and acceptance of the HMA shall be *** \$\$1\$\$ *** million.

5-04.2(2)B Using HMA Additives

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

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

Do not place HMA for wearing course on any Traveled Way beginning October 15th through March 31st of the following year without written concurrence from the Engineer.

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

Minimum Surface Temperature for Paving

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

5-04.3(2) Paving Under Traffic

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

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

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

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

All costs in connection with performing the Work in accordance with these requirements, except the cost of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

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

- 1. Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.
- 2. Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.
- 3. Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating.

The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.

4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).
5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
 - A mechanical sampling device attached to the HMA plant.
 - Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B Hauling Equipment

Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

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

5-04.3(3)C Pavers

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

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

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

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

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

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

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

[Select appropriate Material Transfer Device/Vehicle spec for project. Consult with Project and Construction Managers to determine if such a device is needed or not. All projects MUST include one or the other, but not both.]

[Use this spec if a MTD/V is NOT required for the project.]

A Material Transfer Device/Vehicle (MTD/V) is not required for this project.

5-04.3(3)E Rollers

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

5-04.3(4) Preparation of Existing Paved Surfaces

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

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

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

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces

shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

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

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

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

5-04.3(4)A Crack Sealing

5-04.3(4)A1 General

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

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces within the crack immediately prior to filling a crack with the

sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

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

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

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

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

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

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

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

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

5-04.3(4)B Vacant

5-04.3(4)C Pavement Repair

The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with the details shown in the Plans and as marked in the field. 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 Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within one lane at a time unless approved otherwise by the Engineer. The Contractor shall not excavate more area than can be completely finished during the same shift, unless approved by the Engineer.

Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The Engineer will make the final determination of the excavation depth required. 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 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(4). 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. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

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

Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient storage space shall be provided for each size of aggregate and RAP. Materials shall be removed from stockpile(s) in a manner to ensure minimal 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(6) Mixing

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

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

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

Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes

have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing

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

HMA Class	Wearing Course	Other than Wearing Course
1 inch	0.35 Feet	0.35 Feet
3/4 and 1/2 inch	0.30 Feet	0.35 Feet
3/8 inch	0.25 Feet	0.30 Feet

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

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

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

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

5-04.3(9) HMA Mixture Acceptance

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

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

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

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

HMA Tolerances and Adjustments

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

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

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

For Aggregates in the mixture:

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

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

- b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.
2. Job Mix Formula Adjustments – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.
- c. **Aggregates** – 2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).
- d. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent

5-04.3(9)A Vacant

5-04.3(9)B Vacant

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

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

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

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production or 800 tons, whichever is less except that the final subplot will be a minimum of 400 tons and may be increased to 1200 tons.

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

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

5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling

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

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

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

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

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

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

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

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

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

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

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

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the

appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C5 Vacant

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

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

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

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

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

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

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum

CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

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

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

5-04.3(10) HMA Compaction Acceptance

HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

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

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

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

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

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

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

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

Test Results

For a subplot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent of the reference maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the Contractor may request that a core be used for determination of the relative density of the subplot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the subplot and will be used for calculation of the CPF and acceptance of HMA compaction lot.

When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested by noon of the next workday after the test results for the subplot have been

provided or made available to the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. Traffic control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request for cores. When the CPF for the lot based on the results of the HMA cores is less than 1.00, the cost for the coring will be deducted from any monies due or that may become due the Contractor under the Contract at the rate of \$200 per core and the Contractor shall pay for the cost of the traffic control.

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

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

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

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

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

5-04.3(10)C Vacant

5-04.3(10)D HMA Nonstatistical Compaction

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

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

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

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

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

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

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

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

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

For each compaction lot with one or two sublots, having all sublots attain a relative density that is 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract price with no further evaluation. When a subplot does not attain a relative density that is 92 percent of the reference maximum density, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The maximum CPF shall be 1.00,

however, lots with a calculated CPF in excess of 1.00 will be used to offset lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for compliance per 5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be completed as required to provide a minimum of three tests for evaluation.

For compaction below the required 92% a Non-Conforming 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 CPF, the quantity of HMA in the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

5-04.3(11)A Reject Work General

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

5-04.3(11)B Rejection by Contractor

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

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

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

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment

will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

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

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

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

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

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

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

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

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

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

5-04.3(12) Joints**5-04.3(12)A HMA Joints****5-04.3(12)A1 Transverse Joints**

The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

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

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

5-04.3(12)A2 Longitudinal Joints

The longitudinal joint in any one course shall be offset from the course immediately below by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed along all longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the maximum aggregate size or more than ½ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

5-04.3(12)B Bridge Paving Joint Seals**5-04.3(12)B1 HMA Sawcut and Seal**

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

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

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

5-04.3(12)B2 Paved Panel Joint Seal

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

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

5-04.3(13) Surface Smoothness

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

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

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

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

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

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

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

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

The planning plan must be approved by the Engineer and a pre planning meeting must be held prior to the start of any planing. See Section 5-04.3(14)B2 for information on planning submittals.

Locations of existing surfacing to be planed are as shown in the Drawings.

Where planing an existing pavement is specified in the Contract, the Contractor must remove existing surfacing material and to reshape the surface to remove irregularities. The finished product must be a prepared surface acceptable for receiving an HMA overlay.

Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer on the final wearing course of new HMA.

Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface which is to remain. The finished planed surface must be slightly grooved or roughened and must be free from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair any damage to the surface by the Contractor's planing equipment, using an Engineer approved method.

Repair or replace any metal castings and other surface improvements damaged by planing, as determined by the Engineer.

A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the wedge must be as shown on the Drawings or as specified by the Engineer.

A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2 inches or more in height, producing a smooth transition to the existing adjoining pavement.

After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched and preleveled.

The Engineer may direct additional depth planing. Before performing this additional depth planing, the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

5-04.3(14)A Pre-Planing Metal Detection Check

Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

The Contractor is solely responsible for any damage to equipment resulting from the Contractor's failure to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the Engineer of any hidden metal that is detected.

5-04.3(14)B Paving and Planing Under Traffic

5-04.3(14)B1 General

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

1. Intersections:

- a. Keep intersections open to traffic at all times, except when paving or planing operations through an intersection requires closure. Such closure must be kept to the minimum time required to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic volumes required in the approved traffic control plan. Schedule work so that adjacent intersections are not impacted at the same time and comply with the traffic control restrictions required by the Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the traffic control plan, which must be submitted to and accepted by the Engineer, see Section 1-10.2(2).
- b. When planing or paving and related construction must occur in an intersection, consider scheduling and sequencing such work into quarters of the intersection, or half or more of an intersection with side street detours. Be prepared to sequence the work to individual lanes or portions thereof.
- c. Should closure of the intersection in its entirety be necessary, and no trolley service is impacted, keep such closure to the minimum time required to place and compact the HMA mixture, plane, remove asphalt, tack coat, and as needed.
- d. Any work in an intersection requires advance warning in both signage and a number of Working Days advance notice as determined by the Engineer, to alert traffic and emergency services of the intersection closure or partial closure.

- e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained from the Engineer.
2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and maintaining temporary pavement marking must comply with Section 8-23.
3. Permanent pavement marking must comply with Section 8-22.

5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan

The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation's activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation's traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.

When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must show where peace officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

At a minimum, the planing and the paving plan must include:

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic control as it relates to the specific requirements of that day's planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing

and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day's planing, and paving.

2. A copy of each intersection's traffic control plan.
3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.
4. Names and locations of HMA Supplier facilities to be used.
5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day's work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.
10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing

At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day's operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day's operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and

paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:
 - a. The actual times of starting and ending daily operations.
 - b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
 - c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other contractors who may operate in the Project Site.
 - d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.
 - e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.
 - f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed
 - g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.
 - h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
 - i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
 - j. Other items the Engineer deems necessary to address.
2. Paving – additional topics:
 - a. When to start applying tack and coordinating with paving.
 - b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.
 - c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if

more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.

- d. Description of contingency plans for that day's operations such as equipment breakdown, rain out, and Supplier shutdown of operations.
- e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.3(15) Sealing Pavement Surfaces

Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches

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

5-04.4 Measurement

[Delete non-applicable bid items. Also delete corresponding language in Section 5-04.5]

HMA Cl. ___ PG ___, HMA for ___ Cl. ___ PG ___, and Commercial HMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the mixture. If the Contractor elects to remove and replace mix as allowed by Section 5-04.3(11), the material removed will not be measured.

[Use in projects when sawcutting is incidental to other bid items]

No separate measurement will be made for saw cutting. All costs for saw cutting shall be considered incidental to and included in the associated bid prices of the Contract.

5-04.5 Payment

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

[Delete non-applicable bid items. Also delete corresponding language in Section 5-04.4]

“HMA Cl. ___ PG ___”, per ton.

The unit Contract price per ton for “HMA Cl. ___ PG ___”, “HMA for Approach Cl. ___ PG ___”, “HMA for Preleveling Cl. ___ PG ___”, “HMA for Pavement Repair Cl. ___ PG ___”, and “Commercial HMA” shall be full compensation for all costs, including anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those costs included in other items which are included in this Subsection and which are included in the Proposal.

DIVISION 6 STRUCTURES

Revise the name of Section 6-20 to the following:

6-20 BURIED STRUCTURES – DYER CREEK BOX CULVERT**6-20.1 Description**

Replace this Section with the following:

This Work consists of designing and constructing the buried box culvert including headwalls, wingwalls, aggregate base, placement of streambed aggregate, backfill, crushed surfacing (top and base course), and temporary and permanent erosion control measures.

6-20.3 Construction Requirements**6-20.3(1) Design**

Supplement this Section with the following:

These plans shall be considered a Contractor Supplied Design.

6-20.3(1)B Buried Structure Class

Supplement this Section with the following:

Dyer Creek Box Culvert meets the definition of a Class 1 Buried Structure.

6-20.3(1)D Geotechnical Considerations

Replace this Section with the following:

No geotechnical borings or analyses have been conducted in the immediate vicinity of the proposed Dyer Creek Box Culvert. However, geotechnical borings and analyses were performed for a potential crossing site approximately 500 feet away from the proposed culvert.

The Contractor shall complete all additional geotechnical investigations and designs necessary for this Work as required by the WSDOT Geotechnical Design Manual.

This includes but is not limited to performing additional permitting, surveying, field

investigation, subsurface borings, analysis and modeling. The type, compacted density, and strength properties of the fill adjacent to the Buried Structure shall be established.

6-20.3(1)G Traffic Barrier and Guardrails

Replace this Section with the following:

No traffic barrier or guardrail is required.

6-20.3(2)B Load Rating Report

Supplement this Section with the following:

Dyer Creek Box Culvert shall be designed to withstand AASHTO HL-93 loading.

6-20.3(3) Tolerances

Replace this Section with the following:

Tolerances shall be as specified in Section 1-05.4(1).

6-20.3(4) Preconstruction Conference

Supplement this Section with the following:

A Preconstruction conference is required for Dyer Creek Box Culvert.

6-20.3(5) Excavation

Replace the third paragraph in this Section with the following:

If the bottom of the excavation is too wet for compaction to occur, the Contractor shall place Construction Geosynthetic for Soil Stabilization - Woven, conforming to Section 9-33.2(1), on the exposed bottom of the excavation. Geosynthetic shall be overlapped as required by the manufacturer, but not less than 1.0 foot at seams. The Contractor shall stretch out the Geosynthetic to ensure that no slack or wrinkles exist in the geosynthetic prior to backfilling. Backfill consisting of CSBC or AASHTO Grading No. 57 shall be placed on top of the Geosynthetic to reestablish lines and grade. Compaction of the CSBC or AASHTO Grading No. 57 shall be by static methods or by track walking and shall impart only enough

energy to seat the granular materials together and provide a stable, non shifting, working surface. Controlled Density Fill (CDF) or lean concrete may be used with no geosynthetic and no compaction.

6-20.3(6) Bedding and Foundations

6-20.3(6)A Bedding and Leveling

Replace this Section with the following:

Buried Structure bedding material shall be placed in accordance with the Contract documents and the submittals of Sections 6-20.3(2)A, 6-20.3(2)D, and 6-20.3(2)E.

Cast-in-place and precast reinforced concrete foundation elements require a 12-inch minimum thickness layer of Buried Structure bedding material, defined as either CSBC or AASHTO Grading No. 57. The plan limits of the Buried Structure bedding and leveling material, when applicable, shall extend 1 foot beyond the plan limits of the foundation or the Structure as applicable. The bedding material for Buried Structure shall be compacted to the following requirements:

- Compaction shall be conducted by vibratory compaction equipment
- Backfill lift height is limited to 4" if using walk-behind vibrating plate compactor or 6" if using an excavator-mounted hydraulic plate compactor
- Desired compaction density is 95% Standard Proctor. Engineer shall field approve compaction of bedding material.

6-20.3(7)A Precast Concrete Structures

Replace this paragraph of this Section with the following:

The following information shall be legibly and permanently marked on one inside face of each precast unit by indentation, waterproof paint or other means acceptable to the Engineer:

1. Span and rise dimensions
2. Date of fabrication
3. Name or trademark of the fabricator

4. Unit identifier shown in the Plans or Working Drawings. If the precast Structure fabricator modifies the finished precast units for shop fit up then the fabricator shall sequentially number all of the precast units for field assembly. The Contractor shall assemble the precast culvert units according to the fabricator's sequential numbering.

6-20.3(9) Backfilling

Replace this Section with the following:

On site granular soils may be considered for backfill around the Structure if the material is deemed suitable by the Engineer and is consistent with backfill requirements for the project. Salvaged on site material may be sourced from either salvaged excavation borrow from gravel trail removal or other borrow within the project footprint. The Contractor shall stockpile salvaged excavation borrow during existing culvert removal, separating material that appears to meet the definition of backfill material (see materials below) and material that is not suitable and will be disposed of offsite. If salvaged excavation borrow from structure removal is not accepted by the Engineer, the Engineer may identify other suitable borrow on site. If onsite material is not suitable, the Contractor shall use backfill as described below.

The backfill outside of Buried Structures shall be granular material meeting the requirements in the Working Drawings, meeting the Buried Structure manufacturer's requirements and conforming to the requirements of AASHTO M 145 A-1 or A-3. Granular material shall consist of a crushed rock and/or processed angular material. The following backfill materials generally meet the AASHTO M 145 A-1 or A-3 requirements. Additional gradation requirements by the Structure manufacturer may apply.

1. Section 9-03.9(1) Ballast
2. Section 9-03.9(3) Crushed Surfacing (Top and Base Course)
3. Section 9-03.9(4) Maintenance Rock
4. Section 9-03.12(1)A Gravel Backfill for Foundations Class A
5. Section 9-03.12(3) Gravel Backfill for Pipe Zone Bedding
6. Section 9-03.14(1) Gravel Borrow
7. Section 9-03.14(2) Select Borrow
8. Section 9-03.14(4) Gravel Borrow for Structural Earth Wall

Backfilling shall conform to Section 2-09.3(1)E and the Working Drawings. Backfill of Buried Structures to the minimum cover level specified for the Structure shall be considered to be supporting the structure for determining backfill placement layer thicknesses and compaction densities. Backfill shall be brought up incrementally on each side of the structure to balance the loading until the top of the Structure is reached. The difference in backfill height on opposing sides of the Structure shall not exceed 2.0 feet unless otherwise allowed by the Engineer.

Equipment used to compact backfill within 3.0 feet from sides of Buried Structures shall have received the Engineer's acceptance prior to use. Sheepsfoot rollers or rollers with protrusions for compacting shall not be used until there is more than 2.0 feet of compacted backfill over the Structure.

6-20.5 Payment

Replace this Section with the following:

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

“Reinforced Concrete Box Culvert, 6 x 10 ft”, lump sum.

The lump sum Contract price shall be full payment to perform the Work as specified in Section 6-20.3. The approximate quantities of materials and work for the lump sum item “Reinforced Concrete Box Culvert, 6 x 10 ft” may be provided in the Contract documents. If so, the quantities listed are only for the convenience of the Contractor in determining the volume of work involved and are not guaranteed to be accurate. Quantities may vary depending on the Contractor's Work methods, order of work, suitability of excavated materials, and structure dimensions. The prospective bidders shall verify these quantities before submitting a bid. No adjustments other than for accepted changes will be made in the lump sum Contract price even though the actual quantities required may deviate from those listed.

Payment for Class 4000D concrete topping slab shall be included in the lump sum item, “Reinforced Concrete Box Culvert, 6 x 10 ft”.

Structure excavation and backfill is considered incidental to the lump sum bid item.

Placement of Streambed Substrate within the box culvert is included in the lump sum item. This material can be salvaged from a borrow site within the project area, as approved by the Engineer.

DIVISION 8 MISCELLANEOUS CONSTRUCTION**8-01 EROSION CONTROL AND WATER POLLUTION CONTROL****8-01.3 Construction Requirements****8-01.3(1) General****8-01.3(1)A Submittals**

Replace the Section with the following:

The Contractor is responsible for obtaining the Construction Stormwater General Permit (CSWGP) from the Department of Ecology prior to beginning ground-disturbing actions. The fees for the permit and renewals will be paid by the Owner.

Prior to mobilization Contractor shall submit a Temporary Erosion and Sediment Control (TESC) plan for the project to the Owner for approval. The TESC must satisfy the requirements of the Washington Department of Ecology National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit for Construction Activity and all other applicable permits. The TESC included in the Plans and described herein is intended to provide a baseline for sediment and erosion control and does not ensure that the standards established by any applicable permits will be met. The Contractor may use these measures or alternative measures of his own design to ensure satisfactory performance and that the erosion control requirements of all applicable permits are met. The Contractor shall be named as the permit holder. The Contractor shall be responsible for implementing, inspecting and filing reports, maintaining, replacing, and removing TESC measures. The Plan shall include the name, address and 24-hour contact number of the person responsible for erosion prevention and sediment control measures.

Failure to accept all or part of any such Plan will not make the Owner liable to the Contractor for any Work delays.

8-01.3(1)C1 Disposal of Dewatering Water

Replace this Section with the following:

Refer to Section 8-31 for specifications for disposal of dewatering water.

8-01.3(1)C7 Turbidity Curtain

Supplement this Section with the following:

If the Contractor elects to use turbidity curtains, the type and materials shall be suitable to withstand the flow velocities present at the time of construction and sufficiently sized to fully reach the bottom of the existing channel. The version shown on the Plans is one variation of a turbidity curtain. The Contractor may propose other variations, including a turbidity curtain with a weighted bottom. The Contractor is responsible for determining actual velocities and selecting a suitable product and installation details to ensure stability for conditions present at the time of construction, including all anchors to secure the silt boom at the shore and along the isolated work perimeter.

8-01.3(9)A2 Silt Fence

Supplement this Section with the following:

Silt Fence shall be used to protect sensitive areas from sediment and impacts from equipment.

8-01.4 Measurement

Replace this Section with the following:

“TESC Plan and Implementation,” including the above amendments to the item will be measured by lump sum.

8-01.5 Payment

Replace this Section with the following:

Payment for “TESC Plan and Implementation” shall be considered full compensation for all equipment, labor, tools, materials, and incidentals necessary to complete this work as specified. Payment includes the Contractor’s preparation and submittal of the CSWGP. Payment will be made in accordance with Section 1-04.8 and Section 1-09.9 for the following bid items: “TESC Plan and Implementation” per lump sum.

8-02 ROADSIDE RESTORATION

8-02.1 Description

Supplement this Section with the following:

The Contractor is responsible for the following revegetation Work as part of this Contract.

- Planting area preparation, including decompaction and topsoil amendment on the floodplain benches as indicated on the Plans and described in Sections 2-05, and 8-02.3(4), and 8-02.3(5)C.
- Construction of Willow Trenches, including excavation, furnishing and placing live stakes, backfill, and compaction as described in the Plans.
- Seeding of disturbed work areas to limits shown on the Plans.

Contractor shall coordinate with the Owner's Representative to accommodate access for site revegetation activities that are not in this contract (NIC); this NIC site revegetation work will occur during both the winter of 2025/26 and the winter of 2026/27. Weed control activities may also occur in inactive construction areas across the project site during the 2025 and 2026 construction work windows. All site revegetation that is the responsibility of the Contractor is listed in the Bid Form, including furnishing and installing willows cuttings in trenches as shown on the Plans.

8-02.2 Materials

Supplement this Section with the following:

Willow Cuttings

1. Contractor shall harvest or procure live willow pole cuttings with a minimum diameter of 1 inch at the large, rooting end.
2. All terminal stems and top branches shall be trimmed down by a minimum 1.5 ft from tops.
3. Required species and lengths are described on the Plans. Lengths shall be measured after tops are trimmed.
4. Harvest sites shall be located within 50 miles of the project site unless otherwise approved by Owner.

5. Upon harvest, Contractor shall arrange cuttings so that the bottoms and tops are in the same direction and tied into appropriate bundles to avoid damage to cuttings.
6. Contractor shall be responsible for transporting cuttings to the project site.
7. Cuttings shall be stored in water at all times and covered with tarps until they are installed.
8. Any cuttings that are allowed to dry out shall be discarded and will not be accepted.

Seed Mixes

Seeding zones for the two seed mixes are delineated on plans.

Zone 1: Emergent Marsh Wetland + Willow Scrub habitats

latin	common name	Pounds Pure Live Seed (PLS)/ac
<i>Agrostis exarata</i>	spike bentgrass	5
<i>Alopecurus aequalis</i>	shortawn foxtail	4
<i>Beckmannia syzigachne</i>	American sloughgrass	3
<i>Carex obnupta</i>	slough sedge	1
<i>Deschampsia cespitosa</i>	tufted hairgrass	5
<i>Glyceria occidentalis</i>	Western mannagrass	2
<i>Hordeum brachyantherum</i>	meadow barley	10
<i>Triticum aestivum x Elymus trachycaulus</i>	Regreen Hybrid Wheatgrass	30
Total		60

Zone 2: Riparian Transition habitat

latin	common name	Pounds Pure Live Seed (PLS)/ac
<i>Achillea millefolium</i>	yarrow	1
<i>Agrostis exarata</i>	spike bentgrass	3
<i>Bromus carinatus</i>	California brome	7
<i>Deschampsia cespitosa</i>	tufted hairgrass	3

<i>Deschampsia elongata</i>	slender hairgrass	3
<i>Elymus glaucus</i>	blue wild rye	7
<i>Hordeum brachyantherum</i>	meadow barley	5
<i>Lupinus rivularis</i>	streamside lupine	1
<i>Triticum aestivum x Elymus trachycaulus</i>	Regreen Hybrid Wheatgrass	30
Total		60

1. Contractor shall purchase seed in the quantity and at the percentages provided in the preceding tables.
2. Contractor shall source the seed from within the appropriate genetic zones of the Willamette Valley or Cascades Ecoregion(s) as defined by the US Environmental Protection Agency (EPA). The seed certification class shall be Certified (blue tag) in accordance with WAC 16-302 and meet the following requirements:

Prohibited Weed	0% max.
Noxious Weed	0% max.
Other Weed	0.2% max.
Other Crop	0.4% max.

3. Prior to seed purchase, the contractor shall submit a list of suppliers and their seed sources (Submittal) and identify any difficulties in obtaining species or quantities.
4. Owner's Representative shall review submittal and approve or provide comments in order to assist the Contractor with securing appropriate seed.
5. Contractor shall provide the seed labels that include the germination rate and purity. Based on the certified testing results required by 9-14.2 of the Standard Specifications, the actual pounds of each grass species applied shall be adjusted so as to provide the specified pounds of PLS per species per acre. Seeds shall be certified "Weed Free," indicating there are no noxious or nuisance weeds in the seed.
6. Contractor shall not make any substitutions without the approval of the Owner's Representative.
7. If substitutions are required, and substituted species have substantially lower cost than the originally contract specified species; the cost for the seed shall be reduced accordingly.

8. Contractor shall be responsible for ordering, storing and delivering seed to the project site on an as needed basis.
9. Any seed that is damaged due to herbivory or moisture prior to being spread will be rejected and will be the responsibility of the contractor.

8-02.3(4) Topsoil

Supplement this Section with the following:

Topsoil Type B shall apply, as the topsoil shall be salvaged from finer-grained materials near the surface of the floodplain and placed to the limits and depths shown on the Plans and described in Section 2-05.

8-02.3(5)C Planting Area Preparation

Replace this Section with the following:

1. The Contractor shall be responsible for decompacting areas disturbed or graded during construction, unless otherwise indicated on the Plans or directed by the Owner's Representative.
2. Decompaction shall be performed prior to seeding and planting using a bulldozer with minimum 18-inch length rear mounted rippers. Ripping shanks shall be no more than 24-inch apart.
3. Contractor shall rip steep to moderate slopes longitudinally across the slope (i.e. perpendicular to slope) to promote capture of runoff and minimize erosion.
4. Upon completion of the ripping, no equipment shall be allowed to enter the decompacted areas.
5. Temporary access roads that were cleared but not grubbed will not need to be ripped/decompacted unless the Owner's Representative determines that flush cut vegetation has been so severely impacted that the areas will require decompaction and replanting.
6. Install soil amendments as indicated on the Plans and in accordance with Sections 2-05 and 8.02-3(4).

8-02.3(8)A Dates and Conditions for Planting

Section 8-02.3(8)A paragraph 7 is revised to read:

Expected dates for Contractor-performed planting shall be identified in the Project Schedule described in Section 1-08.3(2)B. Notification shall be provided to Owner 5 days prior to planting work.

8-02.3(8)B Plant Installation

Replace this Section with the following:

Excavate, backfill, and compact the Willow Trenches as described on the Plans.

8-02.3(9)B Seeding and Fertilizing

Supplement this Section with the following:

Seeding shall not occur until topsoil has been applied (if applicable), slopes walked, fine grading has been completed, decompacted for planting (if applicable), and the seeding areas free is from all undesirable vegetation, removal of temporary BMP's including, but not limited to, temporary seed, or thick mulch, thatch or other vegetative debris, and repair and removal of rills, ruts, and other surficial erosion marks, trash and other obstructions that could interfere with the application and establishment of seed. Existing natural debris such as fallen logs or branches may remain where designated by the Engineer.

All stockpiles and construction debris shall be removed from temporary stockpile sites, staging areas, and construction access areas, and those areas restored to original grade including the filling of any tire ruts and tilling of compacted soil prior to seeding operations.

Seeding

1. The Contractor shall notify the Engineer at least five (5) days prior to performing seeding and shall not perform seeding unless areas proposed to be seeded have been accepted by the Engineer.
2. The project site is an active floodplain, exhibiting variable conditions and may include steep slopes; therefore, three methods of seeding may be required, depending on conditions. The Owner's Representative shall determine which method shall be used within discreet areas of the site. The three methods are as follows:

- a) Areas exhibiting surface soils with a low percentage of cobbles shall be seeded using a drill seeder or Trillion-type seeder with roller for wetland surfaces. Drill seeding is the preferred method for seeding, conditions permitting;
 - b) Areas exhibiting surface soils with a high percentage of cobble shall be seeded using a mechanical seed spreader (spinner) and shall then be “tracked” into the soil surface using low ground pressure equipment and a cultipacker. Low ground pressure is 6 PSI or less;
 - c) Areas that include moderate to steep slopes or may be subject to erosive forces will be hydroseeded using Ranier Bonded Fiber Mulch (BLM) which shall be applied at a rate of 3,500 pounds per acre.
3. Areas to be seeded and “tracked” shall be tracked immediately following seeding (same day).
 4. The minimum size area that will be selected for seeding using a single method as described above shall be no less than five (5) acres.
 5. Seeding shall be performed in accordance with WSDOT (8-02.3(9)A) specified timing for Western Washington as provided:
 - a) March 1 through May 15
 - b) September 1 through October 1: fall seeding may be performed earlier than as specified, beginning no earlier than August 15th, at the discretion of the Owner’s Representative.
 6. Contractor shall apply seed at the rate and mix specified above. Bare or thin areas, as determined by the Owner’s Representative, shall be reseeded at no additional cost to the Owner.

8-02.4 Measurement

Revise this Section to read:

“Hydroseed – Wetland and Willow Scrub” and “Hydroseed – Riparian” will be measured per acre.

“Willow Trenches – 4 Foot Live Cuttings” and “Willow Trenches – 5+ Foot Live Cuttings” will be measured per linear foot.

Measurement and compensation for topsoil amendment of the Floodplain Benches is covered in Section 2-05.

8-02.5 Payment

Supplement this Section with the following:

Payment will be made for “Hydroseed – Wetland and Willow Scrub” and “Hydroseed – Riparian” per acre.

Payment will be made for “Willow Trenches – 4 Foot Live Cuttings” and “Willow Trenches – 5+ Foot Live Cuttings” per linear foot. The Bid Item price shall be full compensation for all costs incurred to complete the Work as outlined in the Plans and these Special Provisions, including excavation, backfill, compaction, and placement of live cuttings. The Contractor will provide the live cuttings.

8-12 CHAIN LINK FENCE AND WIRE FENCE

8-12.1 Description

Replace this Section with the following:

This Work consists of furnishing and constructing chain link fence and two rolling gates of the types specified in accordance with the Plans, these Specifications, and the Standard Plans at the locations shown in the Plans and in conformity with the lines as staked. The proposed fencing will be located in the County Yard area of the project.

Chain link fence shall be a Type 3 fence with diamond woven mesh mounted on steel posts, per WSDOT Standard Plan L-20.10-03.

The gates shall be either a single 24-foot-wide rolling-style gate or two side-by-side 12-foot wide rolling gates. Gates shall be 6-foot-high galvanized chain link diamond mesh with steel frames. Gates shall be integrated into chain link fencing with steel posts. Contractor shall submit the type of gate to the Owner for approval.

8-12.3 Construction Requirements

Supplement this Section with the following:

Clearing limits shall be as shown in the Plans, or as approved by the Owner's Representative.

8-12.3(1)E Construction Requirements

Supplement this Section with the following:

The Contractor shall furnish and install a fence posts that can support the rolling-style fence gate.

8-12.5 Payment

Supplement this Section with the following:

“Chain Link Fence, Type 3” per linear foot.

“Chain Link Rolling Gate, 24 ft wide” per each.

The unit Contract prices shall be full payment and costs for the specified work, including brace post installation and requirements of Section 8-12.

8-15 RIPRAP

8-15.1 Description

Supplement this Section with the following:

This Work consists of furnishing and placing quarry spalls to construct the two proposed seasonal Dyer Creek ford crossings.

8-15.3(4) Quarry Spalls

Supplement this Section with the following:

Place quarry spalls within the proposed Seasonal Ford Crossings to the lines, grades, depth, and typical cross-sections shown in the Plans or established by the Engineer. Work areas

shall be isolated and dewatered in accordance with Section 8-31 of these Special Provisions. After placement, the quarry spalls shall be compacted to be uniformly dense and unyielding.

8-15.4 Measurement

Supplement this Section with the following:

Quarry spalls will be measured per cubic yard of spalls actually placed.

8-15.4 Payment

Supplement this Section with the following:

“Quarry Spalls”, per cubic yard.

Payment for excavation of the subgrade will be in accordance with Section 2-03.

Payment for work area isolation and dewatering will be in accordance with Section 8-31.

8-19 VACANT

Section 8-19 is deleted and replaced with the following:

8-19 TEMPORARY BRIDGES

8-19.1 Description

This Work consists of designing, furnishing, and installing temporary access bridges to cross the mainstem of the East Fork Lewis River and a seasonal side channel in the East Fork Floodplain, at a minimum. The Contractor may propose alternative or additional bridge locations for consideration and possible approval by the Owner’s Representative.

8-19.2 Materials

The Contractor shall be responsible for designing and furnishing temporary bridge systems at locations shown on the Plans, or at locations otherwise approved by the Owner’s Representative. Temporary bridges shall support all necessary equipment required to complete the Work shown. The low chord of temporary bridges shall be a minimum of 1 foot above the estimated highest water surface elevation the bridge may experience. Review

the HPA for the project for additional requirements. Materials required to construct temporary bridges shall be as specified in the approved Working Drawings submitted by the Contractor.

8-19.3 Construction Requirements

8-19.3(1) Submittals

The Contractor shall prepare and submit a Temporary Bridge Plan for Owner's review and approval prior to mobilizing to the project site. The Plan shall include all temporary crossing locations, crossing types (e.g., bridges, earthen berms), mid-channel supports, associated bridge approach grading and materials, elevations of low chords and top of berms, and scheduled installation and removal dates.

The Contractor shall develop and submit Type 2 Working Drawings clearly identifying the proposed structural temporary bridge systems and all subcomponents to be utilized. The drawings shall include a comprehensive list of all materials to be used for construction of the temporary bridges designed by the Contractor and a description of the proposed means for assembly and installation of the temporary bridge system. The drawings should also detail the bridge approaches and mid-channel supports, if any.

8-19.3(2) Temporary Stream Crossings

Install temporary bridges as shown on the Plans. The Contractor shall develop the type, span, and materials for each bridge and submit Type 2 Working Drawings to the Owner's Representative for each Temporary Bridge. The Contractor may propose alternative locations as part of this submittal provided the alternative locations proposed are allowable under project permits. The Contractor shall receive approval from the Owner's Representative for location, span, type and duration of temporary bridges before installation. Construct each temporary bridge to support the greatest vehicle loads anticipated to cross the structure. Temporary bridges shall not alter the capacity of the channel such that a rise in water surface or increase in velocity results. The low chord of the bridges shall be constructed a minimum of 1 foot above the estimated highest water surface elevation the bridge will experience.

The temporary bridge system may utilize approach ramps constructed from borrow material on-site. Wood procured for large wood structure construction shall not be used for bridges or stream crossings.

Each temporary bridge installed shall be inspected daily for defects or flaws which may lead to unsafe conditions. Any flaws or defects discovered shall be corrected immediately at no additional cost to the Owner.

Throughout the course of performing the Work, the Contractor shall monitor weather and flow forecast for the project site. If conditions indicate that weather conditions will lead to high flows which could endanger the temporary bridge(s), the Owner may require the Contractor to remove one or more temporary bridges. The Contractor shall comply with all such requests and shall reinstall temporary bridges as necessary once high flows have returned to levels which allow for safe inspection and performance of the Work. Removal and reconstruction of temporary bridges due to high flow concerns shall be paid for in accordance with section 1-04.4.

Once acceptance of all project Work has been granted, the Contractor shall fully remove all components of the temporary bridge system including replacement of any borrow material for approach ramps.

8-19.3(2)A East Fork Lewis River Temporary Bridge

The East Fork Lewis River Temporary Bridge may be a multiple span structure with each individual span no shorter than 30 feet. The Contractor shall prepare the subgrade, construct abutments or other foundation elements, erect the superstructure, and place the deck in accordance with the approved Working Drawings and within the parameters of the project permits. Each temporary bridge shall be placed such that the low chord of the bridge sits at least 1 foot above the estimated highest water surface elevation the bridge will experience. If Contractor actions are anticipated to increase water surface elevations due to construction or water management activities, the Contractor shall take these impacts on water surface elevations into consideration and shall be responsible for constructing the temporary bridge(s) with adequate freeboard to accommodate said increases in water surface elevations; if adjustments to temporary bridge(s) are necessary to accommodate increases in water surface elevations as a result of Contractor activities these shall not be considered grounds for cost adjustments.

Abutments shall be placed outside the toe of each bank whenever possible; if placement of abutments within the channel is required, the Contractor shall construct site isolations around each abutment to be placed in the channel and allow the Owner to perform fish removal prior to placing abutments. Any fill used for temporary approach ramps shall be placed outside the bed of the active channel with appropriate erosion control BMPs installed as necessary to prevent temporary fill from entering the bed of the channel. Intermediate piers shall be placed in a manner that limits the need for additional scour protection.

The Contractor shall make every effort possible to minimize the number of trips across the channel for temporary bridge installation and removal.

8-19.3(2)B East Floodplain Temporary Bridge

The East Floodplain Temporary Bridge shall have a minimum span of 30 feet over the seasonal side channel. This bridge may have abutments or rest directly on the surface of existing ground. Each end of the bridge, including abutments, shall be outside of the active channel width, as flagged by the Owner's Representative in the field. If necessary, the Contractor shall install temporary site isolations prior to bridge installation.

8-19.3(3) Removal of Temporary Stream Crossings

Remove each temporary bridge as it is no longer needed and remove all temporary fill within ordinary high water. All temporary bridges shall be removed before the end of the in-water work window.

8-19.3(4) Measurement

Measurement for the "Temporary Access Bridge" Bid Items shall be per lump sum, by type.

8-19.3(5) Payment

Payment will be made for each of the following bid items that included in the proposal:

"Temporary Access Bridge, EF Lewis River" per lump sum.

"Temporary Access Bridge, East Floodplain" per lump sum.

Payment for “Temporary Access Bridges” shall be full compensation for all labor and costs for furnishing, delivering, installing, maintaining, and removing materials associated with the Temporary Bridges necessary to complete the Work.

Payment for temporary earthen berm crossings will be considered incidental to the Bid Item “Excavation – Floodplain” covered in Section 2-05.

8-26 VACANT

Section 8-26 is deleted and replaced with the following:

8-26 LARGE WOOD STRUCTURES

8-26.1 Description

Work consists of constructing large wood structures along the channel banks and within the floodplain in the configurations depicted on the Plans or as directed by the Engineer in the field. Work shall include procuring and furnishing the large wood material, as well as the associated hauling, staging, handling, excavation, backfill, and mechanical hardware. Work also includes the excavation of scour pools in the vicinity of the large wood structures as shown on the material schedules on the Large Wood Detail Sheets on the Plans.

Wood procurement will be considered an Owner’s Option Bid Item, as the Owner may elect to source the wood materials under a separate Contract. If the Owner supplies a portion or all of the wood materials, the wood will be stockpiled by the Owner within the designated staging areas shown on the Plans for installation by the Contractor.

8-26.2 Materials

8-26.2(1) Large Wood Materials

The quantity of large wood material is shown on the Plans. The materials are a mix of imported logs from an off-site source and salvaged logs and trees from within the project limits during clearing activities. Backfill will consist of a matrix of salvaged coarse substrate and soils.

Large wood materials may be staged on-site as specified in Section 2-01.

8-26.2(1)A Imported Wood

Imported large wood shall be sourced from an off-site source and hauled to the site. Purchased wood shall be from Western Red Cedar, Douglas Fir, or Western Larch tree species. Logs shall be relative straight, free of branches, and not consist of multiple boles. Logs shall be of sound quality and free of rot, decay, and insect or pest infestation.

Imported wood shall conform to the type and size requirements shown on the table below.

Type	Diameter (in)	Length (ft)	Rootwad Attached (Yes/No)
Log with Roots	17 to 24	40	Yes
Log without Roots	15 to 21	40	No
Vertical or Sloping Pile Log	12 to 16	15 to 25, see Plans	No

If the source of the imported wood material is within one hour of the project site, the Contractor shall coordinate with the Owner's Representative to determine if the wood can be inspected and approved prior to delivery of the logs to the project site.

The Engineer may direct up to 35 percent of the Logs with Roots and Logs without Roots to be cut to shorter lengths prior to installation to avoid impacts to sensitive areas or to the root zone of mature vegetation. In general, logs should only be cut to the minimum length necessary to avoid impacts, and in no circumstances should logs be cut shorter than 25 feet without approval by the Engineer.

Vertical and Sloping Pile Logs shall be cut to the dimensions shown on the Plans.

The Contractor is responsible for removing and disposing of the excess wood material at an approved onsite location, as directed by the Owner's Representative.

Logs with Roots

The diameter of Logs with Roots shall be measured at breast height (DBH). The length of the Logs with Roots shall be measured from the cut end to the end of the rootwad flare. Root fans shall consist of stout roots, such that roots of a 2-inch diameter form a rootwad at least 4 feet in diameter. Root fans greater than 4 feet in diameter should be left intact. Do not cut roots 2-inch diameter or larger. Roots shall be free of loose soil and rocks.

Logs without Roots

The diameter of Logs without Roots shall be measured at the midpoint of the log.

Vertical or Slope Pile Logs

The diameter of Vertical Pile Logs and Sloping Pile Logs shall be measured at the midpoint of the log. Pile Logs can be generated from excess Logs without Roots provided the resulting log meets the size criteria. Vertical Pile Logs shall include a cut, four-sided tapered point, no greater than 2 feet in total length from the start of the taper to the point. Consult with the Engineer regarding which end should be tapered. The exposed ends of Vertical Pile Logs shall be cut to the lengths shown on the Plans or as directed by the Engineer. The top of the Pile Logs shall have a sloping cut (approximately 45 degrees from the horizontal plane) or a roughened top to discourage recreational users from climbing on top of the piles.

8-26.2(1)B Salvaged Wood

Salvaged wood shall be generated during site clearing and stockpiled on-site for re-use.

Salvaged wood that is incorporated into the large wood structures shall be free from visible insects, rot, and decay as determined by the Owner's Representative.

Salvaged wood includes the types and size classes shown in the table below.

Type	Prioritized Species	Diameter (in)	Length (ft)	Rootwad Attached (Yes/No)	Branches Intact (Yes/No)
Small Whole Trees	Varies	6 to 12	20 to 45	Yes	Yes
Medium Whole Trees	Coniferous	12 to 16	30 to 65	Yes	Yes
Large Whole Trees	Coniferous	16 to 24	40 to 85	Yes	Yes
Extra Large Salvaged Log with Roots	Varies	Min. 24	45 to 60+	Yes	No
Snags	Varies	12 to 16	25 to 35	Yes	Limited
Slash	Varies	1 to 6	8 to 25	Not Required	Yes

Whole Trees

The diameter of Whole Trees and Snags shall be measured at breast height (DBH). The length shall be measured from the cut end to the end of the rootwad flare. The trees shall be pushed over and harvested with rootwad and intact to the extent feasible. Branches shall also be left on the trunk of the salvaged trees to the extent feasible unless otherwise directed by the Engineer. Extra large salvaged logs with roots can be sourced from the largest felled trees on site, and they should only be cut to the extent necessary to facilitate transport so they can be incorporated into the proposed Floodplain Roughness Wood Structures – Type 2. Broken or removed branches shall be classified as slash and stockpiled for re-use.

Snags shall preferably consist of salvaged trees that have split trunks, wyes near the base of the tree, or other distinctive features such as one or more large branches near the bottom of the standing tree. Snags will need to be cut to the specified lengths unless otherwise directed by the Owner's Representative. The Contractor shall anticipate salvaged snags will be used to replace 15 total vertical pile logs in the Alcove Pool Wood Structures or the Floodplain Roughness Wood Structures – Type 1, at locations selected by the Owner's Representative.

Slash

Slash material shall consist of trees, limbs, rootwad mass, brush, and tops generated during clearing activities and from removal of limbs and tree tops for the onsite wood that is salvaged. Slash material shall be a maximum of 6 inches in diameter and may be of varying smaller sizes. Slash materials shall not contain noxious weeds per the Washington State Noxious Weed Lists and Monitor List (<http://www.nwcb.wa.gov>).

8-26.2(1)C Mechanical Hardware

Mechanical hardware proposed for the Project includes threadbar, flat plate washers, and nuts. All mechanical hardware shall comply with manufacturer's written recommendations and the following specifications:

1. Threadbar shall be non-galvanized steel with a tensile yield rating between 75,000 and 80,000 pounds per square inch (75 to 80 ksi) per ASTM A615. The effective (minimum) bar cross section area shall be no less than 0.79 square inches (equivalent to a #8 size reinforcement bar). The threadbar shall be continuously threaded with a thread pitch no less than 0.3-inches and be capable of accepting marching nuts that can be threaded

along the entire length of the threadbar. Acceptable threadbar types include; Dywidag Systems International (DSI) threadbar, or approved equal.

2. Steel flat plate washers shall be non-galvanized with the equivalent material strength properties to the threadbar. The washers shall have a minimum thickness of 3/16 inch and a coverage area of 9 square inches (equivalent to 3 inches by 3 inches square or a 3.5-inch diameter round washer.) Selection of a larger diameter threadbar shall require the washer coverage area and minimum thickness to be increased in direct proportion to the increase in threadbar cross-section area.
3. Steel nuts shall be non-galvanized with equivalent, or stronger, material strength properties as the threadbar and be capable of developing 100% of the threadbar capacity in tension. Nuts shall be compatible with the threadbar diameter and thread type and be from the same supplier as the threadbar.

8-26.2(1)D Large Wood Structure Backfill

Backfill shall be salvaged materials from onsite excavations consisting primarily of streambed substrate material with 25 to 50 percent soil matrix. If the percent coarse material is near the lower end of this range, the coarse material shall preferentially be placed to a minimum thickness of 3 feet along the reconstructed bank and within the lower elevations of the backfill. The upper 1-foot layer of the backfill shall have a higher percentage of soil matrix to provide a suitable growing medium for plants.

Place and compact backfill as specified on Plans within and around large wood structures to the depth and lines shown on the Plans. Type and amount of material used for backfill, and the manner of placing material, shall be as shown on the Plans and described in the Specifications. If sufficient suitable material is not available from on-site excavations, obtain additional suitable material from nearby borrow sources as approved by the Owner's Representative. Backfill placement is also subject to approval by the Engineer.

8-26.3 Construction Requirements

8-26.3(1) Submittals

Contractor shall submit a Large Wood Management Plan for sourcing (for Contractor-sourced wood), stockpiling, handling, protecting, and installing the large woody material. The Plan shall include the source of the imported wood, tree species, list of equipment to be

used, and methods and best practices to meet the special handling requirements. The Plan shall be submitted and approved prior to delivery of wood to the project site.

8-26.3(2) Quality Assurance

Large wood materials, including salvaged trees, shall be inspected by the Owner's Representative to determine if they are suitable for re-use in the large wood structures. The Contractor shall be responsible for the care, management, and handling of the approved inventory of large wood material. Materials that do not meet the requirements indicated on the Plans and described in the Specifications shall be rejected and disposed of in accordance with Section 2-01.2, unless otherwise approved by the Engineer.

8-26.3(3) Wood Storage and Handling

The Contractor shall store large wood materials, imported or harvested from on site, within the limits of disturbance shown on the Plans and as described in Section 2-01.3(3), or as approved by the Owner's Representative.

The Contractor is responsible for notifying the Owner if the total quantity of large wood materials is not available to complete the Work.

To facilitate efficient movement of large wood material, the Contractor shall provide a track excavator sized to sufficiently handle the wood while minimizing disturbance with a hydraulic thumb and/or clamshell attachment for efficient placement. The Contractor shall handle the wood with care to minimize damage such as abrasion, splitting, crushing, and shearing to the tree trunk, roots, and branches. The large wood material shall not be dropped into position. Handling and moving large wood material shall not damage existing features or landscapes.

The Contractor shall replace, at no additional cost to the Owner, imported logs that are damaged during handling or placement.

The Contractor shall protect the large wood materials from theft and damage from fire, vandalism, and other means that result in the wood not meeting the requirements indicated on the Plans and as described in the Specifications.

8-26.3(4) Log and Whole Tree Placement

For each structure, the Contractor shall not begin construction until:

1. The location of the wood structure and the associated pile logs and excavated scour pool is staked by the Contractor and approved by the Engineer or Owner's Representative.
2. All necessary temporary erosion and sediment controls are installed and properly maintained.
3. The entire structure excavation work area has been isolated from river flow and a fish rescue has been completed.
4. The work area has been dewatered sufficiently.
5. All large wood material has been staged near the structure site.

The log arrangement for each wood structure type indicated on the Drawings represents the desired layout based on approximate tree locations and typical log dimensions. The final log placement is generally expected to follow this arrangement, though some variation is expected. Final log placements will accommodate the variability of the logs available for construction and the site conditions encountered during construction.

The Drawings for some of the wood structures include log orientations in a sequence of vertical layers. Log and slash material shall be placed for each layer as detailed in the Drawings, or as otherwise directed by the Engineer to adjust for varying log diameters and shapes. Intermingle, stack, and rack slash material under and into the placed large wood to emulate natural accumulations of wood material.

All excavation shall take place within the designated excavation limits. Excavate to subgrade before placing large wood. Stockpile the excavated material within the established disturbance area. Sort materials by general sizes, separating piles for coarse and fine material.

When applicable, place logs in each layer in direct contact with Vertical Pile Logs, Sloping Pile Logs, and/or adjacent logs, unless noted otherwise in the Drawings. Logs shall be placed with ends protruding outside of the core of the structure to help hold slash material tightly against the structure. Place, tamp, and compact surrounding material around the large wood material to prevent shifting of logs during subsequent wood placements.

Anticipate field fitting, log cutting, and variation in final location of logs because of natural variation in wood dimensions and to protect mature vegetation, as approved by the Engineer.

Each placed log shall be stabilized. Stabilization methods shall include partial burial, bracing to other partially buried pieces, and mechanical connections to the Vertical Pile Logs. The Engineer may also approve bracing logs against standing trees in some areas of the project, although this approach will likely be limited to the placement of salvaged trees. Burial lengths and depths shall be to the minimum dimensions depicted on the Contract Plans. When Pile Logs are incorporated into structures, the mechanical connections will typically only be required for the top layer of logs in the structure. Make connections to Pile Logs only after pullout resistance testing program has been completed, as described below.

Backfill the structure as each log layer is installed. Use coarse fill in lower layer and along waterward edge, and finer materials on top layer, as described in Section 8-26.2(1)D. Bucket compact backfill material at 2-foot maximum lift thickness.

The Engineer will directly observe at least the first two installations of each structure type for compliance with the Contract Documents. The Engineer shall also be given the option to observe the installation of all Large Whole Tree Structures, Apex Wood Structures, and Major Inlet Wood Structures. The Contractor shall provide 48 hours advance notice prior to installing the first couple of each structure type or any of the three types of structures mentioned above.

The Engineer or Owner's Representative shall also be given the option to observe the remaining structure installations prior to the addition of backfill material.

The Contractor shall make all adjustments in log placements or other components as directed by the Engineer.

8-26.3(5) Vertical Pile Log Installation

The vibratory method is the preferred method for Vertical Pile Log installations in most project areas to accommodate field-fitting log placements. This method also reduces the disturbance footprint which will limit impacts to mature trees and sensitive areas. However, the Contractor may elect to install vertical pile logs through excavation methods if the

excavation limits are outside the drip line of trees larger than 8-inch DBH and will not impact wetlands, unless otherwise approved by the Engineer or Owner's Representative.

Sloping Pile Logs shall also preferentially be driven using the vibratory method, if feasible. Otherwise, structures that include excavated Sloping Pile Logs shall be oriented in a manner that limits impacts to sensitive areas and mature vegetation, as approved by the Owner's Representative in the field.

Each vertical pile log shall be installed to meet the minimum specified embedment depth and pullout resistance on the Plans. The vertical pile logs shall be driven up to 5 additional feet if refusal has not been met at the specified depth. Load proof testing will follow the procedure described in Section 8-26.3(7).

If refusal is met within 2 feet of the specified embedment depth, the Contractor has the option to perform a pile resistance test to determine if the load criteria has been met. If the pile does not meet the specified pullout resistance or the Contractor elects to skip the test, the pile should be removed and a pilot hole should be pre-bored before attempting another installation. If the pile still meets refusal prior to the specified embedment depth, notify the Engineer for additional direction.

If necessary, the Contractor shall notify the Engineer of their preferred method of pre-boring pilot holes for the piles. The pilot hole diameter shall be no more than 9-inches if using a spud (or similar), and no more than 15-inches if using an I-beam or H-beam attachment. Note that the Contractor may elect to start each pile installation with the pilot hole method if other piles in the vicinity have consistently met refusal prior to the specified depth.

To ease tracking of depths, depth indicator markings shall be painted along the length of all pile logs at 7, 10, and 15 feet, as measured from the top of the taper at the end of the log. Any length of the log end sharpened prior to driving shall not be included in determining the depth of the embedment.

The Engineer will reject any equipment or methods which result in repeated damage to the log piles during driving or proves detrimental to the pull-out capacity of log piles already driven.

The Contractor shall make all adjustments to Vertical Pile Log installations as directed by the Engineer.

8-26.3(6) Mechanical Hardware Installation

Large wood material shall be fastened to other large wood material as shown on the Contract Plans and the following specifications:

1. Connections between large wood members shall be drilled through the center of each piece with holes aligned to accept a straight threadbar. Drill bits shall be no greater than 6-millimeters larger in diameter than the threadbar rod and of sufficient length to drill through at least two log diameters. Connections are to result in a gap no larger than 25 mm between two Large Wood pieces.
2. Threadbar shall be placed through drilled holes and fastened with 1 washer and 1 nut on each end of the threadbar. Tighten the nut until the underlying wood begins to crush. Peen the end of the threadbar to prevent installed nuts from loosening. Cut excess threadbar so that the end does not extend further than 50 mm beyond the edge of the nut. Peen or grind off sharp edges of threadbar.

8-26.3(7) Vertical Pile Log Pullout Resistance Testing

Unless otherwise directed by the Engineer, pull out resistance testing of Vertical Pile Log installations shall be performed as specified on the Plans. Pullout testing will be required for each new type of installation method and when new subsurface conditions have been encountered and/or new embedment depths are targeted. When using the excavation method, at least one pile should be load tested for each structure that is dug into predominantly sand, slit, or clay material.

The Contractor is responsible for providing the tensionometer for pile pullout resistance testing. The Contractor shall test the Vertical Pile Logs for pullout resistance per the following program:

1. Prior to securing large wood material to vertical pile logs, conduct pullout resistance testing on Piles that have been installed at their final placement locations.

2. The Contractor may be directed to conduct pile pullout resistance testing for up to 10% of all installed piles in presence of the Owner's Representative with a load meter that can be safely read while testing progresses, and one that records maximum load achieved with each pullout.
3. Proof load each tested pile to the minimum resistance shown on the plans for each type of structure or observable vertical movement. If 1-inch or more of vertical movement occurs prior to achieving full resistance, remove and reinstall the pile in a new location to a greater depth, and retest until the required proof load is achieved without vertical movement. Pile removal, replacement and retesting shall be at no additional cost to the Owner.
4. Based on the results of the pullout resistance testing program, the Engineer may direct the Contractor to try to pre-bore pilot holes as described in Section 8-26.3(5).
5. If the pile installations are still not consistently meeting the depth and/or load criteria, the Engineer will coordinate with the Owner's Representative to determine the next steps.

8-26.4 Measurement

"LW (Large Wood) Procurement – _____" will be measured per each log upon delivery to the Project Site.

"LW Installation – _____" will be measured per each large wood structure completed. No separate measurement will be made for associated earthwork or vertical pile log load testing.

8-26.5 Payment

The "LW (Large Wood) Procurement – _____" will be paid per each as an Owner's Option. The Bid Item Price shall include all costs incurred to source and deliver the wood to the Project Site. Note that the Owner may elect to supply some, or all, of the imported large wood materials.

Compensation for the cost necessary to install the large wood structures will be made at the Bid Item price for "LW Installation – _____" per each type of structure. The Bid Item price shall include all costs incurred to construct the large wood structures as indicated on the Drawings and as specified including, but not limited to, excavation of bank materials, cutting, hauling logs from onsite stockpiles, placement of logs and slash, furnishing and

installing mechanical hardware, performing Vertical Pile Log pullout resistance testing, and placement and compaction of backfill.

Payment for clearing and grubbing, as well as salvaging and stockpiling whole trees and slash material will be in accordance with Section 2-01.

Payment for excavation of the scour pools in the vicinity of the large wood structures will be in accordance with Section 2-05.

No separate or additional payment will be made for additional excavation and shaping to accommodate wood placements. Unless otherwise specified on the Plans, the payment includes the excavation of the associated scour pools. The Bid Items in this Section include hauling and disposal of excess large wood material at an approved on-site location.

8-31 TEMPORARY STREAM DIVERSION

Section 8-31 is deleted and replaced with the following:

8-31 TEMPORARY WORK AREA ISOLATION AND DEWATERING

8-31.1 Description

This work consists of designing, furnishing, installing, operating, maintaining, removing, and disposing of measures for isolating construction activities from the surface waters and surrounding sensitive areas and dewatering work areas. This also includes local site isolation and dewatering in-stream or upland work areas, and other Work as detailed in these Specifications, the Plans and in accordance with project Permit requirements.

Surface water and groundwater will likely be encountered in portions of the proposed work area. Limited geologic or groundwater information is available for the site. The Contractor shall make their own investigations and shall determine the extent and difficulty of removal of water from excavations.

Dewatering may occur in conjunction with Temporary Work Area Isolation or as a stand-alone activity for excavations. This includes as necessary the bypassing of flow around the work areas, pumping water out of isolated work areas, installation of any necessary turbidity

control BMP's and other work as necessary to allow for completion and inspection of the work while maintaining Water Quality Standards and permit compliance. Except as authorized by project permits, anytime work occurs within the wetted channel, an isolated in-water work area shall be created. Isolated in-water work areas consist of a cofferdam, or other acceptable methods that keeps aquatic species and surface flow in the river separated from turbid water in the active work area, and maintains State Water Quality Standards and permit compliance.

8-31.2 Work Area Isolation and Dewatering Plan

Prior to beginning work within standing water or below the groundwater level, the Contractor shall submit a Work Area Isolation and Dewatering Plan to the Owner for approval. The plan must satisfy the requirements of all applicable permits. The plan shall be sufficient to protect the work in progress and facilitate the work by maintaining a generally dry work environment, where feasible. The implementation of the plan shall be sufficient to bypass stream flows and to protect the work in progress. The work isolation and dewatering measures shown on the Plans are intended to provide a baseline of effort, and it does not ensure that the standards established by any applicable permits or required performance criteria will be met.

The Contractor shall use the measures depicted on the Plans or an alternate arrangement of their own design to ensure satisfactory performance and that the requirements of all applicable permits are met. The Contractor's Work Area Isolation and Dewatering Plan shall detail the Contractor's chosen method of diversion and shall include:

1. A narrative of the work isolation, diversion, and dewatering methods to be used.
2. A complete list of equipment and materials to be used and stored on-site, including a list of pumps by size and number to be on site. Also, include a plan to mobilize and operate additional pumps as needed to achieve the required dewatering.
3. A schedule for the arrival of materials and construction of these systems.
4. Provide drawings of the location of work isolation, diversion, dewatering, and discharge facilities. Also show proposed access routes and equipment used to construct the site isolation measures.
5. Method to protect against erosion at the discharge location.

6. Provisions for repairs in case of failure, such as backup generators in case of a power failure, and an approach to address overtopping of work isolation and diversion treatments due to wet weather conditions or other circumstances.

An approvable plan shall provide for isolation of in-water work areas to protect aquatic organisms and water quality. An approvable plan should also maintain continuous fish passage through the project area in the river. The plan should also include suitable treatment measures of water pumped from within the immediate work area, protection from erosion of discharge, and monitoring and maintenance of pumped water discharge facilities.

8-31.3 Materials

The Contractor shall provide all materials necessary to construct and maintain in-water work area isolations that meet the requirements of this section and applicable permits. All materials shall be detailed in the approved Contractor's Work Area Isolation and Dewatering Plan.

Bulk bag cofferdam and sheet pile installed by vibratory driver are pre-approved cofferdam methods. Driving sheet pile by impact hammer is not acceptable. If the Contractor elects to use an alternate method for cofferdams, the Contractor shall provide to the Owner shop drawings and/or vendor cut sheets for substitutions and submit cofferdam/ diversion plan for review prior to implementation. Alternate cofferdam methods are subject to approval from the Owner, the Owner makes no guarantee that alternate methods will be approved and makes no assurances to the viability of any Contractor selected means of isolation.

Plastic Sheeting

Plastic sheeting used in construction of cofferdams or other work-area isolation measures shall have a minimum thickness of 10-mil and shall be wide enough to allow secure anchoring to the channel bed on the upstream and downstream sides of the cofferdam.

Bulk Bags and Sand Bags

The cofferdam used to stop water from flowing through the project area may use "bulk bags" and/or "sand bags". Bulk bags shall be cube-shaped polypropylene woven fabrics with fully open tops, flat bottoms, four loops for lifting, minimum weight capacity of 2 tons, and 5:1 minimum safety factor. Sand bags shall be made from a woven synthetic material (such as

polypropylene, polyethylene, or polyamide) that is resistant to tearing. Bulk bags and/or sand bags may be filled with locally sourced material if available.

Sheet Pile

Should the Contractor elect to utilize sheet pile for isolating work areas from surface waters, the sheet pile shall be of the type and material selected by the Contractor. Sheets shall be interlocking to prevent water from readily flowing between installed sheets. All sheets shall be in good condition and free of grease, chemicals, and all other deleterious materials which may be hazardous to aquatic life.

Pumps and Fish Screens

All pump information shall be included in the Contractor's submitted Plan. Dewatering the isolated in-water Work area shall occur at a rate slow enough to allow the Owner to safely capture and relocate all fish species and other aquatic organisms to avoid stranding.

Contractor shall provide a minimum of one, or more as needed, pumps capable of dewatering the work area and discharging the water to a suitable location. Pumps shall have soundproofing. Submersible electric pumps with generators are a preferred and pre-approved method. Contractor shall provide discharge hoses, booster pumps, and related equipment as needed to discharge water to suitable location.

Pumps shall be placed within rigid or flexible pool to contain fuel or oil spills. Diapers shall be stored at each pump.

Environmental protection measures such as perforated pipe for discharge flow distributors, geotextiles, filter bags, or other means of controlling water at the discharge location shall be provided.

All pumps used for dewatering shall have an intake covered with a fish screen, operated, and maintained in accordance with RCW 77.57.010 and RCW 77.57.070. Appropriate fish screens are as follows:

1. Perforated plate: 0.094 inch (maximum opening diameter);
2. Profile bar: 0.069 inch (maximum width opening); or

3. Woven wire: 0.094 inch (maximum opening measured on the diagonal).

The minimum open area for all types of fish screens is twenty-seven percent. The screened intake facility must have enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. The fish screen must remain in place whenever water is withdrawn until the Owner's Biologists confirm all fish have been removed. At that point, the Contractor may remove the fish screen to finish dewatering the isolated work area.

8-31.4 Construction Requirements

The Contractor shall provide all equipment necessary for stream diversion, work isolation, and dewatering as needed. The Contractor shall have on hand, at all times, sufficient materials, pumping equipment and machinery in good working condition as well as competent workers for the operation of the pumping equipment. Adequate standby equipment shall be always kept available to ensure efficient diversions and maintenance of diversion operations during power failure or flash flow events.

The Contractor shall route diverted water downstream of the work area in a suitable manner without damage to the channel bed, banks, or adjacent wetlands. No turbid water shall be allowed to drain away from work completed or under construction or be discharged from the site.

Construction water shall be pumped away from work areas and infiltrated into the ground without turbid water entering wetlands. If infiltration becomes an ineffective means to control turbidity, additional and alternative methods, such as pumping into above ground silting basins, filtration geotextile fabric or other methods as needed shall be required of the Contractor at no additional cost to the Owner.

Dewatering shall commence when water is first encountered, and shall be continuous until after the work has been completed and the water can be slowly introduced or released in a manner that meets all applicable turbidity standards.

The Contractor shall maintain the water level below the working level within excavations in the active work area to provide a dry active construction work area. The active work area

shall be defined as the area where work is being completed, including excavation, grade and elevation checking, rock placement, backfill, and related activities.

Water resulting from dewatering activity shall be discharged in accordance with the provisions of the approved Contractor's Work Area Isolation and Dewatering Plan and the Erosion Control Plan.

All Work within the isolated work zone shall be completed, along with any required inspections or approvals by the Engineer and/or Owner's Representative, before the work isolation measures are removed. Rewatering of the project area shall occur at a rate slow enough which avoids loss of surface water downstream and while maintaining water quality standards. The Contractor shall take all actions necessary to prevent the water from exceeding the turbidity standards during rewatering of the stream channel and immediately take any corrective measures necessary if turbidity is to increase during this sequence.

8-31.5 Measurement

No unit of measure shall apply to the lump sum bid item for "Work Isolation and Dewatering". This Work shall include all materials, equipment, labor, and other costs associated with installing, maintaining, and removing diversion structures at approved upstream and downstream locations, and performing other Work as described in this section.

8-31.6 Payment

The lump sum Contract price for "Work Area Isolation and Dewatering" shall be full pay to perform the Work as described in this section. Progress payments for the this bid item will be made as follows:

The Contracting Agency will pay 5 percent of the bid amount following the approval of the Work Isolation and Dewatering Plan.

The remaining 95 percent will be paid proportionately per project element completed upon completion of that project element using the formula:

Payment per project element completed = 95% * Bid Amount / number of project elements requiring isolation. For the purposes of this calculation, construction of individual large wood structures and Pilot Channel excavation are considered project elements.

Add the following Section:

8-34 FIELD OFFICE BUILDING

8-34.1 Description

This work shall consist of furnishing and setting-up a temporary office building for the sole use of the Contracting Agency.

8-34.2 Description

The building shall be either a mobile office trailer or existing office and located within a 1-mile radius of the project limits and shall be set up and operational within the first 15 working days and remain on-site through December 11, 2026 unless the Owner has approved a different schedule.

The building shall be weather-tight, installed plumb and level, and provided with the following as a minimum:

1. 500 square feet minimum of floor space
2. Heating and Air Conditioning
3. Electric lights
4. 2 separate offices of 110 square feet each with lockable doors
5. 10 linear feet of shelving in each of the 2 offices
6. 3 each 30" X 60" office desks with a minimum of 3 drawers
7. 3 each swivel desk chairs with pneumatic seat height adjustment and dual wheel castors on the legs or base.
8. 1 conference table approximately 4' X 10' or as approved by the Engineer.
9. 4 Non-fire resistant cabinets (legal size/4 drawer) locking and suitable for a hanging file system
10. 4 wastebaskets
11. 1 whiteboard, wall mounted with color markers and erasers - 8' X 4'
12. 4 bookcases with minimum dimensions of: 48" long by 14" deep with a minimum 4-shelf stack (minimum of 12" space between shelves).
13. Fire extinguishers - provide and install type and number to meet applicable State and local codes for size of office indicated.

14. 1 facsimile FAX machine capable of transmitting by telephone, with maintenance provided by the Contractor.
15. 1 copier that meets at the minimum the performance specifications of Sharp MX M200D. The Contractor shall also provide all maintenance and service for the copier.
16. Hot and cold water dispensing unit and supply of bottled water for the duration of the project.
17. 2 door mats
18. 4 boot brush with scraper.

The Contractor shall provide the Owner with three sets of keys providing access to the field office. The Contractor shall install hardware on all exterior doors capable of being secured by padlocks that will be provided by the Contractor. The Contractor shall provide regular cleaning services for the field office at least once every two weeks (or when directed by the Owner), to maintain the premises in a neat and clean condition.

The Contractor shall provide separate sanitation facilities including hand wash for male and female in or directly adjacent the field office building.

The Contractor shall provide at a minimum a 4-inch crushed surfacing base coarse surfaced parking area of 60' X 30' adjacent to the field office building. This shall also include maintenance of the surface.

The Contractor shall provide for broadband internet service for the construction field office building. The internet service shall be accessible in each office and or at each workstation within the office. All hardware and software necessary for connecting necessary to connect the internet service to the field office and for connecting each computer system and copier shall also be provided by the Contractor. Access to internet service within the field office may be provided by a wireless hub or by direct connection via a network port to a network hub. Broad band internet access shall be provided by one of the following methods in order of availability:

1. Cable or DSL Broadband
2. Mobile broadband

8-34.5 Payment

Payment will be made in accordance with Section 1-04.4, for the following item:

"Field Office Building", lump sum.

The lump sum contract price for "Field Office Building" shall be full pay for furnishing, installing, maintaining, and removing the facility, including all costs associated with required utility hookups and disconnects, and monthly rental and utility charges.

If the field office and/or contents is vandalized or burglarized, Contractor shall be responsible for all repairs and content replacement at its own expense. No progress payments will be made to the Contractor until the field office is properly furnished and usable in the opinion of the Engineer.