Special Provisions

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INTRODUCTION TO THE SPECIAL PROVISIONS

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2021 English edition, as amended, as issued by the Washington State Department of Transportation (WSDOT), Washington State Chapter (hereafter "Standard Specifications").

The Standard Specifications, as modified or supplemented by these Special Provisions, shall govern all of the Work. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

Also incorporated into the Contract Documents by reference are:

Manual on Uniform Traffic Control Devices for Streets and Highways, current edition as amended by WSDOT

Standard Plans for Road, Bridge and Municipal Construction, WSDOT, 2020 edition

City of Lakewood Engineering Standards Manual, current edition

City of Lakewood Standard Plans, current edition

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

DESCRIPTION OF WORK

The work to be performed under this Contract consists of furnishing of materials, equipment, tools, labor, and other work or items incidental thereto (excepting any materials, equipment, utilities, or service, if any specified herein to be furnished by Owner or others), and performing all Work as required by the Contract in accordance with the Contract Documents, all of which are made a part hereof.

Roadway improvements within the right-of-way of Washington Boulevard and Gravelly Lake Drive. Work includes but is not limited to: curb and gutter, sidewalk, concrete and asphalt paving, water main, stormwater conveyance and treatment, channelization, electrical and all other necessary work to complete the project as specified and shown in the Contract Documents.

✶ ✶ IMPORTANT - PLEASE READ ✶ ✶

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

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

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

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

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

WSDOT GSP: A WSDOT General Special Provision applicable to this project, or required to be inserted in the specifications of all projects with Federal Aid

DIVISION 1
GENERAL REQUIREMENTS

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions *Supplement*

Section 1-01.3 is supplemented with the following:

Whenever the words "as directed", "as required", "as permitted", or words of the like effect are used, it shall be understood that the direction, requirement or permission of Owner and Engineer is intended. The words "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in the judgment of Owner and Engineer. The words "approved", "acceptable", "satisfactory" or other words of like import shall mean approved by or acceptable to Owner and Engineer.

Business Day
Any day other than Saturday, Sunday, or a legal local, state, or Federal holiday.

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

Contract Time
Either the unit price or prices, or lump sum price or prices named in the proposal, or in properly executed change orders.

Days
Days as used in these Special Provisions will be understood to mean **working days** unless otherwise stated.

Install
Means "furnish and install" as specified and shown in the Plans unless otherwise noted that materials are to be furnished by others.

Or Equivalent
A manufactured article, material, method, or work, which in the sole opinion of the Engineer is equally desirable or suitable for the purposes intended in the Contract Documents, as compared with similar articles specifically mentioned therein.

Owner
The City of Lakewood and its authorized representatives, which is a party to the Agreement. Also referred to in the Standard Specifications as Contracting Agency.

Performance and Payment Bond

Same as "Contract Bond" defined in the Standard Specifications.

Provide
Means "furnish and install" as specified and shown in the Plans.

Shop Drawings
Same as "Working Drawings" defined in the Standard Specifications.

Supplemental Drawings and Instructions
Additional instructions by Engineer at request of Contractor by means of drawings or documents necessary, in the opinion of Engineer, for the proper execution of the work. Such drawings and instructions are consistent with the Contract Documents.

Utility
Public or private fixed improvement for the transportation of fluids, gases, power, signals, or communications and shall be understood to include tracks, overhead and underground wires, cables, pipelines, conduits, ducts, sewers, or storm drains.

1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders *Replacement*

Delete Section 1-02.1 and replace it with the following:

Bidders shall be qualified by experience, financing, equipment, and organization to do the work called for in the Contract. The Contracting Agency reserves the right to take whatever action it deems necessary to ascertain the ability of the bidder to perform the work satisfactorily.

1-02.2 Plans and Specifications *Replacement*

Delete Section 1-02.2 and replace it with the following:

The Contracting Agency will place review copies of the Plans, Specifications, addenda, plan holders list, and any available maps in the office of the City of Lakewood Public Works Director (253) 983-7795.

After Award of the Contract, the Plans and Specifications will be issued without charge on the following basis:

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced Plans (11" X 17") and accompanying Special Provisions	10	Furnished automatically upon Award.
Large Plans (22" X 34") and accompanying Special Provisions	1	Furnished automatically upon Award.

1-02.9 Delivery of Proposal *Supplement*

Section 1-02.9 is supplemented with the following:

E-mailed submittals are not acceptable. The Contracting Agency is not responsible for delayed, partial, failed, illegible or partially legible FAX document transmissions, and such documents may be rejected as incomplete at the Bidder's risk.

Sealed bids are to be received at the following location prior to the time specified:

At the office of the City Clerk 6000 Main Street SW, Lakewood, Washington 98499-5027 until 2:00 P.M. of the bid opening date, and not later.

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.2 Award of Contract *Supplement*

Section 1-03.2 is supplemented with the following:

The award of contract, if made, will be made to the lowest responsible bidder. No award will be made until necessary investigations are made by Owner as to the responsibility of the apparent low bidder. Owner shall be the sole judge as to the responsibility of the bidder to satisfactorily perform the work as specified and within the time limit set.

A contract will not be awarded until Owner is satisfied that the lowest bidder is familiar with the class of work contemplated and has the necessary capital, tools, and experience to satisfactorily perform the work within the time stated. Completion of the work within the time stated is essential, and prior commitments of the bidder, failure to complete other work on time, or reasonable doubt as to whether the bidder would complete the work on time would be cause for the rejection of any bid.

Owner further reserves the right to award the contract for the work subject to budget constraints, Owner's successful completion of financing arrangements, or upon obtaining all rights of entry from adjacent property owners.

A Notice of Award will be forwarded by Engineer on behalf of Owner to the successful Contractor, which notice will also state the place and date of the pre-construction conference. The Notice of Award will be accompanied by the Agreement form and Performance Bond to be signed by Contractor (and Surety as applicable) and returned to Owner within 10 calendar days from receipt, along with the applicable certificates of insurance.

1-03.4 Contract Bond *Supplement*

Section 1-03.4 is supplemented with the following:

(June 27, 2011)

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

1. Payment to the State with respect to taxes imposed pursuant to Title 82, RCW on Contracts totaling more than $ 35,000, a release has been obtained from the Washington State Department of Revenue.

2. Affidavits of Wages Paid for the Contractor and all Subcontractors are on file with the Contracting Agency (RCW 39.12.040).

3. A certificate of Payment of Contributions Penalties and Interest on Public Works Contract is received from the Washington State Employment Security Department.

4. Washington State Department of Labor and Industries (per Section 1-07.10) shows the Contractor, Subcontractor(s) and any lower tier Subcontractor(s) are current with payments of industrial insurance and medical aid premiums.

5. All claims, as provided by law, filed against the Contract Bond have been resolved.

1-03.8 Preconstruction Conference *New*

Section 1-03.8 is added as follows:

A preconstruction conference will be held at a time and place fixed by Owner as stated in the Notice of Award.

In addition to Contractor, the intended project superintendents, subcontractor foremen, and major suppliers - those who will actually be involved in construction activities - should attend the preconstruction conference. Contractor must be prepared for a thorough discussion and review, as well as revision which may be deemed necessary in the opinion of Engineer, of the following:

➔ These materials MUST be brought to the preconstruction conference for discussion followed by Engineer review.

➔ Contractor's plan of operation and progress schedule (3+ copies)
➔ Approval of qualified subcontractors – Request to Sublet (bring list of subcontractors if different from list submitted with Bid)
➔ List of materials fabricated or manufactured off the project
➔ Material sources on the project
➔ Names of principal suppliers
➔ Detailed equipment list, including “Rental Rate Blue Book” hourly costs (both working and standby rates)
➔ Weighted wage rates for all employee classifications anticipated to be used on Project
➔ Cost percentage breakdown for lump sum bid item(s)
➔ Shop Drawings (bring preliminary list)
➔ Traffic Control Plans (3+ copies)

➔ Temporary Water Pollution/Erosion Control Plan
Bonds and insurance
Project meetings – schedule and responsibilities
Provision for inspection for materials from outside sources
Responsibility for locating utilities
Responsibility for damage
Time schedule for relocations, if by other than Contractor
Compliance with Contract Documents
Acceptance and approval of work
Labor compliance, payrolls, certifications
Safety regulations for Contractors' and Owner's employees and representatives
Suspension of work, time extensions
Change order procedures
Progress estimates - procedures for payment
Special requirements of funding agencies
Construction engineering, advance notice of special work
Any interpretation of the Contract Documents requested by Contractor
Any conflicts or omissions in Contract Documents
Any other problems or questions concerning the work
Processing and administration of public complaints
Easements and rights of entry
Other contracts

The franchise utilities may be present at the preconstruction conference, and Contractor should be prepared for their review and discussion of progress schedule and coordination.

1-04 SCOPE OF THE WORK

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

Delete the second paragraph of this section and replace it with the following:

Any inconsistency in the parts of the Contract shall be resolved by following this order of precedence (with 1 being the highest order of precedence):

1. Change Orders (if any)
2. Agreement Form
3. Addenda (if any)
4. Proposal
5. Special Provisions
6. Contract Plans
7. Standard Plans/Details in Contract Provisions
8. Amendments to the WSDOT Standard Specifications
9. WSDOT Standard Specifications
10. City of Lakewood Standard Plans

11. WSDOT Standard Plans

1-04.4(1) Minor Changes *Supplement*

Section 1-04.4(1) is supplemented with the following:

Payments and credits will be determined in accordance with Section 1-09.4 of the Standard Specifications. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for "Minor Changes" in the Proposal to become a part of the total bid by the Contractor. **The Contractor shall notify the Engineer immediately by telephone in the event of any change to the work that will require compensation and follow it up within two business days with written description and estimate of additional compensation e-mailed to the Engineer. Failure to notify the Engineer per these requirements will result in forfeiture of the claim of additional compensation.**

Minor Change	Force Account

1-04.11 Final Cleanup *Supplement*

Section 1-04.11 is supplemented with the following:

Final cleanup shall also include:

1. Clean all storm drain pipes, structures and ditches that may have filled during work.
2. Replace damaged surfacing.
3. Clean all windows and broom clean buildings.

1-05 CONTROL OF WORK

1-05.4 Conformity With and Deviation from Plans and Stakes *Supplement*

Section 1-05.4 is supplemented with the following:

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

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

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

to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

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

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

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points. Survey control field notes and secondary control point values shall be submitted to the Engineer for review and acceptance a minimum of three (3) working days prior to commencing any construction activities that rely on the Contractor’s survey control.

2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.

3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.

4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes.

5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.

6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet.

7. Establish intermediate elevation benchmarks as needed to check work throughout the project.

8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.

9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

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

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

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

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

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

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

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

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

Stakes shall be marked in accordance with Standard Plan H-14. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

Payment
Payment will be made for the following bid item:

Survey Control	Lump Sum
Roadway Surveying	Lump Sum

The lump sum contract price for “Survey Control” shall be full pay for all labor, equipment, materials, and supervision utilized to perform the task of setting control points and verifying the control given as described in description of work item number 1 above. This work shall require the contractor to submit survey notes for review to the engineer no later than three days prior to three working days prior to commencing work.

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

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

Section 1-05.7 is supplemented with the following:

If any work is declared defective and/or unauthorized by the engineer, the Contractor shall promptly replace and re-execute work by Contractor forces, in accordance with the intent of the Contract and without expense to Owner, and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

If Contractor does not remove such condemned work and materials and commence re-execution of the work within 7 calendar days of notice from Engineer, Owner may correct the same as provided in the Standard Specifications. In that case, Owner may store removed material.

If Contractor does not pay the cost of such removal and storage within 10 calendar days from the date of the notice to Contractor of the fact of such removal, Owner may, upon an additional 10 calendar days written notice, sell such materials at public or private sale, and deduct all costs and expenses incurred from moneys due to Contractor, including costs of sale, and accounting to Contractor for the net proceeds remaining. Owner may bid at any such sale. Contractor shall be liable to Owner for the amount of any deficiency from any funds otherwise due Contractor.

If any part or portion of the work done or material furnished under this contract shall prove defective and not in accordance with the Contract Provisions and if the imperfection of the same shall not be of sufficient magnitude or importance as to make the work dangerous or unsuitable or if the removal of such work will create conditions which are dangerous or undesirable, the Owner shall have the right and authority to retain such work but shall make such deductions in the final payment as may be just and reasonable, at the sole discretion of the Owner.

1-05.10 Guarantees *Supplement*

Section 1-05.10 is supplemented with the following:

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

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

1-05.11 Final Inspection *Supplement*

Section 1-05.11 is supplemented with the following:

Unless otherwise noted in the Contract Documents, Contractor shall give Engineer a minimum of 3 working days notice of the time for each test and inspection. If the inspection is by another authority than Engineer, Contractor shall give Engineer a minimum of 3

working days notice of the date fixed for such inspection. Required certificates of inspection by other authority than Engineer shall be secured by Contractor.

1-05.14 Cooperation with Other Contractors *Supplement*

Section 1-05.14 is supplemented with the following:

Contractor shall afford Owner and other contractors working in the area reasonable opportunity for the introduction and storage of their materials and the execution of their respective work and shall properly connect and coordinate Contractor's work with theirs.

Other utilities, districts, agencies, and contractors who may be working within the project area are:

1. Puget Sound Energy (gas)
2. Lakeview Light and Power
3. Comcast
4. Century Link
5. City of Lakewood
6. Lakewood Water District
7. Pierce Transit

1-05.14(1) Notifications Relative to Contractor's Activities *New*

Section 1-05.14(1) is added as follows:

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

a. The name(s) of the construction superintendent in responsible charge, and other individuals having full authority to execute the orders or directions of Engineer, in the event of an emergency.
b. The time of the commencement and completion of work.
c. Names of streets or locations of alleys to be closed.
d. Schedule of operations.
e. Routes of detours where possible.
f. Planned utility shutdown times and locations.
g. Construction staging.

Contractor must notify the same parties, in writing, of all changes to any of the above items during the project.

The following addresses and telephone numbers of public and franchise utilities and public services are supplied for the Contractor's convenience.

Lakewood Water District
Attention: Ian Black
P.O. BOX 99729
11900 Gravelly Lake Drive SW
Lakewood, Washington 98499
Telephone: 253.588.4423
Fax: 253.588.7150

Clover Park School District –
Business Office
Attn: Michael Forsythe
10903 Gravelly Lake Drive SW
Lakewood, WA 98499
Telephone: 253.583.5011
Fax: 253.583.5018

City of Lakewood Police Department
9401 Lakewood Drive SW
Lakewood, Washington 98499
Telephone: 253.830.5000
Fax:253.830.5069

U.S. Post Office
Lakewood Center Branch
Attention: Tim Fox
Lakewood, WA 98499
Telephone: 800.275.8777

Pierce County Sewer
Attention: Bill Murphy
10311 Chambers Creek Road West
Tacoma, WA 98467-1040
Telephone: 253.798.3013
Fax: 253.798.3023

Pierce County Fire
District # 2
7509 Grange West
Lakewood, Washington 98499
Telephone: 253.582.4600 (Station)
Fax: 253.582.7912

Puget Sound Energy (Gas and Power)
Attention: Jeff Payne
3130 S. 38th Street
Tacoma, WA 98409
Telephone: 253.476.6267
Fax: 253.476.6323

Pierce Transit
Attention: Mark Davilla
3701 96th Street SW
P.O. Box 99070
Lakewood, Washington 98499-0070
Telephone: 253.581.8001
Fax: 253.984.8161

1-05.16 Protection and Restoration of Existing Markers and Monuments *New*

Section 1-05.16 is added as follows:

Contractor shall take care to protect all existing monuments and property corner markers encountered during the course of construction. Contractor shall immediately notify Owner of any existing monuments and property corners disturbed by construction activities. All existing markers and/or monuments that must be removed for construction purposes are to be referenced by survey ties and then replaced by Contractor. The Contractor shall follow the "monument removal process" outlined in WAC 332-120. All existing property corner markers disturbed or removed by Contractor's operations which, in the opinion of Engineer, were not required to be removed for construction purposes shall be replaced, at Contractor's own expense, by a Professional Land Surveyor registered in the State of Washington. Resetting of property corners for which there is no Record of Survey or Short Plat filed with the County Auditor may require exhaustive and expensive resurvey.

1-06 CONTROL OF MATERIAL

1-06.1 Approval of Materials Prior to Use *Supplement*

Section 1-06.1 is supplemented with the following:

The Contractor shall submit a minimum of 3 copies each of the Qualified Products List or Request for Approval of Material for each of the materials and equipment to be installed under the Contract. Engineer will review the lists within 10 working days, noting required corrections. Contractor shall make required corrections and file a minimum of 3 corrected copies with Engineer within one week after receipt of required corrections. Engineer's review and acceptance of the lists shall not relieve Contractor from responsibility for suitability for the intended purpose, nor for deviations from the Contract Documents.

1-06.2(1) Samples and Tests for Acceptance *Supplement*

Section 1-06.2(1) is supplemented with the following:

The finished Work shall be in accordance with approved samples. Approval of samples by Engineer does not relieve Contractor of responsibility for performance of the Work in accordance with the Contract Documents.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.2 State Taxes *Modification*

The third paragraph of Section 1-07.2 is revised to read:

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

Section 1-07.2 is supplemented with the following:

The work on this contract is to be performed upon lands whose ownership obligates the Contractor to pay Sales tax. The provisions of Section 1-07.2(1) apply.

1-07.9(5) Required Documents *Modification*

Delete the first sentence of the third paragraph, and replace it with the following:

Contractor must submit weekly certified payrolls for the Contractor and all subcontractors and lower tier subcontractors, regardless of project's funding source.

1-07.13(2) Relief of Responsibility for Completed Work *Replacement*

Delete Section 1-07.13(2) and replace it with the following:

Contractor shall bear the risk of loss or damage for all finished or partially finished work until Final Acceptance of the entire Contract.

1-07.13(3) Relief of Responsibility for Damage by Public Traffic *Modification*

Change the first sentence to read:

When it is necessary for public traffic to utilize a roadway facility during construction, Contractor may, upon approval of a written request for each completed section, be relieved of responsibility for damages to permanent work by public traffic under the following circumstances:

1-07.14 Responsibility for Damage *Modification*

In the first sentences of both the first and third paragraphs, after the words "State, Commission, Secretary and all officers and employees of the State", add:

and Owner, and their officers and employees…

1-07.14(1) Attorney's Fees, Costs, and Interest *New*

Section 1-07.14(1) is added as follows:

Contractor shall reimburse Owner for attorney's fees, whether incident to suit or not, court costs, and other expenses incurred by Owner in enforcing any provision of this Contract or made necessary by any default of Contractor. Any charge by Owner to Contractor, pursuant to the terms of this Contract shall bear interest at the rate of 8 percent per annum from the date of demand by Owner, except that, if such claims are satisfied from funds withheld by Owner from Contractor, no interest shall be charged.

1-07.15(1) Spill Prevention, Control and Countermeasures (SPCC) Plan *Supplement*

Section 1-07.15(1) is supplemented with the following:

Contractor shall prepare a project specific spill prevention, control and countermeasures (SPCC) plan to be used for the duration of the project as specified in the WSDOT Standards Specifications. The plan shall be submitted and approved by the Engineer prior to commencement any on site construction activities.

Payment

Payment will be made for the following bid item:

SPCC Plan	Lump Sum

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

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

Contractor shall save Owner harmless from all suits and actions of every kind and description that might result from Contractor's use of property other than that belonging to Owner.

Contractor shall provide and maintain all passageways, guard fences, lights, and other facilities for protection required by public authority or local conditions.

Contractor is hereby advised that the location of fences, mail and paper boxes, trees, landscaping and other objects, if shown in the Plans, is provided solely to provide warning of the probable location of said objects and may not be precise or complete. Contractor shall satisfy himself as to the exact locations by contacting the property owners before proceeding with work.

1-07.16(1)A Maintenance of Streets *New*

Section 1-07.16(1)A is added as follows:

Contractor shall be responsible for controlling dust and mud within the project limits. Contractor shall clean up on a daily basis all refuse, rubbish, scrap material and debris caused by the work, to the end that, at all times, the site of the work shall present a neat, orderly and workmanlike appearance.

Contractor shall be responsible at all times for the maintenance of streets and other utilities affected by construction operations. Contractor shall clean and sweep streets at the end of each working day, and throughout the working day as deemed necessary by Engineer, to render the streets free of all mud, debris, and foreign materials.

In the event Contractor fails to conform to these requirements, Owner shall have the right to have the work done by others and the cost shall be deducted from moneys due to Contractor in accordance with Section 1-05.7 of the Standard Specifications.

1-07.16(3) Fences, Mailboxes, Incidentals *Supplement*

Section 1-07.16(3) is supplemented with the following:

Contractor shall follow any requirements of the USPS for maintenance of postal service during the course of construction. Where it becomes necessary to remove or otherwise disturb existing mail or paper boxes within the limits of the project, the Contractor shall install the boxes temporarily in such a position the services will not be impaired. This work shall be considered incidental to all other bid items listed in the proposal. No further payment shall be made.

1-07.17 Utilities and Similar Facilities *Supplement*

Section 1-07.17 is supplemented with the following:

Existing utilities indicated in the Plans have been plotted from the best information available to Engineer. Information and data shown or indicated in the Contract Documents with respect to existing underground utilities or services at or contiguous to the project site are based on information and data furnished to Owner and Engineer by owners of such underground facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof. It is to be understood that other aboveground or underground facilities not shown in the Plans may be encountered during the course of the work.

All utility valves, manholes, vaults, or pull boxes which are buried shall be conspicuously marked in a fashion acceptable to the Owner and Engineer by the Contractor to allow their location to be determined by the Engineer or utility personnel under adverse conditions (inclement weather or darkness).

Where underground main distribution conduits, such as water, gas, sewer, electric power, or telephone, are shown in the Plans, the Contractor, for the purpose of preparing his bid, shall assume that every property parcel will be served by a service connection for each type of utility.

Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area. Contractor shall resolve all crossing and clearance problems with the utility company concerned. No excavation shall begin until all known facilities, in the vicinity of the excavation area, have been located and marked.

In addition to Contractor having all utilities field marked before starting work, Contractor shall have all utilities field marked after they are relocated in conjunction with this project.

At least 2 and not more than 10 business days prior to commencing any excavations for utility potholing or for any other purpose under this Contract, Contractor shall notify the Underground Utilities Location Center by telephone of the planned excavation and progress schedule. A business day is defined as any day other than Saturday, Sunday, or a legal local, state, or Federal holiday. Contractor is also warned that there may be utilities on the project that are not part of the One Call system. They must be contacted directly by Contractor for locations.

Contractor shall make arrangements 48 hours in advance with respective utility owners to have a representative present when their utility is exposed or modified, if the utility chooses to do so.

Existing utilities for telephone, power, gas, water, and television cable facilities shall be adjusted or relocated by the appropriate utility company unless otherwise noted in the Plans. These adjustments may be completed before Contractor begins work, or may be performed in

conjunction with the contract work. Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits. See also Section 1-05.14 of these Special Provisions.

If or when utility conflicts occur, Contractor shall continue the construction process on other aspects of the project whenever possible. No additional compensation will be made to Contractor for reason of delay caused by the actions of any utility company and Contractor shall consider such costs to be incidental to the other items of the contract.

Utility Potholing

The Contractor shall physically locate underground utilities in areas where conflicts are evident from the field markings or where requested by the Engineer using methods and equipment acceptable to the Engineer. The Contractor shall notify the Engineer immediately following the potholing of any conflicts.

In no way shall the work described under Utility Potholing relieve Contractor of any of the responsibilities described in Section 1-07.17 of the Standard Specifications and Special Provisions, and elsewhere in the Contract Documents.

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

Section 1-07.18 is supplemented with the following:

City of Lakewood shall also be added as additional insured by endorsement to the certificates of insurance.

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

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

The City will permit long term closures of the entire roadway as shown on the staging plans. The Contractor shall maintain all traveling surfaces associated with pipe excavations inside and outside of the closed construction zone during construction. Costs associated with maintaining the traveling surfaces shall be considered incidental to the various unit bid prices for pipe.

There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens. The Contractor shall alert all flaggers and personnel of this requirement.

The Contractor shall be responsible for maintaining all existing signing and pavement markings through the construction zone throughout the course of construction.

Contractor shall notify and coordinate with all property owners, tenants, emergency service providers, post office, school district, and utilities of street closures, or other restrictions

which may interfere with their access—at least 24 hours in advance for single-family residential property, and at least 48 hours in advance for apartments, offices, and commercial property. Contractor shall give a copy of all notices to Engineer.

When the abutting owners' access across the right-of-way line is to be eliminated and replaced under the Contract by other access, the existing access shall not be closed until the replacement access facility is available.

All arrangements for removal of parked vehicles from the right-of-way during construction shall be the Contractor's responsibility.

Contractor shall report immediately to the Engineer and local law enforcement of death, serious injuries, or serious damages result from an accident within or adjacent to the project limits. In addition, the Contractor must promptly report in writing to the Engineer all accidents arising out of or in connection with the performance of the work, whether on or adjacent to the project limits, giving full details and statements of witnesses. If a claim is made by anyone against the Contractor or any subcontractor, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

1-07.23(1)A Temporary Patching *New*

Section 1-07.23(1)A is added as follows:

The Contractor shall schedule work so that all utility cuts and other areas requiring patching that will be subject to vehicular traffic are made permanent by the end of each working day unless otherwise approved by the Engineer. In any case, the Contractor shall make patches permanent within 5 working days.

Steel Plates

Steel plates may be placed over unfinished portions of work at the end of each working day if approved by the Engineer. Steel plates must be anchored with bolts and shimmed at all edges with MC Cold Mix or hot mix asphalt concrete pavement. Contractor shall be responsible for maintaining steel plates, associated anchors and asphalt shims 24 hours a day, 7 days a week. Contractor shall provide appropriate signage for steel plating. Costs for steel plates shall be incidental to other bid items and shall include signage, setting, maintaining, and removal.

Temporary Patches

Temporary patches in areas subject to vehicular traffic will not be allowed unless otherwise approved by the Engineer. Material for temporary patches shall be MC Cold Mix or Hot Mix Asphalt pavement. All temporary patches shall be maintained on a daily basis. Costs for temporary patches shall be incidental to other bid items and shall include costs for maintenance, removal, and disposal of the temporary patch.

1-08 PROSECUTION AND PROGRESS

1-08.1 Subcontracting *Supplement*

Section 1-08.1 is supplemented with the following:

Written requests for change in subcontractors shall be submitted by Contractor to Engineer at least 7 calendar days prior to start of a subcontractor's work.

Contractor agrees that he is fully responsible to Owner for the acts and omissions of all subcontractors and lower-tier subcontractors, and persons either directly or indirectly employed by the subcontractors, as well as for the acts and omissions of persons directly employed by Contractor. Contractor shall be required to give personal attention to the work which is sublet. Nothing contained in the Contractor Provisions shall create any contractual relationship between any subcontractor and the Owner.

Contractor shall be responsible for making sure all subcontractors submit all required documentation, forms, etc.

1-08.2 Assignment *Modification*

Change the second paragraph to read:

The Contractor shall not assign any moneys due or to become due to Contractor hereunder without the prior written consent of Owner. The assignment, if approved, shall be subject to all setoffs, withholdings, and deductions required by law and the Contract.

1-08.3(5) Payment *Replacement*

Section 1-08.3(5) is deleted and replaced with the following:

The cost of preparing the progress schedule, any supplementary progress schedules, and weekly schedules shall be considered incidental to the Contract and no other compensation shall be made.

1-08.6 Suspension of Work *Supplement*

Section 1-08.6 is supplemented with the following:

Owner may at any time suspend the work, or any part thereof, by giving notice to Contractor in writing. The work shall be resumed by Contractor within 14 calendar days after the date fixed in the written notice from Owner to Contractor to do so.

It is anticipated that the owner will suspend work for final paving, striping, and traffic signal procurement.

Contractor shall not suspend work under the Contract without the written order of Owner.

1-08.9 Liquidated Damages *Supplement*

Section 1-08.9 is supplemented with the following:

In addition, Contractor shall compensate Owner for actual engineering inspection and supervision costs and any other expenses and legal fees incurred by Owner as a result of such delay. Such labor costs will be billed to Contractor at actual costs, including administrative overhead costs.

In the event that Owner is required to commence any lawsuit in order to enforce any provision of this Contract or to seek redress for any breach thereof, Owner shall be entitled to recover its costs, including reasonable attorney's fees, from Contractor.

Liquidated Damages Formula

LD = 0.15*C/T

Where: LD = liquidated damages per working day (rounded to the nearest dollar)
C = original Contract amount
T = original time for Physical Completion.

1-09 MEASUREMENT AND PAYMENT

1-09.1 Measurement of Quantities *Supplement*

Section 1-09.1 is supplemented with the following:

Lump Sum. The percentage of lump sum work completed, and payment will be based on the cost percentage breakdown of the lump sum bid price(s) submitted at the preconstruction conference.

Cubic Yard Quantities. Quantities measured by cubic yard for this contract have been calculated using a Digital Terrain Model (DTM) software system. Measurement of these quantities shall be plan quantity.

The Contractor shall provide truck trip tickets for progress payments only in the following manner. Where items are specified to be paid by the cubic yard, the following tally system shall be used.

All trucks to be employed on this work will be measured to determine the volume of each truck. Each truck shall be clearly numbered, to the satisfaction of Engineer, and there shall be no duplication of numbers.

Duplicate tally tickets shall be prepared to accompany each truckload of material delivered on the project. The tickets shall include the following information:

1. Truck number
2. Quantity and type of material delivered in cubic yards
3. Drivers name, date and time of delivery
4. Location of delivery, by street and stationing on each street
5. Place for Engineer to acknowledge receipt
6. Pay item number
7. Contract number

It will be Contractor's responsibility to see that a ticket is given to Engineer or Inspector on the project for each truckload of material delivered. Pay quantities will be prepared on the basis of said tally tickets.

Loads will be checked by Engineer to verify quantity shown on ticket.

Quantities by Ton. It will be Contractor's responsibility to see that a certified weight ticket is given to the Inspector on the project at the time of delivery of materials for each truckload delivered. Pay quantities will be prepared on the basis of said tally tickets, delivered to Inspector at time of delivery of materials. Tickets not receipted by Inspector will not be honored for payment.

Each truck shall be clearly numbered to the satisfaction of Engineer and there shall be no duplication of numbers.

Duplicate tickets shall be prepared to accompany each truckload of material delivered to the project. The tickets shall bear at least the following information:

1. Truck number
2. Truck tare weight (stamped at source)
3. Gross truck load weight in tons (stamped at source)
4. Net load weight (stamped at source)
5. Driver's name, date, and time of delivery
6. Location for delivery by street and stationing on each street
7. Place for Engineer to acknowledge receipt
8. Pay item number
9. Contract number

1-09.6 Force Account *Supplement*

Section 1-09.6 is supplemented with the following:

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

1-09.7 Mobilization *Supplement*

Section 1-09.7 is supplemented with the following:

Mobilization shall also include, but not be limited to, the following items: the movement of Contractor's personnel, equipment, supplies, and incidentals to the project site; the establishment of an office, buildings, and other facilities necessary for work on the project; providing sanitary facilities for Contractor's personnel; and obtaining permits or licenses required to complete the project not furnished by Owner.

Mobilization shall also include the installation of two project signs per City of Lakewood Standard Plan PS-07, attached as Appendix C.

Payment will be made for the following bid item:

Mobilization	Lump Sum

1-09.9 Payments *Supplement*

Section 1-09.9 is supplemented with the following:

Applications for payment shall be itemized and supported to the extent required by Engineer by receipts or other vouchers showing payment for materials and labor, payments to subcontractors, and other such evidence of Contractor's right to payment as Engineer may direct.

Contractor shall submit a progress report with each monthly request for a progress payment. The progress report shall indicate the estimated percent complete for each activity listed on the progress schedule (see Section 1-08.3).

1-09.9(1) Retainage *Supplement*

Section 1-09.9(1) is supplemented with the following:

The retained amount shall be released as stated in the Standard Specifications if no claims have been filed against such funds as provided by law and if Owner has no unsatisfied claims against Contractor. In the event claims are filed, Owner shall withhold, until such claims are satisfied, a sum sufficient to satisfy all claims and to pay attorney's fees. In addition, Owner shall withhold such amount as is required to satisfy any claims by Owner against Contractor, until such claims have been finally settled.

Neither the final payment nor any part of the retained percentage shall become due until Contractor, if requested, delivers to Owner a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof, and, if required in either case, an affidavit that so far as Contractor has knowledge or information, the release and receipts include all labor and materials for which a lien could be filed: but Contractor may, if any subcontractor refuses to

furnish a release or receipt in full, furnish a bond satisfactorily to Engineer to indemnify Owner against the lien. If any lien remains unsatisfied after all payments are made, Contractor shall reimburse to Owner all monies that the latter may be compelled to pay in discharging such lien, including all costs and reasonable engineer's and attorney's fees.

1-10 Temporary Traffic Control

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

Section 1-10.2(2) is supplemented with the following:

The City has prepared traffic control plans showing the necessary construction traffic control and equipment required for the project. It is the sole responsibility of the Contractor to maintain a stable safe passage of vehicle and pedestrian traffic through and around the construction zone. Utilizing the City's traffic control plan does not alleviate the Contractor from this responsibility. The Contractor shall adopt this plan or submit a revised plan to the City of Lakewood for review and approval at the Preconstruction Conference in advance of the commencement of work. The traffic control plan shall identify special provisions for maintaining access to businesses at all times and shall include placement of Project Signs. The plan shall also identify lane restriping, closures, and detours that are planned throughout the construction of the project. The plan shall be updated as appropriate or required by the Owner for the duration of construction. The plan shall designate the responsible person in charge of traffic control and furnish work and emergency telephone numbers.

Whenever changes or additions to the Traffic Control Plans are necessary, or desired by Contractor, Contractor must submit the revised Plan to Engineer at least 2 working days before starting the affected work, including but not limited to:

- Prior to periods of work stoppage, a traffic control plan shall be submitted for Engineer approval, which allows for keeping the existing traveled lanes and pedestrian access open.
- Traffic control plans for lane closures and pedestrian movements shall be submitted to Engineer for approval.

1-10. 5 Payment *Supplement*

Section 1-10.5 is supplemented with the following:

Payment will be made for the following bid item:

Project Temporary Traffic Control	Lump Sum

All costs in connection with handling and protecting pedestrian and vehicular traffic including but not limited to grinding existing markings for temporary pavement markings, temporary pavement markings for phased construction, business open signs, barricades, traffic control signs, supplying and operating portable changeable message signs, and

installing, maintaining and removing temporary striping shall be included in the contract price for the bid item listed above. No other payment will be made.

END OF DIVISION 1

DIVISION 2
EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description *Supplement*

The limits of clearing and grubbing (construction limits) shall be defined as the clearing and grubbing lines as shown in the Plans, INCLUDING ANY TREES DESIGNATED FOR REMOVAL ON THE PLANS, REGARDLESS OF SIZE OR LOCATION OUTSIDE OF THE CLEARING AND GRUBBING LIMITS. All trees designated on the Plans and flagged by the Engineer to remain within the clearing and grubbing limits shall be protected by the Contractor and left undamaged by the Contractor's operations. If any flagged trees to be protected are damaged by the Contractor, the tree shall be replaced in kind at the Contractor's expense. For trees and shrubs which cannot be replaced in kind, the Contractor will be assessed damages equal to the triple value of the tree or shrub in accordance with Section 1-07.16(2) of the Standard Specifications.

See Plans for locations and sizes of tree diameter at breast height. Approximately 44 trees have been identified on the Plans for removal.

Existing landscaping outside the clearing and grubbing limits, including but not limited to, sod, rockeries, irrigation systems, beauty bark, decorative gravel or rock, bushes, and shrubbery shall be protected from damage.

Adjacent property owners shall be allowed to remove and/or relocate trees, shrubs, curbing, ornamental plants, and any other decorative landscaping materials from within the clearing and grubbing limits. **The Contractor shall give property owners 14 calendar days written notice to remove materials.** All landscaping materials that remain within the clearing and grubbing limits shall be removed and disposed of by the Contractor, in accordance with Section 2-01 of the Standard Specifications, these Special Provisions, and the Plans.

2-01.2 Disposal of Usable Material and Debris *Supplement*

The Contractor shall dispose of all debris by Disposal Method No. 2 - Waste Site.

2-01.3 Construction Requirements

2-01.3(1) Clearing *Supplement*

The Contractor shall clear, grub and remove all tree**s** designated for removal on the Plans, regardless of location within the clearing and grubbing limits.

2-01.3(2) Grubbing *Supplement*

The Contractor shall remove the stumps and roots of all trees and shrubs within the clearing and grubbing limits.

2-01.3(4) Roadside Cleanup *Supplement*

All work related to roadside cleanup shall be with the pay item for Property Restoration in Section 8-02.

2-01.4 Measurement *Supplement*

Measurement for clearing and grubbing will be by lump sum.

2-01.5 Payment *Supplement*

Payment will be made for the following bid items:

Clearing and Grubbing	Per Lump Sum

The lump sum bid price for "Clearing and Grubbing" shall be full compensation for all labor, materials, tools and equipment necessary to perform the work in accordance with the Contract Documents.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.1 Description *Supplement*

Additional work included in this section includes removal of drainage structures.

2-02.3 Construction Requirements *Supplement*

This work shall consist of the demolition, removal and disposal of various existing improvements as Removal of Structures and Obstructions. The following partial list of items to be removed and disposed of is provided for the convenience of the contractor and is included in the lump sum bid item "Removal of Structures and Obstructions" (the contractor shall review the Plans, Specifications, and project site to verify other items to be removed):

Item	Approximate Location	Quantity
Wall Removal	Varies	440 SY
Fence Removal	Varies	285 LF

The Bid item Removal of Structures and Obstructions also includes removal and disposal of all bollards, posts, rocks, extruded curb, signs and supports, and other items shown in the Plans within the clearing limits but are not itemized above.

Signal foundation, junction boxes, and electrical facilities shall be included in bid items found in Section 8-20.

Backfill of trenches, holes, or pits that result from removal shall use existing, clean subgrade materials from on-site.

2-02.3(4) Removing Drainage Structures *New*

Where shown in the Plans or where designated by the Owner, the Contractor shall remove existing catch basins, manholes, and other drainage facilities in accordance with Section 2-02 of the Standard Specifications. Removal shall be conducted in such a manner as to prevent damage to surrounding facilities to remain. All remaining facilities damaged due to the Contractor's operations shall be replaced by the Contractor to the satisfaction of the Engineer at no additional cost to the City. Catch basins, manholes, frames, grates solid covers and other drainage facilities designated for removal, including all debris, shall be completely removed. All removed catch basins, manholes, and other drainage facilities shall become the property of the Contractor and shall be disposed of in accordance with Section 2-02 of the Standard Specifications.

Backfill of trenches, holes, or pits that result from removal shall use existing, clean subgrade materials from on-site or gravel borrow compacted according to Sections 2-03.3(14)C and 2-03.3(14)D.

2-02.4 Measurement *New*

Removing drainage structures shall be measured per each, regardless of size, type, or location.

There will be no specific measurement for "Removal of Structures and Obstructions".

Sawcutting (full depth) for removal of any material or item will be considered incidental to Contract and will not be measured.

2-02.5 Payment *Supplement*

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

Removal of Structures and Obstructions	Lump Sum
Removing Drainage Structure	Per Each

The unit contract price for "Removal of Structures and Obstructions" lump sum and "Removing Drainage Structure" per each shall also include any necessary sawcutting and backfill of voids, including backfill material, haul and placement and compaction, and disposal of materials removed with this bid item, as required.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 Description *Supplement*

All excavation on the project, except that for the construction of pipe or other structures, shall be considered as "Roadway Excavation Incl. Haul".

2-03.3 Construction Requirements *Supplement*

Roadway excavation shall include the removal and haul of all materials from within sawcuts, clearing and grubbing limits, including asphalt and concrete pavements where designated for

removal. Asphalt and cement concrete pavement includes all pavement, sidewalks, curbs and gutters, which shall be hauled in broken-up pieces to a permitted, off-site disposal location. Existing pavements will not be incorporated into the project.

Any changes to the proposed work as authorized by the Engineer that would alter these quantities will be calculated by the Engineer and submitted to the Contractor for review and verification. Once verified, the quantities shall be added to or subtracted from the quantities given in this Contract.

Any excavation beyond the limits indicated in the Plans, unless ordered by the Engineer, shall not be paid for. All work and material required to return these areas to their original conditions, as determined by the Engineer, shall be provided by the Contractor at no expense to the Contracting Agency.

All areas shall be excavated, filled, and backfilled as necessary to comply with the grades shown in the Plans. In filled and backfilled areas, fine grading shall begin during the placement and the compaction of the final layer. In cut sections, fine grading shall begin within the final 6 inches of cut. Final grading shall produce a surface that is smooth and even, without abrupt changes in grade.

Excavation for curbs and gutters shall be accomplished by cutting accurately to the cross-sections, grades, and elevations shown. Care shall be taken not to excavate below the specified grades. The Contractor shall maintain all excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the Work.

Acceptable excavated native soils shall be used for roadway fill, fill under sidewalks, planters, and for construction of fill slopes where shown in the Plans. Care shall be taken to place excavated material at the optimum moisture content to achieve the specified compaction. Any native material used for fill shall be free of organics and debris and have a maximum particle size of 6 inches. Materials which become saturated shall be stockpiled until they are conditioned to the proper moisture content.

The Contractor shall provide temporary drainage to keep the subgrade free from standing water.

It shall be the responsibility of the Contractor to prevent the native materials from becoming saturated with water. Measures to protect the native materials may include sloping to drain, compacting the materials, and diverting runoff away from the materials. If the Contractor fails to take such preventative measures, any cost or delay related to drying the materials shall be performed at no expense to the Contracting Agency.

Following removal of topsoil or excavation to grade and before placement of fills or base courses, the subgrade under the roadway shall be proof-rolled to identify any soft or loose areas which may warrant additional compaction or excavation and replacement.

2-03.3(3) Excavation Below Subgrade *Supplement*

A subgrade trimmer is not required on this project, but all portions of Section 2-03 of the Standard Specifications shall apply as though a subgrade trimmer were specified.

2-03.3(7) Disposal of Surplus Material

2-03.3(7)C Contractor-Provided Disposal Site *Supplement*

The Contractor shall haul any unused excavated material off-site and dispose of it at a legal disposal site unless directed otherwise by the Engineer. Disposal of surplus material shall be considered incidental to the Contract and as such, included in the various unit prices bid in the Proposal.

2-03.3(14) Embankment Construction

2-03.3(14)B Earth Embankment Construction *Supplement*

Acceptable native materials shall be used for embankment construction prior to importing material. Native soils shall, at a minimum, meet the requirements of Select Borrow, Section 9-03.14(2) of the Standard Specifications, or as otherwise approved by the Engineer. After depletion of acceptable native soils, Gravel Borrow per Section 9-03.14(1) shall be used for permanent roadway embankment.

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

Unsuitable materials may be present in some areas and must be immediately brought to the attention of the Engineer. Suitable subgrade materials left exposed to wet weather and runoff will not constitute as unsuitable foundation material for removal. Unsuitable materials shall be removed and replaced with gravel borrow as directed by the Engineer.

Material that must be excavated to provide the required depth of utility trenches, structures, gravel subgrade, and other improvements, regardless of the nature of the material, will not be considered as unsuitable foundation excavation. Work will also not be considered unsuitable foundation excavation if the Contractor has failed to provide temporary drainage per Section 2-03.3 of these Special Provisions, or to implement effective temporary erosion control measures per Section 8-01 of the Standard Specifications.

2-03.4 Measurement *Supplement*

Earthwork plan quantities listed in the Proposal are neat-line in-place quantities based on original ground cross-section data in AutoCAD Civil 3D and do not account for clearing and grubbing, excavation for retaining walls, foundations or utilities. This quantity has been multiplied by 110% to account for removal of any pavements that extend beyond the Civil 3D corridor modeling.

The original ground cross-section data recorded previous to construction will be made available to the Contractor for independent verification. Any discrepancies which materially affect the neat-line plan quantities shall be immediately conveyed to the City and documented by

Contractor-supplied survey and calculations, using the average end area method. No adjustment in quantities will be made for excavated material expansion or embanked material shrink.

2-03.5 Payment *Supplement*

Payment will be made for the following bid items:

Roadway Excavation Incl. Haul	Per Cubic Yard
Embankment Compaction	Per Cubic Yard

The unit contract price per cubic yard for "Roadway Excavation Incl. Haul", shall be full pay for all labor, materials, tools and equipment necessary to accomplish the work, including but not limited to temporary drainage work, sawcutting, hauling excavated materials to embankment areas, and hauling excess or unused materials to a Contractor-provided disposal site, in accordance with the Contract Documents. All removal of pavements, sidewalks, curbs, and gutter will be paid for as part of the quantity removed in excavation.

The unit contract price per cubic yard for "Embankment Compaction" shall be full pay for all labor, materials, tools, and equipment necessary to accomplish the work and shall apply for construction of all embankments in accordance with the Contract Documents.

2-09 STRUCTURE EXCAVATION

2-09.4 Measurement *Supplement*

No specific unit of measurement shall apply to the lump sum item of shoring or extra excavation Class B.

2-09.5 Payment *Supplement*

Payment will be made for the following bid items:

Shoring or Extra Excavation Class B	Per Lump Sum

END OF DIVISION 2

DIVISION 4
BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.1 Description *Supplement*

Crushed surfacing shall be placed where shown in the Plans, as a base for sidewalks, driveways, walls, and pavement, as backfill for unsuitable foundation excavation, at mailbox supports, and for any other purposes deemed necessary by the Engineer.

4-04.4 Measurement *Supplement*

Crushed surfacing materials used for temporary access and maintenance as required under Section 1-07.23(1) **will not be measured for payment** unless it is placed to final grades and maintained as such until paving.

Should the Contractor not prepare subgrade to the correct line and grades and crushed surfacing materials are placed in excess to the depth required by the plans, the excess depth will not be measured for payment but instead be considered to benefit the Contractor. The crushed surfacing materials shall be measured by neat line and that measurement converted to tons for deduction of payment.

4-04.5 Payment *Supplement*

Payment will be made for the following bid items:

Crushed Surfacing Top Course	Per Ton

The unit contract price per ton for "Crushed Surfacing ____ Course" shall also include furnishing, hauling, compacting, and removing and hauling to waste when required by the Engineer.

END OF DIVISION 4

DIVISION 5
SURFACE TREATMENTS AND PAVEMENTS

5-04 HOT MIX ASPHALT *Replacement*

5-04.1 Description

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

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

5-04.2 Materials

Materials shall meet the requirements of the following sections:

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

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

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(1)A Vacant

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;

The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.

The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & signature) of a valid licensed Washington State Professional Engineer.

The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.

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

Mix designs for HMA accepted by Nonstatistical evaluation shall;

Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).

Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

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

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

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

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

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

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

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

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

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

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

Minimum Surface Temperature for Paving

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

5-04.3(2) Paving Under Traffic

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

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

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

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

All costs in connection with performing the Work in accordance with these requirements, 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. A mechanical sampling device attached to the HMA plant.

    b. 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

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

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

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

To be approved for use, an MTV:

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

To be approved for use, an MTD:

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

5-04.3(3)E Rollers

Rollers shall be of the steel wheel, vibratory, oscilatory, 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. 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 1/4 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.

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

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

1. Cracks 1/4 inch to 1 inch in width – fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.

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

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

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:

A. Cracks 1/4 inch to 1 inch in width - fill with hot poured sealant.
B. 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(5)A Vacant

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 a WMA 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 WMA 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 1”0.35 feet		
HMA Class 3/4” and HMA Class 1/2”		
	wearing course	0.30 feet
	other courses	0.35 feet
HMA Class 3/8”		0.15 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

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

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

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

   For Aggregates in the mixture:

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

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

   b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate

properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

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

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

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

5-04.3(9)A Vacant

5-04.3(9)B Vacant

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

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

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

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

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 sublot 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 sublot 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 sublot 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 sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the sublot 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 sublot 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 sublot shall be equal to one day's production or 400 tons, whichever is less except that the final sublot 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 sublot per WSDOT T 738.

The sublot 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 sublot, with one test per sublot.

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 sublot 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 1/2 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 ion 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 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 1/4 inch in 10 feet from the rate of transverse slope shown in the Plans.

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

1. Removal of material from high places by grinding with an approved grinding machine, or

2. Removal and replacement of the wearing course of HMA, or

3. By other method approved by the Engineer.

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

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

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

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

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

The 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 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 police 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

HMA Cl. 1/2 In. PG 58H-22 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.

5-04.5 Payment

Payment will be made for the following bid items:

HMA Cl. 1/2 In. PG 58H-22	Per Ton
Commercial HMA	Per Ton
Asphalt Cost Price Adjustment	Calculation
HMA Speed Hump	Each

The unit contract prices per ton for "HMA Cl. 1/2 In. PG 58H -22" and "Commercial HMA" shall be full pay for all labor, materials, tools and equipment necessary to accomplish the specified work, including but not limited to, preparation of untreated roadway and existing paved surfaces, tack coat, joint sealing, feathering, hauling, placing, wedge curb, speed bumps constructed with adjoining asphalt, and compacting in accordance with the Contract Documents.

HMA Speed Hump shall include all work required to complete the six speed humps shown on sheet TC9. This shall include traffic control, hot mix asphalt including tack coat, traffic marking and signage as shown on the speed table details in accordance with standard plans RW-07 through RW-09.

No adjustment in the unit price shall be allowed for multiple mobilizations to complete the paving.

(January 13, 2021)

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

"HMA Cl. ___ PG ___"
"Commercial HMA"

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

The Contracting Agency will establish asphalt binder reference costs twice each month and post the information on the Agency website at: http://www.wsdot.wa.gov/Business/Construction/EscalationClauses.htm. The reference cost will be determined using posted prices furnished by Poten & Partners, Inc. If the selected price source ceases to be available for any reason, then the Contracting Agency will select a substitute price source to establish the reference cost.

Price adjustments will be calculated one time per month. No price adjustment will be made if the Current Reference Cost is within +/-5% of the Base Cost. Reference costs for projects located in Eastern versus Western Washington shall be selected from the column in the WSDOT website table labeled "Eastern", or "Western", accordingly. The adjustment will be calculated as follows:

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

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

Where: **Current Reference Cost** is selected from the website table based on the "Date Effective" that immediately precedes the current month's progress estimate end date. For work completed after all authorized working days are used, the adjustment will be based on the posted reference cost during which contract time was exhausted.

Base Cost is selected from the website table based on the "Date Effective" that immediately precedes the contract bid opening date, and shall be a constant for all monthly adjustments.

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

"Asphalt Cost Price Adjustment", by calculation.

"Asphalt Cost Price Adjustment" will be calculated and paid for as described in this section. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount in the proposal to become a part of the total bid by the Contractor.

5-05 CEMENT CONCRETE PAVEMENT

5-05.1 Description *Supplement*

This Work shall consist of constructing Cement Conc. Pad for Bus Stop, Cement Concrete Truck Apron, and Cement Concrete Splitter Island on a prepared subgrade or base in accordance with these Specifications and in conformity with the lines, grades, thicknesses, and typical cross-sections shown in the Plans.

5-05.2 Materials *Supplement*

Cement concrete for bus pads shall be commercial concrete, as defined in Section 6-02.3(2)A Contractor Mix Design of the Standard Specifications.

Concrete in truck aprons and splitter islands shall be air entrained concrete Class 4000 in accordance with the requirements of Section 6-02 of the Standard Specifications.

5-05.3 Construction Requirements

5-05.3(8) Joints *Supplement*

The Contractor shall prepare jointing plans per WSDOT Standard Plans A-40.10 and A-40.15, for review and approval by the Engineer.

5-05.3(11) Finishing *Supplement*

All surfaces shall be broom finished.

5-05.4 Measurement *Supplement*

"Cement Conc. Pad for Bus Stop" will be measured per square yard.

"Cement Conc. Truck Apron" will be measured per square yard.

"Cement Conc. Splitter Island" will be measured per square yard.

No separate measurements will be made for rebar or dowel bars and must be included in the unit prices.

5-05.5 Payment *Supplement*

Payment will be made for the following bid items:

Cement Conc. Pad for Bus Stop	Per Square Yard
Cement Conc. Truck Apron	Per Square Yard
Cement Conc. Splitter Island	Per Square Yard
Cement Conc. Pavement	Per Cubic Yard

The unit contract price per square yard for "Cement Conc. Pad for Bus Stop" shall be full pay for all labor, materials and equipment to form, furnish and install concrete, including any reinforcing steel if shown, on the Plans.

The unit contract price per square yard for "Cement Concrete Truck Apron" and for "Cement Concrete Splitter Island" shall be full payment for all labor, materials and equipment to form, furnish and install concrete, including furnishing and placing reinforcing steel or dowel bars.

END OF DIVISION 5

DIVISION 6
STRUCTURES

6-10 CONCRETE BARRIER

6--10.4 Measurement *Supplement*

Single Slope Concrete Barrier with Moment Slab will be measured by the linear foot along its completed line, including sloped terminals.

6--10.5 Payment *Supplement*

Payment will be made for the following bid item:

Single Slope Concrete Barrier with Moment Slab	Per Linear Foot

The unit contract price per linear foot for "Single Slope Barrier with Moment Slab" shall be full pay for excavation, forms, placement, special construction features, and all other materials, tools, equipment, and labor necessary to complete the Work as specified.

END OF DIVISION 6

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

7-04 STORM SEWERS

7-04.3 Construction Requirements *Supplement*

Connection of proposed storm pipes to existing storm pipes shall be completed using a coupler appropriate for both the existing and proposed pipe types and sizes.

7-04.3(2) Infiltration Trench *New*

The Contractor shall furnish and install the infiltration trench, complete and operable as specified herein, and in accordance with the Contract Documents.

The Contractor shall submit the pipe material to the inspector and gain approval from the inspector prior to ordering. The Contractor shall choose between Perforated PVC Underdrain Pipe SDR 35 with Class 1 perforations or Perforated Corrugated Polyethylene Underdrain Pipe with Class 1 perforations.

All contractor-provided work shall meet the requirements of section 7-01.3(2), the plans, specifications, and contract documents. In the case of conflict, the plans shall apply.

7-04.4 Measurement *Modification*

Delete the second sentence of the first paragraph and replace it with the following:

> The number of linear feet will be measured from the center of manhole, catch basin, or similar structure to center of manhole, catch basin, or similar structure.

Section 7-04.4 is supplemented the following:

> Infiltration Trench will be measured per linear foot of 12-inch Perforated Pipe called out in the Plans.
>
> Connect to existing storm pipe will be measured per each.

7-04.5 Payment *Supplement*

Payment will be made for the following bid item:

Schedule A Storm Sewer Pipe 8 In. Diam.	Per Linear Foot
Schedule A Storm Sewer Pipe 12 In. Diam.	Per Linear Foot

Class 52 Ductile Iron Storm Sewer Pipe 12 In. Diam.	Per Linear Foot
Infiltration Trench	Per Linear Foot
Connection to Existing Storm Pipe	Per Each

The unit contract price per linear foot for "Schedule A Storm Sewer Pipe __ In. Diam." and "Class 52 Ductile Iron Storm Sewer Pipe __ In. Diam." shall include but not be limited to furnishing and installing pipe, trench excavation, disposal, dewatering (if required), backfilling with suitable material, bedding, compacting, crushed surfacing top course, unsuitable material excavation haul and disposal, and cleaning and testing of the pipe.

The unit contract price per linear foot for "Infiltration Trench" shall be full pay for all work required to furnish, excavate, level and set pipe to grade, bedding, backfill, compact, place and install the infiltration trench pipe, including special fitting, joint materials, perforations, and other appurtenances necessary for the completion of the installation to the required line and grade, geosynthetic fabric, suitable and unsuitable material excavation, haul, and disposal, gravel backfill and sand to the specifications shown in the plans, and all other work necessary to construct the Infiltration Trench to operable conditions.

The unit contract price per each for "Connection to Existing Storm Pipe" shall be full pay for all labor, materials, tools and equipment necessary to connect proposed storm pipes to existing storm pipes, in accordance with the Contract Documents.

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

7-05.1 Description *Supplement*

All construction shall be in accordance with the plans, details, specifications, these special provisions, and the manufacturer's recommendations.

This Work shall also include locating, removing existing manhole frames and covers, concrete grade rings and collars, furnishing and installing new grade rings, reinstalling or installing new manhole frames and covers, installing new concrete collars, and adjusting the existing sanitary sewer structures in accordance with the Plans, Specifications, and Pierce County Sanitary Sewer Standard Details.

7-05.2 Materials *Supplement*

Frames shall be Reversible Rectangular Frames per WSDOT Standard Plan B-30.10-03.

Grates shall be Rectangular Vaned Grates per WSDOT Standard Plan B-30.30-03 or Rectangular Bi-Vaned Grates per WSDOT Standard Plan B-30.40-03.

Solid Lids shall be Rectangular Solid Metal Covers per WSDOT Standard Plan B-30.20-04.

Circular Frames and Covers shall be per WSDOT Standard Plan B-30.70-04.

Grates located within the pedestrian walkway shall meet ADA requirements.

Catch Basin Type 1P shall be per WSDOT Standard Plan B-5.60-02 and the Plans.

Precast concrete manholes shall be constructed entirely of precast concrete sections conforming to ASTM C478 and shall be of watertight construction.

Precast riser sections shall consist of circular sections in standard nominal inside diameters of 48, 54, 60, 72, and 96 inches. Reinforcement shall be in accordance with ASTM C478. The minimum height of a riser section shall be 1 foot, and only one 1-foot high riser section will be allowed on each manhole. If used, the 1-foot high riser section shall be set in contact with the taper (cone) section when assembling the manhole.

Rectangular and circular adjustment sections and grade rings shall be precast, reinforced concrete meeting the requirements of ASTM C478. Individual grade rings above the taper sections shall be 24 inches inside diameter, and shall be between 4 and 6 inches high. The overall height of grade ring(s) shall be a minimum of 4 inches, and shall be no greater than 12 inches (two 6-inch rings).

Precast concrete manholes shall have a manhole joint sealing system utilizing flexible sewage-resistant synthetic rubber gaskets conforming to the requirements of ASTM C443. Gasket joint details shall be subject to approval by the County. A pre-formed joint sealant shall also be used for all manhole section joints. This sealant shall be in rope form conforming to the requirements of Federal Specification SS-S-210. Pre-formed joint sealant shall be Kent SealTM as manufactured by Hamilton Kent, Ram-Nek XT as manufactured by the Henry Company, or Approved Equal.

Pierce County shall supply all new manhole rings and covers. Coordinate with Morgan Gordon at 253 798-3068 for procurement.

Polypropylene manhole steps shall meet the requirements of ASTM C478 and AASHTO M-199. The polypropylene material shall be made of a copolymer polypropylene superior in its resistance to corrosiveness, meeting the requirements of ASTM D4101, and shall completely encapsulate a deformed ½ inch diameter steel reinforcing rod conforming to ASTM A615, Grade 60. Steps shall be “Lane Poly Steps”, Model P-14938, as manufactured by Lane International Corporation (Tualatin, Oregon), or an Approved Equal.

Grout shall be Speed Crete ® Red Line as manufactured by The Euclid Chemical Company, or Approved Equal. Grout shall be suitable for the intended purpose, and for bonding dissimilar materials (ductile iron and concrete), either vertically or horizontally, at the temperature and surface moisture of the application. Surfaces to be grouted shall be prepared in accordance with

the grout manufacture's recommendations. Grout shall be proportioned, mixed, and applied in accordance with the manufacturer's recommendations. The Contractor shall pay attention to the manufacturer's safety recommendations, and temperature and surface moisture limitations.

Materials shall meet the following requirements of the following sections:

Concrete	6-02
Crushed Surfacing Top Course	9-03.9(3)
Flexible Plastic Gaskets	9-04.4
Metal Castings	9-05.15
Reinforcing Steel	9-07
Concrete Blocks	9-12.1
Concrete Brick	9-12.2

7-05.3 Construction Requirements *Supplement*

Sanitary sewer manhole frames (rings) and covers shall be constructed and installed at the new grade in accordance with the Specifications, the Pierce County Sanitary Sewer Standard Details or as directed by the Engineer.

Steel lifting loops or hooks for precast components shall be removed to a depth of 1 inch below the surface of the concrete and the concrete shall be patched. Lift holes shall be completely filled with dry pack grout.

Reflective steps shall be installed in precast base sections, riser sections and taper sections of precast concrete manholes. Steps shall be installed in order to accomplish a continuous vertical ladder with equally spaced rungs.

Polypropylene steps shall be installed in complete accordance with the manufacturer's instructions. This shall be accomplished by pre-drilling two parallel 1 inch diameter holes, 3-3/4 inch deep and 13 inches on center in the cured concrete base, riser and taper sections of the manhole. The insertion ends of the steps shall be fully coated with non-shrink grout, then driven into the holes to the prescribed depth. Infiltration from around steps will not be permitted.

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

Existing storm sewer pipe shall be connected to new catch basins or manholes in accordance with Section 7-05.3 of the Standard Specifications.

New storm sewer pipe shall be connected to existing catch basins or manholes in accordance with Section 7-05.3 of the Standard Specifications.

Any damage to existing pipe, catch basins, and manholes that are to remain in place, resulting from the Contractor's operations, shall be repaired or replaced by the Contractor at his own expense.

7-05.3(5) Rotation of Existing Cones and Ladders *New*

Where shown in the Plans or where directed by the Engineer, the existing manholes or catch basins shall be adjusted by rotating the cone sections to deconflict with the proposed improvements or otherwise designated by the Engineer.

New steps or ladders shall be installed in accordance with WSDOT Standard Plan B-30.90-02. The materials and method of construction shall conform to the requirements specified in this section, and the finished Structure shall conform to the requirements of the Standard Plans except as approved by the Engineer. The existing steps or ladders shall be abandoned in place unless they are in conflict with the location of the new steps or ladders.

7-05.3(6) Adjust Existing Sanitary Sewer Structure *New*

Where shown in the Plans or where directed by the Engineer, the existing sanitary sewer structures shall be adjusted to the grade as staked or otherwise designated by the Engineer.

The structures at the following locations shall be adjusted as directed in the table below:

PC Sewer MH No.	Station	Offset	Adjustment	Rotate Cone and Ladder	Remove/Replace Barrel Section
MH 05053	259+52	22	Adjust to Grade	Rotate to Deconflict With Improvements, Verify Requirements with PC Sewer	Manhole Rebuild, Remove and Replace Barrel Section
MH 05060	261+85	0	Adjust to Grade		
MH 05061	265+92	23	Adjust to Grade		48 In. Manhole Rebuild, Requires 1' Barrel Section
MH 05062	1003+03	3	Adjust to Grade		
MH 05063	1004+33	-37	Adjust to Grade		48 In. Manhole Rebuild, Requires 1' Barrel Section
MH 05064	1007+16	18	Adjust to Grade	Rotate to Deconflict With Improvements, Verify Requirements with PC Sewer	Manhole Adjust, Remove Grade Rings
MH 05065	1009+67	6	Adjust to Grade		
MH 05128	1013+71	4	Adjust to Grade		
MH 05129	1017+18	2	Adjust to Grade		
MH 05198	1020+83	-12	Adjust to Grade		
MH 05199	1024+48	21	Adjust to Grade		
MH 05200	1026+62	23	Adjust to Grade		Manhole Adjust, Remove Grade Rings
MH 05201	1028+47	14	Adjust to Grade		Manhole Adjust, Remove Grade Rings

PC Sewer MH No.	Station	Offset	Adjustment	Rotate Cone and Ladder	Remove/Replace Barrel Section
MH 05247	1030+87	18	Adjust to Grade	Cone Rotation with New Steps Per PC Std. Detail 1001	Manhole Adjust, Remove Grade Rings
MH 05248	1033+70	24	Adjust to Grade		
MH 05249	1037+16	28	Adjust to Grade		
MH 12351	1038+48	-23	Adjust to Grade		60 In. Manhole Rebuild, Requires 2' Barrel Section
MH 06796	1042+81	-22	Adjust to Grade		Manhole Adjust, Add Grade Rings
MH 11480	1052+41	-23	Adjust to Grade		Manhole Adjust, Add Grade Rings
MH 05779	1057+79	-114	Adjust to Grade	Rotate to Deconflict With Improvements, Verify Requirements with PC Sewer	Verify Requirements with PC Sewer
MH 05796	1061+33	-11	Adjust to Grade		Manhole Adjust, Remove Grade Rings
MH 05778	1202+47	-10	Adjust to Grade		

The Contractor shall contact the Sewer Division – Maintenance and Operations Section at (253) 798-7000, to arrange for pickup of the new rings and covers with a minimum of 2 working days advanced notice. The Contractor is responsible for disposing of the existing rings and covers.

The Contractor shall remove the existing sanitary sewer manhole frame and cover, remove the portion of the existing concrete collar required to allow removal of ring(s) being replaced, install new grade ring(s) and the new frame and cover to the finished grade elevation of the roadway, and construct a new concrete manhole collar in accordance with Pierce County Sanitary Sewer Standard Detail 1002A or as directed by the Engineer. The Contractor shall dispose of the existing frames and covers that are being replaced.

Sanitary sewer structures that are temporarily covered or paved over shall be readily accessible for maintenance and operation or permanently adjusted to grade within 14 calendar days of covering the sanitary sewer structure or as agreed upon by the Sewer Division Inspector and the Engineer. The Contractor shall provide the Sewer Division Inspector with a minimum of 3 working days' notice prior to covering any sanitary sewer manhole structure, the schedule for re-establishing access to the sanitary sewer structure, and provide temporary markings over the covered sanitary sewer structure. The Contractor's baseline progress schedule and weekly look-ahead schedules shall show sewer adjustment tasks conforming to these requirements.

Sanitary sewer structure rings and covers shall be set to the established surface grade in a full bed of cement grout.

The Contractor is advised that manhole chimney seals may have been installed inside the existing sanitary sewer structures. If the existing chimney seals interfere with the adjustment of the sanitary sewer structure to the new grade, the Contractor shall remove and dispose of the chimney seal or adjust the existing chimney seal as directed by the Engineer. Existing chimney seals that do not interfere with the sanitary sewer structure adjustment shall remain in place. Any necessary removal or adjustment of existing chimney seals shall be completed prior to placing the final surfacing material around the sanitary sewer manhole ring and cover.

7-05.4 Measurement *Supplement*

Structure excavation will not be measured for separate payment.

Sanitary Sewer Manhole 48″ Barrel Section and Sanitary Sewer Manhole 60″ Barrel Section will be measured per each, regardless of height.

Rotate Sanitary Sewer Manhole Cone and Ladder will be measured per each.

Adjust Existing Sanitary Sewer Structure will be measured per each.

Connection to Existing Drainage Structure will be measured per each.

7-05.5 Payment *Supplement*

Payment will be made for the following bid items:

Catch Basin Type 1	Per Each
Catch Basin Type 1P with Downturned Elbow	Per Each
Catch Basin Type 2 48 In. Diam.	Per Each
Sanitary Sewer Manhole 48" Barrel Section	Per Each
Sanitary Sewer Manhole 60" Barrel Section	Per Each
Rotate Sanitary Sewer Manhole Cone and Ladder	Per Each
Adjust Sanitary Sewer Manhole	Per Each
Connection to Existing Drainage Structure	Per Each

The unit contract price per each for “Catch Basin Type 1”, “Catch Basin Type 1P with Downturned Elbow” and “Catch Basin Type 2 48 In. Diam.”, shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to, furnishing structure including downturned elbow, excavation, bedding, installation, backfill, compaction, frame and grate (or rectangular solid locking metal cover), adjusting to final grade, connection to existing and proposed system, grouting, and cleaning in accordance with the Contract Documents.

The unit contract price per each for "Sanitary Sewer Manhole 48" Barrel Section" and "Sanitary Sewer Manhole 60" Barrel Section" shall be full pay for completing the work as described in the Contract and shall include all materials, labor, and equipment necessary to complete the work.

The unit contract price per each for "Rotate Existing Manhole Cone and Ladder" shall be full pay for all labor, materials, tools and equipment necessary to adjust the rotation and ladder location of existing manholes to the proposed final condition, in accordance with the Contract Documents.

The unit contract price per each for "Adjust Existing Sanitary Sewer Manhole" shall be full pay for completing the work as described in the Contract and shall include all materials, labor, and equipment necessary to complete the work. It shall also include any additional work if the structure has a coating, to protect and restore to Pierce County Sewer standards after adjusting the structure.

The unit contract price per each for "Rotate Existing Manhole Cone and Ladder" shall be full pay for all labor, materials, tools and equipment necessary to adjust the rotation and ladder location of existing manholes to the proposed final condition, in accordance with the Contract Documents.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.1 Description *Supplement*

The Work described in this section also consists of constructing Infiltration Trenches of the types and sizes designated in accordance with the Plans, these Specifications and the Standard Plans.

7-08.2 Materials *Supplement*

Materials shall meet the requirements of the following sections:

Crushed Surfacing Top Course	9-03.9(3)
Polyvinyl Chloride Pipe	9-05.12(1)
Ductile Iron	9-05.13
Uncompacted Coarse Sand Backfill Material	9-03.13
Gravel Backfill for Drywells	9-03.12(5)
Non-Woven Geotextile for Underground Drainage, Class A Moderate Survivability	9-33.2(1)
Perforated Corrugated Polyethylene Underdrain Pipe	9-05.2(8)

7-08.3 Construction Requirements

7-08.3(1) Excavation and Preparation of Trench

7-08.3(1)A Trenches *Supplement*

Backfill material for the area of unsuitable foundation excavation shall be crushed surfacing top course per Section 9-03.9(3) of the Standard Specifications. Before backfilling with bedding material is begun, the trench shall first be cleaned of all roots, loose stones, and other debris. Bedding materials, if required, shall be placed only upon undisturbed earth.

7-08.3(2) Laying Pipe

7-08.3(2)B Pipe Laying – General *Supplement*

The pipe and fittings shall be free of foreign inclusions and visible defects. The ends of the pipe shall be cut squarely and cleanly so as not to adversely affect joining.

7-08.3(2)E Rubber Gasketed Joints *Supplement*

Flexible joints for each type of pipe shall be rubber gasketed in accordance with the Standard Specifications. Mortared, drypacked, or cast-in-place joints will be permitted only for connection to or through manholes and catch basins. Connections with pipes to catch basins and inlets shall be cement mortared on the interior and exterior of structure.

7-08.3(2)G Jointing of Dissimilar Pipe *Replacement*

Where shown on the plans to connect existing storm drainage pipe to new pipe at a location other than a catch basin. The contractor shall use a Fernco coupler or approved equivalent. When this occurs at an existing catch basin that is shown for removal the pipe shall be cut a minimum of six (6) inches upstream of the removed catch basin. The backfill material shall be pea gravel meeting the specifications as called out in Section 9-03.16.

7-08.3(3) Backfilling *Supplement*

All backfill for pipe trenches shall be compacted as specified in Section 2-03.3(14)C, Method B of the Standard Specifications with native material, or gravel borrow, if suitable material is not available.

7-08.3(5) Pipe Crossing Existing Utilities *New*

Where storm sewer pipe crosses existing utilities with less than 12 inches of clearance, a sand cushion acceptable to the Engineer shall be placed between the existing and new pipe.

7-08.4 Measurement *Supplement*

Plugging existing pipe will be measured per each.

7-08.5 Payment *Supplement*

Payment will be made for the following bid items:

Plugging Existing Pipe	Per Each

All labor, equipment and materials required to construct a sand cushion per 7-08.3(5) will be incidental to the cost of the proposed pipe.

7-20 VALVE, WATER METER, AND JUNCTION BOXES ADJUSTMENT TO GRADE *NEW*

7-20.1 Description *New*

This section covers the adjustment to final grade of utility castings and boxes such as valve boxes, water meter boxes, sewer cleanouts, electrical junction boxes, etc., whether or not they are located in paved areas.

Where adjustment of existing utility boxes and castings are required and the existing castings are ordered by the Engineer to be discarded or to be salvaged, the Contractor shall install new materials provided by the appropriate utility company. If new materials are not available from the serving utility, the Contractor shall provide new materials of the type specified, and payment for the new materials will be made under "Force Account" and will be in addition to payment for making the adjustment.

7-20.2 Materials *New*

All materials incorporated into the finished work of adjusting existing utility structures to finished grade shall conform to the requirements of Section 7-05.2, 7-19.2, 9-29.2, and any other applicable sections of the Standard Specifications.

7-20.3 Construction Requirements *New*

The Contractor shall adjust junction boxes, power boxes, valve boxes, meter boxes, and similar structures to finished grade by utilizing the same methods of construction as specified in Section 7-05.3 of the Standard Specifications.

The Contractor shall notify the Engineer and the appropriate utility representative indicated in Section 1-07.17 of these Special Provisions a minimum of 48 hours in advance of any adjustments for inspection by a representative of the utility company. The respective utility company reserves the right to perform any adjustments with their own forces.

7-20-3(1) Adjusting Valve Box *New*

The Contractor shall adjust existing valve boxes to the new grade as shown in the Plans or as directed by the Engineer. The Contractor shall install a valve stem extension when the operating nut on an existing valve is more than 4 feet below the new grade. The Contractor shall adjust the

valve box so that the valve is operational. The Contractor shall remove all debris from the adjusted valve box.

If the Engineer determines that an existing valve box or valve box lid is unsuitable for reuse, or that a valve stem extension is required, the Contractor shall install the new materials to be provided by the appropriate utility. Valve stem extensions shall meet the requirements of Section 9-30.3(6).

7-20.4 Measurement *New*

Adjustment of various existing boxes will be measured once per each location requiring adjustment regardless of the number of times the box is adjusted. In the event of adjustments by utility company forces, the adjustments will not be measured for payment on this contract.

7-20.5 Payment *New*

Payment will be made for the following Bid item(s) when they are included in the Proposal:

Adjust Existing Junction Box	Per Each
Adjust Valve Casing to Grade	Per Each

The unit contract prices per each for "Adjust Existing Junction Box" and "Adjust Valve Casing to Grade" shall be full pay for all labor, materials, tools and equipment necessary to adjust the existing structures to grade, including but not limited to, excavating, backfilling, compacting, surfacing, valve stem extension, installing new valve box or cover, and restoration of adjacent areas in a manner acceptable to the Engineer, in accordance with the Contract Documents.

Adjustment to grade of new castings and structures shall be included in the bid price for the various new items.

7-21 LOW IMPACT DEVELOPMENT WATER QUALITY FACILITIES *NEW*

7-21.1 Description *New*

This section consists of furnishing and installing Compost Amended Vegetated Filter Strips (CAVFS) and Biofiltration Swales including compost amended soil, gravel backfill, geotextile, and vegetation in accordance with the Plans and Specifications.

7-21.2 Materials *New*

The soil mix for the CAVFS shall have a hydraulic conductivity less than 12 inches per hour and a minimum long term hydraulic conductivity of 1 inch per hour. This shall be accomplished by providing a soil mix consisting of the following proportion of components,

Sandy Loam	60-65%
Compost	25-30%
Clay	≤ 5%

Or

Sandy Loam	30%
Coarse Sand	30%
Compost	30%
Clay	≤ 5%

The soil mix shall have an organic content less than 5% and be free of stones, stumps, roots, or other similar material larger than 2 inches. The soil mix shall have a pH between 5.5 and 7.0. If the pH falls outside of the acceptable range, it may be modified with lime to increase pH or iron sulfate plus sulfur to lower the pH. The pH amendments must be mixed uniformly into the soil prior to installation. The final soil mixture shall be tested prior to installation for fertility, micronutrient analysis, and organic material content.

The soil mix for the Biofiltration Swale shall consist of the following proportion of components,

Sandy Loam	60-90%
Compost	10-30%
Clay	0-10%

7-21.2(1) Compost *New*

Compost shall be mature, stable (low oxygen use and CO_2 generation) and mature (capable of supporting plant growth), weed free, and produced by aerobic decomposition of organic matter. The compost product must originate aq minimum 65% by volume from recycled plant waste comprised of "yard debris", "crop residues", and "bulking agents" as defined in WAC 173-350-100. A maximum of 35% by volume of "post-consumer food waste" as defined in WAC 173-350-100, but not including biosolids or manure, may be substituted for recycled plant waste. The moisture level shall be such that no visible water or dust is produced when handling the material.

Testing: The results of Compost analysis shall be provided by the Compost supplier. Before delivery of the Compost, the supplier must provide the following documentation:

1. A statement that the Compost meets federal and state health and safety regulations
2. Tested in accordance with the U.S. Composting Council "Testing Methods for the Examination of Compost and Composting" (TMECC), as established in the Composting Council's "Seal of Testing Assurance" (STA) program.
3. A copy of the lab analysis, less than four months old, performed by a Seal of Testing Assurance Certified Laboratory verifying that the Compost meets the following requirements:
   a. Compost shall be produced at facility permitted by the WA Department of Ecology.
   b. Compost shall meet the definition of "composted materials" in WAC 173-350, section 220 (including contaminant levels and other standards).
   c. Screen to the size gradations for Fine Compost under TMECC test method 02.02-B.

d. Manufactured inert content: less that 1% by weight (TMECC 03.08-A)
e. Minimum organic matter content: 40% (TMECC 05.07-A)
f. pH: between 6.0 and 8.5 (TMECC 04.11-A)
g. Soluble salt content: less than 4.0 mmhos/cm (TMECC 04.10-A)
h. Maturity greater than 80% (TMECC 05.05-A "Germination and Vigor")
i. Stability of 7 or below (TMECC 05.08-B "Carbon Dioxide Evolution Rate")
j. Carbon to nitrogen ratio (TMECC 04.01 "Total Carbon" and 04.02D "Total Kjeldahl Nitrogen") of less than 25:1.
k. Cation Exchange Capacity (CEC) must be ≥ 5 milliequivalents/100 g dry soil.

7-21.2(2) Biofiltration Swale Vegetation *New*

The biofiltration swale shall have grass seed applied to the entire footprint of the swale area as shown in the Contract documents. The grass seed shall be provided in accordance with one of the two following mixes,

Mix 1	
Tall or Meadow Fescue	75-80%
Seaside/Colonial Bentgrass	10-15%
Redtop	5-10%

Mix2	
Tall Fescue	60-70%
Seaside/Colonial Bentgrass	10-15%
Meadow Foxtail	10-15%
Alsike Clover	6-10%
Marshfield Big Trefoil	1-5%
Redtop	1-6%

7-21.2(3) Other Materials *New*

Geotextile for Underground Drainage	WSDOT Std. Spec. 9-33, Moderate Survivability, Class A
Gravel Backfill for Drywells	WSDOT Std. Spec. 9-03.12(5)

7-21.3 Construction Requirements *New*

The Contractor shall excavate to the depths and shapes indicated in the Contract Documents. The base of excavation shall be level and free of lumps or debris. The Contractor shall not over-excavate existing soil beside or below the limits of excavation.

Mixing or placing compost amended soil will not be allowed if the area receiving the compost amended soil is wet or saturated or has been subjected to more than ½-inch of precipitation within 48 hours prior to mixing or placement. The Project Engineer will have final authority to determine if wet or saturated conditions exist.

Prior to placement of compost amended soil, the Contractor shall notify the Project Engineer to inspect the subgrade and top of gravel infiltration area. If sediment laden runoff has entered the facility, the sediment shall be removed by over-excavation by a 3-inch minimum. Any additional compost amended soil required after the over-excavation shall be placed at no expense to the Contracting Agency.

Neither the CAVFS or the biofiltration swale shall be put into operation prior to the contributing areas are sufficiently stabilized to prevent deposition of eroded soil.

7-21.4 Measurement *New*

"Compost Amended Vegetated Filter Strip" will be measured per square foot of the installed filter strip excluding the area of the CSTC flow spreader, which will be measured and paid for under Section 4-04.

"Biofiltration Swale" will be measured per square foot of the installed swale to top of amended slope excluding the area of the CSTC flow spreader, which will be measured and paid for under Section 4-04.

7-21.5 Payment *New*

Payment will be made for the following Bid item(s) when they are included in the Proposal:

Compost Amended Vegetated Filter Strip	Per Square Foot
Biofiltration Swale	Per Square Foot

The unit contract prices per each for "Compost Amended Vegetated Filter Strip" shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to excavation, compost amended soil, installation, compaction, and cleaning in accordance with the Contract Documents.

The unit contract prices per each for "Biofiltration Swale" shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to excavation, geotextile, gravel backfill, compost amended soil, storm pipe and structures, installation, compaction, and cleaning in accordance with the Contract Documents.

END OF DIVISION 7

DIVISION 8
MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.4 Measurement *Supplement*

No specific unit of measurement will apply to the force account item of "Erosion Control and Water Pollution Prevention".

The bid proposal contains the item "Erosion Control and Water Pollution Prevention" and the additional temporary erosion control items listed in Section 8-01.5. The provisions of Section 8-01.4(2), Section 1-10.4(4) shall apply.

8-01.5 Payment *Supplement*

Payment will be made for the following bid items:

Inlet Protection	Per Each
High Visibility Fence	Per Linear Foot
Erosion Control and Water Pollution Prevention	Per Force Account

The force account item of "Erosion Control and Water Pollution Prevention" shall be in accordance with Section 1-09.6 to include all costs associated with labor, materials, tools and equipment required to provide erosion and water pollution control in accordance with the approved Temporary Erosion and Sediment Control (TESC) plan, including but not limited to, TESC plan development and implementation, Erosion and Sediment Control Lead, TESC inspections, TESC inspection report preparation and submission, maintenance of all temporary erosion control measures, street sweeping, dust control (water), plastic sheeting, erosion control blankets, ditches, check dams, sedimentation facilities, TESC facility removal and associated property restoration, in accordance with the Contract Documents.

8-02 ROADSIDE RESTORATION

8-02.4 Measurement *Supplement*

No specific unit of measurement will apply to the force account item of "Property Restoration".

Topsoil and bark mulch shall be measured by cubic yard of material, based on truck tickets at the time of delivery. A volume has been established in the bid proposal based on calculated areas shown on the Plans and the following depths:

Topsoil: 4-inches
Bark mulch: 3-inches

Seeding shall be measured by calculated area as shown on the Plans.

Areas planted or seeded beyond those shown in the Plans shall not be measured and paid, unless mutually agreed upon in advance by the City and the Contractor.

"River Rock – Median" and "River Rock Cobbles – Median" will be measured by ton.

Landscape Boulders – Median will be measured per each.

8-02.5 Payment *Supplement*

Payment will be made for the following bid items:

Seeding, Fertilizing, and Mulching	Per Acre
Topsoil Type A	Per Cubic Yard
Sod Installation	Per Square Yard
Bark Mulch	Per Cubic Yard
River Rock - Median	Per Ton
River Rock Cobbles - Median	Per Ton
Landscape Boulders	Per Each
PSIPE - Berberis x stenophylla 'Corallina Compacta'	Per Each
PSIPE - Carpinus betulus 'Columnaris'	Per Each
PSIPE - Cornus sericea 'Kelseyi'	Per Each
PSIPE - Erica x darleyensis 'Mediterranean Pink'	Per Each
PSIPE - Helictotrichon sempervirens	Per Each
PSIPE - Hemerocallis x 'Purple D'oro'	Per Each
PSIPE - Hemerocallis x 'Stella D'oro'	Per Each
PSIPE - Malus tschonoskii	Per Each
PSIPE - Prunus x cerasifera 'Cripoizam'	Per Each
PSIPE - Prunus laurocerasus 'Mount Vernon'	Per Each
PSIPE - Prunus x Hillieri 'Spire'	Per Each
PSIPE - Quercus palustris 'Pringeen'	Per Each
Property Restoration	Force Account

The unit contract price per cubic yard for "Topsoil Type A" and "Bark Mulch" shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, in accordance with the Contract Documents.

The unit contract price per ton for "River Rock – Median" and "River Rock Cobbles – Median" shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, in accordance with the Contract Documents.

The unit contract price per each for "Landscape Boulders – Median" shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, in accordance with the Contract Documents.

Furnishing and installing additional property restoration features, as deemed necessary by the Engineer, will be paid by force account in accordance with Section 1-09.6.

8-03 IRRIGATION SYSTEMS

8-03.1 Description *Supplement*

Some private irrigation systems exist within the project limits which will be impacted by the project improvements. The Contractor shall minimize the impacts to these facilities to the maximum extent possible. In the event that irrigation systems are found to encroach within the limits of the project improvements, they shall be modified as necessary per Engineer directed force account to ensure satisfactory operation upon completion of the improvements.

8-03.3 Construction Requirements

8-03.3(15) Protection, Restoration and Modification of Existing *New*

Every effort has been made to identify areas where existing private irrigation systems may be impacted by the Contractor's activities during construction of the project. Prior to beginning work, Contractor shall attend a site visit with the Engineer and individual property owner(s) to determine and document the function of existing irrigation system(s). In the event that there are existing deficiencies noted in the operation of existing system(s), the property owner(s) shall be granted a period of up to two weeks to correct deficiencies prior to a second site visit. All functioning private irrigation systems, as determined by the condition of operation at the initial meeting, shall be protected by the Contractor during construction, and then modified as necessary to accommodate roadway improvements.

The Contractor shall be responsible for watering plant materials in the potentially affected irrigation areas noted on the plans. It shall be the Contractor's option to either maintain existing irrigation systems or hand watering for the duration of the construction contract. In the event that irrigation systems are damaged during construction, the Contractor shall restore existing systems to the preconstruction function or better. The Contractor shall use head-to-head spacing in order to achieve uniform coverage within areas impacted during construction.

Within 2 weeks of the substantial completion date, the Contractor shall attend follow-up site visits with the Engineer and each of the affected property owners to confirm the proper functioning and operation of the irrigation systems in the areas as noted in the Plans. In the event that the post construction function does not match or better the function noted at the preconstruction site visits, the Contractor will be given 2 weeks to correct any deficiencies. With the Engineer's and property owner's acceptance of the restored and/or modified irrigation

systems, the responsibility for protecting and maintaining the private irrigation systems and landscaping will be transferred back to the property owner.

8-03.4 Measurement *New*

No unit of measure shall apply to the force account item of "Existing Irrigation Protection, Restoration, and Modification".

8-03.5 Payment *Supplement*

Payment for this bid item shall be under "Property Restoration" Section 8-02.

Irrigation System	Lump Sum

8-04 CURBS, GUTTERS, AND SPILLWAYS

8-04.3 Construction Requirements *Supplement*

All curb and apron associated with this section shall be constructed with air entrained concrete Class 4000, except Cement Conc. Curb and Gutter which shall be constructed with air entrained concrete Class 3000 concrete, all in conformance with Section 6-02.

Contractor shall take special care to construct concrete curb to line and grade as shown in the Plans. Concrete curb constructed with excessive bows, waves, or ultimately out-of-plumb shall be removed and replaced as directed by the Engineer at no cost to the Owner. Contractor-installed concrete curb with any chips, spalls, cracks, or hairline cracks that become evident after curing shall be removed and replaced as directed by the Engineer at no cost to the Owner.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting newly placed concrete. Damaged, vandalized or unsightly concrete shall be removed and replaced at the Contractor's expense.

The Contractor shall notify the Engineer immediately in cases where the proposed gutter lip elevation appears higher than the adjacent pavement. Gutter lips shall not be constructed higher than the adjacent pavement.

8-04.4 Measurement *Supplement*

"Cement Conc. Traffic Barrier Curb" and "Cement Conc. Truck Barrier Curb" will be measured by the linear foot along the line and slope of the completed curbs.

No separate measurement will be made for "Cement Conc. Pedestrian Curb" on this project.

8-04.5 Payment *Supplement*

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

Cement Conc. Traffic Curb and Gutter	Per Linear Foot

Cement Conc. Traffic Barrier Curb	Per Linear Foot
Cement Conc. Truck Barrier Curb	Per Linear Foot
Roundabout Truck Apron Cem. Conc. Curb and Gutter	Per Linear Foot
Roundabout Cement Concrete Curb and Gutter	Per Linear Foot
Dual-Faced Cement Conc. Curb	Per Linear Foot

The unit contract prices per linear foot for "Cement Conc. Traffic Barrier Curb", and "Cement Conc. Truck Barrier Curb" shall be full pay for all labor, materials, tools, and equipment necessary to provide completed curbs and transitions in accordance with the Contract Documents. PVC weep holes included with any curb section shall be incidental to the unit bid price for that curb.

8-05 GATEWAY SIGNAGE *New*

8-05.1 Description *New*

Work in this section shall include removal of an existing gateway sign near Nyanza, and construction of a new gateway sign where shown on the Plans. The work includes furnishing and installing all materials necessary for complete gateway sign as shown in the Plans.

8-05.2 Materials *New*

See Plans for all material requirements.

8-05.3 Construction Requirements *New*

Sign lettering from the existing 'Welcome to Lakewood' gateway sign at Nyanza shall be salvaged and affixed to the new gateway signage also near Nyanza. All other existing signage elements shall be removed and disposed of at an off-site and permitted facility.

8-05.4 Measurement *New*

No specific unit of measurement shall apply to "City Gateway Sign - ___"

Electrical service and connection to the sign backlighting system will be included in Illumination System, Complete in accordance with Special Provision 8-20.

8-05.5 Payment *New*

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

City Gateway Sign - ____	Lump Sum

The unit contract price for "City Gateway Sign - ___" per lump sum shall be full pay for all materials, labor and equipment to complete the work as shown in the Plans and described in the Contract Provisions including, but not limited to: electrical and sign permitting; cast-in-place

columns; cultured stone veneer; sign and electrical backlighting; footings; excavation, backfill and cleanup; coordination with the sign supplier; salvage and reuse of existing lettering.

8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES

8-06.1 Description *Supplement*

This work shall also consist of constructing cement concrete driveways.

8-06.3 Construction Requirements *Supplement*

Cement concrete driveways shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02 or Portland Cement or Blended Hydraulic Cement Concrete Pavement conforming to the requirements of Section 5-05.

Concrete finishing texture shall be broom-swept. Modifications of existing surfaced driveways shall be accomplished by sawcutting the existing pavement, where shown on the Plans.

Before placing any concrete, the Contractor shall have on the job site enough waterproof paper or plastic membrane to cover the pour of an entire day, in the event of rain or other unsuitable weather conditions.

During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

The Contractor shall maintain a minimum of a 10-foot wide driveway access for all properties unless otherwise approved by the Engineer. This may require the Contractor to construct driveways in two stages as necessary to maintain access.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting the newly placed concrete to prevent damage. Damaged, vandalized, or unsightly concrete shall be removed and replaced at the expense of the Contractor.

8-06.4 Measurement *Supplement*

"Cement Conc. Driveway Entrance Type __" and "Cement Concrete Pavement for Driveway Approach" will be measured per square yard.

8-06.5 Payment *Supplement*

Payment will be made for the following bid item:

Cement Conc. Driveway Entrance Type __	Per Square Yard
Cement Conc. Pavement for Driveway Approach	Per Square Yard

The unit price per square yard for "Cement Conc. Driveway Entrance Type __" and for "Cement Conc. Pavement for Driveway Approach" shall include all costs of labor, materials, and equipment necessary to construct the driveway and perform the work as herein described,

including sawcutting of existing, forms, joints, surfacing materials, reinforcing steel, if necessary, maintaining access for property owners, and any and all equipment or materials necessary to protect the concrete until cured.

8-12 CHAIN LINK FENCE AND WIRE FENCE

8-12.1 Description *Supplement*

This Work consists of furnishing and constructing wood fence.

8-12.2 Materials *Supplement*

Wood fence materials shall meet the requirements of the following sections:

Pressure Treated Wood	9-09.3(1)
Fence Posts	9-09.2(3)

All other wood members shall be cedar. All nails and other brackets used shall be galvanized. Concrete footing, if used, shall be commercial concrete per Section 6-02.

Coated chain link fence fabric shall be hot-dip galvanized with a minimum of 0.8 ounce per square foot of surface area. All fabric edges regardless shall be knuckled, regardless of fence type or coating. No twisted or barbed fabric **edges will be permitted.**

Fencing materials shall be coated with an ultraviolet-insensitive plastic or other inert material at least 2 mils in thickness. Any pretreatment or coating shall be applied in accordance with the manufacturer's written instructions. The Contractor shall provide the Engineer with the manufacturer's written specifications detailing the product and method of fabrication. The color shall match Federal Standard 595 color number 27038 black unless approved otherwise by the Engineer.

Samples of the coated fencing materials shall be approved by the Engineer prior to installation on the project.

8-12.3 Construction Requirements

8-12.3(4) Wood Fence *New*

The Contractor shall furnish and install wood fence where shown on the Plans and as specified herein. The contractor shall match adjoining fence height and style at each location on the project; for this reason, a detail has not been shown on the Plans. The contractor shall assume variation in each wood fence within the project corridor, with the requirement that the new fence must attach to the existing and provide a uniform transition to new.

All posts shall be placed in a vertical position and set in concrete. All concrete footings shall be crowned a minimum one inch so as to shed water.

8-12.4 Measurement *Supplement*

Chain link fence and wood fencing, regardless of height or coatings, will be measured by the linear foot of completed fence, along the ground line, exclusive of openings. No separate measurement will be made for end, corner, pull posts, chain link fabric, boards, attachments and hardware, concrete for post foundations, attachments to walls or transitions between existing and new fences.

8-12.5 Payment *Supplement*

Wood Fence 6 Ft. Tall	Per Linear Foot
Wood Fence Under 6 Ft. Tall	Per Linear Foot
Chain Link Fence Type __	Per Linear Foot
Coated Chain Link Fence Type __	Per Linear Foot

The unit contract price per square yard for "Wood Fence 6 Ft. Tall" and "Wood Fence Under 6 Ft. Tall" shall be full pay for all work, materials, tools and equipment necessary to construct the fence, including but not limited to, fence posts, railing, vertical fence boards, brackets, cement concrete around post foundations, excavation, haul and disposal of excess material, connection to existing fencing and site cleanup.

The unit contract price for "Chain Link Fence Type __" per linear foot shall be full pay for clearing of fence line; end, corner, and pull posts; chain link fabric; all necessary attachments and hardware; excavation and concrete footings in native or prepared soils; and all materials, labor, tools and equipment necessary for the complete installation of the fencing.

The unit contract price for "Coated Chain Link Fence Type __" per linear foot shall be full pay for clearing of fence line; end, corner, and pull posts; chain link fabric; all necessary attachments and hardware; excavation and concrete footings in native or prepared soils; coring, grouting or other attachments to the gravity block wall; and all materials, labor, tools and equipment necessary for the complete installation of the fencing.

8-13 MONUMENT CASES

8-13.1 Description *Supplement*

This Work consists of furnishing and placing monuments in accordance with the Standard Plans and these Specifications. Pursuant to WAC 332-120-040 and RCW 58.09.130 all survey monuments that are removed or destroyed by construction activities shall be replaced to perpetuate the same position as the destroyed monument. This includes found monuments shown on the plans, both in the roadways and along rights-of-way, along with those monuments that may not necessarily show up on the Plans as being found, but rather may be discovered during the course of construction activities. Restoration of monuments shall be performed under

the direct supervision of a Professional Land Surveyor licensed in the state of Washington in accordance with recognized good practice in land surveying.

8-13.3 Construction Requirements

8-13.3(1) Monument Destruction *New*

Reference and locate existing monument prior to excavation in order to file an 'application for permit to remove or destroy a survey monument' with the Washington State Department of Natural Resources.

8-13.3(2) Monument Restoration *New*

Monuments being replaced within the roadway shall be 3-inch brass discs in concrete pursuant to Pierce County Standard Drawings, while monuments such as rebars and pipes found at property corners, or similar, shall be replaced with sufficient and similar monumentation per RCW 58.09.130. Upon completion of monument restoration, the applicant shall file a 'completion report for monument removal or destruction' with the Washington State Department of Natural Resources.

After final grade of roadway is in place the Surveyor shall place reference marks in order for the Contractor to place concrete and monument in correct position. Once the monument is in place the Surveyor shall then punch the correct markings on it. The monument will be furnished and set by the Contractor.

8-13.4 Measurement *Supplement*

Measurement of "Reset Existing Monument" will be by the unit for each monument set.

8-13.5 Payment *Supplement*

Payment will be made for the following Bid item when included in the Proposal:

Reset Existing Monument	Per Each

The unit contract price per each for "Reset Existing Monument" shall be full pay for all work, materials, tools and equipment necessary to reset the monument and file proper forms with Washington State Department of Natural Resources.

8-14 CEMENT CONCRETE SIDEWALKS

8-14.1 Description *Supplement*

In addition to sidewalk and curb ramps, this work shall also consist of the following work:

- Colored cement concrete, to define pedestrian areas around mailboxes and sidewalk buffers.

- Integral curb for cement concrete sidewalk, where back of sidewalk cut requires a transition up to 2-feet in height.
- Thickened edge for cement concrete sidewalk, where back of sidewalk fill requires a transition up to 1-foot in height.
- Pedestrian refuge areas within splitter islands.

8-14.2 Materials *Supplement*

Where cement concrete is specified, concrete shall be constructed using air-entrained Class 3000 concrete.

Coloring shall consist of a concentrated pigment specially processed for mixing into concrete and complying with ASTM 979. Surficial pigments are not acceptable. The pigment shall be metered and mixed at the concrete plant. On-site, manual metering and mixing of pigments on site will not be permitted. The Contractor shall submit a color palette for City selection of a preferred color (Onyx/Dark Grey).

Curing compounds efflorescence remover and other cleaning agents, hardeners and sealants shall be consistent with ASTM C309, highly UV resistant, and selected and applied consistent with the recommendations of the integral color manufacturer.

All detectable warning surfaces shall be cast iron with an H-20 load rating and have the truncated dome shape, as shown in the Plans, for placement in wet concrete. The detectable warning surface shall include lettering reading "CITY OF LAKEWOOD". No surficial applied or plastic detectable warning surfaces are allowed.

8-14.3 Construction Requirements *Supplement*

Colored Cement Concrete
The Contractor shall construct a minimum 25 square feet sample to demonstrate methods used for construction, including forming and finishing conditions required for project using materials, workmanship, joint treatments, and curing methods to be used throughout project. Construct at least one month before start of other concrete work to allow concrete to cure before observation. The sample shall be approved by the Engineer and shall be protected from damage until final acceptance and approval of the rest of the work.

All Cement Concrete
The Contractor shall remove and replace all Contractor-installed cement concrete with any chips, spalls, cracks, or hairline cracks as directed by the Engineer at no cost to the City.

Contractor shall take special care to construct cement concrete to line and grade as shown in the Plans. Cement concrete work constructed with excessive bows or waves shall be removed and replaced as directed by the Engineer at no cost to the Owner.

8-14.3(4) Curing *Replacement*

The curing materials and procedures outlined in Section 5-05.3(13) of the Standard Specifications shall prevail, except that white pigmented curing compound shall not be used.

The curing agent shall be applied immediately after brushing and be maintained for a period of 5 days.

The Contractor shall have readily available sufficient protective covering, such as waterproof paper or plastic membrane, to cover the pour of an entire day in the event of rain or other unsuitable weather. During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting the newly placed concrete to prevent damage. Damaged, vandalized, or unsightly concrete shall be removed and replaced at the expense of the Contractor. Patching, grinding or grouting repair of sidewalks will not be permitted.

8-14.3(5) Detectable Warning Surface *Supplement*

Detectable warning surface panels shall be square or prefabricated with radii to allow the leading edge of the panels to align with the back of curb on straight and radius alignments as noted in the Plans. Combinations of panels for varying radii may be used to approximate non-standard curb return radii. Detectable warning surface panels shall cover the full areas of detectable warning surfaces as depicted in the Plans and details included in the Standard Plans.

8-14.4 Measurement *Supplement*

There will be no measurement for integral sidewalk curbs as called out in the Plans.

"Colored Cement Concrete" will be measured per square yard, based on shape files within the electronic design files.

"Integral Curb" shall be measured per linear foot of integral curb installed, regardless of height, but no higher than the limits shown on the Plans. The Contractor shall also be paid for "Cement Conc. Sidewalk", up to the face of integral curb, where it is placed.

"Thickened Edge" shall be measured per linear foot of thickened edge installed, regardless of depth, but no deeper than the limits shown on the Plans. The Contractor shall also be paid for "Cement Conc." through the width of the thickened edge.

The bid item "Cement Conc. Sidewalk" shall be used for measurement of concrete placed within the pedestrian refuge area of splitter islands.

Detectable warning surfaces will be measured by the square foot of detectable warning surface material installed only within the splitter islands. No separate measurement will be made for detectable warning surface installed within curb ramps.

8-14.5 Payment *Supplement*

Payment will be made for the following bid items:

Colored Cement Concrete	Per Square Yard
Integral Curb	Per Linear Foot
Thickened Edge	Per Linear Foot
Cement Conc. Sidewalk	Per Square Yard
Cement Conc. Curb Ramp Type Perpendicular	Per Each
Cement Conc. Curb Ramp Type Single Direction	Per Each
Cement Conc. Curb Ramp Type Parallel	Per Each
Detectable Warning Surface	Per square foot

The unit contract price per square yard for "Colored Cement Concrete" shall be full pay for all labor, materials, tools and equipment necessary to provide completed work, including but not limited to, joints and special treatment around mailbox, utility, and signal poles.

The unit contract price per linear foot for "Integral Curb" and "Thickened Edge" shall be full pay for all labor, materials, tools and equipment necessary to provide completed work, including but not limited to, joints, provision and placement of rebar, excavation, backfilling, and special treatment around utility and signal poles.

The unit contract price per each for "Cement Conc. Sidewalk", shall be full pay for all equipment, tools, labor and materials required for the complete installation of sidewalk, including but not limited to, forms, concrete, finishing, excavation including haul and disposal regardless of depth.

The unit contract price per each for "Cement Conc. Curb Ramp Type __" and shall be full pay for all equipment, tools, labor and materials required for the complete installation of curb ramp, including but not limited to, pedestrian curbing, cast iron detectable warning surface, forms, concrete, finishing, excavation including haul and disposal regardless of depth. No payment will be made for "Cement Conc. Pedestrian Curb" or "Detectable Warning Surface" as part of the curb ramp. All costs associated with constructing cement concrete pedestrian curb and cast iron detectable warning surfaces shall be included in the unit Contract price per each for each curb ramp being installed.

The unit contract price per square foot for "Detectable Warning Surface" shall be full pay for all equipment, tools, labor and materials required for the complete installation within splitter islands, as shown on the Plans.

8-18 MAILBOX SUPPORT

8-18.1 Description *Replacement*

This Work consists of furnishing and installing individual and cluster mailboxes and all work associated with maintaining mailboxes in functional/accessible locations for mail service during construction and facilitating transition to permanent mail service utilizing the new mailboxes in accordance with the Plans and these Specifications.

8-18.2 Materials *Replacement*

Cluster mailboxes Type V (four [4] boxes, each with size C mailbox doors). Each shall have two (2) integrated parcel lockers.

Each cluster box unit shall be equipped with a weather protected outgoing mail slot, integrated parcel locker(s), matching pedestal, and decals with address numbers. Mailbox and pedestal shall be postal gray in color.

Each tenant door shall be uniquely keyed and provided with a minimum of two keys per box, securely fastened to the inside of each box. Tenant doors shall be individually numbered with the addresses indicated in the mailbox schedule in the Plans. Tenant doors indicated as spares (SPR) in the mailbox schedule shall be provided blank with number indication.

Cluster Box Units Type V shall be licensed by USPS to meet USPS "F" Specifications and shall be be manufactured by one of the following USPS-approved manufacturers:

1. Florence Corporation
2. Salsbury Industries
3. Postal Products Unlimited, Inc.

Mailboxes installed on Type 1 or Type 2 supports shall be Mail Boss 7536 Safe Street Latitude Security Locking Double Door, color black, or approved equivalent.

All units shall be ADA height compliant.

8-18.3 Construction Requirements *Supplement*

Existing mailboxes along Gravelly Lake Drive shall be replaced with new mailboxes on new Type 1 or Type 2 supports as shown on the Plans.

Mailbox pedestal supports and installation shall be per Cluster Box manufacturer recommendations, except as specifically noted otherwise in the Plans or these Specifications.

The Contractor shall be required to provide temporary structures for existing mailbox as required by the local postmaster for continuous mail delivery during project construction. The Contractor shall coordinate with the Engineer to facilitate delivery of new mailbox keys to property owners and to coordinate timing of the postmaster's transition of service from the existing individual mailboxes to the new combined mailbox units in their permanent accessible locations.

Mailbox pedestals shall be anchored to the concrete foundations with one of the following expansion anchor bolt systems, or approved equal:

1. Hilti Kwik Bolt III (www.hilti.com)
    a. 1/2-inch diameter by 5.5-inch overall length
    b. Galvanized
    c. KB II 12-512, stainless steel
    d. Minimum embedment in concrete 3.5-inches

2. ITW Ramset Redhead Turbolt (www.hilit.com)
    a. 1/2 -inch diameter by 7-inch overall length
    b. Galvanized
    c. Minimum embedment in concrete 4-7/8-inches

3. Rawl Stud (www.rawl.com)
    a. 1/2-inch diameter by 5.5-inch overall length
    b. Galvanized
    c. Minimum embedment in concrete 4.0-inches

8-18.4 Measurement *Supplement*

All cluster boxes and supports will be measured per each.

8-18.5 Payment *Supplement*

Payment will be made for the following bid items:

Mailbox Support Type 1 with New Mailbox	Per Each
Mailbox Support Type 2 with New Mailboxes	Per Each
Cluster Box Unit, Type I	Per Each
Cluster Box Unit, Type V	Per Each

The unit contract price per each "Mailbox Support Type ___" shall be full pay for furnishing and installing new mailbox supports; maintaining access to existing boxes; furnishing and installing new mailboxes on new supports; coordinating with the post office and engineer to transition mail service to the new mailbox locations; providing temporary supports for and access to existing mailboxes during construction; and removal of existing and temporary posts/foundations and mailboxes from the site after complete transition of mail service to the new mailbox location.

The unit contract price per each "Cluster Box Unit, Type ___" shall be full pay for furnishing and installing new foundation including rebar and anchor bolts, pedestal, pedestal hardware, keying locks, engraved address placards, maintaining access to existing boxes, coordinating with the post office and engineer to transition mail service to the new cluster box unit, providing temporary supports for and access to existing mailboxes during construction, and removal of

existing and temporary mailboxes/posts/foundations from the site after complete transition of mail service to the new cluster box unit.

8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORTATION SYSTEMS, AND ELECTRICAL

8-20.1 Description *Supplement*

This work shall consist of furnishing, installing, and field testing all materials and equipment necessary to complete in place fully functional system(s) of any or all of the following types, all in accordance with approved methods, the Plans, the Special Provisions, and these Specifications:

1. Continuous roadway, roundabout and intersection illumination systems along all project corridors as shown on the Plans.
2. Conduit and power to City Gateway sign backlighting systems where noted on the Plans.
3. Full removal of existing traffic signal systems at the following intersections:
    a. Washington Blvd SW and Gravelly Lake Dr SW
    b. Gravelly Lake Dr SW and Veterans Dr SW
    c. Gravelly Lake Dr SW and Nyanza Rd SW
4. Installation of spare conduit and junction boxes along the east side of Gravelly Lake Dr SW between Washington Blvd SW and Nyanza Rd SW.
5. Relocations of noted private property electrical items.

The Contractor shall provide all labor and equipment to install the City provided materials, if any, and provide the necessary additional materials for a complete and operable illumination system in accordance with the Plans, the latest version of the WSDOT Standard Specifications, WSDOT Standard Plans, City of Lakewood Standard Drawings, Pierce County Standard Drawings, and these Special Provisions.

The Contractor shall provide all labor and equipment to fully remove the existing signal systems in accordance with the Plans, the latest version of the WSDOT Standard Specifications, WSDOT Standard Plans, City of Lakewood Standard Drawings, Pierce County Standard Drawings, and these Special Provisions.

8-20.1(1) Regulations and Code *Supplement*

Prior to start of work, all necessary licenses, permits, and approvals shall be obtained by the Contractor. The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to the performance of the work, the protection of adjacent property, and the maintenance of all other facilities. The Contractor will be required to comply with all the provisions of these instruments.

All requirements of the Washington State Department of Labor and Industries shall be incorporated into the project. It shall be the Contractor's responsibility to determine these requirements and to coordinate all inspections by the Department of Labor and Industries.

8-20.2 Materials *Supplement*

Unless otherwise specified in the Plans or Special Provisions, all materials shall be new. Used or refurbished equipment or materials will not be accepted.

Final inspection and acceptance of the installed materials will not be given until final installation and testing has been completed on the systems. Approval to install materials and equipment must be obtained in the field by the Engineer prior to installation.

8-20.2(1) Equipment List and Drawings *Supplement*

Within 20 calendar days following execution of the Contract, the Contractor shall submit to the Engineer two (2) sets of catalog cuts and shop drawings required for all illumination work included in the Contract. One (1) copies of the submitted catalog cuts/shop drawings will be retained for use by the Engineer and one (1) copies will be returned (with appropriate review/approval notations) to the Contractor. Any item not approved and/or requiring revisions shall be corrected and resubmitted by the Contractor within five (5) calendar days after receiving the returned submittals.

In addition to the requirements of Section 8-20.2(1), the Contractor shall submit for approval catalog cuts for the following items including but not limited to:

- Light standards and anchor bolts
- Light standard breakaway couplings
- Luminaire arms
- Luminaire fixtures
- Fuses and fused disconnects
- Splice kits
- Photo-electric control
- Electrical service cabinet
- Conductors
- Conduit and fittings
- Junction boxes
- All other electrical related hardware for which a catalog cut has been required by an approved “Request for Approval of Material Sources”.

Before submittal, the Contractor shall review all shop drawings and catalog cuts for constructability and conformance to the electrical codes, plans and specifications and shall so mark each submittal attesting to such review.

Manufacturer's technical information and data shall be in a complete integral package for all electrical material associated with the illumination system lump sum bid items identified in this

project and shall include all conductors, appurtenances, wire, luminaire fixtures, conduit, junction boxes, and all other items to be used for the project.

8-20.3 Construction Requirements

8-20.3(1) General *Supplement*

All equipment shall be handled and protected to prevent damage. Damaged equipment, if any, shall be repaired or replaced by the Contractor to the satisfaction of the Engineer at no additional cost to the Contracting Agency.

Power for electrical systems shall be obtained from new service cabinets, as shown on the plans. The Contractor shall coordinate with Puget Sound Energy for all new service connections and decommissioning of existing services no longer required following signal system removals. Contractor shall perform all work elements and provide materials required for power connections that are not performed or supplied by Puget Sound Energy.

8-20.3(2) Excavating and Backfilling *Supplement*

Trench excavation and backfill shall be in accordance with Sections 2-09 and 8-20 of the Standard Specifications except as modified by the Plans and these Special Provisions.

Extra depth shall be provided in the trench as necessary to provide a 12-inch minimum conduit clearance from existing utilities encountered in the field and proposed utilities as indicated in the Plans. Where less than 12 inches of clearance cannot be accomplished, a sand cushion, acceptable to the Engineer, shall be placed between the existing and new pipe.

The Contractor shall provide extra excavation as needed to provide transitions at junctions and angle points in the trench alignment in order to accommodate bends in the conduits. This minor extra excavation shall be incidental.

Pipe bedding shall be crushed surfacing top course and provide uniform support to the conduit. The pipe shall be backfilled with crushed surfacing top course to approximately 2 inches above the pipe.

For conduit installed in unpaved areas, all remaining backfill for trenches may be native material and shall be placed and compacted in maximum 1-foot loose lifts and compacted to 90 percent maximum density.

Conduit installed in existing and proposed paved areas, whether in the roadway area, shoulder area, or areas other than the roadway, shall be bedded and backfilled with crushed surfacing top course unless otherwise shown in the Plans. Backfill shall be placed and compacted in maximum 1-foot loose lifts and compacted to 95 percent maximum density.

Uniform Construction
Trenching for conduit runs shall be performed in a neat manner, and the trench bottom shall be graded to provide uniform grade. All trenching for placement of conduit shall be straight and as

narrow in width as practical to provide a minimum of pavement disturbance. Conduits shall be placed in the same trench with other conduits when possible.

8-20.3(2)A Resolving Utility Conflicts *New*

The Contractor shall be responsible for determining the exact location of all utilities near underground work. The Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area.

The Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits.

If a conflict is identified, the Contractor shall contact the Engineer. The Contractor and Engineer shall locate alternative locations for poles, cabinet, or junction boxes. The Contractor shall get approval from the Engineer prior to installation. The Contractor may consider changing depth or alignment of conduit to avoid utility conflicts.

Before beginning any excavation work for foundations, vaults, junction boxes or conduit runs, the Contractor shall confirm that the location proposed on the Contract Plans does not conflict with utility location markings placed on the surface by the various utility companies. If a conflict is identified, the following process shall be used to resolve the conflict:

1. Contact the Engineer and determine if there is an alternative location for the foundation, junction box, vault or conduit trench.
2. If an adequate alternate location is not obvious for the underground work, select a location that may be acceptable and pothole to determine the exact location of other utilities. Potholing must be approved by the Engineer.
3. If an adequate alternate alignment still cannot be identified following potholing operations, the pothole area should be restored and work in the area should stop until a new design can be developed.

The Contractor shall not attempt to adjust the location of an existing utility unless specifically agreed to by the utility owner.

8-20.3(3) Removing and Replacing Improvements

8-20.3(3)A Signal Equipment Removal *New*

All existing equipment that is to be removed shall not be stockpiled within the job site without the Engineer's approval.

The following signal equipment shall remain the property of the City of Lakewood and shall be disconnected, dismantled, stacked separately, and delivered to the City of Lakewood:

- Traffic Signal Standards
- Traffic Signal Controller Cabinets

- Light Standards and Mast Arms
- Emergency Vehicle Detectors
- Vehicle and Pedestrian Displays and Mounting Hardware
- Pedestrian Pushbuttons
- Luminaires
- Video Cameras and Mounting Hardware
- Terminal Cabinets
- Visors
- Back Plates

Prior to the removal of any span wire from strain poles, all associated vehicle and pedestrian signal heads, emergency vehicle detectors, video cameras, and signs shall be removed from each span.

Video cameras shall be given directly to the City of Lakewood inspector upon their removal.

The Contractor shall give the City of Lakewood fourteen (14) calendar days advance written notice prior to delivery for removed materials to the City's storage facilities.

Controller cabinets shall not be removed until all associated electronic equipment is removed by the Contractor. All equipment shall be removed by the Contractor and delivered within 24 hours following removal to the City of Lakewood.

Pole shaft and Mast Arm Identification
All removed mast arms and pole shafts shall be identified by paper identification tags recording pole number, intersection location (such as SR XXX, jct XXX), and mast arm length.

The tags shall be 4-inch by 6-inch (minimum) and be taped to corresponding pole shafts and mast arms. Information on the mast arm tag shall match the information on the corresponding pole shaft tag. Each tag shall be entirely covered with clear acetate tape. The tape shall be wrapped on full circle around the shaft or arm with a 1/2-inch minimum overlap at the ends and sides.

The Contractor shall bundle the complete signal standard assembly together. The assembly consists of pole shaft, mast arm, and connecting bolts. Connecting bolts shall be attached to the original mast arm base plate.

Dismantled equipment shall be clearly marked and all hardware saved in a heavy duty burlap bag attached to the corresponding signal standard or mast arm. The Contractor shall be responsible for loading, delivering, and unloading the salvaged signal equipment, as designated by the Engineer.

The City shall determine the condition of the signal equipment. Only undamaged material parts will be accepted by the City.

If the Contractor's operation causes damage to removed equipment that is to be returned, it shall be repaired or replaced by the Contractor to the Engineer's satisfaction at no additional cost to the Contracting Agency.

The Contractor shall remove and dispose of properly all debris and signal equipment not identified for return to the City.

Equipment to Remain
Care shall be taken to protect and preserve all existing equipment that is not being removed under this Contract. Any existing equipment to remain that is damaged by the Contractor shall be repaired or replaced to the Engineer's satisfaction, at no additional expense to the Contracting Agency.

Items to be Removed
The Contractor shall:

- Remove all wires for discontinued circuits from the conduit system.
- Remove elbow sections of abandoned conduit entering junction boxes.
- Remove abandoned conduit that is less than 18 inches below finished grade, unless otherwise indicated in the Plans.
- Removal of foundations shall be performed in accordance with Section 2-02.3(1).
- Backfill voids created by removal of foundations and junction boxes. Backfilling and compaction shall be performed in accordance with Section 2-09.3(1)E.

All costs for disposal of signal or electrical equipment shall be incidental to bid items included in Section 8-20.

8-20.3(3)B Private Property Electrical Relocations *New*

Parcel 4725002300
At the driveway(s) for parcel 4725002300 (approximate station 1003+20, LT) there is a decorative post top light. Contractor shall field verify anchor bolt sizes, spacing and configuration of the decorative post top light and construct a new foundation with anchor bolt sizes to match. The approximate location of the foundation is shown on the Plans, however, Contractor shall confirm the location with the representative for Parcel 4725002300 prior to construction.

Contractor shall relocate and reinstall the decorative post top light on the new foundation.

Contractor shall rewire and reconnect decorative post top light power at new location. Contractor shall locate and trace wire to source and shall either run new wire from source or splice to existing wire outside of proposed driveway limits. Buried splices are not allowed and all splices shall be within a junction box. Conduit (1.25” minimum diameter) shall be installed between point of interception and relocated post top light.

Contractor shall coordinate with the Engineer and property owner for Parcel 4725002300 for access to electrical panel and turning on/off power during post top light relocation.

Contractor shall remove the existing decorative post top foundation.

Parcel 4725002371 (Lakewold Gardens)
At the driveway for parcel 4725002371 (approximate station 1020+40, LT) there is a gate keypad unit on the left side of the driveway entrance. Contractor shall relocate the keypad to the approximate location shown on the Plans. Contractor shall confirm the location with the representative for Parcel 4725002371 prior to construction.

Contractor shall rewire and reconnect the relocated keypad to the existing gate. Contractor shall locate and trace wire to source and shall either run new wire from source or splice to existing wire outside of proposed driveway limits. Buried splices are not allowed and all splices shall be within a junction box. Conduit (1.25" minimum diameter) shall be installed between point of interception and relocated keypad unit.

Contractor shall coordinate with the Engineer and property owner for Parcel 4725002371 for access to electrical panel, the gate, and turning on/off power during keypad relocation.

During relocation, Contractor shall ensure entry through the gate is maintained.

8-20.3(4) Foundations *Supplement*

All excess materials from digging and constructing foundations shall be removed from the construction site and disposed of at the Contractor's expense.

Concrete foundations shall be placed against undisturbed earth if possible. CDF shall be used to backfill around luminaire pole foundations that are not placed against undisturbed earth. Before placing the concrete, the Contractor shall block out around any other underground utilities that lie in the excavated base so that the concrete will not adhere to the utility line. The Contractor shall secure the anchor bolts required for the item to be mounted on the foundation. The Contractor shall also securely locate all conduit required to be used to connect the pole or controller cabinet ground wire to the ground rod in the nearest junction box. Concrete foundations shall be troweled, brushed, edged, and finished in a workmanship-like manner. Concrete shall be promptly cleaned from the exposed portion of the anchor bolts and conduit after placement. Concrete and steel rebar shall be furnished and placed as shown in the Standard Plans. Concrete Class 4000 shall be used for all foundations.

Where a foundation is placed adjacent to the back edge of the sidewalk or gravel shoulder along the shared use path, the top of the foundation shall be poured 6 inches above top of sidewalk grade. Unless specifically noted otherwise in the Plans, all foundations will be located entirely behind the back of sidewalk/shared use path. If no sidewalk exists, the top of the foundation shall be 6 inches above finished grade. Where foundations are in the center median along Washington Blvd SW the top of the foundation shall be 6 inches above the top of curb.

Location of all concrete foundations shall be approved by the Engineer prior to excavation. Bolt pattern shall be per Engineer-approved shop drawings to be supplied to the Contractor.

Existing soils may require casings to be advanced when excavating for foundations to limit sloughing and protect adjacent improvements. The extremely gravelly soils in the area commonly cave in when attempting to excavate. No additional payment will be made for preventing sloughing (i.e. casing and/or temporary shoring) or disposing of the additional material from the excavation due to sloughing.

Street lighting system luminaire pole foundations shall be per City of Lakewood Standard Drawing IS-06. Augured hole may be used as concrete form below 24 inches from finished grade. Exposed portion of pole foundation above grade shall have rubbed finish.

When Plans show a luminaire pole foundation installed in-line with a gravity block wall, the luminaire foundation shall be installed and cured prior to wall erection. The exposed, above-grade portion of the foundation shall be formed 24″” by 24” square and aligned with the wall.

Foundations for service cabinets shall be as specified on the Plans, in these Special Provisions, and in the Standard Plans and Specifications.

Anchor bolts shall be positioned horizontally and vertically prior to final set of the concrete. All concrete on the anchor bolts shall be immediately removed following pouring of the foundation. Conduits shall be temporarily capped during the pour to prevent concrete from entering. The bolt circle and pattern for anchor bolts shall match decorative pole bases where applicable.

All foundations shall be finished to a smooth, even finish, with all corners rounded.

8-20.3(5) Conduit *Supplement*

Conduit may be installed by open trenching except in areas where new pavement has been constructed by this project.

Conduit trench backfill shall be per Section 8-20.3(2).

Conduits for pole risers shall be rigid galvanized steel conduit. Banding of risers to poles shall not be allowed. Riser on utility pole shall comply with electrical purvey requirements.

All underground conduit installed in open trenches shall be marked with a continuous strip of 4 mil x 6 inch width polyethylene marker tape. The tape shall be marked with black legend on yellow background, and buried a maximum of 12 inches below the original elevation of finish grade (except when backfilled with CDF) as applicable. When backfilled with CDF, no marker tape is required.

All empty conduits shall have a nylon pull string with a minimum strength of 500 pounds and 10 feet of slack in each junction box.

8-20.3(5)B Conduit Type *Modification*

The eighth paragraph of 8-20.3(5)B is revised to read as follows:

2. Conduits for pole risers shall be rigid galvanized steel conduit.

The ninth paragraph of 8-20.3(5)B is revised to read as follows:

PVC and HDPE conduits shall be Schedule 40 or Schedule 80.

Conduit installed under the sidewalk or non-paved areas shall be Schedule 40 PVC. Conduit installed in existing/new paved areas, whether in the roadway area, shoulder area, driveways, or areas other than the roadway, shall be Schedule 80 PVC unless otherwise noted in the Plans.

Conduit shall be of one type for entire conduit run between junction boxes.

8-20.3(5)D Conduit Placement *Modification*

The second paragraph of 8-20.3(5)D is revised to read as follows:

1. Conduit installed under the sidewalk shall be installed at a minimum depth of 24 inches.

8-20.3(6) Junction Boxes, Cable Vaults, and Pull boxes *Supplement*

Junction boxes shall be placed on a 6-inch cushion of crushed surfacing top course.

Bonding straps shall be provided on all junction boxes between the junction box lid, frame, and conduit ground couplings. All junction box lids shall be grounded in a manner that will allow removal of the lid without breaking the ground.

All junction boxes shall be supplied by the Contractor. The locations of the junction boxes as shown in the Plans are approximate and the exact locations shall be determined in the field by the Engineer. Junction boxes shall be located outside the traveled way, wheelchair ramps and landings, and driveways. The new junction box shall not interfere with any other previous or relocated installation. The lid of the junction box shall be flush with its frame and with the surrounding area whether it is shoulder, sidewalk, or other surface.

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

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

All junction boxes shall be immediately bolted down with 5 sided bolts by the Contractor after wire installation.

The Contractor shall not damage any existing conduits when replacing or excavating existing junction boxes. The Contractor is to maintain the integrity of all junction boxes during reconfiguration of the conduits, installation of new conduits or when excavating.

All junction boxes placed out of the sidewalk or other paved areas shall have a 12-inch depth cement concrete collar constructed around the box. The collar shall extend 12 inches out from the box, except where the box is located at the back of sidewalk or pedestrian curb in which case the collar shall abut and be flush with the back of sidewalk or curb.

Standard Duty and Heavy-Duty junction boxes, pull boxes, and cable vaults shall be installed at the general location specified in the Plans. Locations may be field-adjusted to match grade, curb, or sidewalk edges, or to avoid obstructions, with the approval of the Engineer. Junction boxes shall be located such that no conduit run exceeds 200 feet in length, as measured from outlet to outlet (does not apply to pull boxes, cable vaults or spare conduits).

Type 1 junction boxes receiving stub conduits from light standards shall not be placed more than 10 feet from the pole served. Type 2 junction boxes at intersection crossings shall not be placed more than 20 ft from the pole served. The Contractor may install, at no expense to the Contracting Agency, additional boxes as may be desired to facilitate the Work or to accommodate the requirements of the material used by the Contractor. Junction box installation shall conform to the details in the Standard Plans.

8-20.3(8) Wiring *Supplement*

Power and Illumination
Conductors used for power or illumination shall meet the following requirements:

1. USE single conductors, Class B stranded, annealed copper per ASTM B3, IPCBA-NEMA S-19-81, as currently amended.

2. Cross-linked polyethylene insulation jacket per U.L. Standard 854 for Type USE and U.L. Standard 44 for type RHH-RHW.

3. Ampacity rating shall conform to current NEC requirements.

Unless otherwise specified, illumination conductors shall be #8 AWG. No splices shall be allowed in the luminaire wiring; all connections shall be made at terminal locations or at the SEC fused disconnects in the pole base.

Head connecting ends will be fitted with a 1-1/2 inch reducing washer and a 3/4-inch box connector at the mast arm and head mounting site.

Unless otherwise stated on the Plans and Contract Documents, a single photo cell shall be installed on a terminal box on the street light pole located on the same corner as the service cabinet to be used as a switch for all luminaires on the system.

8-20.3(9) Bonding, Grounding *Supplement*

Contractor shall furnish and install ground wire in all new and existing non-galvanized conduits where new electrical conductors are being placed. Not all ground wires are indicated in the Plans, but shall be provided. Ground wires are not required in conduits with only fiber optic cabling.

At points where wiring shields or shielded conductors are grounded, the shields shall be neatly wired and terminated on suitable grounding lugs.

8-20.3(10) Service, Transformer, and Intelligent Transportation System (ITS) Cabinets *Supplement*

System Cabinet

The Contractor shall install wiring from the meter to the control panel, controller and other items that require power as shown in the Plans and defined in these Special Provisions. The Contractor shall be responsible for installing conduit and wiring to the service point identified on the plans in accordance with Puget Sound Energy Standards.

Electrical services shall be provided on pedestals in accordance with City of Lakewood Standard Drawing IS-04, Puget Sound Energy Standards, and shall meet USERC requirements.

Upon installation of the electrical service panel and satisfactory inspection approval from the appropriate electrical inspection authority, the Contractor shall notify the City of Lakewood; the Engineer will then request Puget Sound Energy to complete the service connection.

A copy of the wiring diagram shall be provided in a plastic holder mounted conveniently inside the signal controller cabinet.

Service Connection Fees

The City of Lakewood will pay all service connection fees directly to Puget Sound Energy.

The Contractor shall be responsible for making the necessary arrangements with Puget Sound Energy to complete the necessary service connection and for any additional requirements that will be imposed by Puget Sound Energy and/or the Department of Labor and Industries. The Contractor shall pay any fees imposed by the Department of Labor and Industries.

The Contractor's cost associated with Department of Labor and Industries fees shall be incidental to and included in the various unit bid prices of work covered in this section.

8-20.3(13) Illumination Systems

8-20.3(13)A Light Standards *Supplement*

Where noted on the Plans, aluminum light standards shall include an omni-directional breakaway support coupling system. Install according to manufacturer's installation instructions.

8-20.4 Measurement *Supplement*

Measurement for work under Section 8-20 of the Standard Specifications and these Special Provisions shall be as follows:

Measurement for "Remove Existing Signal Systems, Complete" shall be per lump sum.

Measurement for "Illumination System, Complete" shall be per lump sum.

Measurement for "Private Property Electrical Relocations" shall be per lump sum.

8-20.5 Payment *Supplement*

Payment will be made for the following bid items:

Remove Existing Signal Systems, Complete	Lump Sum
Illumination System, Complete	Lump Sum
Private Property Electrical Relocations	Lump Sum

The lump sum contract price for "Remove Existing Signal Systems, Complete" shall be full compensation for all labor, material, tools, including all incidentals and equipment, required to remove the existing signal systems and flashing beacon system as shown in the Plans, and herein specified, including excavation, removal of foundations, conduit, wiring, restoring facilities destroyed or damaged during construction, salvaging existing materials, and backfilling. All additional materials and labor, not shown in the Plans or called for herein and which are required to completely remove the signal and flashing beacon systems system, shall be included in the lump sum Contract price unless such items are specifically paid for under another pay item.

The lump sum contract price for "Illumination System Complete" shall be full compensation for all labor, material, and tools, including all incidentals and equipment required to satisfactorily provide, install and test a totally operational illumination system including but not limited to excavation, backfilling, concrete foundations, conduit, wiring, poles, arms, luminaire fixtures, City Gateway sign lighting system, cabinets, junction boxes, electrical meters, service connections, and restoration of facilities destroyed or damaged during construction as shown in the Plans and as defined in the Standard Specifications and these Special Provisions. All additional materials and labor, not shown in the Plans or called for herein and which are required to complete the illumination system, shall be included in the lump sum Contract price

Installation of spare conduit and junction boxes along the east side of Gravelly Lake Dr SW between Washington Blvd SW and Nyanza Rd SW is included in the lump sum contract price for "Illumination System Complete".

The lump sum contract price for "Private Property Electrical Relocations" shall be full compensation for all labor, material, and tools, including all incidentals and equipment required to satisfactorily provide, install and test relocations of electrical equipment at two parcels, as described in Section 8-20.3(3)B of these Special provisions and noted in the Plans. This includes but is not limited to excavation, backfilling, concrete foundations, conduit, wiring, coordination with parcel owners or their representatives, and restoration of facilities destroyed or damaged during construction. All additional materials and labor, not shown in the Plans or called for herein and which are required to complete the private property electrical relocations, shall be included in the lump sum Contract price.

All costs for adjustment of junction boxes, to both the final grade and any grade adjustments required for the various construction stages proposed in the Contract, or for alternative stages proposed by the Contractor, shall be included in the lump sum contract price for the associated system.

8-21 PERMANENT SIGNING

8-21.1 Description *Supplement*

Traffic and project signs specified in the Plans shall conform to the requirements of the WSDOT Sign Fabrication Manual and Sections 8-21 and 9-28 of the Standard Specifications.

8-21.3 Construction Requirements

8-21.3(5) Sign Relocation *Supplement*

Existing traffic control and street name signs, which interfere with construction, shall be relocated or removed by the Contractor and temporarily stored in a safe place. "Stop," "Yield," and "One-Way" signs shall be removed or relocated only upon approval of the Engineer. Existing signs shall not be removed until the Contractor has provided temporary measures sufficient to safeguard and direct traffic after the existing signs have been removed. Preservation and maintenance of traffic control and street name signs shall be the sole responsibility of the Contractor, except as otherwise provided in the Contract Documents,

As work progresses and permits, temporarily relocated or removed traffic and street name signs shall be reset in their permanent location by the Contractor. Signs and other traffic control devices damaged or lost by the Contractor, shall be replaced or repaired by the Contractor at no cost to the Owner. The decision of whether a sign can be repaired or shall be replaced shall be the Engineer's and such decision shall be final and binding on the Contractor.

Existing signs not reused shall be returned to the City of Lakewood's Operation and Maintenance Shop.

8-21.3(12) Steel Sign Posts *Replacement*

Sign posts shall be 12 gauge square 2-inch by 2-inch OD with 0.105-inch wall thickness, rolled carbon sheet steel, ASTM A570 Grade 50. Post shall have 7/16-inch diameter die-punched knockouts on 1-inch centers full length on four sides. Finish shall be hot dipped galvanized AASHTO M-120 with conversion coating and clear organic topcoat. Yield strength 60,000 PSI min.

Post anchor shall be 7 gauge steel heavy duty, 30-inches long. square 2-1/2-inch OD with 0.188 thick wall to receive 2-inch post with minimum of play. Anchor shall have 4; 7/16-inch holes on each side, 1-inch from one end to center of hole. Finish shall be zinc hot dipped galvanized after fabrication. Material shall meet ASTM A500 Grade B.

Steel sign post and anchor shall be installed with aluminum drive rivet and 12-inch sign cap flat blade for top of posts.

Steel sign posts shall be installed per Lakewood standard plan PS-03.

8-21.3(14) Existing Sign Maintenance *New*

The Contractor shall maintain all existing signs that are designated to remain within the construction limits through the duration of the project construction. This shall include, but not be limited to: sign cleaning, and resetting of damaged signs whether or not damage was a direct result of Contractor's operations.

8-21.4 Measurement *Supplement*

Sign covering will not be measured, but will be considered as incidental to and included in the bid item "Permanent Signing".

8-21.5 Payment *Supplement*

Payment will be made for the following bid items:

Permanent Signing	Lump Sum

The lump sum bid price for "Permanent Signing" shall be full pay for all labor, materials, tools and equipment necessary to complete the work as specified, including but not limited to, providing signs and supports, foundations, temporary sign relocations, and relocation to their permanent location, sign cleaning, sign covering, and maintenance of existing signs during construction, in accordance with the Contract Documents.

Materials, equipment, and labor required to reset/replace permanent signs that were determined to be damaged outside of the Contractor's operations shall be paid under the bid item for "Minor Change".

8-22 PAVEMENT MARKING

8-22.1 Description *Supplement*

Pavement markings shall conform to Section 8-22 of the Standard Specifications and the latest edition and amendments thereto of the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the State of Washington, and shall be constructed as shown in the Plans, except as modified herein.

The words "line" and "stripe" shall be considered interchangeable.

This work shall also include construction of durable pavement markings as shown in the Plans. The term "durable" and "plastic" shall be considered interchangeable.

This work shall also include maintaining existing pavement markings through the course of construction within the construction zone in order to provide visible channelization for the traveling public.

8-22.2 Materials *Supplement*

All plastic pavement marking materials shall be Type D material meeting the requirements of Section 9-34.3 of the Standard Specifications. Raised pavement markers (Section 8-09) will not be required for any plastic lines.

Acceptance
The Contractor shall be responsible for supplying material which meets afore stated material and testing requirements. The Contractor shall supply certification that the pavement marking material meets the above specifications.

8-22.3 Construction Requirements

8-22.3(2) Preparation of Roadway Surfaces *Supplement*

After cleaning of areas to receive pavement markings, the areas shall pass inspection of the Engineer prior to application of the material or the primer coat.

8-22.3(5) Installation Instructions *Supplement*

The Contractor shall provide the Engineer with 2 copies of the manufacturer's product installation procedure recommendations a minimum of five working days prior to scheduled installation date.

When no manufacturer's product installation procedure recommendations have been published, workmanship shall be governed by these Special Provisions and the Standard Specifications.

8-22.4 Measurement *Supplement*

Measurement of "Plastic Stop Bar" will be based upon the total length of line installed per linear foot.

There will be no specific measurement for Removing Pavement Markings.

8-22.5 Payment *Supplement*

Payment will be made for the following bid items:

Paint Line	Per Linear Foot
Plastic Line	Per Linear Foot
Plastic Wide Lane Line	Per Linear Foot
Plastic Stop Bar	Per Linear Foot
Plastic Crosswalk Line	Per Square Foot
Plastic Traffic Arrow	Per Each
Painted Access Parking Space Symbol	Per Each
Plastic Bicycle Lane Symbol	Per Each
Plastic Yield Line Symbol	Per Each
Removing Pavement Markings	Lump Sum

The lump sum bid price for "Removing Pavement Markings" shall be full pay for all labor, materials, tools and equipment necessary to complete the work where shown on the Plans.

The unit contract prices for the above bid items shall be full pay for all labor, materials, tools and equipment necessary to provide the various pavement markings, including but not limited to, refreshing and maintaining existing pavement markings through the course of construction, in accordance with the Contract Documents.

8-24 ROCK AND GRAVITY BLOCK WALL AND GABION CRIBBING

8-24.2 Materials *Supplement*

Materials for the gravity block wall shall be precast concrete blocks produced by a licensed manufacturer. Blocks shall be made with Ready-Mixed concrete in accordance with ASTM C94, latest revision, and per the following chart:

Concrete mix properties shall be as follows:

Minimum 28-Day Compressive Strength:	4,000 psi
Maximum Water Cement Ratio:	0.45
Nominal Maximum Aggregate Size:	1 inch
Air Content:	4.5% +/- 1.5%
Slump (conventional concrete):	5 inches +/- 1.5 inches
Slump (self-consolidating concrete):	18 inches – 32 inches

All material used in the wall units must meet applicable ASTM and local requirements for exterior concrete. Exterior block dimensions shall be uniform and consistent. Maximum dimensional deviations shall be 1% excluding the architectural surface. Maximum width (face to back) deviation including the architectural surface shall be 1.0 inch.

Exposed faces shall have a decorative finished (see submittal requirements below). Other surfaces shall be smooth form type.

Gravity wall blocks shall be as manufactured by Kelley Blocks Retaining Wall Systems, Milton, WA, or Redi-Rock Retaining Wall Systems as licensed by Redi-Rock International, Charlevoix. MI. All blocks in an individual wall shall be of a single manufacturer's system.

Wall backfill shall be Gravel Backfill for Walls per Specification Section 9-03.12(2).

Geotextile for Separation shall be per Specification Section 9-33.2(1), Table 3 (for separation only).

Crushed Surfacing Top Course shall be per Specification Section 9-03.9(3).

8-24.3 Construction Requirements

8-24.3(2) Gravity Block Wall *Supplement*

Submittals

The Contractor shall submit Type 2E working drawings of the gravity block wall to the Engineer for approval in accordance with Section 1-05.3. The working drawings shall include, but not be limited to, the following:

1. Plan, elevation, and section views of the wall, showing the layout, batter, and orientation of the blocks.

1. Dimensions and details of the blocks, including details and locations of block erection lifting loops and inserts, and the features designed to interlock blocks together if the blocks have such features and details for the interface against luminaire foundation.

2. Precast concrete block test results:
    a. 28-day compressive strength
    b. Air content
    c. Slump

3. Manufacturer's brochure showing their available decorative finishes. The Engineer will direct the finish to be provided.

3. Method and equipment used to erect the blocks.

4. Erection sequence.

5. Wall designs shall be based on the following:

    a. Surcharge Loading: Lateral pressures from surface surcharge loads located within a distance equal to the exposed wall height must be estimated using a lateral pressure coefficient of 0.3 (the ratio of lateral pressure to vertical pressure). Where adjacent to traffic loads, a lateral uniform pressure of 80 psf must be used.

    b. Active Earth Pressure: 35 pcf

    c. Allowable Passive Pressure: 350 pcf

    d. Seismic Lateral Earth Pressure: 7H (where H is the height of the wall)

    e. Allowable Friction Coefficient: 0.35

    f. Allowable Bearing Capacity: 3,000 psf

    g. Allowable Cohesion: 0 psf_

    h. Coefficient of Friction: 35 degrees

    i. Global Stability: Overall (global) stability shall be evaluated in accordance with the principals of limit equilibrium analysis as set forth in FHWA-NHI-10-024 Volume I and FHWA-NHI-10-025 Volume II GEC 11 Design of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes as referenced in paragraph 1.03, subparagraph C.1. The minimum factors of safety shall be as follows:

        i. Normal Service (Static) 1.4
        ii. Seismic 1.1
        iii. Rapid Drawdown (if applicable) 1.2

    j. Seismic Stability: Seismic loading shall be evaluated in accordance with AASHTO Load and Resistance Factor Design (LRFD) methodology.

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

Gravity Block Wall Erection

After excavating for the wall base, the Contractor shall grade the excavation for a width equal to or exceeding the width of the bottom row of blocks. The base shall be graded to the base elevation shown in the Plans and working drawings as approved by the Engineer and shall accommodate the batter of the bottom row of blocks. When wall plans show luminaire foundation installed in-line with the wall, the luminaire foundation must be installed and cured prior to wall erection per Section 8-20.3(4).

Native foundation soil shall be compacted to 95% of standard proctor or 90% of modified proctor prior to placement of the Leveling Pad material. In-situ foundation soil shall be examined by the Engineer to ensure that the actual foundation soil strength meets or exceeds assumed design strength. Soil not meeting the required strength shall be removed and replaced with acceptable, compacted material.

The first course of wall units shall be placed on the prepared Leveling Pad with the aesthetic surface facing out and the front edges tight together. All units shall be checked for level along the alignment as they are placed. Ensure that units are in full contact with Leveling Pad. Proper care shall be taken to develop straight lines and smooth curves on base course as per wall layout. Leveling Pad shall be placed as shown on the approved working drawings.

Pad shall be constructed to the proper elevation to ensure the final wall elevations shown on the plans. Leveling Pad shall have a 6-inch minimum depth for walls under 8 feet in height. Pad dimensions shall extend beyond the blocks in all directions.

The Contractor shall erect the gravity block wall and place the backfill in accordance with the erection sequence as approved by the Engineer. Backfill along the front and back of the base row shall be placed and compacted to firmly lock them in place. Check all units again for level and alignment. Install next course of wall units on top of base row. Position blocks to be offset per the approved design. Blocks shall be placed so that all interlocking knobs or grooves are fully engaged. Gravity blocks shall be placed vertically flush with luminaire foundation per manufacturer's recommendation when shown on the wall plans. The top of the gravity block wall shall be within two inches of the line and grade shown in the Plans. All excess material shall be swept from top of units.

Backfill to 12-inch minimum width behind blocks. Spread backfill in uniform lifts not exceeding 9 inches. Employ methods using lightweight compaction equipment that will not disrupt the stability or batter of the wall. Hand-operated plate compaction equipment shall be used around the block and within 3 feet of the wall to achieve consolidation. Compact backfill to 95% of standard proctor (ASTM D 698, AASHTO T-99) density within 2% of its optimum moisture content. Install each subsequent course in like manner. Repeat procedure to the extent of wall height.

Allowable construction tolerance at the wall face is 2 degrees vertically and 1 inch in 10 feet horizontally. All walls shall be installed in accordance with local building codes and requirements.

8-24.4 Measurement *Supplement*

No measurement will be made for Structure Excavation Class B Including Haul, for Geotextile for Separation, and for Gravel Backfill for Wall.

Measurement for Crushed Surfacing Base Course will be per Section 4-04.4.

8-24.5 Payment *Supplement*

Payment will be made for the following bid item:

Gravity Block Wall	Per Square Foot

The unit Bid price for gravity block wall shall also include all Structure Excavation Class B Including Haul, Gravel Backfill for Wall, Geotextile for Separation, labor, equipment and tools necessary to complete the work per shown in the plans or directed by the Engineer.

Coated Chain Link Fence Type 6 will be paid according to the unit Bid price for that Bid item in Section 8-12.5.

Crushed Surfacing Top Course will be paid according to the unit Bid price for that Bid item in Section 4-04.5.

Shoring or Extra Excavation Class B will be paid according to the unit Bid price for that Bid item in Section 2-09.5.

8-26 SCULPTURE RELOCATION *New*

8-26.1 Description *New*

Work in this section shall include relocation of existing sculpture and concrete plinth located at the intersection of Washington Blvd and Gravelly Lake Drive as shown on the Plans and described in these Contract Provisions.

8-26.2 Materials *New*

See as-built plans for existing sculpture installation for requirements for base material for concrete plinth.

8-26.3 Construction Requirements *New*

Protect existing sculpture and plinth from damage at all times. Provide relocation plan to Engineer for review prior to executing work. Relocation plan shall describe the methods, equipment, and materials planned to be used for the sculpture relocation.

8-26.4 Measurement *New*

No specific unit of measurement shall apply to "Sculpture Relocation"

8-05.5 Payment *New*

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

Sculpture Relocation ____	Lump Sum

The unit contract price for "Sculpture Relocation" per lump sum shall be full pay for all materials, labor and equipment to complete the work as shown in the Plans and described in the Contract Provisions including, but not limited to: preparation of relocation plan, removing existing sculpture and plinth, storing and protecting sculpture and plinth until new location is ready for installation, preparing new location and installing sculpture and plinth.

END OF DIVISION 8

DIVISION 9
MATERIALS

9-29 ILLUMINATION, SIGNAL, ELECTRICAL

9-29.1 Conduit, Innerduct, and Outerduct *Supplement*

See sections 8-20.3(5)B for where to install conduit types.

9-29.2 Junction Boxes, Cable Vaults, and Pull Boxes

9-29.2(1) Junction Boxes *Supplement*

Standard Duty Junction Boxes shall conform to Section 9-29.2(1) of the Standard Specifications and shall conform to WSDOT Standard Plan J-40.10.04 and J-40.30.04. All lids shall be galvanized and shall bolt down to box. Junction boxes shall have non-skid resistant surface when located in sidewalk or walking path.

Where slip-resistant junction boxes, cable vaults, or pull boxes are required, each box or vault shall have slip-resistant surfacing material applied to the steel lid and frame of the box or vault. Where the exposed portion of the frame is 1/2-inch wide or less, slip-resistant surfacing material may be omitted from that portion of the frame.

Slip-resistant surfacing material shall be identified with a permanent marking on the underside of each box or vault lid where it is applied. The permanent marking shall be formed with a mild steel weld bead, with a line thickness of at least 1/8 inch. The marking shall include a two character identification code for the type of material used and the year of manufacture or application. The following materials are approved for application as slip-resistant material, and shall use the associated identification codes:

1. Harsco Industrial IKG, Mebac #1 - Steel: M1
2. W. S. Molnar Co., SlipNOT Grade 3 – Coarse: S3
3. Thermion, SafTrax TH604 Grade #1 – Coarse: T1

9-29.6 Light and Signal Standards *Supplement*

All light standards installed on the project shall be aluminum.

Aluminum Light Standards:
Aluminum street light standards shall be round tapered with 3/8 inch internal grounding lug, 4 bolt base, 25 foot mounting height, and satin mill finish, unless otherwise shown in the Contract Documents. The mounting height shall be measured from the bottom of the fixture to the finished grade of the roadway.

Aluminum light standard street light arms shall be aluminum round tapered, and satin mill finish, unless otherwise shown in the contract documents. Arm lengths and mounting configuration (single vs back-to-back) shall be as noted on the Plans.

Where noted on the Plans, aluminum light standards shall include an omni-directional breakaway support coupling system. The system is required to have been vehicle crash-tested and approved in accordance with NCHRP Report 350 and is approved for use on all FHWA funded projects.

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

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

9-29.7 Luminaire Fusing and Electrical Connections at Light Standard Bases, Cantilever Bases, and Sign Bridge Bases *Supplement*

Each luminaire shall have fuses and fuseholders for each power conductor above ground potential. Fuses shall be 1.0 cm × 1.8 cm (13/31 inch × 1.5 inch). Fuses shall be slow blow type (carry 100 percent, open at 135 percent within 1 hour, carry 200 percent for minimum of 10 seconds. LED Luminaires 49 watt (150 watt HPS and below) shall have 5 amp fuses. LED Luminaires above 95 watt (200-400 watt HPS and above) shall have 10 amp fuses.

9-29.10 Luminaires *Supplement*

Luminaire for Cobra Head Style LED Fixture
The cobra head style LED fixtures shall meet the following:

General Fixture Features:

- Voltage: Multi-volt 120-277V
- Optic: Type 2 Medium or Type 3 Medium (As noted on Plans)
- Mounting: Horizontal Tenon compatible with round aluminum arm
- Finish: Grey
- Surge Protection: Internal 10 kV
- Color Temperature: 2700K or 4000K (As noted on Plans)
- Control Option: 7 Pin Photocontrol Receptacle (with shorting cap)
- Miscellaneous: NEMA Label Indicating Wattage
  Includes field adjustable lumen output feature
  DLC QPL Listed
  Optic Box and driver enclosure are rated IP66 or better
- Warranty: Minimum 10-year limited warranty

In addition to the above listed requirements, all fixtures shall utilize low glare technology optics that include a two-part optical system. The optical system shall include LED chips that are not directly visible from ground level. The direct LED light shall refract off a secondary optic that reflects light out of the luminaire.

Specific fixtures shall also meet the specifications outlined in the schedules in the Plans and table below:

Type (per Plans)	Lumen Output	Max Wattage	Shield Option	BUG Rating
3A	17,800 (±200)	130	None	B≤3, U=0, G≤3
3B*	7200 (±200)	85	Front Side Shield	B≤2, U=0, G≤2
3C*	8400 (±200)	95	None	B≤2, U=0, G≤3

3D	11,700 (±200)	90	None	B≤2, U=0, G≤3

* In addition to the above-listed requirements, Fixture types 3B and 3C shall utilize low glare technology optics that include a two-part optical system. The optical system shall include LED chips that are not directly visible from ground level. The direct LED light shall refract off a secondary optic that reflects light out of the luminaire.

9-29.12 Electrical Splice Materials *Replacement*

Splice kits shall be resin type. Splice kits shall be either in-line or wye.

In-line (or thru barrel) splice kits shall have maximum sheath opening shall be 4-1/2 inches, either crimped type or split solder sleeve connectors, fit up to 2 AWG conductors, maximum outside connector diameter of 13/32 inch.

Wye splice kits shall have maximum sheath opening shall be 4-3/4 inches, either split solder sleeve, split bolt up to 4 AWG, or C-type compression up to 2 AWG connectors, fit up to 2 AWG conductors (crimped) or 4 AWG connectors (split bolt).

All Splice have maximum outside cable diameter of 5/8 inch, and be rated up to a maximum of 5kV for unshielded synthetic insulated cables and 1 kV for multiple conductor cable. Single splice kit may not contain more than one splice. Splice kits must be capable of direct bury and submerged applications up to 600 volts and 90 degrees C. All splice kits shall be UL listed 486D and 98U1.

(September 30, 2020 WSDOT GSP)
Standard Plans

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

The Standard Plans are revised as follows:

A-50.10
DELETED

A-50.20
DELETED

A-50.30
DELETED

A-50.40
DELETED

B-90.40
Valve Detail – DELETED

C-1a
DELETED

C-8
Add new Note 5, "5. Type 2 Barrier and Barrier Terminals are allowed in temporary installations only. New Type 2 Barrier and Barrier Terminals are not allowed to be fabricated after December 31, 2019. The plan is provided as a means to verify that any Type 2 barrier and Barrier Terminals fabricated prior to December 31, 2019 meets the plan requirements and cross-sectional dimensions as specified in Standard Specifications 6-10.3(5)."

C-8a
Add new Note 2, "2. Type 4 Barrier and Barrier Transition are allowed in temporary installations only. New Type 4 Barrier and Barrier Transition are not allowed to be fabricated after December 31, 2019. The plan is provided as a means to verify that any Type 4 barrier and Barrier Transition fabricated prior to December 31, 2019 meets the plan requirements and cross-sectional dimensions as specified in Standard Specifications 6-10.3(5)."

C-8b
DELETED

C-8e
DELETED

C-8f
DELETED

C-16a
DELETED

C-20.10
The following table is added:

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

C-20.11
DELETED

C-20.19
DELETED

C-40.16
DELETED

C-40.18
DELETED

C-80.50
DELETED

C-85.14
DELETED

D-2.14
DELETED

D-2.16
DELETED

D-2.18
DELETED

D-2.20
DELETED

D-2.42
DELETED

D-2.44
DELETED

D-2.46
DELETED

D-2.48
DELETED

D-2.82
DELETED

D-2.86
DELETED

D-10.10
Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.15
Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40
Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed

in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45
Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10
STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls" are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20
STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls" are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30
STD Plans D-15 series "Traffic Barrier Details for Reinforced Concrete Retaining Walls" are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

G-20.10
SIGN INSTALLATION BEHIND TRAFFIC BARRIER detail, dimension callout "3′ MIN.", is revised to read "5′ MIN.".

H-70.20
Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

H-70.30
DELETED

J-20.26
Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton post."

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – "ANCHOR BOLTS ~ ¾″ (IN) x 30″ (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED

TO READ: "ANCHOR BOLTS ~ ¾″ (IN) x 30″ (IN) FULL THREAD ~ FOUR REQ'D. PER ASSEMBLY"

Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3″ CLR.. Delete "(TYP.)" from the 2 ½″ CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.

Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3″ CLR. Delete "(TYP.)" from the 2 ½″ CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.

Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3″ CLR. Delete "(TYP.)" from the 2 ½″ CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.

Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3″ CLR. Delete "(TYP.)" from the 2 ½″ CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.

Detail F, callout, "Heavy Hex Clamping Bolt (TYP.) ~ 3/4″ (IN) Diam. Torque Clamping Bolts (see Note 3)" is revised to read; "Heavy Hex Clamping Bolt (TYP.) ~ 3/4″ (IN) Diam. Torque Clamping Bolts (see Note 1)"

Detail F, callout, "3/4″ (IN) x 2′ – 6″ Anchor Bolt (TYP.) ~ Four Required (See Note 4)" is revised to read; "3/4″ (IN) x 2′ – 6″ Anchor Bolt (TYP.) ~ Three Required (See Note 2)"

J-21.15

Partial View, callout, was – LOCK NIPPLE ~ 1 ½″ DIAM., is revised to read; CHASE NIPPLE ~ 1 ½″ (IN) DIAM.

J-21.16

Detail A, callout, was – LOCKNIPPLE, is revised to read; CHASE NIPPLE

J-22.15

Ramp Meter Signal Standard, elevation, dimension 4′ - 6″ is revised to read; 6′-0″

(2x) Detail A, callout, was – LOCK NIPPLE ~ 1 ½″ DIAM. is revised to read; CHASE NIPPLE ~ 1 ½″ (IN) DIAM.

J-40.10

Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 ½″ S.S. PENTA HEAD BOLT AND 12″ S. S. FLAT WASHER" is revised to read; "12 – 13 x 1 ½″ S.S. PENTA HEAD BOLT AND 1/2″ (IN) S. S. FLAT WASHER"

J-75.20

Key Notes, note 16, second bullet point, was: "1/2″ (IN) x 0.45″ (IN) Stainless Steel Bands", add the following to the end of the note: "Alternate: Stainless steel cable with stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated hardware."

J-81.10
All references to "Type 170 Controller" are replaced with "Controller".

L-40.10
DELETED

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00 ..... 8/7/07
A-10.20-00 ..... 10/5/07
A-10.30-00 ..... 10/5/07
A-20.10-00 ..... 8/31/07
A-30.10-00 ..... 11/8/07
A-30.30-01 ..... 6/16/11
A-30.35-00 ..... 10/12/07
A-40.00-00 ..... 8/11/09
A-40.10-04 ..... 7/31/19
A-40.15-00 ..... 8/11/09
A-40.20-04 ..... 1/18/17
A-40.50-02 ..... 12/23/14
A-60.10-03 ..... 12/23/14
A-60.20-03 ..... 12/23/14
A-60.30-01 ..... 6/28/18
A-60.40-00 ..... 8/31/07

B-5.20-03 ..... 9/9/20
B-5.40-02 ..... 1/26/17
B-5.60-02 ..... 1/26/17
B-10.20-02 ..... 3/2/18
B-10.40-01 ..... 1/26/17
B-10.70-01 ..... 9/9/20
B-15.20-01 ..... 2/7/12
B-15.40-01 ..... 2/7/12
B-15.60-02 ..... 1/26/17
B-20.20-02 ..... 3/16/12
B-20.40-04 ..... 2/27/18
B-20.60-03 ..... 3/15/12
B-25.20-02 ..... 2/27/18
B-25.60-02 ..... 2/27/18
B-30.05-00 ..... 9/9/20
B-30.10-03 ..... 2/27/18
B-30.15-00 ..... 2/27/18
B-30.20-04 ..... 2/27/18
B-30.30-03 ..... 2/27/18
B-30.40-03 ..... 2/27/18
B-30.50-03 ..... 2/27/18
B-30.60-00 ..... 9/9/20
B-30.70-04 ..... 2/27/18
B-30.80-01 ..... 2/27/18
B-30.90-02 ..... 1/26/17
B-35.20-00 ..... 6/8/06
B-35.40-00 ..... 6/8/06
B-40.20-00 ..... 6/1/06
B-40.40-02 ..... 1/26/17
B-45.20-01 ..... 7/11/17
B-45.40-01 ..... 7/21/17
B-50.20-00 ..... 6/1/06
B-55.20-02 ..... 2/27/18
B-60.20-02 ..... 9/9/20
B-60.40-01 ..... 2/27/18
B-65.20-01 ..... 4/26/12
B-65.40-00 ..... 6/1/06
B-70.20-00 ..... 6/1/06
B-70.60-01 ..... 1/26/17
B-75.20-02 ..... 2/27/18
B-75.50-01 ..... 6/10/08
B-75.60-00 ..... 6/8/06
B-80.20-00 ..... 6/8/06
B-80.40-00 ..... 6/1/06
B-85.10-01 ..... 6/10/08
B-85.20-00 ..... 6/1/06
B-85.30-00 ..... 6/1/06
B-85.40-00 ..... 6/8/06
B-85.50-01 ..... 6/10/08
B-90.10-00 ..... 6/8/06
B-90.20-00 ..... 6/8/06
B-90.30-00 ..... 6/8/06
B-90.40-01 ..... 1/26/17
B-90.50-00 ..... 6/8/06
B-95.20-01 ..... 2/3/09
B-95.40-01 ..... 6/28/18

C-1 ..... 9/9/20
C-1b 9/9/20
C-1d 10/31/03
C-2c 8/12/19
C-4f 8/12/19
C-6a 10/14/09
C-20.42-05 ..... 7/14/15
C-20.45.02 ..... 8/12/19
C-22.16-07 ..... 9/16/20
C-22.40-08 ..... 9/16/20
C-22.45-05 ..... 9/16/20
C-23.60-04 ..... 7/21/17
C-70.10-02 ..... 9/16/20
C-75.10-02 ..... 9/16/20
C-75.20-02 ..... 9/16/20
C-75.30-02 ..... 9/16/20
C-80.10-02 ..... 9/16/20
C-80.20-01 ..... 6/11/14

C-7 ..... 6/16/11
C-7a 6/16/11
C-8 ..... 2/10/09
C-8a 7/25/97
C-20.10-06 ..... 9/16/20
C-20.14-04 ..... 8/12/19
C-20.15-02 ..... 6/11/14
C-20.18-03 ..... 8/12/19
C-20.40-07 ..... 8/12/19
C-20.41-02 ..... 8/12/19
C.24.10-02 ..... 8/12/19
C-25.20-06 ..... 7/14/15
C-25.22-05 ..... 7/14/15
C-25.26-04 ..... 8/12/19
C-25.30-00 ..... 6/28/18
C-25.80-05 ..... 8/12/19
C-60.10-01 ..... 9/24/20
C-60.20-00 ..... 9/24/20
C-60.30-00 ..... 9/24/20
C-60.70-00 ..... 9/24/20
C-80.30-01 ..... 6/11/14
C-80.40-01 ..... 6/11/14
C-85.10-00 ..... 4/8/12
C-85.11-01 ..... 9/16/20
C-85.15-01 ..... 6/30/14
C-85.16-01 ..... 6/17/14
C-85-18-01 ..... 6/11/14
C-85.20-01 ..... 6/11/14

D-2.04-00 ..... 11/10/05
D-2.06-01 ..... 1/6/09
D-2.08-00 ..... 11/10/05
D-2.32-00 ..... 11/10/05
D-2.34-01 ..... 1/6/09
D-2.36-03 ..... 6/11/14
D-2.60-00 ..... 11/10/05
D-2.62-00 ..... 11/10/05
D-2.64-01 ..... 1/6/09
D-2.66-00 ..... 11/10/05
D-2.68-00 ..... 11/10/05
D-2.80-00 ..... 11/10/05
D-2.84-00 ..... 11/10/05
D-2.88-00 ..... 11/10/05
D-2.92-00 ..... 11/10/05
D-3.09-00 ..... 5/17/12
D-3.10-01 ..... 5/29/13
D-3.11-03 ..... 6/11/14
D-3.15-02 ..... 6/10/13
D-3.16-02 ..... 5/29/13
D-3.17-02 ..... 5/9/16
D-4 ..... 12/11/98
D-6 ..... 6/19/98
D-10.10-01 ..... 12/2/08
D-10.15-01 ..... 12/2/08
D-10.20-01 ..... 8/7/19
D-10.25-01 ..... 8/7/19
D-10.30-00 ..... 7/8/08
D-10.35-00 ..... 7/8/08
D-10.40-01 ..... 12/2/08
D-10.45-01 ..... 12/2/08

E-1 ..... 2/21/07
E-2 ..... 5/29/98
E-4 ..... 8/27/03
E-4a 8/27/03

F-10.12-04 ..... 9/24/20
F-10.16-00 ..... 12/20/06
F-10.18-02 ..... 9/24/20
F-10.40-04 ..... 9/24/20
F-10.42-00 ..... 1/23/07
F-10.62-02 ..... 4/22/14
F-10.64-03 ..... 4/22/14
F-30.10-04 ..... 9/25/20
F-40.12-03 ..... 6/29/16
F-40.14-03 ..... 6/29/16
F-40.15-04 ..... 9/25/20
F-40.16-03 ..... 6/29/16
F-45.10-02 ..... 7/15/16
F-80.10-04 ..... 7/15/16

G-10.10-00 ..... 9/20/07
G-20.10-02 ..... 6/23/15
G-22.10-04 ..... 6/28/18
G-24.10-00 ..... 11/8/07
G-24.20-01 ..... 2/7/12
G-24.30-02 ..... 6/28/18
G-24.40-07 ..... 6/28/18
G-24.50-05 ..... 8/7/19
G-24.60-05 ..... 6/28/18
G-25.10-05 ..... 9/16/20
G-26.10-00 ..... 7/31/19
G-30.10-04 ..... 6/23/15
G-50.10-03 ..... 6/28/18
G-90.10-03 ..... 7/11/17
G-90.11-00 ..... 4/28/16
G-90.20-05 ..... 7/11/17
G-90.30-04 ..... 7/11/17
G-90.40-02 ..... 4/28/16
G-95.10-02 ..... 6/28/18
G-95.20-03 ..... 6/28/18
G-95.30-03 ..... 6/28/18

H-10.10-00 ..... 7/3/08
H-10.15-00 ..... 7/3/08
H-30.10-00 ..... 10/12/07
H-32.10-00 ..... 9/20/07
H-60.10-01 ..... 7/3/08
H-60.20-01 ..... 7/3/08
H-70.10-01 ..... 2/7/12
H-70.20-01 ..... 2/16/12

I-10.10-01 ..... 8/11/09
I-30.10-02 ..... 3/22/13
I-30.15-02 ..... 3/22/13
I-30.16-01 ..... 7/11/19
I-30.17-01 ..... 6/12/19
I-30.20-00 ..... 9/20/07
I-30.30-02 ..... 6/12/19
I-30.40-02 ..... 6/12/19
I-30.60-02 ..... 6/12/19
I-40.10-00 ..... 9/20/07
I-40.20-00 ..... 9/20/07
I-50.20-01 ..... 6/10/13
I-60.10-01 ..... 6/10/13
I-60.20-01 ..... 6/10/13
I-80.10-02 ..... 7/15/16

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

K-70.20-01 ..... 6/1/16
K-80.10-02 ..... 9/25/20
K-80.20-00 ..... 12/20/06
K-80.35-01 ..... 9/16/20
K-80.37-01 ..... 9/16/20

L-10.10-02..... 6/21/12
L-20.10-03..... 7/14/15
L-30.10-02..... 6/11/14
L-40.15-01..... 6/16/11
L-40.20-02..... 6/21/12
L-70.10-01..... 5/21/08
L-70.20-01..... 5/21/08

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

END OF DIVISION 9